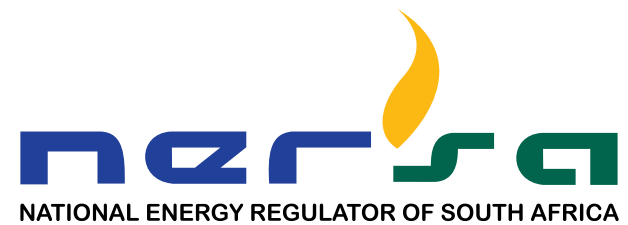




STRATEGIC PLAN
2020/21 - 2024/25

ANNUAL PERFORMANCE PLAN
2021/22 - 2023/24





STRATEGIC PLAN

2020/21 - 2024/25



TABLE OF CONTENTS

CHAIRPERSON'S STATEMENT	5	PART C: MEASURING OUR PERFORMANCE	89
CHIEF EXECUTIVE OFFICER'S STATEMENT	9		
OFFICIAL SIGN-OFF	12	1. INSTITUTIONAL PROGRAMME PERFORMANCE INFORMATION	89
ACRONYMS AND ABBREVIATIONS	13	3.1. ELECTRICITY INDUSTRY REGULATION	90
LIST OF TABLES	15	3.2. PIPED-GAS INDUSTRY REGULATION	93
PART A: OUR MANDATE	16	3.3. PETROLEUM PIPELINES INDUSTRY REGULATION	97
1. CONSTITUTIONAL MANDATE	16	3.4. TRANSVERSAL REGULATORY AND ORGANISATIONAL	99
2. LEGISLATIVE AND POLICY MANDATES	16	4. KEY RISKS	101
3. INSTITUTIONAL POLICIES AND STRATEGIES OVER THE FIVE-YEAR PLANNING PERIOD	19	PART D: TECHNICAL INDICATOR DESCRIPTIONS	104
4. RELEVANT COURT RULINGS	26	1. ELECTRICITY INDUSTRY REGULATION	104
PART B: OUR STRATEGIC FOCUS	28	2. PIPED-GAS INDUSTRY REGULATION	111
1. VISION	28	3. PETROLEUM PIPELINES INDUSTRY REGULATION	120
2. MISSION	28	4. TRANSVERSAL REGULATORY AND ORGANISATIONAL	125
3. VALUES	28		
4. REGULATORY PRINCIPLES	29		
5. SITUATION ANALYSIS	30		
5.1. EXTERNAL ENVIRONMENT ANALYSIS	30		
5.2. INTERNAL ENVIRONMENT ANALYSIS	80		





STATEMENT BY THE CHAIRPERSON

When the National Energy Regulator of South Africa (NERSA) initially developed the Strategic Plan 2020 to 2025, we were energised by the fact that the period covered in this Strategic Plan coincides with the start of a new decade. It ignited a sense of new beginnings, new ideas, new challenges, and new opportunities. In the development of this Plan, the Energy Regulator took cognisance of where our mandate fits into the bigger picture of energy.

In regulating the energy industry, we acknowledge the pivotal role it plays in economic growth. In modern economies, economic growth is closely associated with increasing energy consumption. The availability of secure, reliable, and affordable energy supply is essential for industrial processes and the provision of public services such as lighting, heating, cooking, information and communication technology, and mobility.

The global energy system is undergoing unprecedented change, driven by forces such as technological innovation, changes in consumption patterns, supply dynamics and policy shifts. These forces offer opportunities to resolve the challenges that the global energy system faces today, namely:

- providing energy access to the more than one billion people who lack it;
- meeting demand for an additional two billion people by 2050 while delivering that energy at an affordable cost; and
- ensuring that the carbon footprint declines.

In addition, the geopolitical landscape of energy is quickly shifting, and environmental concerns pose a serious challenge. At the same time, the economics of competing energy sources have changed, and the advent of Fourth Industrial Revolution technologies has enabled new business models, while making others obsolete. The latter has created significant uncertainty about the pace and destination of the transformation, making a strong case for a systemic, multi-stakeholder approach that increases the transparency of the enablers and reforms needed for countries to achieve an effective energy transition.

It is important to note that despite the continued rapid growth in renewable energy last year, renewable energy provided only a third of the required increase in energy generation, with coal providing a broadly similar contribution. The increasing use of coal within the energy sector is estimated to have more than accounted for the entire growth of global coal consumption last year. Overall, the electricity sector is estimated to have absorbed approximately 50% growth in primary energy in 2018 and accounted for approximately 50% of the increase in carbon emissions.

Over the next 20 years, the global energy system will face a critical challenge in respect of decarbonising the power sector while at the same time endeavouring to meet the rapid increase in the demand for power, especially in developing countries. Renewable energy has a vital role to play in meeting that challenge, but it is unlikely to be able to do so on its own. A variety of different technologies and fuels are likely to be required, including extensive coal-to-gas switching and the widespread deployment of carbon capture, use and storage.

Regarding continental developments, sub-Saharan Africa accounts for 4.5% of global primary energy demand. Energy demand is very low. However, there are several factors pointing towards potentially rapid and prolonged growth in demand: strong economic expansion; increasing urbanisation; industrialisation and modernisation; a burgeoning middle class in many countries; as well as a legacy of unmet energy demand. Bioenergy demand will increase by 40% in absolute terms by 2040, exacerbating stress on the forestry stock. The sub-Saharan Africa power system is expanding rapidly, with generation capacity quadrupling to 385 GW. The power mix becomes more diverse, with coal (mainly South Africa) and hydropower (all regions), being joined by greater use of gas (Nigeria, Mozambique, Tanzania), solar (South Africa and Nigeria) and geothermal (East Africa).

The share of renewables in total capacity more than doubled to 44%. Natural gas resource holders can power domestic economic development and boost export revenues, but only if the right regulation, prices, and infrastructure are in place. It is



predicted that natural gas will nearly triple its share of the energy mix in Africa to 11% by 2040.

The Southern African region is relatively well endowed with energy resources. It has vast energy potential from solar, wind, nuclear, hydro, thermal, gas and petroleum sources in several countries. Biomass is by far the largest source of energy in most regional countries. Electricity, as the dominant source of energy in the region, is generated mainly through thermal or hydroelectric resources. The coal industry is the backbone of power generation in the region and a significant share of the resource is allocated for export. The region has a large reserve of low-cost hydroelectricity in the north (especially Inga Reservoir in the Democratic Republic of Congo [DRC]) and Kariba Dam on the Zambia/Zimbabwe border in the middle of the regional system, as well as large reserves of cheap coal in Botswana, Mozambique, South Africa, and Zimbabwe.

Natural gas is becoming more significant to the region's energy sector, as Mozambique, Namibia, South Africa and Tanzania are developing the natural gas fields in their respective countries. New natural gas discoveries by international oil companies in Mozambique and Tanzania during the past decade, have ignited investor interest in this previously under-explored region.

Furthermore, the region has some of the most significant known reserves of uranium. The mineral is being mined in Namibia and South Africa for use as fuel for nuclear power plants while exploration is underway in Botswana and Zimbabwe. Nuclear technology is included in the electricity subsector, but it must be demonstrated that nuclear power can be a safe electricity generation option and the confidence of the population and governments must be won to endorse nuclear energy deployment in the SADC region. Only South Africa has nuclear capacity, with tentative plans for a new nuclear programme.

As we are planning to go into the new decade, we need to acknowledge the developments that took place in South Africa since we published our previous Strategic Plan. The country has been able to commit to a total of 18 000 MW of new

generation capacity. Coal will remain a key factor in electricity generation in South Africa in the near future. Government decided to extend Koeberg's design life and then expand the nuclear power programme into the future to ensure that nuclear power remains a factor in the energy mix. Gas-to-power technologies provide the flexibility required to complement renewable energy. Exploration to assess the magnitude of local recoverable shale and coastal gas is being pursued. Cooperation and partnerships with neighbouring countries are critical for South Africa.

The Government, through the National Development Plan, envisages that by 2030 South Africa will have an energy sector that provides reliable and efficient energy service at competitive rates; that is socially equitable through expanded access to energy at affordable tariffs; and that is environmentally sustainable through reduced emissions and pollution.

Our Strategic Plan was geared to regulate the energy sector considering the consequences or impact relating to the aforementioned developments and challenges. Then the unimaginable happened. As with so many others, the roll-out of our Strategic Plan commenced in parallel with the nation-wide lockdown, which was instituted as a Government's critical measure to deal with threat of the COVID-19 pandemic to the country and its people. At that time, the effect of this virus was evident through the myriad of the reports from all over the world. These reports highlighted the adverse effect of the virus on countries' economies, the resultant social crises of job losses and financial hardships, and the rapid infection rate of the virus for which there is currently no cure nor a vaccine.

The impact of this pandemic on the energy sector emerged slowly since the pandemic became a global health crisis. Projections were made that the impact of COVID-19 on energy demand in 2020 would be more than seven times larger than the impact of the 2008 financial crisis on global energy demand. The COVID-19 crisis and measures taken to slow its spread have had a profound impact on energy demand, the likes of which have not been seen for the past 60 to 70 years. It is also said that the energy sector that will emerge from the COVID-19 crisis may look significantly different from what came before. Low prices and low demand in all subsectors will leave energy companies with weakened financial positions and often strained balance





sheets. Business lines that are insulated to a degree from market signals, including those with renewable electricity projects, will emerge in the best financial position. Private firms that are the most exposed to market prices will experience the most severe financial impact. Market concentration and consolidations are likely.

In addition, it is predicted that the COVID-19 crisis will have a significant impact on investment in the energy sector. This could raise concerns about energy security because investment is necessary even if global energy demand takes a long time to return to the pre-crisis trajectory. A considerable proportion of global energy investment is devoted to just sustaining existing levels of energy supply: maintaining oil and gas production at current levels, replacing aging power generation capacity - often with a capital-intensive combination of renewables and flexibility sources - and reinvesting in aging electricity networks. Investment in these activities will have to remain robust even with a subdued recovery.

Importantly, governments around the world will play a major role in shaping the energy sector's recovery from the COVID-19 crisis, just as they have long been in the driving seat in orienting energy investment. In particular, the design of economic stimulus packages presents a major opportunity for governments to link economic recovery efforts with clean energy transitions - and steer the energy system onto a more sustainable path. While the clean energy transitions and stimulus discussions are gathering momentum, a coordinated policy effort will be needed to harvest its opportunities and lead to a more modern, cleaner and more resilient energy sector for all.

The impact of COVID-19 on South Africa's economy was severe, prior to the global crisis pandemic, South Africa's domestic outlook for 2020 was already very weak. South Africa is currently in its longest downward business cycle since records started in 1945, with rising unemployment, declining real gross domestic product (GDP) per capita, and declining business confidence. Forecasts suggest that this could be worse because of the COVID-19 effects. It is projected that this pandemic would increase poverty, inequality, and unemployment in South Africa.

NERSA does not function in isolation and needs to take cognisance of the developments, trends, and challenges within the global energy environment. This will assist in deciding on appropriate response by incorporating any relevant trends and energy-related developments into its strategy. This was the basis for the Energy Regulator's decision to review the initial Strategic Plan. This was done to ensure that we not only address the impact of COVID-19 in the short to medium term, but that we look at the long term as well, which will go beyond the period covered by this Strategic Plan. Since the outbreak of this pandemic, it has become clear that we will be faced with this health threat longer than expected and that we will have to adapt to the 'new normal'. This refers to the new way we will have to carry on with our lives, work and interactions with other people following this crisis. Our challenge would be to ensure that we align our move towards the new normal for NERSA with our endeavours to facilitate the availability of reliable, affordable, and clean energy, which will lead to sustainable economic and social development. The pivotal role that NERSA plays in the energy sector is underpinned by its mandate that is enshrined in its founding legislation and is aligned to the objectives of our government. The focus on this role of NERSA will be intensified in the aftermath of the COVID-19 pandemic.

NERSA will continue to align its regulatory mechanisms with the transformation of the energy sector by ensuring the development of a sustainable energy mix that comprises coal, solar, wind, hydro, gas, and nuclear energy. NERSA will also continue to execute its mandate in such a manner that the country's energy constraints are addressed to create a conducive environment for growth and to endeavour to strike a fair balance between the interests of consumers on the one hand and regulated entities on the other hand.

Another priority for NERSA is the availability of secure, adequate, and reliable energy supply. The challenges South Africa experienced in the last few years with load shedding and unplanned power outages accentuated the importance of the reliable supply of energy, because it severely affected all sectors of society. NERSA is committed to collaborate with Government and all stakeholders to address this challenge, within the parameters of its mandate. NERSA will also investigate what the



most appropriate regulatory framework would be for the licensing of the restructured electricity supply industry following the unbundling of Eskom.

We are aware that during this planning period NERSA, as the rest of the country, will face challenges not necessarily known at this point in time. The current level of uncertainty about future developments over the next four years will require innovative approaches. A high level of agility to adapt to changing circumstances in the most effective manner to ensure the most effective and relevant regulation of South Africa's energy sector will also be required. I believe that NERSA is up to this task.

I would like to take this opportunity to acknowledge the important work that the Members of the Energy Regulator, the management team, and staff are executing, and would like to encourage a collective and innovative spirit in implementing the legislative mandate of NERSA and future strategic programmes.

Ms. Maleho M D Nkomo

Deputy Chairperson

National Energy Regulator of South Africa





STATEMENT BY ACTING THE CHIEF EXECUTIVE OFFICER

The National Energy Regulator of South Africa (NERSA) was established on 1 October 2005 in terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). Its mandate is to regulate the electricity industry in terms of the Electricity Regulation Act, 2006 (Act No. 4 of 2006), the piped-gas industry in terms of the Gas Act, 2001 (Act No. 48 of 2001), and the petroleum pipelines industry in terms of the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).

The mandate of NERSA, as contained in the relevant legislation, is summarised as follows:

- Issuing of licences and setting pertinent conditions.
- Setting and/or approving tariffs and prices.
- Monitoring and enforcing compliance with licence conditions.
- Dispute resolution including mediation, arbitration and the handling of complaints.
- Gathering, storing and disseminating industry information.
- Setting of rules, guidelines and codes for the regulation of the three industries.
- Determination of conditions of supply and applicable standards.
- Registration of import and production activities.

In carrying out its mandate, NERSA endeavours to achieve its vision to be a recognised world-class leader in energy regulation. NERSA is expected to implement its mandate and to take the necessary regulatory decisions proactively in anticipation of and in response to the changing circumstances in the energy industry. The role of NERSA is to ensure the development and sustainability of the electricity, piped-gas and petroleum pipelines industries, while facilitating the affordability of and accessibility to these industries to balance the economic interests of all stakeholders to ensure sustainable socio-economic development of South Africa and a better life for all.

During the previous planning period, the Regulator upheld its regulatory principles of transparency, neutrality, consistency and predictability, independence, accountability and integrity in regulating the electricity, piped-gas and petroleum pipelines industries.

The highlights of NERSA's achievements range from putting in place structures and systems that ensure sound corporate governance and capacity building, to the provision of current and user-friendly information, as well as the development, fine tuning and implementation of regulatory methodologies, processes, procedures and systems to ensure that NERSA delivers on its mandate. NERSA's focus was the continued alignment of its regulatory mechanisms with the transformation of the energy sector by ensuring the development of a sustainable energy mix.

The Regulator also continued to ensure the orderly development in the energy sector, mainly through licensing, setting and approving of prices and tariffs, compliance monitoring and enforcement, and dispute resolution in the electricity, piped-gas and petroleum pipelines industries. In addition, NERSA commenced with a process to contribute towards the transformation of the energy industry, within the ambit of our mandate.

We continuously endeavoured to strike the balance between the interests of producers and investors, and those of South African citizens across all our primary activities, namely licensing, setting and approving of prices and tariffs, compliance monitoring and enforcement, and dispute resolution in the electricity, piped gas and petroleum pipelines industries. Furthermore, the Regulator continued to engage with other regulatory bodies to align its regulatory processes with international best practices.

In developing this Strategic Plan, the mandate of NERSA as well as key policy priorities were taken into account. The strategic focus stated in this Strategic Plan is in line with and in support of the following key priorities of Government, as espoused in the Medium-Term Strategic Framework:

- Priority 2: Economic transformation and job creation
- Priority 3: Education, skills and health
- Priority 7: A better Africa and world.

It also supports the National Development Plan (NDP), which is a plan for the country to eliminate poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy, building capabilities, enhancing the capability of the state and leaders working together to solve complex problems.

However, due to the changing circumstances as a result of the global COVID-19 pandemic, the Regulator decided to review this Strategic Plan. The reason being that we needed to ensure that NERSA is geared to effectively regulate an energy sector in a country that is adversely affected by this pandemic.

In view of the far-reaching impact of the COVID-19 pandemic, NERSA will put measures in place to ensure we continuously identify areas affected by this pandemic to be able to timeously put mitigating strategies in place. With the realisation that this pandemic will be prevalent for the foreseeable future, NERSA will have to be more innovative and agile in ensuring that we continue to ensure the orderly development in the energy sector, mainly through licensing, setting and approving of prices and tariffs, compliance monitoring and enforcement, and dispute resolution in the electricity, piped-gas and petroleum pipelines industries.

During the review of this Strategic Plan, it became clear that NERSA needs to re-assess how it operates and put an operating model in place that will improve our efficacy. This is informed by our commitment to achieve our vision through our mission to regulate the energy industry in accordance with government laws and policies, standards and international best practices in support of sustainable socio-economic development.

The severe impact of COVID-19 on the economy of South Africa, when our economy was already severely strained, will require NERSA to focus more on its role in advancing economic growth and social development within South Africa. Another priority for NERSA will be to contribute towards the transformation of the energy industry, within the ambit of our mandate.

In view of the aforementioned, NERSA remains committed to increasing delivery on its mandate as well as evaluating the impact of our actions.

Specific outcomes were identified that will guide the Regulator's programmes for the next five years in respect of each of the regulated industries:

Electricity Industry

1. Accessible and cost-reflective electricity that is equitably distributed for consumption
2. Diverse energy supply that is certain and secure for current and future user needs
3. Conducive regulatory environment that results in regulatory certainty and increased investment in the electricity industry.

Petroleum Pipelines Industry

1. Equitable access to affordable petroleum products, services and infrastructure at competitive prices
2. Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry
3. A conducive regulatory environment that results in regulatory certainty and increased investment in the petroleum industry.

Piped-Gas Industry

1. Equitable access to affordable gas services at competitive prices
2. Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped-gas industry
3. A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry.





The **organisational** outcomes are as follows:

1. Creation of an enabling environment for internal and external stakeholders through proactive, dynamic and data-driven advisory, advocacy and decision-making.
2. An effective operating model that enables the organisation to fulfil its role effectively.

The achievement of the above outcomes will be enabled through, among others, revised regulatory methodologies and rules; continued monitoring of licensees' performance; contributing towards the restructuring of the energy industry; periodic assessment of adequacy of competition; decreasing regulatory burden; improved critical business and regulatory processes.

We believe the aforementioned will enable NERSA to contribute towards and address the challenges identified by the Department of Mineral Resources and Energy, namely the impact of high electricity prices and the security of energy supply.

NERSA will continue to place emphasis on facilitating the entry of new players into the energy sector, particularly in the light of the generally monopolistic nature of the electricity, piped-gas and petroleum pipelines industries.

Our overall aim remains that the impact of implementing this Strategic Plan is to facilitate a secure, reliable, affordable, sustainable, competitive and transformed energy industry, which contributes to the economic growth of South Africa. In order to achieve this, NERSA places a high premium on capacity building of its staff complement. In addition to the training and development for staff members, NERSA has been and will continue to run successful internship and learnership programmes.

NERSA is fully committed to the implementation of this Strategic Plan, with the strategic guidance and support of the Energy Regulator. I would like to take this opportunity to acknowledge the important work that the staff are executing and would like to encourage an innovative and collaborative spirit in implementing the legislative mandate of NERSA and future strategic programmes.

NP Sithole

Nomalanga Sithole

Acting Chief Executive Officer of the National Energy Regulator of South Africa





OFFICIAL SIGN-OFF

It is hereby certified that this Strategic Plan:

- was developed by the Executive Management of NERSA under the guidance of the Energy Regulator;
- takes into account all the relevant policies, legislation and other mandates for which the Energy Regulator is responsible; and
- accurately reflects the impact, outcomes and outputs that the Energy Regulator will endeavour to achieve over the period 2020/21 – 2024/25.

Ms. Gerda Gräbe

Senior Manager: Strategic Planning and Monitoring

MS. Bulelwa Pono

Chief Financial Officer

Adv. Nomalanga Sithole

Acting Chief Executive Officer (Accounting Officer)

Approved by

Mrs. Maleho M D Nkomo

Deputy Chairperson (on behalf of the Accounting Authority)





ACRONYMS AND ABBREVIATIONS

Acronym / Abbreviation	Stands for
AFDB	African Development Bank
AFUR	African Forum for Utility Regulators
APP	Annual Performance Plan
B-BBEE	Broad-Based Black Economic Empowerment
CAGR	Compound Annual Growth Rate
CBM	Coal Bed Methane
CCGT	Closed Cycle Gas Turbine
CNG	Compressed Natural Gas
CPI	Consumer Price Index
CTL	Coal-to-Liquid
DJP	Durban-to-Johannesburg Pipeline
DoE	Department of Energy
EEDSM	Energy Efficiency and Demand Side Management
ELR	Electricity Regulation
ELS	Electricity Subcommittee
EPP	Electricity Pricing Policy
ER	Energy Regulator
ESI	Electricity Supply Industry
FBE	Free Basic Electricity
FID	Final Investment Decision
FLNG	Floating Liquefied Natural Gas
GAR	Piped-Gas Regulation
GDP	Gross Domestic Product

Acronym / Abbreviation	Stands for
GHG	Greenhouse Gases
GJ	Gigajoule
GSA	Gas Supply Agreement
GTL	Gas-to-Liquid
GUMP	Gas Utilisation Master Plan
HDI/HDSA	Historically Disadvantaged Individuals/South Africans
IBT	Inclining Block Tariff
ICT	Information and Communication Technologies
IDM	Integrated Demand Management
IEA	International Energy Agency
IEP	Integrated Energy Plan
IGU	International Gas Union
IPAP	Industrial Policy Action Plan
IPP	Independent Power Producer
IRP	Integrated Resource Plan
Ke	Cost of Equity
LNG	Liquefied Natural Gas
MCEP	Manufacturing Competitive Enhancement Programme
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPP	Multi-Product Pipeline
MTEF	Medium-Term Expenditure Framework
Mtoe	Million Tonnes of Oil Equivalent



Acronym / Abbreviation	Stands for	Acronym / Abbreviation	Stands for
MTPA	Metric Tons Per Annum	RERA	Regional Electricity Regulatory Association
MTSF	Medium-Term Strategic Framework	RESAP	Renewable Energy Strategy and Action Plan
MW	Megawatt	RIA	Regulatory Impact Assessment
NDP	National Development Plan	ROMPCO	Republic of Mozambique Pipeline Investment Company
NERSA	National Energy Regulator of South Africa	SACREEE	SADC Centre for Renewable Energy, Energy and Efficiency
NIPF	National Industrial Policy Framework	SADC	Southern African Development Community
NMPP	New Multi-Product Pipeline	SAPIA	South Africa Petroleum Industry Association
NFI	Non-Financial Information	SAPP	Southern African Power Pool
OCGT	Open Cycle Gas Turbine	SCOA	Standard Chart of Accounts
OECD	Organisation for Economic Co-operation and Development	SFF	Strategic Fuel Fund
PASA	Petroleum Association of South Africa	SIP	Strategic Integrated Project
PE(R)STEL	Political, Economic, Regulatory, Social, Technological, Environmental and Legal	SQAM	Standards, Quality Assurance, Accreditation and Metrology
PICC	Presidential Infrastructure Coordinating Committee		
PFMA	Public Finance Management Act, 1999 (Act No. 1 of 1999)		
PGS	Piped-Gas Subcommittee		
PPA	Power Purchase Agreement		
PPR	Petroleum Pipelines Regulation		
PPS	Petroleum Pipelines Subcommittee		
PV	Photovoltaic		
REC	Regulator Executive Committee		
REIPP	Renewable Energy Independent Power Producer		
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme		





LIST OF TABLES

Table 1:	NERSA's contribution to the NDP	17
Table 2:	NERSA's contribution to the NIP	20
Table 3:	NERSA's contribution to the MTSF	21
Table 4:	Renewable Energy Targets in the SADC Member States	37
Table 5:	Political factors	46
Table 6:	Economic factors	48
Table 7:	Regulatory factors	52
Table 8:	Social factors	56
Table 9:	Technological factors	58
Table 10:	Environmental factors	61
Table 11:	Legal factors	62
Table 12:	NERSA Staff complement	64





PART A: OUR MANDATE

1. CONSTITUTIONAL MANDATE

- 1.1. The Energy Regulator is listed as a public entity in terms of Schedule 3A of the Public Finance Management Act, 1999 (Act No. 1 of 1999).
- 1.2. The Constitution of South Africa is applicable to NERSA in conduct of its business, with specific reference to the Bill of Rights.
- 1.3. NERSA's responsibility is carried out through licensing, setting or approving of prices and tariffs, compliance monitoring and enforcement, and dispute resolution in the electricity, piped-gas and petroleum pipelines industries. It facilitates, through its regulatory functions, the construction of power stations, pipelines and storage facilities to ensure continued access to energy and security of supply in the country. NERSA's commitment to the protection of the environment and the growth of cleaner, more resource-efficient production of energy is built into its regulatory functions.

2. LEGISLATIVE AND POLICY MANDATES

2.1. RELEVANT LEGISLATION

- 2.1.1. NERSA is the regulatory authority established in terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004) with the mandate to 'undertake the functions of the National Electricity Regulator as set out in the Electricity Regulation Act, 2006 (Act No. 4 of 2006), undertake the functions of the Gas Regulator as set out in the Gas Act, 2001 (Act No. 48 of 2001), undertake the functions of the Petroleum Pipelines Regulatory Authority as set out in the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003) and to perform such other functions as may be assigned to it by or under these Acts'.

- 2.1.2. NERSA's mandate is anchored in the following four primary Acts:
 - the National Energy Regulator Act, 2004 (Act No. 40 of 2004)
 - the Electricity Regulation Act, 2006 (Act No. 4 of 2006) (ERA);
 - the Gas Act, 2001 (Act No. 48 of 2001); and
 - the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).
- 2.1.3. The regulatory functions of NERSA, as contained in the legislation relevant for the regulation of the energy industry, are summarised as follows:
 - issuing of licences with conditions;
 - setting and/or approving tariffs and prices;
 - monitoring and enforcing compliance with licence conditions;
 - dispute resolution including mediation, arbitration and the handling of complaints;
 - gathering, storing and disseminating industry information;
 - setting of rules, guidelines and codes for the regulation of the three industries;
 - determining of conditions of supply and applicable standards;
 - consulting with government departments and other bodies with regard to industry development and regarding any matter contemplated in the three industry Acts;
 - expropriating land as necessary to meet the objectives of the relevant legislation;
 - registration of import and production facilities; and
 - performing any activity incidental to the execution of its duties
- 2.1.4. Each one of the industry-specific Acts that NERSA is deriving its mandate from, has certain objects that should be achieved if NERSA carries out its functions as defined in these Acts.





a) The objects of the **Electricity Regulation Act** as stipulated in section 2 of the Act, are to:

- achieve the efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa;
- ensure that the interests and needs of present and future electricity customers and end users are safeguarded and met, having regard to the governance, efficiency, effectiveness and long-term sustainability of the electricity supply industry within the broader context of economic energy regulation in the Republic;
- facilitate investment in the electricity supply industry;
- facilitate universal access to electricity;
- promote the use of diverse energy sources and energy efficiency;
- promote competitiveness and customer and end user choice; and
- facilitate a fair balance between the interests of customers and end users, licensees, investors in the electricity supply industry and the public.

b) The objects of the **Gas Act** as stipulated in section 2 of the Act, are to:

- promote the efficient, effective, sustainable and orderly development and operation of gas transmission, storage, distribution, liquefaction and re-gasification facilities and the provision of efficient, effective and sustainable gas transmission, storage, distribution, liquefaction, re-gasification and trading services;
- facilitate investment in the gas industry;
- ensure the safe, efficient, economic and environmentally responsible transmission, distribution, storage, liquefaction and re-gasification of gas;
- promote companies in the gas industry that are owned or controlled by historically disadvantaged South Africans by means of licence conditions so as to enable them to become competitive;
- ensure that gas transmission, storage, distribution, trading, liquefaction and re-gasification services are provided on an equitable basis and that the interests and needs of all parties concerned are taken into consideration;
- promote skills development among employees in the gas industry;
- promote employment equity in the gas industry;

- promote the development of competitive markets for gas and gas services;
- facilitate gas trade between the Republic and other countries; and
- promote access to gas in an affordable and safe manner.

c) The objects of the **Petroleum Pipelines Act** as stipulated in section 2 of the Act, are to:

- promote competition in the construction and operation of petroleum pipelines, loading facilities and storage facilities;
- promote the efficient, effective, sustainable and orderly development, operation and use of petroleum pipelines, loading facilities and storage facilities;
- ensure the safe, efficient, economic and environmentally responsible transport, loading and storage of petroleum;
- promote equitable access to petroleum pipelines, loading facilities and storage facilities;
- facilitate investment in the petroleum pipeline industry;
- provide for the security of petroleum pipelines and related infrastructure;
- promote companies in the petroleum pipeline industry that are owned or controlled by historically disadvantaged South Africans, by means of licence conditions to enable them to become competitive;
- promote the development of competitive markets for petroleum products;
- promote access to affordable petroleum products; and
- ensure an appropriate supply of petroleum to meet market requirements.

d) The object of the **National Energy Regulator Act** as stipulated in section 1 of the Act, is to:

- establish a National Energy Regulator for the regulation of the electricity, piped-gas and petroleum pipelines industries



2.1.5. The Electricity Regulation Act, the Gas Act and the Petroleum Pipelines Act gives the Minister of Mineral Resources and Energy (the Minister) the power to make Regulations in terms of which NERSA must discharge its mandate.

a) The Minister has published the following **Electricity Industry Regulations**:

- the Electricity Regulations for Expropriation on behalf of a licensee;
- the Electricity Regulations for compulsory norms and standard for reticulation services;
- the Electricity Regulations on deviation from set or approved tariffs; and
- the Revised New Generation Regulations were issued on 4 May 2011.

b) The Minister has published the following **Piped-Gas Industry Regulations** on 20 April 2007, which deal with, amongst others:

- third-party access to transmission and storage facilities;
- expropriation procedures and timelines;
- mechanisms to promote historically disadvantaged South Africans;
- mediation and arbitration procedures; and
- price regulation principles and procedures.

c) The Minister has published the following **Petroleum Pipelines Industry Regulations** on 4 April 2008. The Regulations deal with, amongst others:

- third-party access to storage facilities;
- setting of tariffs for petroleum pipelines and approval of tariffs for petroleum loading and storage facilities;
- expropriation procedures and timelines;
- mechanisms to promote historically disadvantaged South Africans; and
- mediation and arbitration procedures.

2.1.6. NERSA derives its revenue by, amongst others, imposing prescribed levies on the regulated industries following a prescribed transparent procedure. In this regard, the following Acts govern the imposition of such levies:

- the Gas Regulator Levies Act, 2002 (Act No. 75 of 2002);
- the Petroleum Pipelines Levies Act, 2004 (Act No. 28 of 2004); and
- section 5B of the Electricity Act, 1987 (Act No. 41 of 1987).

2.1.7. Apart from the afore-mentioned industry specific legislation that anchors NERSA's mandate and the imposition of levies, the following facilitating and foundational legislation are also applicable to NERSA's conduct of its business:

- the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA), which specifies the accounting of NERSA as a Section 3A Public Entity;
- the Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA), which determines the way that NERSA has to treat access to information;
- the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000) (PAJA), which determines just administrative action of NERSA;
- the Protection of Personal Information, 2013 (Act No 4 of 2013), which determines the way that NERSA has to treat personal information; and
- all other applicable laws of the Republic of South Africa.

2.2. RELEVANT POLICIES

NERSA's mandate is further derived from published government policies and regulations developed by the Minister in terms of the Electricity Regulation Act, Gas Act and Petroleum Pipelines Act. As outlined in these legislative prescripts, NERSA must make decisions that are not at variance with published government policy. The relevant applicable policies are:

- White Paper on Energy Policy for South Africa of 1998;
- Electricity Pricing Policy (EPP) of the South African Electricity Supply Industry;
- Free Basic Electricity Policy;



- White Paper on Renewable Energy Policy for South Africa of 2003;
- Energy Security Master Plan: Liquid Fuels published by the Department of Energy in 1998 and 2007;
- National Development Plan;
- Industrial Policy Action Plan (IPAP); and
- Integrated Resource Plan (IRP) 2019

3. INSTITUTIONAL POLICIES AND STRATEGIES OVER THE FIVE-YEAR PLANNING PERIOD

3.1. Although policy formulation is outside of NERSA's realm of authority, specific policy gaps are continuously identified that require ongoing dialogue and strategic engagement with the Department of Mineral Resources and Energy in order to ensure that there is alignment between NERSA's strategic direction and the Department's policy thrusts.

3.2. In the previous five-year planning period, NERSA has seen that there are developments in the three industries that are not covered by the current industry-specific Acts. This requires a review of the regulatory legislation.

3.3. In addition to its mandate as per the legislation mentioned in the previous section, the Energy Regulator's decisions are informed by published policies of government. Within the parameters of NERSA's mandate and the resultant functions, NERSA contributes towards critical government priorities and programmes. Below is a summary of NERSA's contributions towards the –

- enabling milestones in the National Development Plan (NDP);
- strategic integrated projects in the National Infrastructure Plan; and
- seven priorities announced by the Honourable President, Mr Cyril Ramaphosa during the State of the Nation Address (SONA) in Parliament on 20 June 2019

3.3.1. NERSA'S CONTRIBUTION TO THE NATIONAL DEVELOPMENT PLAN

The National Development Plan (NDP) is a plan for the country to eliminate poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy, building capabilities, enhancing the capability of the state and leaders working together to solve complex problems. The high-level objectives of the NDP are to:

- reduce the number of people who live in household with a monthly income below r419 per person (in 2009 prices) from 39% to zero; and
- reduce inequality, as measured by the Gini Coefficient, from 0.69 to 0.6.

Chapter 4 of the NDP deals with *Economic infrastructure – the foundation of social and economic development*. This chapter places emphasis on the need for South Africa to maintain and expand, among others, its electricity infrastructure in order to support economic growth and social development goals. In respect of the regulation of the energy sector, NERSA noted that the NDP calls for more emphasis on stimulating market competition and promoting affordable access to quality services when issuing licences and setting tariffs.

In order to achieve the NDP goals by 2030, 19 enabling milestones were identified. Even though NERSA contributes indirectly to most of the enabling milestones, NERSA contributes specifically to 4 pertinent enabling milestones. Table 1 below summarises NERSA's contribution to the relevant enabling milestones.



Table 1: NERSA's contribution to the NDP

Relevant enabling milestones	NERSA's contribution
1: Increase employment from 13 million in 2010 to 24 million in 2030	<ul style="list-style-type: none"> • Implementation of the Youth Employment Accord; • Implementation of a Learnership Programme as well as an Internship Programme; • Training and development of staff and stakeholders; • Techno Girls programme where ten girls from grade 9 to grade 12 are exposed to NERSA's activities through visits to the organisation during school holidays.
4: Establish a competitive base of infrastructure, human resources and regulatory frameworks	<ul style="list-style-type: none"> • Publication of rules, codes and guides for the regulation of the electricity, piped-gas and petroleum pipelines industries; • Setting rules and frameworks that facilitate the building of new infrastructure; • Setting and/or approving cost reflective tariffs and market related prices that encourage investment; • Facilitating and enforcing third-party access to facilities through licence conditions; • Monitoring compliance through undertaking technical audits leading to regular maintenance and refurbishment of infrastructure and thus contributing to an increase in quality of supply
5: Ensure that skilled, technical, professional and managerial posts better reflect the country's racial, gender and disability makeup	<ul style="list-style-type: none"> • NERSA ensures continued compliance with the Skills Development Act. No 97 of 1998; • Implementation of an Employment Equity Plan; • When recruiting new staff members, NERSA ensures as far as possible that the representation within the relevant department and division reflects the country's racial, gender and disability makeup.
6: Broaden ownership of assets to historically disadvantaged groups	<ul style="list-style-type: none"> • Licensing and the setting and/or approving of tariffs and prices, as in this manner NERSA creates pre-conditions towards the achievement of this milestone; • Issuing licences to eligible applicants to facilitate the meeting of stated socio-economic development targets; • Facilitating and enforcing third-party access to facilities; • Promoting companies that are owned and controlled by Historically Disadvantaged Individuals (HDIs) to become competitive; and • Regulatory advocacy for strengthening the powers of the Regulator.





Relevant enabling milestones	NERSA's contribution
<p>10: Produce sufficient energy to support industry at competitive prices, ensuring access for poor households, while reducing carbon emissions per unit of power by about one-third</p>	<ul style="list-style-type: none"> • Regulating in a manner that facilitates security of supply; • Taking affordability into consideration when setting and/or approving tariffs and prices; • Determining inclining block tariffs and free basic electricity tariffs to protect the low income electricity consumers; • Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers; • Facilitation of the implementation of the Integrated Resource Plan (IRP) through considering concurring with determinations made by the Minister in line with section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006); • Development and implementation of the Grid Code for renewable energy to facilitate the introduction of renewable energy power producers; • Registration of gas importation and production facilities; • Monitor the implementation of the Gas Utilisation Master Plan (once promulgated).Facilitating access to electricity in setting aside some funds for the Electrification Cross-subsidy as part of determining electricity prices; • Incorporating compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) into licence conditions; • Promoting energy efficiency in general in South Africa and in particular in the NERSA building; • Facilitating the transition to a low carbon economy; and • Regulatory advocacy with regard to cleaner fuels policy.



3.3.2. NERSA'S CONTRIBUTION TO THE MEDIUM TERM STRATEGIC FRAMEWORK 2019-2024

- a) The Medium Term Strategic Framework (MTSF) is a five-year plan of government that is intended to implement the electoral mandate and the National Development Plan Vision (NDP) 2030.
- b) It aims to address the challenges of unemployment, in equality and poverty through three pillars of the NDP:
 - Achieving a more capable State
 - Driving a strong and inclusive economy;
 - Building and strengthening the capabilities of South Africans
- c) The seven priorities, which will be achieved through more focused implementation, coordination and integration by the various levels of government including state owned enterprises, the private sector and civil society, are as follows:

- Priority 1: A capable, ethical and developmental state
- Priority 2: Economic transformation and job creation
- Priority 3: Education, skills and health
- Priority 4: Consolidating the social wage through reliable and quality basic services
- Priority 5: Spatial integration, human settlements and local government
- Priority 6: Social cohesion and safe communities
- Priority 7: A better Africa and world

- d) NERSA identified the following government priorities to which it can contribute – as part of implementing its mandate:
 - Priority 2: Economic transformation and job creation
 - Priority 3: Education, skills and health
 - Priority 7: A better Africa and world

Table 2: NERSA's contribution to government's priorities

Relevant Priorities	NERSA's contribution
2: Economic Transformation and Job Creation	<p>By facilitating investment in the energy industry and thereby contributing to economic growth, leading to job creation, NERSA contributes through:</p> <ul style="list-style-type: none"> • licensing and the setting and/or approving of tariffs and prices, as in this manner NERSA creates pre-conditions towards the achievement of this priority; • approving renewable energy licenses to ensure that the socio-economic development commitments specified in the bidding process are met; • promoting companies that are owned and controlled by Historically Disadvantaged Individuals (HDIs) to become competitive; and • regulating in a manner that facilitates security of supply.



Relevant Priorities	NERSA's contribution
	<p>Contributing to a competitive and responsive economic infrastructure network through:</p> <ul style="list-style-type: none"> • Setting rules and frameworks that facilitate the building of new infrastructure; • Setting and/or approving cost reflective tariffs and prices that encourage efficient investment; • Facilitating and enforcing third-party access to facilities; • Monitoring compliance and undertaking technical audits leading to regular maintenance and refurbishment of the infrastructure and therefor to the improvement in quality of supply; and • Promoting competition and competitiveness in the energy industry.
Priority 3: Education, skills and health	<ul style="list-style-type: none"> • Implementation of the Learnership and Internship Programmes; • Implementation of the bursary programme for qualifying external applicants; • Coordinating the design of a regulatory course at an accredited institution of higher learning; and • Coordinating the development of a technical regulatory training and development programme.
6: A Capable, Ethical and Developmental State	<ul style="list-style-type: none"> • Transparent regulatory processes; • All decisions and reasons thereof are made public through being published on the website; • The public is invited to make comments prior to decisions being made (written or in public hearing); • Customer education programmes and awareness campaigns; • Training and development of staff and stakeholders, including training to electricity distributors on the completion of the forms requesting information from them; and • Techno Girls programme - where ten girls from grade 9 to grade 12 are exposed to NERSA's activities through visits to the organisation during school holidays.



3.3.3. NERSA'S CONTRIBUTION TO THE NATIONAL INFRASTRUCTURE PLAN

The South African Government adopted a National Infrastructure Plan (NIP) in 2012 that intends to strengthen the delivery of basic services and transform South Africa's economic landscape, while simultaneously creating significant numbers of new jobs. The plan also supports the integration of African economies. The New Growth Path sets a goal of five million new jobs by 2020, identifies structural problems in the economy to be overcome and points to opportunities in specific sectors and markets or 'jobs drivers'.

In order to address these challenges and goals, a total of 18 strategic integrated projects (SIPs) have been developed. The following three SIPs were identified for energy:

1. SIP 8: Green energy in support of the South African economy

- Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010).
- Support bio-fuel production facilities.

2. SIP 9: Electricity generation to support socio-economic development

- Accelerate the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances.

- Monitor implementation of major projects such as new power stations: Medupi, Kusile and Ingula.

3. SIP 10: Electricity transmission and distribution for all

- Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development.
- Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.

Table 2 below summarises NERSA's contribution to the relevant strategic integrated projects.





Table 3: NERSA's contribution to the NIP

Relevant SIPs	NERSA's contribution
8: Green energy in support of the South African economy	<ul style="list-style-type: none"> • Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers; • Incorporating compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) into licence conditions; • Facilitation of the implementation of the Integrated Resource Plan (IRP) through considering concurring with determinations made by the Minister in line with section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006); • Facilitating the transition to a low carbon economy; and • Regulatory advocacy with regard to cleaner fuels policy.
9: Electricity generation to support socio-economic development	<ul style="list-style-type: none"> • Regulating in a manner which facilitates security of supply and investment; • Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers; • Setting rules and frameworks that facilitate the building of new infrastructure; • Setting and/or approving cost reflective tariffs and prices that encourage investment; • Monitoring compliance through undertaking technical audits leading to regular maintenance and refurbishment of infrastructure and thus contributing to an improvement in quality of supply.
10: Electricity transmission and distribution for all	<ul style="list-style-type: none"> • Facilitating access to electricity in setting aside some funds for the Electrification Cross-subsidy as part of determining electricity prices; • Taking affordability into consideration when setting and/or approving tariffs and prices, while allowing a provision for expansion of current operations; • Determining inclining block tariffs and free basic electricity tariffs to protect the low income electricity consumers; • Facilitating reliability of supply; • Determining benchmarks and monitoring maintenance of infrastructure; • Auditing of the implementation of the Transmission Development Plan; • Monitoring compliance with licence conditions; and • Dispute resolution, including mediation, arbitration and handling of complaints.



4. RELEVANT COURT RULINGS

The ruling by the courts in the following two cases have a significant impact on the operations or service delivery obligations:

4.1. Interruption of supply of electricity to Emfuleni, which includes supply to Cape Gate Pty (Ltd).

4.1.1. Applicant: Cape Gate Pty (Ltd) and Others

4.1.2. Defendant / Respondent: Eskom, Emfuleni, NERSA and other

4.1.3. Synopsis: The Applicant sought an -

- interdict against Eskom to prevent it from implementing its power supply interruption decision;
- order that the decision to implement interruptions in the electricity supply be reviewed and set aside; and
- order that Eskom supply electricity on an uninterrupted basis to the Municipality on the basis that direct payment will be made to Eskom.

4.1.4. Court ruling: The following orders were issued:

- The dispute regarding non-payment by Emfuleni to Eskom was referred to the respondents for resolution in terms of section 41(3) of the Constitution.
- Eskom was interdicted from interrupting electricity supply to Emfuleni, pending resolution of the dispute within six months of this order or pending the outcome of the final determination of Part B of the application, whichever is earlier.
- The applicants were authorized, subject to appropriate oversight by NERSA, performing its statutory functions, to discharge their debt to Emfuleni by –
 - Making payment directly to Eskom for electricity they consume at the rate of Eskom, and submitting proof thereof to Emfuleni.
 - Continuing to pay the difference between the municipal tariff and Eskom tariff (the municipal portion) to Emfuleni.

- The respondents, including NERSA, were directed to do all things necessary to give effect to the temporary order.
- Emfuleni's obligations and duties to the Applicants will not be affected by this order.

4.1.5. Ongoing impact on operations or service delivery obligations:

- The order authorising end users to make direct payments to Eskom for electricity they consume is not in line with the current legal framework. It was made as a just and equitable relief.
- It has serious implications for municipalities and the work that NERSA does.
- There is no timeline that the court has set for the operation of this disruptive process.

4.1.6. What has been done to remedy the disruptive effect of the judgement?

- Gauteng Provincial Government (COGTA Department) has kick started the intergovernmental process to deal with the effect of the judgement and soliciting means to remedy it.
- Eskom and NERSA is part of the IGR process.

4.2. Issues related to the approved maximum prices of gas and approved transmission tariffs for Sasol Gas

4.2.1. Applicant: NERSA and Sasol Gas

4.2.2. Defendant / Respondent: PG Group and Others

4.2.3. Synopsis:

- PG Group & Others, together called the Gas Users Group (GUG), were unhappy about the maximum prices of gas and transmission tariffs approved for Sasol Gas by NERSA, which came into operation on





26 March 2014. GUG submitted that the prices are excessive and therefore sought an order to -

- review and set aside the abovementioned approvals by NERSA; and
- review and set aside the methodology used by NERSA to consider the abovementioned maximum price application, or declaring such methodology to be invalid for purposes of such consideration. NERSA contests the action by the applicants.
- After the Court granted judgement in favour of NERSA and SASOL, the GUG appealed.

4.2.4. Court ruling:

- Both the Supreme Court of Appeal and the Constitutional Court granted a judgement against NERSA and Sasol. The Constitutional Court effectively criticised the price indicator method used to determine maximum prices.

4.2.5. Ongoing impact on operations or service delivery obligations:

- Following the ruling of the Constitutional Court, the Energy Regulator has been unable to process any maximum price applications using the price indicator approach. Work is in progress to develop an interim mechanism, while attending to the review of the Maximum Price Methodology, in line with the Constitutional Court ruling.

4.2.6. What has been done post the judgement?

- NERSA has reviewed the Methodology to align it with the ConCourt judgement.



PART B: OUR STRATEGIC FOCUS

1. VISION

NERSA strives to regulate the South African electricity, piped-gas and petroleum pipelines industries by ensuring that the most efficient and effective industries are in place to exceed the requirements of existing and future energy customers. This is encapsulated in our **vision statement**, which is:

‘To be a recognised world-class leader in energy regulation’

In this context, being ‘world-class’ means that NERSA:

- Is recognised as a leader within the league of Regulators.
- Regulates the energy industry within its mandate without losing sight of its shared vision and values.
- Creates an environment that has low regulatory risk as viewed by all stakeholders.
- Promotes competition and competitiveness and continues to provide sound, objective and professional regulation of monopolies given the existing socio-economic conditions.
- Subscribes to the best regulatory practices and standards, including corporate governance principles.
- Continually evaluates its performance and benchmark itself against the “best-in-class energy regulators in the world”.
- Is passionate and sensitive to the needs of its stakeholders, especially employees, consumers, energy suppliers and government, to ensure equity.
- Is considered as an efficient and effective regulator.
- Encourages new ideas, innovation, processes and systems that engender economic efficiency, effectiveness and continuous improvement to meet its aim to be a learning organisation.
- Maintains synergy between input, work processes and results through its capable, diverse, highly motivated and dedicated teams.

2. MISSION

By regulating the energy industry in accordance with government laws and policies, NERSA makes a valuable contribution to the socio-economic development and prosperity of the people of South Africa. Our **mission statement**, commits NERSA:

‘To regulate the energy industry in accordance with government laws and policies, standards and international best practices in support of sustainable and orderly development’

3. VALUES

Values are the expression of what we stand for and how we will conduct ourselves. In this context and in addition to our commitment to comply with the requirements of section 9 (11) of the National Energy Regulator Act, 2004 (Act No. 40 of 2004) and its Code of Conduct, we have adopted the following values:

Passion

We conduct our business with a sense of urgency and commitment and are proud to be part of NERSA.

Spirit of Partnership

In working with all our stakeholders, we deliver on our promises for the purpose of sustainable development.

Excellence

In striving for the best results, we promote growth/development of our staff, and benchmark ourselves against the ‘best-in-class’ energy regulators across the globe.

Inclusivity

We embrace, value and treat all our stakeholders fairly and equally

Innovation

As a learning organisation, we strive to set trends and promote creativity by challenging the norm in order to continuously improve.

Integrity

Being honest, fair and sincere with all stakeholders and among ourselves.





Responsibility We practice responsibility and take ownership of our actions and decisions.

Professionalism We encourage maintenance of high standards of professional competence, and interdependence between our teams by means of effective communication channels to treat everybody as stakeholders.

Pride We take pride in what we do

4. REGULATORY PRINCIPLES

In regulating the three industries, NERSA must adhere to sound principles and approaches to be able to deliver on its mandate and achieve its objectives. NERSA has given consideration both to international best practice and the key principles stated in the African Forum for Utility Regulators (AFUR) Framework for Utility Regulation in Africa¹. Following the completion of the *Benchmarking the National Energy Regulator of South Africa against international good practice*, NERSA reviewed the literature on good regulatory principles and identified those principles that emerge strongly and consistently as international good practice. Supported by its legal mandate, NERSA adopted the following internationally accepted regulatory principles to underpin its regulatory approach:

Transparency We are required to explain its decisions and processes to regulated entities and other interested parties, which implies that the data or information on which the decision is based is readily available and the reasoning behind it is readily explained. This covers public consultation and accessibility.

Neutrality We should be neutral to all market players without favouring any one group (non-discriminatory).

Consistency and Predictability Our decisions must be consistent and should have a reasonable degree of predictability based on previous rulings in similar cases.

Independence The independence of NERSA from the regulated companies is a prerequisite for any sound regulatory system. Independence from political influence is also desirable to ensure the long-term stability of regulatory practices. Avoidance of regulatory capture by some customer groups is also necessary for successful regulation.

Accountability We should be accountable for its actions and decisions. Independence must not be confused with the lack of accountability.

Integrity We should exercise professionalism, honesty and objectivity in the management of the Energy Regulator's affairs and in all its dealings with stakeholders.

¹ This Framework was adopted by AFUR in November 2003.



5. SITUATIONAL ANALYSIS

5.1. EXTERNAL ENVIRONMENT ANALYSIS

The performance environment of NERSA is impacted upon by energy demand and supply trends and developments in the global, continental, regional and national environments.

5.1.1. Global Trends

According to the World Economic Forum insight report², the following key issues of the energy system and energy transition are worth noting, as summarised below:

- a) Energy is a key element of the modern economy. The availability of secure and reliable energy supply is essential for industrial processes and the provision of public services such as lighting, heating, cooking, information and communication technology, and mobility.
- b) The energy system is undergoing unprecedented change, driven by forces such as technological innovation, changes in consumption patterns, supply dynamics and policy shifts. These forces offer opportunities to resolve the challenges that the global energy system faces today, namely:
 - providing energy access to the more than one billion people who lack it;
 - meeting demand for an additional two billion people by 2050 while delivering that energy at an affordable cost; and
 - ensuring that the carbon and emissions footprint decline.
- c) The geopolitical landscape of energy is quickly shifting and environmental concerns have shaken the system's foundations. At the same time, the economics of competing energy sources have changed, and the advent of Fourth Industrial Revolution technologies have enabled new business models,

while making others obsolete. The latter has created significant uncertainty about the pace and destination of the transformation, making a strong case for a systemic, multi-stakeholder approach that increases the transparency of the enablers and reforms needed for countries to achieve an effective energy transition.

- d) Energy systems are complex and are at the heart of every country's economy. These systems aim to support society in the three dimensions of the energy triangle, namely:
 - inclusive economic development;
 - environmental sustainability; and
 - secure and reliable access to energy.
- e) The boundaries of energy systems have recently started shifting. The stakeholders are diverse, including:
 - end users and industrial consumers;
 - energy companies;
 - financial sector entities;
 - policy-makers;
 - cities;
 - international energy organizations; and
 - civil society.
- f) In the last decade the following trends have emerged:
 - Technological progress has allowed new forms of producing, storing, transforming and consuming energy, altering the nature of the energy system.
 - Energy consumption patterns have fundamentally shifted, resulting in new demand dynamics.
 - Policy-makers have started to adapt energy policies, and new coalitions have been formed to address challenges and harness opportunities associated with these developments.

² World Energy Forum report (2018) on *Fostering Effective Energy Transition: A Fact-Based Framework to Support Decision-Making*





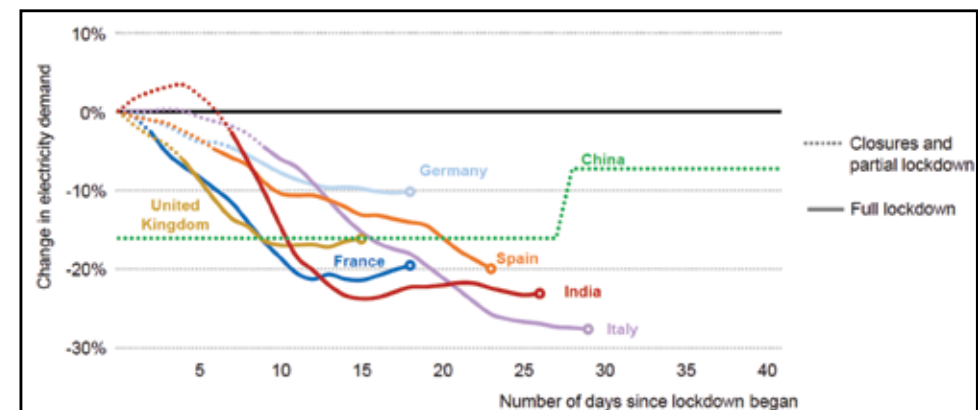
- g) Countries can use these game-changing trends to enhance their energy systems and improve the wellbeing of their populations.
- h) The COVID-19 pandemic is unprecedented in its scale and speed in recent times, and it has the potential to redefine economic, political and social aspects relevant to the energy transition. It has forced countries around the world to change and relinquish valuable commodities and freedoms to collectively address this COVID-19 outbreak. An effect of similar magnitude is required for a successful energy transition. Beyond the uncertainty over its long-term consequences, it has unleashed gushing effects in real time. Compounded disruptions from the erosion of almost a third of global energy demand, delayed or stalled investments and projects, uncertainties over the employment prospects of millions of energy-sector employees, in addition to unprecedented oil price volatilities and subsequent geopolitical implications have created a perfect storm for energy markets. The 'new Earth' that will emerge after COVID-19 will be a 'new normal', but many fundamental challenges will still exist. Chief among them is the imperative to collectively work towards an effective and inclusive energy transition (World Economic Forum insight report).

5.1.2. The impact of the COVID-19 crisis on global energy demand and CO2 emissions

- a) International Energy Agency (IEA) (2020) daily data shows that through mid-April countries in full lockdown experienced an average 25% decline in energy demand per week and countries in partial lockdown an average 18% decline. Daily data collected for 30 countries until 14 April, representing over two-thirds of global energy demand, show that demand depression depends on duration and stringency of lockdowns (see Figure 1 below).

- b) Global energy demand declined by 3.8% in the first quarter of 2020, with most of the impact felt in March as lockdown measures were enforced in North America, Asia, Europe and elsewhere.
- c) **Global coal demand** was hit the hardest, falling by almost 8% compared with the first quarter of 2019 (see Figure 2 below). There are three reasons that have advanced to explain falling global coal demand, First, China – a coal-based economy – was the country the hardest hit by COVID-19 pandemic in the first quarter of 2020; Second, cheap gas and continued growth in renewables elsewhere challenged the usage of coal; and third, mild weather also capped coal use.

Figure 1: Evolution of electricity demand following lockdown implementation³



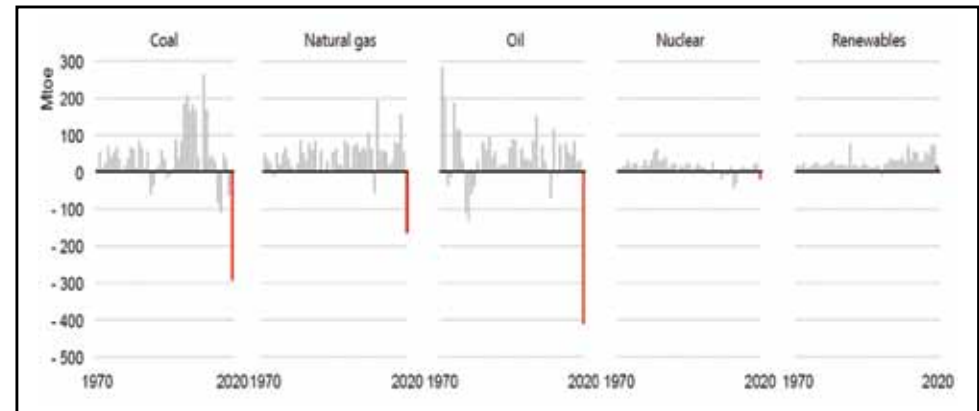
Source: International Energy Agency (2020)

³ Electricity demand drops to Sunday levels under lockdown, with dramatic reductions in services and industry only partially offset by higher residential use. Service-based economies suffer the most.



- d) **Oil⁴ demand** was also hit strongly, down nearly 5% in the first quarter, mostly by curtailment in mobility and aviation, which account for nearly 60% of global oil demand. By the end of March, global road transport activity was almost 50% below the 2019 average and aviation 60% below.
- e) The impact of the pandemic **on gas demand** was more moderate, at around 2%, as gas-based economies were not strongly affected in the first quarter of 2020.
- f) **Renewables** were the only source that posted a growth in demand, driven by larger installed capacity and priority dispatch.
- g) **Electricity demand** has been significantly reduced as a result of lockdown measures, with knock-on effects on the power mix (see Figure 1 above). Electricity demand has been depressed by 20% or more during periods of full lockdown in several countries, as upticks for residential demand are far outweighed by reductions in commercial and industrial operations. For weeks, the shape of demand resembled that of a prolonged Sunday. Demand reductions have lifted the share of renewables in the electricity supply, as their output is largely unaffected by demand. Demand fell for all other sources of electricity, including coal, gas and nuclear power. Global electricity demand falls by 5%, with 10% reductions in some regions. Low-carbon sources would far outstrip coal-fired generation globally, extending the lead established in 2019.

Figure 2: Change in global energy demand by fuel, 1970– 2020⁵



Source: International Energy Agency (2020)

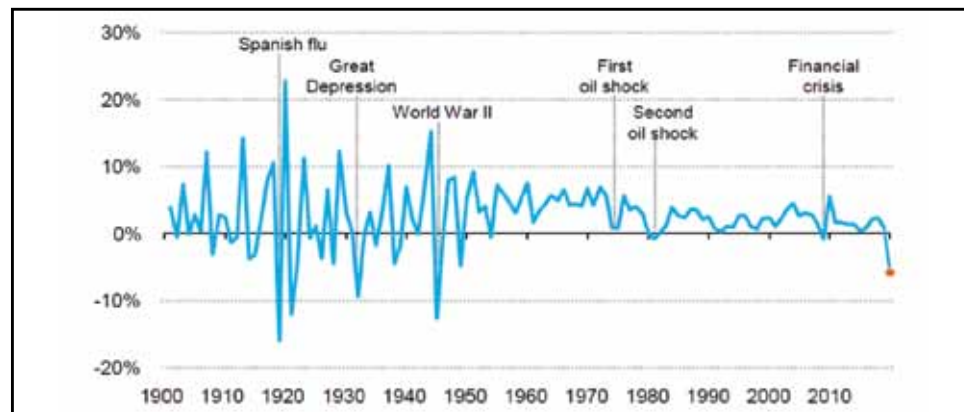
- h) Looking at the full year ahead (2020), the International Energy Agency (2020) explored a scenario that quantifies the energy impacts of a widespread global recession caused by months-long restrictions on mobility and social and economic activity. Within this scenario (forecast), the recovery from the depths of the lockdown recession is only gradual and is accompanied by a substantial permanent loss in economic activity, despite macroeconomic policy efforts.
- i) The IEA (2020) forecasts that energy demand contracts by 6%, the largest in 70 years in percentage terms and the largest ever in absolute terms. The impact of COVID-19 on energy demand in 2020 would be more than seven times larger than the impact of the 2008 financial crisis on global energy demand (see Figure 3 below).

⁴ Oil means crude oil and the refined product produced from oil.

⁵ Coal is set for the largest decline since World War II, alongside sharp reductions for gas and oil. Nuclear power is less affected by lockdown measures, while renewables are the only energy source on the rise in 2020.



Figure 3: Change in global energy demand, 1990-2020

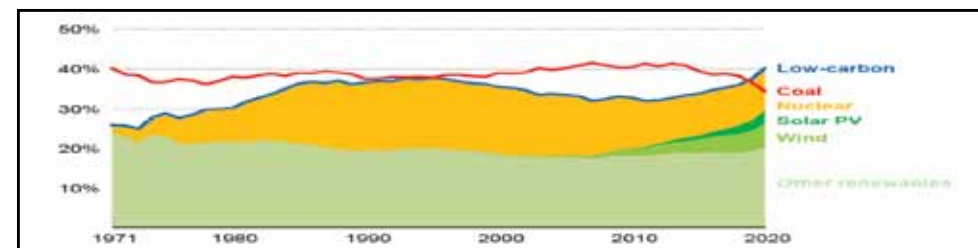


- j) All fuels will be affected as follows:
 - i) **Oil demand** could drop by 9%, or 9 mb/d on average across the year, returning oil consumption to 2012 levels.
 - ii) **Coal** demand could decline by 8%, in large part because electricity demand will be nearly 5% lower over the course of the year. The recovery of coal demand for industry and electricity generation in China could offset larger declines elsewhere.
 - iii) **Gas** demand could fall much further across the full year than in the first quarter, with reduced demand in power and industry applications.
 - iv) **Nuclear** power demand would also fall in response to lower electricity demand.
 - v) **Renewables** demand is expected to increase because of low operating costs and preferential access to many power systems. Recent growth in capacity, some new projects coming online in 2020, would also boost output.

⁶ For the first time in 50 years, low carbon technologies overtook coal as the leading source of electricity in 2019, and they are moving further ahead in 2020.

- k) Global CO₂ emissions are expected to decline by 8%, or almost 2.6 gigatonnes (Gt), to levels of 10 years ago (see Figure 4 below). Such a year-on-year reduction would be the largest ever, six times larger than the previous record reduction of 0.4 Gt in 2009 – caused by the global financial crisis – and twice as large as the combined total of all previous reductions since the end of World War II. As after previous crises, however, the rebound in emissions may be larger than the decline, unless the wave of investment to restart the economy is dedicated to cleaner and more resilient energy infrastructure.

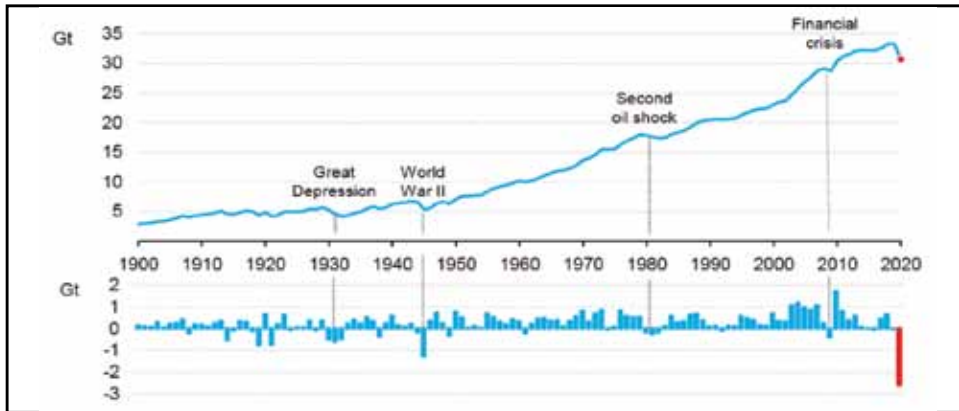
Figure 4: Global generation shares from coal and low-carbon sources, 1971-2020⁶



- l) CO₂ emissions drop the most due to the COVID-19 crisis (see Figure 5 below). Global energy-related CO₂ emissions are set to fall nearly 8% in 2020 to their lowest level in a decade. Reduced coal use contributes the most. However, evidence suggests that a large rebound is likely post the COVID-19 crisis.



Figure 5: Global energy-related CO2 emissions and annual change 1900-2020



- m) The COVID-19 crisis and measures taken to slow its spread have had a profound impact on energy demand, the likes of which have not been seen for 60-70 years. The full impact of the current situation, is yet unknown, will be determined by the duration of lockdown measures and the recovery paths taken around the world. This unprecedented situation and the stimulus packages that governments around the world are putting in place will shape the energy sector for years to come, with significant consequences for the energy industry at large, energy security and clean energy transitions.
- n) The industry is feeling the financial impact throughout value chains, with most energy companies losing substantial revenues. In effect, they are being hit twice, first by lower demand for their products – including oil, gas, coal and electricity – and again by lower prices for these products. Average oil prices fell sharply, with West Texas Intermediate hitting negative prices for the first time in history as excess storage became scarce.

- o) LNG prices have declined to all-time lows in European and Asian markets, which were abundantly supplied even before the COVID-19 crisis depressed demand. Natural gas prices have gone negative in parts of the United States, where storage is full. The smallest impact is on coal: as the supply chain is less affected by logistical constraints than oil and natural gas. A combination of cheap gas and weakening demand have also led to power prices declining by one-third to one-half in liberalised wholesale markets. Market prices for electricity have dipped below zero in the United States and a number of countries in Europe, including Germany, Denmark, France, Belgium, Sweden, Finland and Switzerland.
- p) The energy sector that emerges from the COVID-19 crisis may look significantly different from what came before. Low prices and low demand in all subsectors will leave energy companies with weakened financial positions and often strained balance sheets. Business lines that are insulated to a degree from market signals, including those with renewable electricity projects, will emerge in the best financial position. Private firms that are the most exposed to market prices will experience the most severe financial impacts. Market concentration and consolidations are likely.
- q) Across the energy sector, the COVID-19 crisis will have a significant impact on investment. This could raise concerns about energy security because investment is necessary even if global energy demand takes a long time to return to the pre-crisis trajectory. A considerable proportion of global energy investment is devoted to just sustaining existing levels of energy supply: maintaining oil and gas production at current levels, replacing aging power generation capacity – often with a capital-intensive combination of renewables and flexibility sources – and reinvesting in aging electricity networks. Investment in these activities will have to remain robust even with a subdued recovery.





- r) Energy security has been put to the test in new ways by the crisis, including in oil and gas markets. Simultaneous supply and demand shocks have sent oil markets into turmoil. Oil plays a central role in global macro finance, both as a share of international trade and as a critical source of government revenues for several major producers. National lockdown measures have caused unprecedented demand declines, whose speed and magnitude greatly exceed the normal market flexibility of supply. As a result, even with attempts at coordinated management, a disorderly production shutdowns resulted some places. The consequent macroeconomic and financial disruptions could undermine the industry's ability to ramp up production as the world economy and oil demand recover. The supply situation has stabilised as countries globally relaxed lock down restrictions.
- s) The supply of **natural gas** is critical to operations in all sectors, including industry, residential and services heating, and electricity supply. Due to large investments in recent years and the slump in demand because of COVID-19, global gas markets are abundantly supplied and storage levels are very high. At the same time, intense financial strain is hurting the industry, including companies who own and operate critical infrastructure facilities. Policymakers and regulators need to ensure that operational, maintenance and safety expenditures are prioritised and appropriately maintained. US liquefied natural gas (LNG) has played a major role in improving energy security and market efficiency in several regions, but the ongoing challenging market conditions risk significant shut-in of US LNG facilities.
- t) **Electricity** security's place at the heart of modern economies has been underscored by the COVID-19 crisis. A robust, uninterrupted electricity supply is a key precondition of both the functioning of the health care system and the maintenance of social welfare and online economic activity. Robust power systems have enabled adaptations to the ongoing crisis, including a huge expansion of teleworking activities, particularly in advanced economies. In some parts of the world, however, a reliable supply cannot be taken for granted. In Africa, several thousand hospitals and health care facilities have no access to electricity. In both Africa and South Asia, electricity reliability problems limit social distancing.
- u) Electricity security has remained robust as the COVID-19 crisis has accelerated the shift to renewable energy in the power mix. The share of renewables has jumped several years ahead of pre-pandemic expectations, including the shares of wind and solar, curbing CO2 emissions and air pollution. The rise of renewables has posed some problems for electricity security. However, in advanced economies, the main cause of blackouts is the inability of the system to manage sudden changes in power flows and various network problems. Lower electricity demand paired with continued growth of wind and solar PV has stepped up the share of variable renewables, calling for more flexibility to keep the lights on. At the same time, available flexibility has been limited by the shutdown of industrial facilities that provide demand response and because dispatchable power plants are idle because power prices are extremely low. As the energy industry's financial challenges grow, the cost of restarting dispatchable power capacity that had been mothballed could emerge as a significant energy security concern as economies and electricity demand recover. To date, electricity systems in major economies have maintained robust reliability, but continuous vigilance will be needed from system operators, regulators and governments.
- v) The COVID-19 crisis is also influencing the path for **clean energy transitions**. Global CO2 emissions are set for the largest year-to-year reduction on record, but a sustainable energy pathway calls for continuous efforts and commitment. The unprecedented decline in emissions in 2020 may only be temporary without structural changes. Recoveries from past crises have caused immediate rebounds in CO2 emissions, including the highest year-on-year increase on record in 2010.
- w) Importantly, governments around the world will play a major role in shaping the energy sector's recovery from the COVID-19 crisis, just as they have long been in the driving seat in orienting energy investment. In particular, the design



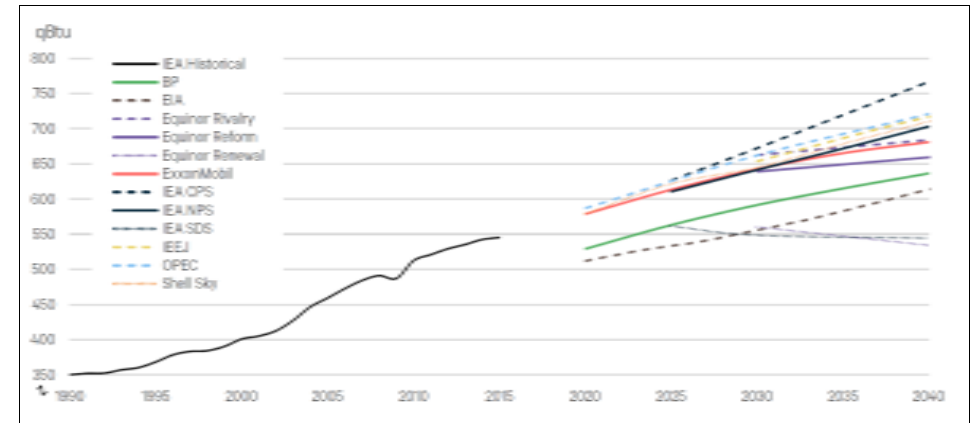
of economic stimulus packages presents a major opportunity for governments to link economic recovery efforts with clean energy transitions – and steer the energy system onto a more sustainable path. While the clean energy transitions and stimulus discussions are gathering momentum, a co-ordinated policy effort will be needed to harvest its opportunities and lead to a more modern, cleaner and more resilient energy sector for all.

5.1.3. Global Energy Consumption and Demand Trends

- a) The global energy sector has changed dramatically over the last 25 years, with larger changes possible over the next 25. The magnitude and direction of these changes, however, is highly uncertain. According to the Global Energy Outlook (2019), global primary energy consumption has grown rapidly over the past 25 years, reaching 546 quadrillion Btu (qBtu) in 2015, more than 190 qBtu higher than 1990 levels. Over the next 25 years, growth is projected to slow down, increasing by roughly 110 to 160 qBtu in Evolving Policies scenarios, and declining by as much as 4 qBtu under Ambitious Climate scenarios (see Figure 1 below).
- b) Global energy consumption is marked by a series of deep disparities with more than 1 billion people with no access to electricity. In addition, the gap between expectations of fast, renewables-driven energy transitions and the reality of today's fossil fuel-dependent energy remains significant.
- c) The International Energy Outlook current policies scenario (IEA CPS) shows the highest consumption in 2040 at 767 qBtu, an increase of 41% over 2015. OPEC and the Institute of Energy Economics Japan (IEEJ) project consumption of roughly 720 qBtu in 2040, similar to the absolute levels of growth from the previous 25 years. Evolving Policies scenarios project moderately slower growth, led by the IEA new policy scenario (NPS) (703 qBtu), ExxonMobil (681 qBtu), and Equinor's Reform Scenario (659 qBtu). Under two of three Ambitious Climate scenarios (IEA sustainable development scenario (SDS) and

Shell Sky), global energy consumption is roughly flat to 2040. In the IEA SDS, demand is 544 qBtu in 2040, while Equinor Renewal projects consumption falling to 534 qBtu in 2040. On the other hand, under Shell's Sky, demand grows to 711 qBtu by 2040, higher than any Evolving Policies scenarios.

Figure 6: Global primary energy consumption⁷



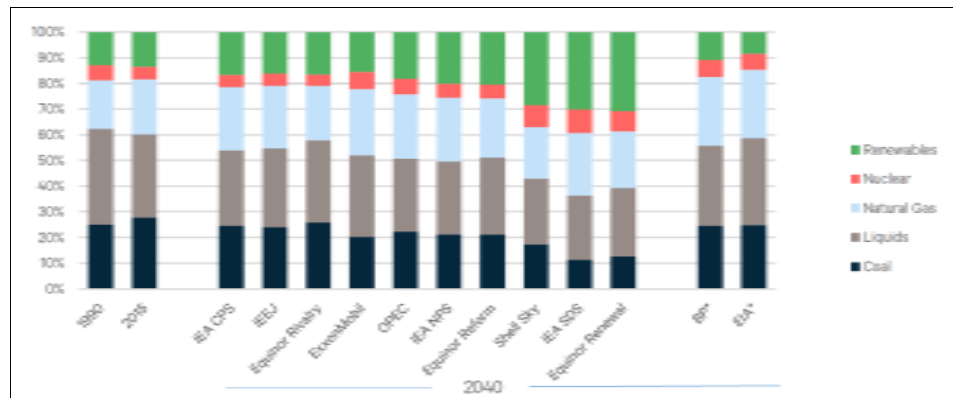
- d) With regard to the shares of global primary energy consumption by fuel projections, the Global Energy Outlook (2019) report states that fossil fuels, which made up 82% of global primary energy in 2015, dominate across Reference and Evolving Policies scenarios, ranging from 74% to 79% in 2040 (see Figure 2 below). Under Ambitious Climate scenarios, fossil fuels decline from 60% to 62%.

⁷ Global Energy Outlook (2019)





Figure 7: Shares of global primary energy consumption by fuel⁸



- e) Liquid fuels (primary oil) will continue to be the single largest fuel source in the energy mix across most outlooks, though its share shifts from 32% in 2015 to between 28% and 32% in the Evolving Policies scenarios. Under ambitious climate policies, liquids still account for 26% to 27% by 2040, but of a smaller aggregate energy base in the case of IEA SDS and Equinor Renewal.
- f) On the other hand, natural gas becomes the second largest source in most outlooks, rising from 21% in 2015 to between 21% and 27% by 2040.
- g) According to forecasts, coal loses market share across all projections. Under Ambitious Climate scenarios, coal declines from 28% of the mix in 2015 to between 12% and 17% by 2040. Under Evolving Policies, it falls to 20% to 22%.

- h) Renewables, led by wind and solar, will grow under all projections, though the rate of growth varies widely. Under Reference scenarios, renewables increase from 14% of the mix in 2015 to between 16% and 17%. Under Ambitious Climate scenarios, they become the largest source of global primary energy, overtaking petroleum to reach as high as 31% in 2040.
- i) Projections for nuclear's share of the mix also vary substantially, and is highest under Ambitious Climate scenarios, where it provides 8% to 9% of global primary energy, up from 5% in 2015. For other scenarios, nuclear accounts for 4% to 7% of the mix.
- j) According to the BP Report (2019)⁹, world energy demand is projected to grow by 1.3% per annum from 2016 to 2040 with all the growth coming from emerging economies. China and India will account for over a quarter of this increase. Global energy intensity [the ratio of energy demand to Gross Domestic Product (GDP)] is projected to decline by 1.9% per annum over this period. Renewables are the fastest growing fuel source, however oil and gas are still expected to account for more than half of global energy in 2040. Coal demand peaks, with its share of primary energy expected to fall to 21% by 2040. Natural gas is expected to replace coal as the second largest source of energy, after oil.
- k) The World Energy Outlook (2018) report notes that as economies continue to grow, energy demand grows as well. Average GDP in the non-Organisation for Economic Co-operation and Development (OECD). Over the past 25 years, world economic growth has been led by the non-OECD countries, accompanied by strong growth in energy demand in those countries. From 1990 to 2015, real GDP grew by 4.9% per year in the non-OECD, compared with 2.1% per year in the OECD. In the future, the difference in economic growth rates between OECD and non-OECD countries is expected to narrow somewhat, as economic growth in non-OECD countries moderates, and as their industrial sectors move from reliance mainly on production in energy-intensive industries to more service-oriented industries.

⁸ Source: Global Energy Outlook (2019)
⁹ BP Statistical Review of World Energy, 2019



l) The emerging trends are as follows¹⁰ :

- Renewables are the world's fastest-growing energy source over the projection period. Renewable energy consumption is expected to increase by an average of 2.6% per year between 2012 and 2040.
- Nuclear power is the world's second fastest growing energy source, with consumption increasing by 2.3% per year over that period.
- Even though the consumption of non-fossil fuels is expected to grow faster than the consumption of fossil fuels, it is projected that fossil fuels will still account for 78% of energy use in 2040.
- Natural gas is expected to grow faster than other fossil fuels in the next two decades. Abundant natural gas resources and robust production, including rising supplies of tight gas, shale gas, and coalbed methane, will contribute to the strong competitive position of natural gas. Shell has warned in its annual report released in March 2018 that there could be a shortage in the Liquefied Natural Gas (LNG) market in the next decade unless new investment is undertaken soon. Investment decisions on new LNG supply have come to a near standstill over the last two years. In 2017, only one large-scale LNG project reached Final Investment Decision, namely the 3.4 MTPA Coral South FLNG in Mozambique, marking the lowest volume of sanctioned LNG in nearly twenty years (IGU, 2018)¹¹. According to the IGU (2018), the total volume and number of LNG contracts signed has declined consistently over the past three years.
- Although liquid fuels (mostly petroleum based) will remain the largest source of world energy consumption, the liquids share of world market energy consumption falls from 33% in 2012 to 30% in 2040. Contributing to the decline are rising oil prices in the long term, which lead many energy users to adopt more energy efficient technologies and to switch away from liquid fuels.
- Coal, the world's slowest growing energy source, will rise by 0.6% per annum and will be surpassed by natural gas by 2030.

Oil/Petroleum

- m) World consumption of liquid fuels rises from 95 million barrels per day (b/d) in 2015 to 113 million b/d in 2040 (International Energy Organisation, 2017). Most of this growth is seen in the transportation and industrial sectors with an average increase of 0.7% per year from 2015 to 2040. Non-OECD nations account for most of the increase, with demand rising by 1.3% per year compared with a slight decrease in the OECD. Most of the growth (80% of the total increase) in world liquid fuels consumption from 2015 to 2040 comes from non-OECD countries, where strong economic and population growth increase the demand for liquid fuels by 39%.
- n) The use of petroleum and other liquids in the industrial sector to power equipment and serve as chemical feedstocks will increase slowly between 2015 and 2040. Furthermore, the use of petroleum and other liquids to generate electricity declines over the projection period as a result of increasing oil prices and relatively less costly natural gas, encouraging producers to switch to alternative energy sources.
- o) Energy security remains paramount, and oil remains in the spotlight, as a result, a broader and dynamic approach is required to ensure energy security.

Natural gas

- p) Global natural gas consumption is expected to grow in both the OECD and non-OECD countries from 2015 to 2040. However, the growth is higher with an expected average of 1.9% per year in non-OECD countries that have expanding industrial sectors and electricity demand, in contrast to 0.9% per year in OECD countries. The share of world natural gas consumption in non-OECD countries increases from 53% in 2015 to 59% in 2040. Natural gas continues to be an attractive fuel for the electric power and industrial sectors in many countries, accounting for nearly 75% of the projected increase in total consumption

¹⁰ World Energy Outlook (2018) report: The gold standard of energy analysis

¹¹ International Gas Union (IGU) World Gas LNG Report – 2018 Edition, 27th World Gas Conference Edition





between 2015 and 2040. Natural gas-fired generation is attractive for new power plants because of low capital costs, favourable heat rates, and relatively low fuel cost. Natural gas-intensive industries, such as chemicals, refining, and primary metals, are expected to expand over the period of 2015 to 2040 – particularly in non-OECD countries – driving industrial demand higher. The largest increases in natural gas production from 2015 to 2040 occur in the Middle East (11.8 Tcf), China (9.5 Tcf), the United States (10.7 Tcf), and Russia (4.8 Tcf).

- q) Demand for natural gas is expected to grow by more than half, the fastest rate among the fossil fuels, and increasingly flexible global trade in LNG offers some protection against the risk of supply disruptions. The growth in LNG increased by 29 million tonnes to 293 million tonnes in 2017. The main regions that push global gas demand higher are China and the Middle East, but gas is also expected to become the leading fuel in the OECD energy mix by around 2030. China has overtaken South Korea to become the second-largest importer of LNG as a result of switching its policies from coal to gas to reduce air pollution¹². Japan is still the largest LNG importer, but according to Capital Markets Outlook 2018, a structural change in its energy policy could see it lose the top slot by as early as 2020. The key uncertainty is whether gas can be made available at prices that are attractive to consumers while still offering incentives for the necessary large capital-intensive investments in gas supply.
- r) The global interest in LNG power generation is increasing. There is also a growing demand for LNG as a bunkering fuel worldwide, albeit slowly. From 2018, ships operating in European waters will be required to report their annual greenhouse gas emissions. At the moment, ships operating in Europe must comply with a 0.5% sulphur limit, but there are options aside from using LNG as a fuel, such as installing scrubbers. The 0.5% limit will apply globally from

2020, down from the current 3.5%¹³. LNG exports from the Americas are set to rise from 2018 as supplies ratchet up from the United States, Trinidad and Tobago and Peru. The three countries exported a combined 19.74 mt of LNG during the first nine months of 2017, a year-on-year increase of 51.5%. The LNG market is expected to grow going forward (2017 – 2021)¹⁴. The contributing factors for this rapid increase is the start-up of several new projects in Australia and Indonesia, rapid economic growth especially of emerging economies, and rising demand for environmentally cleaner fuels. Global Gas Analytics (GGA) forecasts that LNG exports from the Americas to increase by 10% year-on-year in 2018, to 28.4 mt.

Coal

- s) According to the *Coal transitions in South Africa Report, 2018*, South Africa's Nationally Determined Contribution (NDC) is based on the long-term benchmark emissions trajectory range, which is contained in the National Climate Change Response Strategy White Paper (DEA, 2011). The NDC commits to limiting emissions to a range between 398 and 614 Mt CO₂-eq, between 2025 and 2030. Known as the Peak, Plateau, and Decline trajectory (PPD), the goal is to peak emissions between 2020 and 2025, plateau for approximately a decade and decline in absolute terms thereafter (RSA, 2016). The National Climate Change Policy Framework thus extends the NDC commitment to 2050, with a goal to reduce emissions to between 212 and 428 Mt CO₂-eq in 2050 (DEA, 2011). The key finding of the NDC scenario is that South Africa can meet its NDC and mid-PPD primarily through decarbonising the electricity sector. The scenario results in 71% of electricity generated from wind and solar photovoltaic (PV) by 2050. There is substantial investment in gas capacity because of a conservative assumption that renewable energy cannot be considered firm capacity during the peak, though the gas plants contribute relatively less to electricity generated (14%).

¹² 4th Quarter report on the development of new gas sources in South Africa and neighbouring countries

¹³ 4th Quarter report on the development of new gas sources in South Africa and neighbouring countries

¹⁴ http://www.researchandmarkets.com/research/s9wds5/global_liquefied



- t) Considering the role of coal in South Africa's economy, it should be noted that coal is an important foreign exchange earner. It accounts for approximately 12% of the total merchandise exports from South Africa over the period 1993 to 2015 (CoM, 2016). The State benefits via taxes and royalties associated with coal mining. Coal royalties are approximately 18% of total mining royalties. The coal-mining sector employed around 77,000 workers in 2015. In comparison, the entire mining sector employed approximately 457,000 workers in 2016 (Chamber of Mines, 2016), out of a total employed workforce of 15.8 million people (StatsSA, 2017). Coal jobs therefore account for nearly 0.5% of the national workforce¹⁵.
- u) According to the International Energy Outlook, forecast worldwide coal consumption remains roughly the same between 2015 and 2040 (about 160 quadrillion Btu), with decreasing consumption in China and the United States offsetting growth in India. China remains the largest single consumer of coal in 2040 (about 73 quadrillion Btu), despite a steady decline in the country's consumption over time. A slowing economy and plans to implement policies to address air pollution and climate change emphasises the decline over the projection period. India's coal consumption continues to grow by an average of 2.6% per year from 2015 to 2040, with the country surpassing the United States as the second-largest coal consumer before 2020.
- v) In OECD countries, coal consumption declines by an average 0.6% per year over the period of 2015 to 2040 because of increasing competition from natural gas and renewables and only moderate increases in electricity demand. Africa, the Middle East and other non-OECD countries, are projected to gradually expand coal capacity and generation through 2040, but their use of this resource starts from a low base. Despite significant increases in coal consumption, coal's share in overall energy consumption in India is projected to decrease from 49% in 2015 to 43% by 2040, due in part to policies promoting renewable and nuclear-based generation.

Electricity

- w) According to the World Energy Outlook (2018) report, electricity is the fastest-growing source of final energy demand, and over the next 25 years, it continues to outpace energy consumption as a whole. The power sector now attracts more investment than oil and gas combined – necessary investments as the generation mix changes and ageing infrastructure is upgraded
- x) According to forecasts, net electricity generation in OECD Europe is expected to increase slowly, by an average of 1.1% per year from 2015 to 2040, compared to the world average increase of 1.5% per year (International Energy Outlook, 2018). India's net electricity generation increases by an average of 3.2% per year over the same period, driven by strong industrial growth and policies to increase the availability of electricity in rural areas.
- y) The generation mix in OECD Europe changes considerably by 2040, with renewables and natural gas growing, coal remaining flat, and nuclear power and liquid fuels declining. Nuclear generation's share is expected to decline from around 25% in 2015 to less than 15% by 2040. This is a result of stated policies to either cap or phase out nuclear power, including those adopted in France, Germany, and Sweden. The use of natural gas electricity generation in OECD Europe does not expand until 2030, mostly because of the large increases in projected renewables generation. In OECD Europe, when natural gas begins to gain market share in 2030, it displaces nuclear power, coal, and renewable generation.
- z) The number of people without access to electricity declined from 1.7 billion in 2000 to 1.1 billion in 2016 and is forecast at 650 million by 2030 (World Energy Outlook, 2018). The remaining population without access becomes increasingly concentrated in sub-Saharan Africa as developing countries in Asia reach a 99% electrification rate, with universal access achieved by the mid-2020s in India and Indonesia (see Figure 3 below).

¹⁵ Coal transitions in South Africa Report ,2018



- aa) The number of people without access to clean cooking falls, but only to 2.2 billion by 2030. According to the World Energy Outlook (2018) report, the greatest challenge in achieving universal access to electricity is providing access to people living in the most remote areas in sub-Saharan Africa. Although most of the access is done through generation from renewables, the grid expansion also has an important part to play.
- bb) Universal access strategies should be diverse. Local conditions and practices need to be underpinned by firm political commitments with supportive and enabling regulatory frameworks; engagement with the private sector; appropriate financing options and investment; capacity building and close consultation from the outset with local communities, especially women (World Energy Outlook, 2017).
- cc) Globally the dependence on electricity is growing and society is becoming more and dependent on the use of electricity for the sustainability of life as they know it. Cities would not survive without electricity. Yet as this is taking place, there are growing concerns about the security of supply. Apart from all the normal reasons for this, there is a new threat that is attracting attention globally – cybersecurity and the vulnerability of the power system to cyber-attacks. This is a global problem and South Africa is not excluded. However, this is an area of regulation that has not yet been addressed.
- dd) Globally, the trend in renewable energy that is receiving the most attention from regulators is the installation of rooftop solar PV from a domestic customer point of view. This is putting a big dent in utility revenues and there are implications for regulators as well, among others:
- the sustainability of licensees;
 - restructuring of tariffs by licensees in response to Small-Scale Energy Generation;
 - tariff structures for feeding power onto the grid;
 - the network impact of these installations; and
 - control of quality of supply for other customers.

The most difficult implication to deal with is the sustainability of the licensees. NERSA has addressed these issues in varying degrees, but it requires ongoing attention.

5.1.4. Continental Developments

- a) Sub-Saharan Africa accounts for almost 14% of the world's population, but only 4.5% of global primary energy demand [619 million tonnes of oil equivalent (Mtoe)]. According to latest statistics from the World Energy Outlook (2017) report, the number of people without access to electricity in sub-Saharan Africa continues to decline, albeit slowly. Over 200 million people have gained access since 2000, less than the overall population increase. As a result, there remain more than 600 million people without access, despite an increase in the access rate of 20 percentage points to 43%.

- b) Average energy consumption per person in most African countries is well below the world average of around 2 tonnes of oil equivalent (toe) per capita and is broadly comparable to India's average of 0.7 toe/capita.

African energy demand has been driven by the growing needs of North Africa, Nigeria and South Africa. In 2018, primary energy demand in Africa was more than 830 million tonnes of oil equivalent (Mtoe): North Africa (24%), Nigeria (19%), and South Africa (16%) together accounted for almost 60% of this despite making up only 35% of the population.

- c) Furthermore, recent efforts have been uneven, with around 60% of the progress seen since 2011 concentrated in just four countries (Kenya, Ethiopia, Tanzania and Nigeria), which together account for only 31% of the population without electricity access in sub-Saharan Africa. In Kenya, the access rate has increased by over 65 percentage points in 2000, to 73% today, and the Last Mile Connectivity Project aims to deliver universal access by 2022. In Ethiopia, electricity now reaches 45% of the population compared with 5% in 2000. The National Electrification Programme, launched in 2017, outlines a plan to reach universal access by 2025, aiming to reach 35% of the population with off-grid solutions.



- d) In South Africa, while the current electrification rate is relatively high (84%) it has been declining since 2014, in large part because electrification in urban areas has not kept pace with migration from rural areas.
- e) Energy demand in sub-Saharan Africa is very low. However, there are several factors pointing towards potentially rapid and prolonged growth in demand: strong economic expansion; increasing urbanisation; industrialisation and modernisation; a burgeoning middle class in many countries; as well as a legacy of unmet energy demand. The sub-Saharan Africa energy system is expected to expand rapidly by 2040 and so do the demands placed upon it. According to the World Energy Outlook Report (2018), the sub-Saharan Africa economy will quadruple in size, the population will nearly double (to 1.75 billion) and energy demand grows by around 80% by 2040. The capacity and efficiency of the system improve, and access to modern energy services grows, but many of the existing energy challenges are only partly overcome.
- f) Bioenergy demand will increase by 40% in absolute terms by 2040, exacerbating stress on the forestry stock. However, the share of bioenergy in the energy mix declines from above 60% to below half and the share of modern fuels edges higher. Oil demand will more than double to 4 million barrels/day (Mb/d) in 2040 [over 0.5 Mb/d is the residential use of Liquid Petroleum Gas (LPG) and kerosene] and becomes the second-largest fuel in the mix, overtaking coal. Natural gas use grows by nearly 6% per year, to reach 135 bcm.
- g) According to BP, Africa will have the highest Compound Annual Growth Rate ('CAGR') for oil and gas consumption over the next 20 years while having the lowest existing energy consumption base¹⁶. There is an urgency to address the current and future power supply, transmission and distribution needs. Therefore, the proven nature of Open Cycle Gas Turbines (OCGT) and Combined Cycle Gas Turbines (CCGT) technology coupled with the increased

global volumes of LNG and potential for subdued future prices appear to offer an opportunity for African gas to power to grow. Africa has significant natural gas reserves, with increasing numbers of countries joining the list of countries that have discovered resources. For countries lacking domestic gas today, importing LNG for gas to power projects has become feasible due to the reason that there is an increase in countries that have discovered natural gas.

- h) The sub-Saharan Africa power system is expanding rapidly, with generation capacity quadrupling to 385 GW. The power mix becomes more diverse, with coal (mainly South Africa) and hydropower (all regions), being joined by greater use of gas (Nigeria, Mozambique, Tanzania), solar (notably in South Africa and Nigeria) and geothermal (East Africa). The share of renewables in total capacity more than doubled to 44%. The total power sector investment averages around \$46 billion per year, with just over half of it in transmission and distribution.
- i) Oil production will rise above 6 Mb/d by 2020, but will then taper off to 5.3 mb/d in 2040. Nigeria and Angola remain the dominant producers, although Uganda and Kenya are expected to ramp up oil output in the 2020s. Gas production will rise to 230 bcm in 2040, led by Nigeria, and there will be an expansion of the output from Mozambique (60 bcm in 2040), as well as Angola and Tanzania (each 20 bcm). Coal supply is expected to grow by 50% to reach 325 Mtoe, still concentrated in South Africa, but joined increasingly by Mozambique and others. Sub-Saharan energy exports are drawn increasingly towards Asian markets. Crude oil net exports will decline to just over 3.8 Mb/d by 2040, partly due to a greater share being refined and consumed domestically. Rising gas output from Mozambique and Tanzania will bring sub-Saharan LNG export towards 100 bcm by 2040 (around 17% of inter-regional LNG trade), and Mozambique joins South Africa as a key coal exporter.
- j) Furthermore, sub-Saharan Africa makes only a small contribution to the global energy-related CO₂ emissions. It is envisaged that it will account for a mere 3% of the total in 2040, but is on the front line when it comes to

¹⁶ PwC (2018). Staking on tomorrow: Africa oil and Gas review report



the potential impacts of a changing climate. In particular, hydropower prospects can be affected by changing patterns of rainfall. The fuelwood and charcoal sectors operate largely outside the formal economy, meaning that policymakers have few levers to promote more sustainable forestry.

- k) Sub-Saharan Africa is rich in energy resources, but very poor in energy supply (International Energy Agency, 2017). The political instability in Sub-Saharan Africa limits the realisation of future gas infrastructure. A clear and comprehensive plan is needed to attract Foreign Direct Investment (FDI) into a country's gas sector.
- l) Natural gas resource-holders can power domestic economic development and boost export revenues, but only if the right regulation, prices and infrastructure are in place. The incentives to use gas within sub-Saharan Africa are expected to grow as power sector reforms and gas infrastructure projects move ahead. International Energy Agency, (2017) predicts that natural gas will nearly triple its share of the energy mix in Africa to 11% by 2040.
- m) Sub-Saharan Africa has 221.6 trillion cubic feet of proved natural gas reserves. The Middle East has almost 13 times that amount and Eurasia has almost 10 times that amount. Sub-Saharan Africa produced 1.69 trillion cubic feet of natural gas in 2011, accounting for 1% of total global natural gas production. Natural gas production in Sub-Saharan Africa grew by an annual average of 10% over the past ten years. The growth was led by Nigeria, Equatorial Guinea, and Mozambique. Nigeria produces around two-thirds of the region's natural gas. The largest gas discovery was made in Egypt in the Zohr field with more than 30tcf of gas, which is located within the offshore Shorouk Block. Over the next year or two, Egypt plans to bring online all four trains of the first phase of Zohr, as well as expanding operations at the Abu Qir acreage and starting up the Atoll project and Phase 9B of the West Delta Deep Marine project¹⁷.

¹⁷ "1st phase of Zohr gas field about to be finished: Min." Egypt Today. January 2018

¹⁸ IGU World Gas LNG Report – 2018 Edition, 27th World Gas Conference Edition

- n) Sub-Saharan Africa exports about 1.22 tcf of natural gas and LNG via pipeline. Nigeria, Equatorial Guinea, and Mozambique are the only sizable natural gas exporters in the region. Angola joined the group in 2013 when it began exporting LNG. According to the IGU (2019) report¹⁸, several new gas projects came online in Algeria, leading to an increase of 0.8 MT to reach 12.4 MT of exports, which is the country's highest since 2014.
- o) The African Energy market has a required energy investment of US\$65 to US\$90 billion, with actual current investment at US\$23 billion. This translates to a funding gap of between US\$40 and US\$60 billion. To address this issue, the African Development Bank (AFDB) has since established a new fund for energy that is aimed at achieving universal access to energy by 2025. It envisages 200 million connections and doubling the continent's generation capacity by 2025. The AFDB fund aims to increase new off-grid connections by 130 million, new generation capacity by 160 GW and new clean cooking solutions by a further 150 million.
- p) With all these developments and growth in energy demand and supply, there is a need to harmonise regulations with regulatory authorities across the continent to ensure efficient energy landscape.

5.1.5. Regional Developments

- a) Energy is vital to development in the Southern African Development Community (SADC). Beyond its use in daily life, fuel and electricity catalyse infrastructure projects that drive both regional integration and economic growth. As the SADC region industrialises on its path to improved human development, energy production and distribution will only increase in importance. Recognising the fundamental role of energy in accomplishing its goals, the SADC passed the Protocol on Energy in 1996, which provides a framework for cooperation on energy policy among SADC Member States.



- b) Since the adoption of the Protocol on Energy, the SADC has enacted several strategic plans for energy development in the region. Although implementation of these strategies has been slow, the region has made significant strides, particularly in electricity. At present, nine Member States of the SADC have merged their electricity grids into the Southern African Power Pool (SAPP), reducing costs and creating a competitive common market for electricity in the region. Similarly, the SADC has established the Regional Electricity Regulatory Association (RERA), which has helped in harmonising the region's regulatory policies on energy and its subsectors.
- c) While the SADC is enacting a number of initiatives to address these issues, it has identified two chief points of focus, as follows:
- Electricity Generation – Southern Africa has ample resources for electricity generation, though it occasionally lacks the capacity for development.
 - Hydropower and Renewable Energy – Renewable energy has grown in importance for both regional and global energy markets.
- d) In 2015, the SADC also launched the Industrialisation Strategy and Road Map for 2015–2063. Based on the Strategy and Roadmap, a SADC Industrialisation Action Plan had been drafted which covers how industrialisation should unfold; competitiveness; regional integration; crosscutting issues; institutional arrangements; and the monitoring and evaluation process. The successful implementation of this roadmap is essential for socio-economic development in the region and will have a bearing on the activities undertaken by regulators – the energy requirements for meeting the regional growth targets of 4–7% per annum as part of the industrialisation process are expected to be enormous. There has also been cooperation by SADC Member States on the establishment of the SADC Centre for Renewable Energy, Energy and Efficiency (SACREEE) in Namibia and the Southern Africa Research and Documentation Centre, which will function as platforms for capacity building, distribution of energy-related information, and energy-related projects.
- e) The region is relatively well endowed with energy resources. The SADC region has vast energy potential from solar, wind, nuclear, hydro, thermal, gas and petroleum sources in several countries. However, biomass is by far the largest source of energy in most regional countries.
- f) Electricity, as the dominant source of energy in the region, is generated mainly through thermal or hydroelectric resources. The coal industry is the backbone of power generation in the region, supplying almost 62% in Southern Africa and a significant share of the resource is allocated for export. The region has a large reserve of low-cost hydroelectricity in the north [especially Inga Reservoir in the Democratic Republic of Congo (DRC)] and Kariba Dam on the Zambia/Zimbabwe border in the middle of the regional system, as well as large reserves of cheap coal in Botswana, Mozambique, South Africa and Zimbabwe.
- g) Natural gas is becoming more significant to the region's energy sector, as Mozambique, Namibia, South Africa and Tanzania are developing the natural gas fields in their respective countries. New natural gas discoveries by international oil companies in Mozambique and Tanzania during the past decade have ignited investor interest in this previously under-explored region. The nascent petroleum and gas sub-sector is however plagued by volatile prices. Although the region is endowed with some petroleum and gas resources, these are not directly available to the region due to either foreign commitments or the lack of the necessary infrastructure to exploit, process, store and distribute throughout the region.
- h) Furthermore, the region has some of the most significant known reserves of uranium. The mineral is being mined in Namibia and South Africa for use as fuel for nuclear power plants while exploration is underway in Botswana and Zimbabwe. Nuclear technology is included in the electricity sub-sector, but it must be demonstrated that nuclear power can be a safe electricity generation option and the confidence of the population and governments must be won to endorse nuclear energy deployment in the SADC region. Only South Africa has nuclear capacity, with tentative plans for a new nuclear programme.





- i) The region has great potential for renewable energy, including hydropower, which is already being utilised on a commercial scale. However, the necessary infrastructure for grid connection is poor. The prices for most renewable energy technologies are decreasing, but more must be done in the form of innovative financing. A key factor of the SADC energy sector is the fact that the region has faced an electricity deficit since 2007 due to a combination of factors that have contributed to a diminishing generation surplus capacity against an increasing growth in demand. In recent years, the sub-region has experienced a power deficit situation due to a number of reasons, including growing demand against limited expansion in generation capacity.

Electricity

- j) Only 32% of rural areas in the region have access to electricity, as a result the SADC region falls behind in Africa regarding access to electricity.
- k) Although plans have been put in place to address the supply shortage by 2020, projects intended to address the shortage lag behind the deadline due to failure to package projects for funding, below-cost tariffs, poor project preparation, issues with Power Purchase Agreements (PPAs), and the absence of regulatory frameworks, among other constraints. Massive investment in generation, transmission and distribution infrastructure will be required to sustain the projected increase in power demand in the region. Between US\$93 billion and US\$212 billion is required for short and long-term projects to boost power supply by 2027.
- l) One of the most pressing constraints is the need to improve the transmission line capacity and strengthen the regional grid. Approximately 60–70% of the matched bids in the Southern African Power Pool cannot take place due to

transmission capacity constraints. Eskom, for example, would be able to sell all of its 'excess' capacity to its northern neighbours if the transmission capacity existed.

- m) More than 24,000 MW of new generation capacity was commissioned between 2014 and 2017. A number of rehabilitation and new generation projects are being undertaken to address the generation supply gap. The SAPP Plan indicates that 57,000 MW would need to be commissioned in the next 20 years. The generation mix is expected to change in the future with more emphasis on renewable energy particularly hydropower development. Currently, hydropower constitutes 21% of the generation mix, which will increase to at least 26% in the next 20 years. However, there is a need to diversify the energy source base in view of the experiences of Zambia and Zimbabwe, particularly in 2015, when hydropower generation dropped by nearly 40% due to low water levels in the Zambezi river and the Kariba Dam as a result of poor rainfall. This, therefore, calls for the prioritisation of solar and other renewable energy projects in line with the climate change efforts being pursued internationally.
- n) Nearly all the SAPP Member States have high solar penetration levels, which provide great potential and a meaningful contribution of solar energy to the current power deficit. The total renewable energy contribution is expected to rise to at least 35% of the regional energy mix by 2030.



o) Renewable energy targets in the SADC region are provided in Table 4 below:

Table 4: Renewable Energy Targets in the SADC Member States¹⁹

Country	Sector/Technology	Target
Angola	Electricity access Renewable energy (small-scale) Hydropower Biofuels	Increase in renewable energy capacity of the following amounts by 2025: • Small hydro: 100 MW, with 60 MW for municipalities • Solar: 100 MW, with 10 MW off-grid • Wind: 100 MW • Biomass: 500 MW
Botswana	Energy access Renewable electricity Renewable energy	• 82 per cent access to modern energy services by 2016; 100 per cent access by 2030 • Capacity increases expected from REFIT programme (delayed) • 15 per cent renewable share in final energy consumption by 2036, but may increase to 20 per cent in 2017 Renewable Energy Strategy once approved.
DRC	Energy access (non-renewable energy-specific)	• 60 per cent overall energy access (not renewable-specific) by 2025 (from 9 per cent currently)
Lesotho	Grid extension (non-renewable energy-specific)	• Targets pending completion of Sustainable Energy Strategy 2018
Madagascar	Renewable electricity	• 85 per cent renewable share in electricity generation by 2030
Malawi	Electricity access Electricity efficient device Renewable energy Biofuels	By 2025/2030: • 30 per cent access to electricity (up from 9 per cent since 2010) • 100 per cent use of efficient cook stoves in off-grid households • 6 per cent renewable share in energy mix (up from 1 per cent) • Biofuels mandate of 20 per cent ethanol and 30 per cent biodiesel
Mauritius	Renewable electricity	• 35 per cent of electricity from renewables by 2025; generation shares of 17 per cent bagasse, 8 per cent wind, 4 per cent waste, 2 per cent solar, 2 per cent geothermal by 2025 (under review)
Mozambique	Renewable electricity	400 MW increase in installed renewable energy capacity by 2024, including: • Wind: 150 MW • Hydro: 100 MW large-scale, 100 MW small-scale • Solar: 30 MW • Biomass: 30 MW

¹⁹ SADC Renewable Energy And Energy Efficiency Status Report, 2018





Country	Sector/Technology	Target
Namibia	Renewable electricity	<ul style="list-style-type: none"> • 70 per cent renewable share in electricity generation by 2030
Seychelles	Renewable electricity	<ul style="list-style-type: none"> • 5 per cent renewable share in electricity generation by 2020; 20 per cent by 2030
South Africa	Renewable electricity Transport	<ul style="list-style-type: none"> • 21 per cent renewable share in electricity generation by 2030 • 17.6 GW solar capacity, 37.4 GW wind capacity by 2050 (IRP 2016)
Eswatini	Renewable electricity	<ul style="list-style-type: none"> • 60 MW of intermittent resources such as solar PV by 2030 • 50 per cent renewable share in energy consumption by 2030
Tanzania	Renewable electricity	<ul style="list-style-type: none"> • 5 per cent renewable share in electricity generation by 2030 (up from less than 1 per cent)
Zambia	Renewable access Biofuel	<ul style="list-style-type: none"> • 200 MW increase in renewable energy capacity by 2020
Zimbabwe	Electricity access Renewable energy Hydropower (small-scale) Biofuel	<ul style="list-style-type: none"> • 1,100 MW increase in renewable energy capacity by 2025; 2,100 MW increase by 2030 (16.5 per cent increase overall) • 2,400 GWh increase in renewable energy generation by 2025; 4,600 GWh increase by 2030 (26.5 per cent increase overall) • Note: targets are conditional on final approval by government.



- p) In its bid to meet the rising demand of electricity, the SADC region is implementing several Generation and Transmission projects across the region. Some of the projects include the following:
- Zambia–Tanzania–Kenya Interconnector
 - Mozambique–Malawi Interconnector and Namibia–Angola Interconnector
 - Zimbabwe–Zambia–Botswana–Namibia Interconnector
 - Mozambique–Zimbabwe–South Africa Interconnector

Petroleum and Gas

- q) The SADC region is endowed with significant deposits of coal (and associated coal bed methane gas), crude oil, shale gas and natural gas. This optimal exploitation could potentially prove to be the 'missing ingredient' in terms of diversifying the region's energy mix, reducing the cost of energy and improving its accessibility to the citizens of the region. It could also reduce carbon dioxide emissions, which are associated with advancing global warming and climate change. Natural gas is becoming more significant to the region's energy sector as Angola, DRC, Madagascar, Mozambique, Namibia, South Africa and Tanzania develop natural-gas fields in their respective countries. Parallel to these developments, countries endowed with coal resources, particularly Botswana, Mozambique, South Africa and Zimbabwe, are redoubling efforts to extract coal-bed methane gas on a commercial scale.
- r) Investments in the oil and gas sector are rising, particularly in Angola, Mozambique and Tanzania due to the vast resources found in those countries. However, the sector is plagued by volatile prices, which have been uncharacteristically low in the past two years, thus generally discouraging investment.
- s) The petroleum and gas industries in the region only exist in the national context with isolated underdeveloped regulatory systems where they do exist. The SADC region has no developed common frameworks aimed at facilitating the

development of regional markets and integration of the petroleum and gas sectors within the region.

- t) Presently, most Member States in the petroleum sector have no domestic fuel production capability, but import fuel from other Member States, at different standards. The fuel standards should be harmonised to allow the ease of movement of blended fuels as well as biofuels as blending feedstock within the region. Furthermore, the issues around refinery and storage capacity in the region must be addressed to encourage intra-regional trade especially between the landlocked and coastal Member States.
- u) The projected demand for petroleum products/liquid fuels in the SADC region is expected to grow significantly in the period up to 2027. The projected growth in demand will have to be matched by the expansion of the necessary infrastructure for production, refinery, storage and pipeline/transport that goes with uninterrupted supply to the region.
- v) In 2009, SADC adopted a Framework on Sustainable Biofuels, which provides guidelines for production and development of biofuels. Some Member States are already blending bioethanol with petrol/gasoline, and producing biodiesel to optimise the utilisation of their natural resources while reducing the importation of fuel products. However, the success of this programme will also depend on the harmonisation of fuel specifications and standards in the region. Since 2015, the SADC has been advocating for the migration of the region towards low Sulphur fuels and the introduction of cleaner vehicles, since the use of high Sulphur fuel diesel is still common in the region.
- w) There are several ports to import product to South Africa, but the Port of Durban is deemed the port of entry. From there, the inland areas as well as a number of adjacent SADC countries are supplied. Matola in Mozambique is also an alternative supply route to the Mpumalanga and Gauteng provinces.
- x) Only six countries have proven gas reserves, with Namibia being the only one with no gas production. The remaining SADC countries Lesotho,





Madagascar, Malawi, Mauritius, Seychelles, Swaziland, and Zambia have no known reserves.

y) The main producers of gas in the SADC region are Angola, Tanzania, DRC and Mozambique. Angola leads the region in deposits of gas and petroleum, while South Africa is rich in shale gas and coal-bed methane gas. Tanzania is emerging as a force in this sector as new discoveries of natural gas continue to be made along its Indian Ocean coast. Mozambique has also seen a rapid expansion of its gas industry since the commissioning of the 865 km-long gas pipeline from the Pande and Temane gas fields in south-central Mozambique to Secunda in South Africa by the multinational Republic of Mozambique Pipeline Investment Company (ROMPCO), headquartered in South Africa.

z) The Rovuma area, in the far north of Mozambique near the Tanzanian border, has seen positive results of natural gas exploration. Between 150 to 200 trillion cubic feet of gas has been found offshore Mozambique's Cabo Delgado province and final investment decisions have already been made for two liquefied natural gas (LNG) projects, the most recent being Anadarko's Rovuma Area 1 Mozambique LNG project. The final capital estimate has not been made, but Anadarko has indicated that the project will involve two LNG trains with total yearly nameplate capacity of 12.88-million tons.

aa) Separately, the Italian Energy Group, Eni, is building the \$4.7-billion Coral South floating LNG facility, while Eni and ExxonMobil are making progress on an LNG project based on the Rovuma Area 4 block offshore, which will share infrastructure with Anadarko's project. Over the coming two decades, it is estimated that more than \$100-billion will be invested in the territory because of the gas projects and several countries, including Portugal, Brazil and France that are actively mobilizing their business communities around the opportunities associated with Mozambican LNG projects.

²⁰ World Bank (2018). Overcoming poverty and inequality in South Africa: An assessment of drivers, constraints and opportunities.

bb) State-owned freight logistics firm, Transnet, plans to launch a tender next year for South Africa's first terminal to import liquefied natural gas (LNG) at Richards Bay port, with first gas expected to land in 2024. The target source of gas for this project is LNG from Mozambique. For this project to be successful, it is of vital importance for South Africa to secure the new gas supplies. Angola and Mozambique are potential LNG suppliers due to their shorter shipping distances, which would give South Africa advantage in securing relatively favourable delivered ex-ship prices.

cc) In addition, there is also an opportunity for South African companies to explore other business opportunities that will arise from the development of the three multibillion-dollar gas projects in Mozambique. The region in which these megaprojects are to be developed is both rural and remote, which means just about everything that is needed to support the projects, from ports and roads, to housing and retail developments, still has to be built. In other words, this is not only a game changing prospect for Mozambique, but also a significant business opportunity for South African companies, especially those willing to collaborate with local companies in line with Mozambique's localization requirements.

5.1.6. Economic Outlook

a) According to the South African Reserve Bank, South Africa's current domestic economic performance can be summarised as follows:

- South Africa's potential is significant, yet growth over the past ten years has not benefitted from the global recovery.
- The economy is globally positioned, sophisticated, and diversified.
- The following were identified as binding constraints to growth:
 - o policy uncertainty;
 - o the regulatory environment not being conducive to investment; and
 - o there is no sustained long-term partnership/cooperation between government, business and labour (Social Compact).
- A recent World Bank Study (2018)²⁰ on South Africa reveals that it is one of the most unequal economies in the world, with consumption inequality having



- increased since 1994. Wealth inequality is high and has been rising over time.
- Currently, more than 50% of the population lives in poverty and the economy is not generating sufficient jobs, with 29% of the labour force being unemployed.
 - According to statistics from StatsSA, investment as a percentage of GDP has been declining since 2014. The total investment is now at 19.4% of the GDP, down from 23.5% in 2009.
- b) South Africa's per capita growth rate is currently just above 1%, alongside Colombia with 1.8%, Chile with 1.5%, Brazil with 1.1% and Venezuela with -3.9 (2014 data). Among the highest per capita growth rate in 2018 is China with 6.9%, Malaysia with 5.9% and Indonesia with 5.1%.
- c) Real GDP growth in South Africa is expected to remain below 2% through 2019. However, this is not sufficient to make a meaningful dent in unemployment, poverty, and inequality. Global events, including the Eurozone debt crisis (2010–2012) and weak commodity prices (2014–2015) have contributed to the poor domestic growth performance since 2010. However, at least since 2012, a worsening domestic political, policy and socioeconomic climate ensured that SA was unable to benefit fully from the more recent broad-based improvement in global growth and rebound in key commodity prices. Year-on-year, economic growth improved slightly from 0.6% in 2016 to 1.3% in 2017. However, there was a slight dip in 2018 with 0.7% growth recorded.
- d) The average annual consumer price inflation (CPI) was 4.7% in 2018, down from 6.4% in 2016 and 5.3% in 2017. CPI has averaged 5.4% over the past five years, which is in line with the South African Reserve Bank inflation target range. After averaging below 5% in 2018, headline CPI inflation is projected to average of 5.06% during the period of 2019-2023 (BER 2019). This implies that CPI will remain stuck at the lower end of the South African Reserve Bank's (SARB) inflation target band.
- e) The petrol price has increased considerably over the years, with a percentage change of 13.00% in 2018 up from 8.1% in 2017 and 1.4% in 2016. This petrol price is still expected to increase over the coming years, starting with a decrease of approximately 1.2% in 2019. Cumulatively, the 2018 petrol price has increased with 106.2% since 2007 and is expected to continue increasing to 118.2% in 2023.
- f) Impact of COVID-19 on the South African economic outlook can be summarised as follows:
- Real GDP decreased by a record 51% in the second quarter of 2020 owing to the impact of the COVID-19 lockdown restrictions since the end of March 2020. This follows a 2.1% decline in the first quarter of 2020.
 - The biggest negative contributors to GDP growth were the manufacturing (-10.8%), trade (-10.5%) transport (-6.6%) mining (-6%) and finance (-5.4%) sectors.
 - National Treasury and the SARB bank forecasts GDP to decline by -7% and -8.2% in 2020 respectively.
 - The Covid-19 pandemic is projected to increase poverty, inequality and unemployment.
 - Estimates suggest that an additional 3.5 million people have been falling into poverty since the beginning of national lockdown restrictions in March 2020.
 - Unemployment increased from 29.1% (6.6million) in December 2019 to 30.1% (7million) in March 2020. Latest statistics show the unemployment rate at 23.3% representing 4.3million people.
- g) In response to the COVID 19-pandemic, the Department of Mineral Resources and Energy (DMRE) and its entities presented economic interventions in response to the economic impact induced by the Covid 19 pandemic and the economic downgrade of the country. The interventions focused on DMRE's operational readiness, SAMI Health & Safety readiness, interventions and responses within the broader mining and energy sectors. For example;
- Additional procurement of electricity capacity from existing IPPS





(approximately 128 MW and Eskom to procure short-term power (approximately 128 MW).

- Acceleration of the nuclear-built programme
- Ensuring of fuel price benefits being passed to end consumers
- Energy security: shifting of power stations (open cycle turbines) demand from diesel to natural gas within the next 5 years.
- Energy security: conversion of PetroSA from being a gas-2-liquid to be a liquid refining facility.

5.1.7. Impact of BRICS on the Energy Sector

- a) The establishment of the New Development Bank (BRICS Bank) has highlighted its main funding areas as sustainable development and sustainable infrastructure among BRICS countries (Brazil, Russia, India, China and South Africa) and other strategic developing countries (especially in Africa). One of the focus areas of the Bank is to scale up low carbon and climate-resilient investments for sustainable infrastructure, including in particular speeding up the energy transition consistent with the Paris Agreement. The envisaged approach to this is aligning their financial flows with the countries' pathways to low carbon and climate resilient development, increasing the predictability and ease of access to concessional resources, such as the Green Climate Fund, and leveraging private finance for climate investments.
- b) Most of the Bank's projects involve green energy or infrastructure. According to the Bank, between 1 and 1.5 trillion US dollar is needed to fully harness renewable energy among the trading bloc. The bank approved two infrastructure projects with a loan value of US\$413.8 million during the 12th Board of Directors meeting in Shanghai on November 2017. Non-resident portfolio flows into BRICS nations rose to \$166.5 billion in May 2017, up from \$28.3 billion in outflows 12 months prior, according to data compiled by the Institute of International Finance and EPFR Global. The bank sold its first 3 billion (\$437 million) yuan-denominated bonds in China in July 2017, to fund clean energy projects in member states.

c) The BRICS Bank has 25 projects at various stages of preparation for 2018 to 2019, with a total lending amount of \$6 billion. Three of these projects are in South Africa and include the Greenhouse Gas Emissions Reduction and Energy Sector Development Project (US\$300m), Durban Container Terminal Berth Reconstruction Project (US\$200m) and Eskom Renewable Energy (Transmission) project (US\$180m).

d) Between 2003 and 2017, BRICS has invested about US\$3383m in 11 South African Energy projects. This investment translated to 809 jobs created (Deloitte, 2018). However, in January 2018, an agreement was signed between the Russian state energy company Rosatom and the South African government to construct small hydropower plants in Mpumalanga to power rural regions of the country. This is a key component of South Africa's energy security strategy. Each mini hydropower plant is expected to power 250 to 400 houses. This project could be the first of several small hydro projects aimed at generating innovative and affordable energy in South Africa and across the continent.

5.1.8. SA credit ratings downgraded

- a) South Africa's rapidly worsening fiscal metrics during the course of 2019 alerted all three major ratings agencies to put the country on a negative outlook during the second half of 2019. These led to credit rating downgrades in March and April 2020, taking the country to general sub-investment grade and SA exiting the Financial Times Stock Exchange (FTSE) World Government Bond Index on 30 April following the final downgrade from investment-grade status by Moody's at the end of March. The impact of the COVID-19 pandemic added to reasons for the downgrade and has since overshadowed the economic fight. Different projections of sustained contractions in real GDP for the full year range between 5% and 10%.
- b) In April 2020, both Fitch and Standards & Poor's (S&P) Global Ratings downgraded SA's sovereign credit rating by another notch to push it deeper into sub-investment grade (sub-IG) territory. Fitch rating agency highlighted that



the downgrade was due to “the lack of a clear path towards government debt stabilisation”, with a further shock to government finances and growth due to COVID-19. Fitch had South Africa’s foreign currency rating two notches below investment grade, while S&P Global Ratings is at three notches below IG.

- c) On 20 November 2020, South Africa sunk deeper into junk territory after Moody’s Investors Service joined Fitch Ratings in lowering the country’s credit ratings. Moody’s cut the nation’s foreign and local-currency ratings to Ba2, two levels below investment grade, from Ba1. The outlook remains negative (Bloomberg). Fitch cut the nation’s foreign and local-currency ratings to BB-, three levels below investment grade, from BB, also with a negative outlook. S&P kept its assessment of South Africa’s foreign-currency debt three levels below investment grade, with a stable outlook²¹.

5.1.9. National Environment

Electricity

- a) There is currently no annual growth in electricity demand – there has not been for the last 10 years and there is no sign of that changing. Eskom has 51 943MW of licenced capacity and the renewable licenced capacity is 6 592.7MW. In April 2018, the then Minister of Energy announced the signing of the agreements for the 27 projects procured under the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) Bid Windows 3.5 and 4. This is by far the biggest Independent Power Producer (IPP) procurement by the Department of Energy to date, representing a total of R56 billion of investment and about 2300MW of generation capacity to be added to the grid over the next 5 years. This investment is injected into the economy by the private sector, with no contribution from Government other than support to Eskom in the event of a default by the buyer. The new projects are as detailed below:
- 15 new wind, solar PV and concentrated solar power (CSP) projects, Northern Cape;
 - 4 new wind projects, Eastern Cape;

- 4 new solar PV projects, North West;
- 2 wind projects, Western Cape;
- 1 a biomass project, Mpumalanga; and
- 1 small hydro project, Free State.

- b) The Integrated Resource Plan (IRP) 2010–2030 estimated that South Africa would require over 40,000 MW of new generation capacity by 2025. The IRP 2018 was released in August 2018 and should provide clarity on the way forward as well as a predicted price path.
- c) The percentage of South African households that were connected to the main electricity supply increased from 76.7% in 2002 to 84.7% in 2018.
- Mains electricity was most common in Limpopo (92.7%), Northern Cape (91.7%), Free State (91.2%) and Mpumalanga (90.7%), and least common in Gauteng (77.7%), KwaZulu-Natal (83.5%) and North West (83.7%).
 - The largest increases between 2002 and 2018 were observed in Eastern Cape (36.7%), and Limpopo (21.6%).
 - The percentage of households with access to mains electricity actually declined in Gauteng (12.2%) and Western Cape (0.68%). These declines can be associated with the rapid in-migration experienced by these provinces.
- d) Industrial and commercial demand is higher than residential consumption across different forms of energy.

Petroleum and Gas Sector

- e) Inputs of petroleum products play an important role in transport and production activities of various other sectors of the South African economy. However, South Africa does not have its own economically extractable natural crude oil resources, therefore, South Africa relies on imports of crude oil and refined fuels to meet its liquid fuels needs.

²¹ Source: <https://businesstech.co.za/news/finance/450475/what-the-latest-rating-downgrades-mean-for-the-average-south-african/>





f) Approximately 11 142 million litres of petrol and 12 539 million litres of diesel were consumed in South Africa in 2018 representing a decrease of 0.28 per cent and an increase of 3.12 per cent respectively compared to 2017 (DoE, 2018). More illuminating and power paraffin was consumed in 2018 than in 2017, with 702 million litres and 648 million litres consumed respectively. This represents a 7.69 per cent increase in paraffin consumption. Approximately 552 million litres of furnace oil were consumed in 2018, representing a 5.25 per cent increase from consumption in 2017. Furthermore, there was a decrease of 9.32 per cent in the consumption of LPG, with 504 million litres and 551 million litres being consumed in 2018 and 2017 respectively.

g) The majority of South Africa's refinery output is transported via pipeline, but product is also uplifted directly using road, or transported by rail, to other distribution facilities. The Transnet Pipelines Division operates the main liquid petroleum pipeline system running between Durban and the inland region, comprising the Multi-Product Pipeline (MPP) and the crude oil pipeline to Sasolburg servicing the NATREF refinery. It then extends into the northern network with delivery depots in Gauteng (Alrode, Langlaagte, Walthloo, OR Tambo International Airport, Tarlton), North West (Klerksdorp, Rustenburg) and Mpumalanga (Witbank) as well as Free State (Kroonstad). The MPP has a coastal accumulation facility as well as an Inland Accumulation facility. At each of these, as well as at the aforementioned delivery depots, the various NERSA licensees have storage facilities interconnecting to the pipeline system. In the eight national ports, there are also marine loading facilities interconnecting to the coastal refineries and/or storage facilities located within or adjacent to the ports. In the inland areas, the storage facilities are mainly replenished by road or rail. In total, NERSA has issued licences to operate 194 storage facilities, 23 marine loading facilities and 19 pipelines to 59 licensees. As of 31 March 2018, TPL has stopped injecting petroleum products into the Durban-to-Johannesburg Pipeline (DJP) and this pipeline will be decommissioned. In an effort to alleviate the supply burden resulting from demand growth, there

were plans to build a 300 000 boe/d refinery located in the Eastern Cape Province called 'Project Mthombo'. However, the Government recently announced new plans for the refinery to be located in Richards Bay. Current refinery operators are reluctant to expand present capacity due to the high investment cost involved in meeting cleaner fuel standards while there is a surplus of liquid petroleum products available in the international market. Nonetheless, South Africa's refineries are well placed on a cash operating basis within its regional peer group (European and African countries that have more than one refinery), indicating their current competitive situation relative to these other manufacturers.

- h) It is expected that small-scale importation and trading of LNG will precede the establishment of LNG storage and gasification terminals in South Africa. In this regard, the Energy Regulator has recently licenced the operations of Volco (Pty) Ltd (Volco) and Volco Alfa (Pty) Ltd (Volco Alfa), which will import the small-scale LNG into South Africa in the Western Cape Province. The LNG will then be transported to customers' sites via trucks using 40' ISO containers, where it will be stored, regasified and traded to the customers in gaseous form.
- i) Renergen is the first company in South Africa to build a small-scale onshore LNG plant. It intends to monetise its LNG by developing between 12 - 18 LNG filling stations across South Africa by 2023. Renergen has signed a deal with Total under which the French major will rebrand two of its filling stations on the N3 national route between Johannesburg and Durban as LNG outlets. The LNG sold at these filling stations would be exclusively for the use of trucks and buses. The first phase of the project is planned to supply 400 trucks from 2021, with the second phase supplying approximately 3,000 - 5,000 trucks from 2023.
- j) South Africa's intentions to expand the role of LNG in its energy mix is reflected in the country's Integrated Resource Plan (IRP), which was published in October 2019. The IRP envisages the creation of an additional 8 100MW of gas and diesel-fired generation capacity by 20230 in order to support energy security.



- k) Sasol has confirmed the much speculated intention to sell its equity interests in the ROMPCO. Speculations emerged as early as April this year that the petrochemicals producer was seeking to sell off some of its African assets as part of its restructuring. It was said that the company had appointed advisers to sell its stakes in a power plant in Mozambique and a gas pipeline running from the country into South Africa. Sasol said that the sale is part of its drive to raise as much as \$5 billion through asset sales amid cost overruns and lower oil prices by end of its 2021 financial year.
- l) Sasol's gas supply from Mozambique is scheduled to start falling from 2023 onwards, with a forecasted yearly shortfall of 98 million gigajoules from 2025 onwards.
- m) The gas sector looks forward to a potential increased investment due to a boost in investor confidence affirmed by the second gas-condensate discovery by Total in the Western Cape, 175 kilometers off the southern coast of South Africa.
- n) Total made a significant gas condensate discovery after drilling its Brulpadda prospects on Block 11B/12B in the Outeniqua Basin, offshore South Africa. The area is 175km off the southern coast of South Africa. The estimated gas reserves are in the range of 56 million cubic meters, of which around 450 million cubic meters can be recovered²².

Gas-to-Power procurement programme

- o) In order to support the implementation of the Integrated Energy Plan, the DMRE is currently finalising the Gas Utilisation Master Plan (GUMP) for South Africa. The GUMP would act as a roadmap for the development of the gas industry in the South African economy. It analyses the potential and opportunity for the development of South Africa's gas economy and sets out a path of how this could be achieved. One of the main objectives is to enable the development of indigenous gas resources and to create the opportunity to stimulate the introduction of a portfolio of gas supply options.

- p) The key challenges in the sector are to bring gas demand and supply on stream at the same time and spread geographically to stimulate broader localised demand. Without local demand, it would be difficult to develop distributed gas supply and without such distributed gas supply, it would be difficult to develop local gas demand. One way of overcoming this challenge is to develop a Gas-to-Power Programme. This would potentially anchor gas demand while creating a long-term sustainable gas demand. The intention of the Gas-to-Power Programme is not only supplying power, but also supplying a limited amount of gas, marketed in the form of a Gas Supply Agreement (GSA), for use by industrial and other users.
- q) The Gas-to-Power Programme has stalled until the completion and publishing of the Integrated Energy Plan (IEP) and the updated Integrated Resource Plan.

Regulated Energy Industry

- r) Energy is at the core of current and future industrial and technological development. The National Development Plan envisages that the country will have an energy sector that promotes economic growth and development through adequate investment in energy infrastructure by 2030. Furthermore, the plan envisages that South Africa will have an adequate supply of electricity and liquid fuels to ensure that economic activity and welfare are not disrupted and that 95% of the population will have access to some form of energy.
- s) NERSA has commenced with a process to determine the size of the NERSA-regulated activities within the energy sector (Electricity, Piped-Gas and Petroleum Pipelines).
 - The Energy Regulator has seen a rapid increase in the number of operational licensees over the 2014 to 2018 period with the exception of 2017 to 2018, where a significant decrease occurred in the electricity distribution space. Currently, there are 367 licensees operating under the regulation of the Energy Regulator. The bulk of these licensees are in the Electricity sector, followed by the Petroleum Pipelines and Piped-Gas sectors respectively.

²² Report on Development in New Gas Sources in South Africa and Neighbouring Countries for a period of April-June 2019





- In particular, electricity generation has seen a rapid increase in licences issued since the implementation of the DMRE's REIPPPP that was officially launched in 2011. Between 2014 and 2018, an additional 31 licensees were licensed (13% increase).
- In 2017, a decrease of 11 licensees (-5.8%) occurred due to mergers of 26 distribution licensees into 12. Of the 26 merged licensees, four (Indaka, Imbabazane, Ezingoleni and Khara Hais) were under Eskom Distribution.
- The Petroleum Pipelines industry's regulated facilities had a regulated capacity of 16,764,237 m³ transported by pipelines, 12,014,534 m³ in storage facilities and 16,173,861 MT in loading facilities in 2017. Of particular interest is the storage sub-sector, which saw a 12% increase in regulated facilities from 2014 to 2015. There was a slight decline from 2015 to 2016, due to the implementation of the bulk determination by the Regulator.
- The Petroleum Pipelines industry's regulated facilities had a regulated capacity of 22,127,097 m³ transported by pipelines in 2018, 12,329,854 m³ in storage facilities and 16,177,014 MT in loading facilities. Of particular interest is the storage sub-sector, which saw a 12% increase in regulated facilities from 2014 to 2015. There was a slight decline from 2015 to 2016, due to the implementation of the bulk determination by the Regulator.
- With regard to the Electricity sector, there are 131 regulated facilities, of which 30 are owned by Eskom, 16 by general IPPs, 78 by renewable IPPs and 7 by municipalities. This jointly represents 61 074.90MW of electricity generation in the country. There is a 15.48% decrease in the number of regulated facilities from 2017. Interestingly, IPPs combined represent 94 facilities with a capacity of 8 593MW in 2018. This represents an increase of 2.76 per cent of electricity added to the national grid since 2017.

- In addition, as per the Gas Act, the Energy Regulator is mandated to register certain gas activities in order to keep abreast of key developments in the gas industry. As of 2018, 118 biogas facilities and 35 biogas registrants are registered with the Energy Regulator.

- t) There is a significant amount of energy assets in operation under the ambit of the Energy Regulator. As of 2018, there are R830.020 billion worth of operational assets under regulation, with the Electricity industry being the dominant player representing 94.32%, and 4.56% and 1.11% for Petroleum Pipelines and Piped-Gas respectively.
- u) The energy sector is undergoing major reforms with the construction of a number of projects that will add significant amounts of capacity in the short term. As of 2018, there are R430 180 billion assets under construction, of which R146 896 billion assets are in the Electricity sector, R265million in Petroleum Pipelines and R18 283 million in Piped-Gas. The electricity sector's construction projects include the approved DoE REIPPPP projects and Eskom powerprojects. IPPs, in particular, have investment projects worth R66.478billion (45.2%) and Eskom, through its new build programme, accounts for R80 418billion (54.7%), with projects such as Medupi and Kusile power stations still under construction. It should be noted that some of these projects are nearing completion and will be adding significant amounts of electricity to the South African power grid.



5.1.10. PE(R)STEL Factors Analysis

The specific factors considered in the environmental scan are shown in the tables below.

Table 5: Political factors

Political factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Municipalities' executive authority for funding of municipal infrastructure	<ul style="list-style-type: none"> Some municipalities are unable to fund, build, operate and maintain adequate electricity infrastructure – which has a negative impact on security of supply Ring-fencing of municipal electricity revenues Unsustainable cross subsidising of municipal services 	<ul style="list-style-type: none"> Engage with relevant ministries regarding municipal funding more broadly Base municipal tariffs within the broader municipal funding model
2. Role of SOEs in economic recovery	<ul style="list-style-type: none"> Regulatory mandates that promote a just energy transition undermined Reputational damage to NERSA 	<ul style="list-style-type: none"> Eskom Political Task Team (PTT) involvement Establish and execute Eskom Engagement Task Team under steer of the PTT Develop collaborative relationships with key delivery ministries, such as, inter alia, National Treasury (Operation Vulindlela), Department of Public Enterprises, COGTA etc.
Piped-Gas Industry Regulation		
1. Delays in finalisation of legislative amendments and developments (with specific reference to the Gas IPP and the Gas Utilisation Master Plan)	<ul style="list-style-type: none"> Cost of gas may be too high It may deter / delay entry into the gas market 	<ul style="list-style-type: none"> Develop a report on regulatory advocacy and engagements with relevant policy makers
2. Lack of policy on gas infrastructure investment	<ul style="list-style-type: none"> Uncertainty for investment Lost opportunity to encourage competition in piped-gas industry Impedes growth of the gas market in SA It may deter / delay entry into the gas market 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Advocate the development of the Gas Utilisation Master Plan, Gas IP, Gas Infrastructure Plan





Political factors	Impact if factor is not addressed	NERSA response to the factor
Piped-Gas Industry Regulation		
3. Emerging gas policy in Mozambique	<ul style="list-style-type: none"> • Security of gas supply – Supply diversification 	<ul style="list-style-type: none"> • Monitor ability of SASOL to supply • Undertake regulatory and intergovernmental engagements • Monitor utilisation of excess capacity in ROMPCO Pipeline • Approve tariffs for SA side of cross border assets to facilitate investment and additional gas supply
4. Regulating the gas market – bundled and unbundled approach to LNG projects	<ul style="list-style-type: none"> • May deter infrastructure investments • Regulatory uncertainty 	<ul style="list-style-type: none"> • Develop a NERSA position paper on regulating the gas market – bundled and unbundled • Continued regulatory advocacy and engagements with relevant policy makers • Revisit the Gas Rules
5. Alignment of Gas Infrastructure Plan, the IRP and IEP	<ul style="list-style-type: none"> • Possible duplication or contradictions • Regulatory uncertainty 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers



Political factors	Impact if factor is not addressed	NERSA response to the factor
Petroleum Pipelines Industry Regulation		
<ul style="list-style-type: none"> • Geo-political upheavals impacting on petroleum producing transient countries 	<ul style="list-style-type: none"> • Higher and volatile fuel prices • Rand/dollar exchange rate volatility 	<ul style="list-style-type: none"> • Regulatory advocacy on price regulation by the DMRE • Participate in fuel price policy and regulatory framework reviews • Participating in regional structures dealing with petroleum matters
<ul style="list-style-type: none"> • Neighbouring countries finding alternative sources of fuel 	<ul style="list-style-type: none"> • Low tariffs through the NMPP and concomitant high tariffs • Threats to security of supply 	<ul style="list-style-type: none"> • Monitor interventions by Transnet to increase the volumes • Regulate in a manner that promotes immigration from pipelines to other modes of transport • Participate in supply managers forums and other security of supply committees • Continued regulatory advocacy
<ul style="list-style-type: none"> • Decline in investment friendliness of South Africa 	<ul style="list-style-type: none"> • Further large-scale investments in petroleum infrastructure (and demand sectors) slows down. • Petroleum Infrastructure may not be sufficient to meet future demand • Decline in fuel demand which can lead to higher tariffs and/or stranded assets 	<ul style="list-style-type: none"> • Adjust regulatory framework to attract investments • Continued regulatory advocacy and engagements with relevant policy makers to ensure efficiencies • Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory frameworks, methodologies and mechanisms • Regulate in a manner that promotes competition
Transversal Regulatory and Organisational		
1. Developmental State	<ul style="list-style-type: none"> • Decisions of NERSA could be in conflict with policy 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers
2. Manage interface between different policy thrusts of Government (new growth path, IPAP2)	<ul style="list-style-type: none"> • Decisions of NERSA could be in conflict with policy 	<ul style="list-style-type: none"> • Make decisions that are not in conflict with the Acts • Develop and implement a strategic engagement framework on developing legislation/policy changes





Political factors	Impact if factor is not addressed	NERSA response to the factor
3. Policy gaps and inconsistencies	<ul style="list-style-type: none"> Regulatory uncertainty Lack of credibility of regulatory system 	<ul style="list-style-type: none"> Review impact on NERSA's mandate Continued regulatory advocacy and engagements with relevant policy makers Develop a report on the cost of projects, the impact and implications thereof e.g. Integrated Resource Plan
4. Discussion/debate around nationalisation	<ul style="list-style-type: none"> Uncertainty for investment 	<ul style="list-style-type: none"> Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes
5. Review of Sustainable Development Goals	<ul style="list-style-type: none"> NERSA may not assist the country in achieving its goals 	<ul style="list-style-type: none"> Regulate in such a manner that accessibility and affordability is enhanced

Table 6: Economic factors

Economic factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Lack of competition in electricity supply industry	<ul style="list-style-type: none"> Impact on the ability of the Independent Power Producers to access the industry High electricity prices to industrial consumers 	<ul style="list-style-type: none"> Enforce Third-Party Access through regulatory decisions Amend the dispatch rules to include balancing rules Continued regulatory advocacy and engagements with relevant policy makers
2. Subsidies in Industry	<ul style="list-style-type: none"> Subsidies cause wrong investment decisions 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements, also focusing on the following: <ul style="list-style-type: none"> approval of municipal tariffs that rationalise application of subsidies; and limiting surpluses that municipalities can accumulate for cross-subsidisation.
3. Electricity Price to commercial entities in the municipalities has reached a critical level	<ul style="list-style-type: none"> Commerce and industry closing down 	<ul style="list-style-type: none"> Develop a paper on tariffs in municipalities, focusing on, among others: <ul style="list-style-type: none"> Influencing tariff structures Determining whether the actual application of tariffs yields expected result.



Economic factors	Impact if factor is not addressed	NERSA response to the factor
4. Impact of poverty	<ul style="list-style-type: none"> Lack of affordability and accessibility 	<ul style="list-style-type: none"> Focus on pro-poor regulation
5. Increased consumption of coal by China and India	<ul style="list-style-type: none"> Security of supply 	<ul style="list-style-type: none"> Regulate the stock piles Develop a report on the introduction of renewable energy in the energy mix (taking into account its limitations)
6. Inter-dependency of SADC on SA economy	<ul style="list-style-type: none"> SADC countries' power plans not realised 	<ul style="list-style-type: none"> Contribute through regional structures such as RERA towards the realisation of SADC countries' power plans Review NERSA's role in international trade
7. Economic decline and low credit rating	<ul style="list-style-type: none"> Depressed economy leading to less disposable income, which in turn would result in an increase in bad debt and an ESI that is not economically viable. Low credit rating Limits investment attraction, Reduction in economic growth affects affordability 	<ul style="list-style-type: none"> Ensure that electricity price increases are kept to the minimum by enforcing efficient licensee operations and ensure that pro-poor regulation is strengthened Infrastructure investments and development implementation has been affected and delayed. Requires regulation review to align the economy and investment attraction
8. Credit worthiness of State-Owned Entities (SOEs)	<ul style="list-style-type: none"> Impact on infrastructure investment due to higher cost of debt and inability to issue bonds Higher tariffs 	<ul style="list-style-type: none"> Regulate in a manner that drives efficiency Set credit rating criteria in the MYPD methodology
9. Drought – water infrastructure	<ul style="list-style-type: none"> Development of shale gas prospects to encourage gas-to-power projects in the country Security of supply 	<ul style="list-style-type: none"> Review the efficient management of water resources in generation of electricity
10. Decline in electricity demand due to COVID-19 pandemic	<ul style="list-style-type: none"> Low demand has led to low income and profit sustainability. In addition this has threatened energy security and investment attraction as delays in manufacturing have halted mega projects 	<ul style="list-style-type: none"> There is a need to review tariffs and price methodologies to determine whether it is responsive to the long, medium and short term economic impact of COVID-19 and develop appropriate responses





Economic factors	Impact if factor is not addressed	NERSA response to the factor
Piped-Gas Industry Regulation		
1. Lack of competition in gas industry	<ul style="list-style-type: none"> • Barrier to competitive outcomes (key barriers including lack of gas supplies and infrastructure to enable such supplies)) • Likely perpetuation of current monopoly in the industry 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers to facilitate entry • Enforce Third-Party Access through regulatory decisions • Review and implement Maximum Prices Methodology and Tariff Guidelines
2. Lack of infrastructure investment	<ul style="list-style-type: none"> • No/limited growth in the gas market • Lack of gas import infrastructure • Lack of entry of new gas suppliers 	<ul style="list-style-type: none"> • Develop a regulatory advocacy report to the DMRE and IPPs regarding gas-to-power procurement programme • Continued advocacy with policy makers to expedite finalisation of Gas Masterplan and alignment of IEP, IRP and Gas Infrastructure Plan
3. Economic growth stagnation	<ul style="list-style-type: none"> • May deter investments and present barriers to entry 	<ul style="list-style-type: none"> • Continued advocacy with policy makers
4. Lack of indigenous gas sources	<ul style="list-style-type: none"> • Impact growth of gas industry • Discourage investment • Lack of competition in gas industry 	<ul style="list-style-type: none"> • Continued research and monitoring of developments in new gas sources • Develop and maintain gas trade relations with neighbouring countries. • Explore prospects for LNG imports
5. Gas industrialisation campaign	<ul style="list-style-type: none"> • Ineffective regulation of the gas market 	<ul style="list-style-type: none"> • Continued regulatory advocacy • Undertake intergovernmental engagements



Economic factors	Impact if factor is not addressed	NERSA response to the factor
Piped-Gas Industry Regulation		
6. Gas supply certainty – Sasol Gas indicated in FY19 that it expects its gas fields to start declining in 2023	<ul style="list-style-type: none"> Sasol Gas may not be able to meet supply obligations going forward May jeopardise existence and growth of the gas industry. 	<ul style="list-style-type: none"> Engagements with relevant stakeholders, including <i>inter alia</i> Sasol Gas, the Industrial Gas Users Association –Southern Africa regarding the viability of potential new sources of supply Gather data from Sasol Gas in terms of S28 and Regulation 9 of the Gas Act, in terms of which Sasol is expected to provide information on its gas reserves Continued regulatory advocacy and engagements with relevant policy makers to facilitate the entry of new gas suppliers, and the development of infrastructure to enable such supplies
Petroleum Pipelines Industry Regulation		
1. Low economic growth in South Africa	<ul style="list-style-type: none"> Reduced demand for liquid fuel Further large-scale investments in petroleum infrastructure will stop. Petroleum Infrastructure may not be sufficient to meet future demand 	<ul style="list-style-type: none"> Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes.
2. HDSA and B-BBEE participation	<ul style="list-style-type: none"> No third-party access to storage facilities Non-transformed petroleum pipelines industry Social upheavals 	<ul style="list-style-type: none"> Participate in Charter Counsel Develop and implement a strategic engagement framework on transformation
3. Importation of fuels via trucks through other ports of entry into South Africa	<ul style="list-style-type: none"> Lower volumes through pipelines leading to higher tariffs. Disruption of regulatory framework 	<ul style="list-style-type: none"> Monitor developments in this regard Continued regulatory advocacy



Economic factors	Impact if factor is not addressed	NERSA response to the factor
Transversal Regulatory and Organisational		
1. Impact of environmental levies and the Carbon Tax Act on prices	<ul style="list-style-type: none"> Impossible to facilitate achievement of affordable energy services 	<ul style="list-style-type: none"> Develop a position paper on the impact of environmental levies to policy makers
2. Manage interface between different policy thrusts of Government	<ul style="list-style-type: none"> Decisions of NERSA could be in conflict with policy 	<ul style="list-style-type: none"> Make decisions that are not in conflict with the Acts Develop and implement a strategic engagement framework on developing legislation/policy changes
3. Downgrade of South Africa's credit status	<ul style="list-style-type: none"> Capital flight (foreign and local) 	<ul style="list-style-type: none"> Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes.
4. Persistently low economic growth rate	<ul style="list-style-type: none"> Cost of energy – impact on consumers 	<ul style="list-style-type: none"> Review tariffs to encourage manufacturing

Table 7: Regulatory factors

Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Regulatory reform in the electricity sector	<ul style="list-style-type: none"> • Electricity supply and demand misaligned with weak market signals to curb inefficient electricity use • Electricity market reforms poorly managed with avoidable unintended consequences • Information asymmetry <ul style="list-style-type: none"> o Poor quality of evidence used to base decisions o Unsubstantiated decisions taken due to lack of all relevant information available • Contraction in energy intensive usage sectors • Loss of value from natural resource endowments • Economic recovery constrained 	<ul style="list-style-type: none"> • Establish regulatory reform department with capability to assess: <ul style="list-style-type: none"> o Technical aspects o Economic aspects o Legal aspects • Technoeconomic evaluation of a regulated ESI that promotes choices that encourages: <ul style="list-style-type: none"> o Productive (technical) efficiency (least cost of supply); o Allocative efficiency (provide the greatest benefit relative to costs). o Dynamic efficiency (timely responses to changes that enhance economic efficiency) • Acquisition of global, regional and national data to support decision making and advocacy • Establishment of an Integrated Energy Modelling capability and associated Integrated Energy Modelling System (IEMS) • Review of licencing/registration regulations/rules • Promoting collaboration and information sharing with stakeholders whose activities are affected by Energy Regulator decisions and advice • Policy, legislative and regulatory advice to relevant ministries, • Research and implement programmes to progress electricity sector reforms with specific focus on, inter alia: <ul style="list-style-type: none"> o Tariff setting methodology reviews – cost reflective tariffs driven by efficiency o Capacity investments in a high reserve margin environment – underutilised/stranded assets o Transition to 'smart' tariffs – to reflect how and when electricity is consumed.





Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
2. Rationally regulated electricity supply industry	<ul style="list-style-type: none"> Weakly coordinated and poorly managed unbundling of Eskom Unpredictable and uncertain electricity price path Inefficient use of electricity resulting from weak regulatory signals Inefficient investment decisions resulting in stranded assets NERSA reputational risks 	<ul style="list-style-type: none"> Implementation of the Regulatory Reporting System for financial data and a Regulatory Reporting System for non-financial data: <ul style="list-style-type: none"> Revision of ERTSA Establish 'municipal' ERTSA Development of energy database that integrates energy production and consumption data as evidence for: <ul style="list-style-type: none"> Developing and regularly updating a benchmarked and trusted electricity price path Making sound and substantiated decisions, including inter alia, review of the tariff setting methodology and all other tariffs setting/approval processes The transition to efficient cost reflective tariffs; The integrated Type of Use and Time of Use tariffs, The development of regulatory instruments that promote equitable access to electricity, including, inter alia, a review of the Inclining Block Tariffs, the efficiency of the Free Basic Electricity subsidy etc. Conclusion of Eskom matters – regulatory, legal or otherwise, including, inter alia: <ul style="list-style-type: none"> MYPD applications (consolidated or otherwise) RCA reviews Supplementary applications, Review and revision of MYPD methodology Development and finalisation of MYPD5 methodology implement mechanisms to address EAF and reserve margin to address the 'fallacy of capacity constraints'.



Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
3. Compliance of municipalities with electricity licence conditions	<ul style="list-style-type: none"> Undermine reliability of municipal distribution of electricity - Security and quality of supply Undermine affordability of, and accessibility to, electricity Continued tariff misalignment between Eskom, IPPs and municipalities Key national programmes will be undermined Undermine service delivery 	<ul style="list-style-type: none"> Benchmarking of municipal electricity supply metrics Base approval of municipal tariffs on cost of supply studies Increased compliance monitoring and robust enforcement of licence conditions – penalties, tribunals etc. Continued regulatory advocacy and engagements, also focusing on the following: <ul style="list-style-type: none"> Interdepartmental engagement to locate evidence-based electricity tariffs within the broader municipal funding model; limiting surpluses that municipalities can accumulate for cross-subsidisation. approval of municipal tariffs based on cost of supply studies
4. Coordinated regulation of gas and electricity industries	<ul style="list-style-type: none"> Inconsistent policy messages deterring investment Incorrect signals sent to the market resulting in inefficient investment decisions and stranded assets 	<ul style="list-style-type: none"> Strengthen internal coordination and strategic interactions with government structures Collaboration with other regulators to address regulatory asymmetry
5. Management of concurrent jurisdiction with other regulators or institutions	<ul style="list-style-type: none"> Regulatory overlap No clear roles and responsibilities Lack of cooperation may lead to delay in decision-making. 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Develop and implement Memorandums of Understanding (MOUs) and Memorandums of Agreement (MOAs) with appropriate regulators or institutions





Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
Piped-Gas Industry Regulation		
1. Light-handed approach of current regulatory framework and weak enforcement powers	<ul style="list-style-type: none"> • Difficult to effectively enforce regulatory mandate 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers, with specific reference to the review of the Gas Act and the National Energy Regulator Act • Develop and implement MOUs with the appropriate regulators or institutions, focusing among others on reducing confusion and unnecessary regulatory burden and cost
2. Regulatory gaps, limited discretion and fragmentation of legislation (gas) (not regulating entire value chain)	<ul style="list-style-type: none"> • Unnecessary regulatory burden • Unintended consequences (e.g. High distribution tariffs) • Ineffective regulation of industry • Difficulty in approving vs setting gas prices and tariffs 	<ul style="list-style-type: none"> • Report on regulatory advocacy and engagements regarding provisions/ measures to be included in the Gas Amendment Bill • Amendments to the Gas Act by the DMRE
3. Lack of experience in regulating new activities (e.g. LNG, Shale gas, FSRU, regasification)	<ul style="list-style-type: none"> • Inappropriate regulation of new activities 	<ul style="list-style-type: none"> • Develop the rules, norms and standards for the regulation of the new activities • Develop and implement a skills gap analysis and appropriate training for staff in regulating new activities
4. Information asymmetry	<ul style="list-style-type: none"> • Possible incorrect decisions taken due to lack of accurate/ adequate information for decision making 	<ul style="list-style-type: none"> • Develop and implement an appropriate method of ensuring the collection of accurate data • Implement the Regulatory Reporting Manuals to overcome information asymmetry
5. Concurrent jurisdiction regarding the regulation of gas	<ul style="list-style-type: none"> • Lack of cooperation may lead to delay in decision making 	<ul style="list-style-type: none"> • Development and implementation of MOUs and MOAs with regulators with concurrent jurisdiction



Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
6. Gaps and inconsistencies between regulations and the Act	<ul style="list-style-type: none"> Regulatory uncertainty Leads to confusion among stakeholders Legal challenges 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy maker Advocate for the gas amendment process by DMRE
7. Cross-border regulation and harmonisation of processes, methodologies and procedures	<ul style="list-style-type: none"> Regulatory uncertainty 	<ul style="list-style-type: none"> Continued engagement with INP to harmonise regulatory processes. Finalise and implement MOU with Mozambique regarding sharing of information and mutual co-operation on regulatory matters
8. Complementary jurisdiction misalignment in application of policy objectives	<ul style="list-style-type: none"> Regulatory and investment uncertainty 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagement in with relevant policy makers Develop appropriate MOUs
Petroleum Pipelines Industry Regulation		
1. Concurrent and complementary jurisdiction	<ul style="list-style-type: none"> Regulatory uncertainty 	<ul style="list-style-type: none"> Harmonise regulatory methodologies (internally and externally) Continued regulatory advocacy and engagements with relevant policy makers and other regulators
2. Cross-border regulation and harmonisation of processes, methodologies and procedures	<ul style="list-style-type: none"> Regulatory uncertainty Reduce intra-regional and/or intercontinental trade 	<ul style="list-style-type: none"> Participation in RERA's Petroleum and Gas Regulatory Subcommittee Participation in regional and continental regulatory structures
3. Policies lagging behind	<ul style="list-style-type: none"> Impacting NERSA's ability to effectively regulate the industry 	<ul style="list-style-type: none"> Continued alignment and revisions between DMRE mandate and associated policies.



Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
<ul style="list-style-type: none"> Possible market interventions by Government: biofuels strategic stocks security of supply cleaner fuels New refinery LNG importation 	<ul style="list-style-type: none"> Inadequate regulatory framework 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Continued participation in SADC structures (e.g. Oil and Gas Subcommittee) Identify potential regulatory process amendments Provide inputs on suggested policy and regulatory amendments Pro-actively engage on possible market interventions and adjust framework accordingly
<ul style="list-style-type: none"> Inconsistency in storage and loading tariff and storage methodology 	<ul style="list-style-type: none"> Undue over-compensation 	<ul style="list-style-type: none"> Revise the methodology
Transversal Regulatory and Organisational		
1. Management of concurrent jurisdiction	<ul style="list-style-type: none"> Regulatory overlap No clear roles and responsibilities 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Develop and implement MOUs and MOAs with regulators with concurrent jurisdiction
2. Perception of independence of the Regulator	<ul style="list-style-type: none"> Uncertainty for investment 	<ul style="list-style-type: none"> Develop and execute a Stakeholder Engagement Strategy to inform a Stakeholder relations management system Communication strategy, including, inter alia, attention to NERSA's activities, information dissemination, approach to Records of Decision etc.
3. Review of the Energy Regulator Act	<ul style="list-style-type: none"> Negative impact on regulatory ability if identified gaps are not addressed in the Act 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers
4. Implementation of regulatory programmes and projects approved at continental and regional level	<ul style="list-style-type: none"> NERSA may not be in a position to contribute to continental and regional matters that may have an impact on the energy industry, and the country as a whole 	<ul style="list-style-type: none"> NERSA needs to incorporate continental and regional programmes in its regulatory activities (<i>since RSA is a member and an important role player in regional and continental structures, e.g. RERA & AUC</i>)



Table 8: Social factors

Social Factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Regulatory instruments to reduce poverty	<ul style="list-style-type: none"> Increased poverty Boycotting of payments of electricity Social unrest and ongoing service delivery protests Destruction of electricity supply infrastructure 	<ul style="list-style-type: none"> Public consultations to understand community grievances and extent to which regulatory instruments can influence outcomes Develop regulatory approaches and instruments that promote equitable and appropriate access to electricity Continued regulatory advocacy and engagements with relevant policy makers – with specific reference to poverty reduction measures Review Free Basic Electricity and other proactive poverty reduction subsidies to reduce social wealth gaps
2. Social unrest and ongoing service delivery protests	<ul style="list-style-type: none"> Destruction of electricity supply infrastructure 	<ul style="list-style-type: none"> There is a need to regulate in a manner that promotes equitable distribution
Piped-Gas Industry Regulation		
1. Implementation of HDSA/B-BBEE participation policy	<ul style="list-style-type: none"> Limited participation in market by HDSA/B-BBEE and industry transformation Access to gas and infrastructure 	<ul style="list-style-type: none"> Ensure third-party access Continued regulatory advocacy and engagements with relevant policy makers – with specific reference to the development of a charter Enforce transformation provisions in BBBEE legislation
2. Uncontrolled building on pipeline servitudes	<ul style="list-style-type: none"> May result in damage to pipelines, posing a threat to security of supply 	<ul style="list-style-type: none"> Increase pressure on licensees to consult with municipalities by monitoring and enforcing compliance with licence conditions and Regulations
3. Skills development	<ul style="list-style-type: none"> Inadequate skills to match new technically inclined developments upstream 	<ul style="list-style-type: none"> Monitor construction plans Ensure skills transfer in interactions with specialist service providers (e.g. skills transfer clauses in service level agreements with consultants) Ensure continued training on new developments in the industry





Social Factors	Impact if factor is not addressed	NERSA response to the factor
Petroleum Pipelines Industry Regulation		
1. Lack of awareness of positioning of pipelines by other relevant authorities	<ul style="list-style-type: none"> Health, safety and environmental risks – bad publicity or reputational risk for NERSA 	<ul style="list-style-type: none"> Public awareness campaigns to explain NERSA's role and responsibilities Monitor and enforce compliance with licence conditions and Regulations for licensees to liaise with municipalities
2. Increase of attempted theft on the pipelines	<ul style="list-style-type: none"> Security of supply compromised Health and safety risk 	<ul style="list-style-type: none"> Monitor and enforce compliance with licence conditions Promote improved coordination and cooperation with other regulatory authorities, municipalities and law enforcement agencies
Transversal Regulatory and Organisational		
1. High level of unemployment	<ul style="list-style-type: none"> Political instability that can affect delivery of infrastructure to the poor 	<ul style="list-style-type: none"> Ensure that NERSA's Internship and Learnership programmes are current and effective Investigate how NERSA can use tariffs to allow licensees to employ young people as apprentices
2. Service delivery protests (consumer activism)	<ul style="list-style-type: none"> Alienated and marginalised communities Potential increase in tariffs 	<ul style="list-style-type: none"> Conduct customer education and public consultation initiatives Develop a position paper on the most appropriate funding mechanisms Develop a position paper on tariff reducing instruments in order to obtain policy clarity
3. Perception of independence of the Regulator	<ul style="list-style-type: none"> Uncertainty for investment 	<ul style="list-style-type: none"> Develop a strategic engagement framework with all role players Develop a proactive communication strategy on NERSA's activities – particularly on how decisions are reached
4. Resistance to energy infrastructure close to settlements	<ul style="list-style-type: none"> Security of supply 	<ul style="list-style-type: none"> Ensure that the sector is ready for expropriation proceedings in terms of the Electricity Regulation Act



Table 9: Technological factors

Technological factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Technological innovation e.g. Smart Grid	<ul style="list-style-type: none"> • Security of supply • Stranded assets 	<ul style="list-style-type: none"> • Develop appropriate rules to cater for technological innovation in the sector • Monitor compliance with robust enforcement • Develop measures in order to protect user information • As the grid becomes more sophisticated, NERSA may need new regulations to protect the grid over the long-term • Customer education • Engagement with smart technology providers and platforms (especially SOEs, where potential leverage and social benefit – such as Telkom, SITA etc.) to develop smart tariff applications towards real-time monitoring of the electricity systems.
2. Renewable Generation	<ul style="list-style-type: none"> • Security of supply • SA not meeting environmental targets 	<ul style="list-style-type: none"> • Amend the Grid Code to include dispatch rules • Create market and balancing rules
3. Gas as primary energy source	<ul style="list-style-type: none"> • Security of supply 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers
4. Nuclear Generation	<ul style="list-style-type: none"> • Security of supply • Higher tariffs 	<ul style="list-style-type: none"> • Develop a report on the introduction of nuclear energy in the energy mix • Conduct customer education • Conduct a skills analysis and develop a strategy to upgrade NERSA skills



Technological factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
5. Energy efficiency	<ul style="list-style-type: none"> • Revenue shortfall for municipalities/distributors/ Eskom 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers with specific reference to a different funding model for municipalities so that they do not have to depend mainly on electricity revenues • Continued monitoring of the implementation and the impact of energy efficient measures
6. Storage technologies	<ul style="list-style-type: none"> • Could impact prices and security of supply • Will not harness the benefits of e.g. renewable energy, mini grids, etc. 	<ul style="list-style-type: none"> • Create a regulatory environment to include this technology and capacity building of NERSA staff to improve understanding • Develop rules codes to define how these technologies connect with the electricity grid
7. Embedded and self-generation	<ul style="list-style-type: none"> • Eskom and Municipal sustainability at risk 	<ul style="list-style-type: none"> • Engage with stakeholders • Develop a framework to address sustainability issues • Develop rules for registration • Develop systems to ensure monitoring to form inputs into planning processes.



Technological factors	Impact if factor is not addressed	NERSA response to the factor
Piped-Gas Industry Regulation		
1. Regulatory framework lags technological innovation	<ul style="list-style-type: none"> • Unregulated gas activities (risk) • Deters entry and investment • Regulatory uncertainty • NERSA could be exposed to possible legal action • Ineffective regulation 	<ul style="list-style-type: none"> • Continued regulatory advocacy • Incentivise through tariffs, prices and licensing • Monitor developments in the industry • Ensure that a regulatory framework is developed in order to be ready for the regulation of the industry with technological innovation
2. Lack of piped-gas infrastructure for new technology (Liquefied Natural Gas, regasification, Compressed Natural Gas, Floating Liquefied Natural Gas, Liquefied Natural Gas tanks etc.)	<ul style="list-style-type: none"> • Deters investment and growth of downstream industry 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers
3. Resistance to new gas technology (e.g. Shale Gas hydraulic fracturing)	<ul style="list-style-type: none"> • SA misses out on opportunity to replace crude imports with domestic GTL 	<ul style="list-style-type: none"> • Conduct research on new gas technology and the impact on regulation • Continuously monitor developments of gas technologies • Review adequacy of current regulatory regime and rules • Continued regulatory advocacy and engagements with relevant policy makers • Conduct a skills analysis and develop a strategy to upgrade NERSA skills on regulation of new gas technologies
4. Lack of gas storage infrastructure	<ul style="list-style-type: none"> • Security of supply could be compromised 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers





Technological factors	Impact if factor is not addressed	NERSA response to the factor
Petroleum Pipelines Industry Regulation		
1. Alternative forms of energy and technological improvements that reduce demand for petrol	<ul style="list-style-type: none"> • Risk of stranded assets • Risk of bankrupting new entrants • Lower pipeline volumes will lead to higher tariffs, which may result in incentives to use alternative modes of transport 	<ul style="list-style-type: none"> • Forward looking regulatory framework • Monitor trends and potential alignment of tariff methodologies • Create an environment to regulate within changing landscape • Monitor supply and demand
2. Fragmentation of the different product grades of fuel – losing economies of scale	<ul style="list-style-type: none"> • Lower volumes will lead to higher tariffs. Higher Transnet Pipeline costs due to higher interface volumes. • It will reduce available storage capacity for individual products • It will reduce availability of storage capacity per product grade and may consequently further reduce third-party access 	<ul style="list-style-type: none"> • Licence tanks to store more than one type of product
Transversal Regulatory and Organisational		
1. Rapid development in ICT sector	<ul style="list-style-type: none"> • Lost efficiencies and limited communication impact and reach 	<ul style="list-style-type: none"> • Harness technologies to speed up processes and improve efficiency • Implement cyber security controls
2. Technological Developments	<ul style="list-style-type: none"> • There are several advancements that affect NERSAs ability to deliver and respond 	<ul style="list-style-type: none"> • NERSA needs to assess how to take advantage of technological advancement in their operations beyond COVID-19



Table 10: Environmental factors

Environmental Factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Climate change imperatives	<ul style="list-style-type: none"> • Can impact the security of supply because renewable energy generators cannot contribute to meeting peak demand and are unreliable in delivery of energy. • The current high cost of renewable energy generators will impact on the accessibility to all end users. 	<ul style="list-style-type: none"> • Evidence based regulatory advocacy and engagements with, inter alia: <ul style="list-style-type: none"> o Relevant policy makers; o Civil Society; and o Consumers
2. Environmental activism	<ul style="list-style-type: none"> • Security of supply 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers
3. Growing awareness of environmental factors	<ul style="list-style-type: none"> • SA not meeting its reduction in greenhouse gas emission targets 	<ul style="list-style-type: none"> • Utilise the Multi-Year Price Determination to facilitate contributing towards the reduction of greenhouse gas emissions
4. Carbon tax (off sets and carbon trading)	<ul style="list-style-type: none"> • Higher prices of all non-renewable energy 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers • Monitor developments and decisions taken by the G20
5. Minimum Emission Standard	<ul style="list-style-type: none"> • Shutting down of power stations that do not comply • Security of supply 	<ul style="list-style-type: none"> • Sensitise stakeholders on the impact of the standard
6. Reduction in emission due to low activities	<ul style="list-style-type: none"> • This has presented an opportunity for use of alternative energy sources 	<ul style="list-style-type: none"> • NERSA needs to adjust its policies and processes to address procurement of large renewable energy projects. The regulatory methodologies to deal with these need to be revised
Piped-Gas Industry Regulation		
1. Environmental activism, global warming, carbon taxes and emissions reduction	<ul style="list-style-type: none"> • Gas market cannot grow 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers – specifically to promote gas as a more attractive option and environmentally friendly energy source • Monitor developments and decisions taken by the G20 and climate change agreements



Environmental Factors	Impact if factor is not addressed	NERSA response to the factor
2. Shale Gas hydraulic fracturing perceived as an environmental threat	<ul style="list-style-type: none">• SA misses out on shale gas potential• SA misses out on an opportunity to become energy self-sufficient	<ul style="list-style-type: none">• Conduct research on shale gas and the environment• Continued regulatory advocacy and engagements with relevant policy makers• Participate in national debate on shale gas and task teams where possible
Petroleum Pipelines Industry Regulation		
1. Reduction of carbon emissions	<ul style="list-style-type: none">• Additional cost to the economy with no alternative fuel source of any scale• Taxes applied by the economy cannot respond to the signal	<ul style="list-style-type: none">• Develop a report on the impact of the introduction of the Carbon Tax Act
2. Automotive industry is globally moving towards cleaner fuels and the market demand for cleaner fuels is increasing.		
Transversal Regulatory and Organisational		
1. Environmental levies and Carbon tax policy	<ul style="list-style-type: none">• SA not meeting its environmental targets• Lack of affordability• Policy uncertainty	<ul style="list-style-type: none">• Continued regulatory advocacy and engagements with relevant policy makers• Monitor developments and decisions taken by the G20
2. Delays in issuing environmental Impact Assessments	<ul style="list-style-type: none">• Security of supply	<ul style="list-style-type: none">• Continued regulatory advocacy and engagements with relevant policy makers
3. Health and Safety	<ul style="list-style-type: none">• Possible environmental disasters such as petroleum/ gas leaks from pipelines, wind turbine blades coming loose etc.	<ul style="list-style-type: none">• NERSA to ensure that it discharges its responsibility regarding health and safety



Table 11: Legal factors

Legal factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Electricity Regulation Act under review	<ul style="list-style-type: none"> It will compromise the regulation of electricity supply industry 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers, with specific reference to the need for effective regulation of electricity supply industry
2. Regulatory Principles compromise	<ul style="list-style-type: none"> Loss of credibility Listed as Regulatory Risk NERSA subject to liability claims 	<ul style="list-style-type: none"> Make sure all decisions are made in accordance with sound regulatory principles.
Piped-Gas Industry Regulation		
1. Delays in legislative amendments and developments	<ul style="list-style-type: none"> May deter entry into the gas market Weak mandate on regulation of piped-gas Uncertainty in terms of the separation of the oil and gas provision in the Bill 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers
Petroleum Pipelines Industry Regulation		
1. Fragmentation of legislations – possible consolidation of downstream petroleum legislation	<ul style="list-style-type: none"> Regulatory burden to licensees Duplication of resources 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Prepare for defragmentation
2. Possible legal / legislative intervention: <ul style="list-style-type: none"> Petroleum Liquid Fuels Sector Codes Petroleum Pipelines Act and Regulations Mineral and Petroleum Resources Act 	<ul style="list-style-type: none"> Regulatory uncertainty Non-compliance with the BBBEE Act in issuing licenses 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Continued efficient regulation Amend licensing rules to include BBBEE requirements





Legal factors	Impact if factor is not addressed	NERSA response to the factor
Transversal Regulatory and Organisational		
1. National Energy Regulator Amendment Bill	<ul style="list-style-type: none"> NERSA's views not taken into consideration NERSA not ready when the National Energy Regulator Amendment Bill becomes operational 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Regulatory Advocacy Proactively start preparing for a change in mandate
2. Ability to influence supplementary legislation	<ul style="list-style-type: none"> NERSA's views not included NERSA's powers weakened 	<ul style="list-style-type: none"> Develop a strategic engagement framework on developing legislation/policy changes Continued regulatory advocacy and engagements with relevant policy makers
3. Compliance with regulatory requirements (Public Finance Management Act and others)		
4. Fragmentation of legislations		
5. Infrastructure Development Act	<ul style="list-style-type: none"> Expectation to fund out of tariff and tax instead of by investment. 	<ul style="list-style-type: none"> Develop a position paper on what the funding model should be
6. Pending legal cases	<ul style="list-style-type: none"> Uncertainty on regulatory decisions and regulatory tools 	<ul style="list-style-type: none"> Implement decisions of the court as soon as the judgement is given



5.2. INTERNAL ENVIRONMENT ANALYSIS

5.2.1. Organisational Capacity

a) NERSA has an approved structure of 253 staff members. The staff strength as at 31 January 2020 is 250. This includes the 224 permanent employees, three Full-Time Regulator Members (FTRMs), 4 fixed-term contract employees and 19 interns.

b) Table 12 below summarises the staff complement of NERSA.

Table 12: NERSA Staff complement

DIVISION	DEPARTMENT	COMPLEMENT
Electricity Regulation (ELR)	FTRM	3
	Executive	3
	Electricity Pricing and Tariffs (EPT)	35
	Electricity Licensing, Compliance and Dispute Resolution (ELC)	34
	Electricity Infrastructure Planning (EIP)	13
Total		88
Piped-Gas Regulation (GAR)	FTRM	3
	Executive	5
	Gas Pricing and Tariffs (GPT)	8
	Gas Licensing, Compliance and Dispute Resolution (GLC)	11
	Gas, Competition and Market Analysis (GCM)	4
Total		31
Petroleum Pipelines Regulation (PPR)	FTRM	3
	Executive	6
	Petroleum Pipelines Tariffs (PPT)	9
	Petroleum Licensing, Compliance and Dispute Resolution (PLC)	9
Total		27

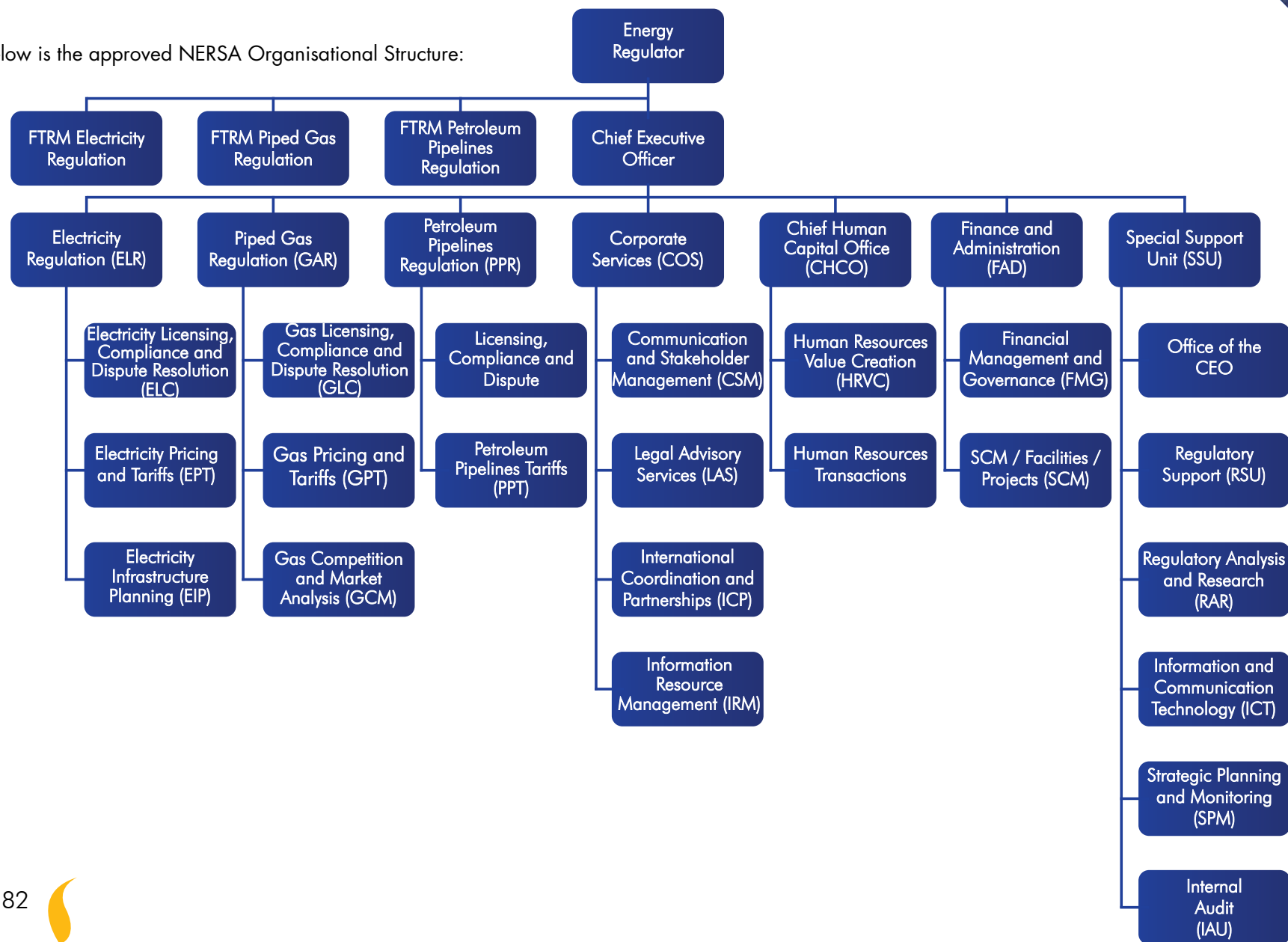




DIVISION	DEPARTMENT	COMPLEMENT
Finance and Administration (CFO)	Executive	3
	Financial Management and Governance (FMG)	7
	Supply Chain Management	13
Total		23
Human Resources (CHO)	Executive	2
	Human Resources – Value Creation	8
	Human Resources -Transactions	3
Total		13
Corporate Services (COS)	Executive	3
	Legal Advisory Services (LAS)	6
	Communication and Stakeholder Management (CSM)	9
	International Co-ordination and Partnerships (ICP)	3
	Information Resources Management (IRM)	7
Total		28
Specialised Support Units (SSU)	Internal Audit (IAU)	7
	Strategic Planning and Monitoring (SPM)	4
	Regulator Support (RSU)	11
	CEO's Office Operations (COO)	5
	Regulatory Analysis and Research (RAR)	6
	Information and Communication Technology (ICT)	10
Total		43
Grand Total NERSA Staff Complement		253



c) Below is the approved NERSA Organisational Structure:





5.2.2. Status regarding compliance with the BBBEE Act

In 2017 /2018, NERSA embarked on its first B-BBEE accreditation and was awarded a Level eight (8) B-BBEE contribution status level. According to the BBBEE report, NERSA was accredited a Level seven (7) B-BBEE contribution Status. However, because NERSA's skills development and enterprise development did not meet the minimum threshold, NERSA was discounted to a Level eight (8) contribution level.

Plans have been developed and implemented to improve the skills development and enterprise development requirements. In March 2019 the Energy Regulator approved the Enterprise Development Strategy and implementation commenced from April 2019.

5.2.3. Status regarding women and people with disabilities

- a) As at the end of 31 December 2020, NERSA's staff strength is 236 and comprises 100 (42%) males and 136 (58%) females.
- b) As at the end of 31 December 2020, there are 13 (54%) females and 11 (46%) males in management positions.
- c) As at the end of 31 December 2020, the percentage of persons with disabilities is 2%.

5.2.4. Strengths, Weaknesses, Opportunities and Threats facing NERSA

A Strengths, Weakness, Opportunities and Threats (SWOT) framework was used to analyse the internal situation at NERSA. Each element of the SWOT analysis was further categorized into key themes and documented in the table below.





STRENGTHS	
THEME	FACTORS
Financial Outlook	• Year-on-year annual budget increase (pre COVID-19)
	• Stable revenue stream as actual revenue reported was 0.9% greater than what was budgeted for before the pandemic
Skilled Workforce	• Skilled personnel with extensive knowledge and understanding on how licensees work and how to support/ respond to solve problems
	• There is a high degree of transparency
	• Intimate knowledge of regulated industries
	• Staff complement constitutes 57% females, which positively contributes to the is developmental agenda
COVID-19 Response	• Adequate management of NERSA's operational, maintenance and safety expenditures in order to effectively respond to the COVID-19 pandemic and ensure investments stabilise/ improve over time
	• New ways of working in response to COVID-19 pandemic have enhanced staff wellbeing and ensured business continuit
Corporate Governance	• NERSA has been able to achieve consecutive clean audit reports during the past five years
Environmentally Sustainable	• NERSA is continuing their journey towards becoming a green organisation by reducing paper usage and carbon footprint. The organisation is also busy with the refurbishment of its building where after it will receive a Green Building certificate on completion of the project





WEAKNESSES	
THEME	FACTORS
B-BBEE Threshold Compliance	<ul style="list-style-type: none"> • Inability to meet the minimum threshold targets on spend for skills development and enterprise development resulting in NERSA's overall B-BBEE level being discounted from a Level 7 to a Level 8
Cultural Issues	<ul style="list-style-type: none"> • Perceptions of bureaucracy exist widely throughout the organisation • High staff turnover, especially at the top management band
	<ul style="list-style-type: none"> • Slow decision making and delegation of associated activities
	<ul style="list-style-type: none"> • Span of control in the divisional organisational structure is not optimal
	<ul style="list-style-type: none"> • Trust issues persists and result in challenges in obtaining external support in the development of information systems
	<ul style="list-style-type: none"> • Ambiguous roles and responsibilities between NERSA governance and management/ executive committees
	<ul style="list-style-type: none"> • Lack of clear direction from members as instructions continuously change
	<ul style="list-style-type: none"> • Lack of exposure of employees to the industry
	<ul style="list-style-type: none"> • Lack of training
	<ul style="list-style-type: none"> • Lack of innovation/ creation of new ideas
	<ul style="list-style-type: none"> • Misalignment in terms of actual vs expected remuneration
	<ul style="list-style-type: none"> • Decisions are not aligned to the developments within the global and regional energy industry
	<ul style="list-style-type: none"> • Skills of individuals are under-utilised
	<ul style="list-style-type: none"> • Several team members feel as though they are working in silos
	<ul style="list-style-type: none"> • Lack of knowledge sharing, cooperation, and collective decision making/ contributions from various departments
	<ul style="list-style-type: none"> • Gap between organisational structure and skills required in specific areas (e.g. relevant and needed skillsets among board composition)
External Relationships	<ul style="list-style-type: none"> • There is a need to focus on improving relationships between NERSA and industry players and ensure information is shared, collected and used in a timely manner that benefits the collective
	<ul style="list-style-type: none"> • Negative perceptions of stakeholders exists
	<ul style="list-style-type: none"> • There is a need to clarify the roles between NERSA and the Environmental department



WEAKNESSES	
THEME	FACTORS
Processes and Procedures	• Lack of effective and efficient documentation management (process to receive and archive/store documents in soft and hard copy formats)
	• Government policies make it difficult to automate and streamline processes
	• Internal processes and systems need to be updated, digitised and improved in order to support the “new normal” ways of working (e.g. home working)
	• Decentralised and fragmented data – as information is not stored on a single platform and cannot be easily accessed for informed decision-making (licensee data and information)
	• NERSA is mainly responsive to industry developments (need to become more proactive)
	• Improvements in retention processes and procedures is required
	• There is a need for formalised procedures to manage time (e.g. meeting) and ensure productivity
Organisational Strategy	• Lack of alignment of structure to strategy
	• Lack of common understanding of the strategy
OPPORTUNITIES	
THEME	FACTORS
Implementation of Technological Innovations	• Technological progress has allowed for new forms of producing, storing, transforming, and consuming energy, altering the nature of the energy system (need to keep up with the pace of technological change)
	• There is a need to integrate new technologies and business models into existing structures
	• There is a need to establish a process to collect information from industries
Response to changing customer Needs	• NERSA should consider the option of utilising electrification funds that are collected through the tariff to support vulnerable customers who are unable to afford their energy bills
	• Use of analytics (energy modelling, investment, and economic driver analytics) to inform a demand-led strategy
	• Ensure energy security through; reduction of the regulatory burden on new electricity applications, ensure sector regulatory certainty, fast-tracking of application processing and consider proposals on the reduction of energy prices





OPPORTUNITIES	
THEME	FACTORS
Collaboration and Relationship Development	<ul style="list-style-type: none"> • Continue interactions with DMRE in order to legislate and establish a structure to implement mandate
	<ul style="list-style-type: none"> • Implement DMRE regulations to unlock significant local production and importation (when there is a shortfall) of LPG
	<ul style="list-style-type: none"> • Implement SADC's established Regional Electricity Regulatory Association (RERA) that will assist in harmonising the region's cross border policies and regulations (once finalised)
Departments/ Divisions	<ul style="list-style-type: none"> • Opportunity exists for NERSA to develop/ employ individuals responsible for data modelling in order to accelerate the decision-making processes
	<ul style="list-style-type: none"> • Improve the alignment of internal characteristics to the external environment
	<ul style="list-style-type: none"> • There is potential to invest in additional digital infrastructure / innovations across the value chain in order to stay up to date/ ahead of the market
	<ul style="list-style-type: none"> • Prepare NERSA for different outcomes/ responses to disaster using scenario based responses (e.g. mild, harsh, severe)
Employees	<ul style="list-style-type: none"> • Balance diverse expectations of employees in order to build trust within NERSA
	<ul style="list-style-type: none"> • Capitalise on the ability to learn from new colleagues, to generate new ideas and remain relevant



THREATS	
THEME	FACTORS
COVID-19 Pandemic	<ul style="list-style-type: none"> • The COVID-19 crisis may have a significant impact on investments, sustainability of energy supply, ability to invest in aging electricity networks, infrastructure and revenues due to changes in industry volumes • Adjust to new ways of working, upskilling staff and continued virtual activities/ operations
Energy Finance Sector	<ul style="list-style-type: none"> • There has been a slow migration to cost reflective tariffs, inadequate project preparation, issues with Power Purchase Agreements, and absent regulatory frameworks which stunt investment and financing in the energy sector
Regulatory Landscape	<ul style="list-style-type: none"> • Lack of region-wide regulatory framework that addresses renewable energy • Limited relevance of regulation within the emerging distributed energy landscape • Regulatory control within the entire supply chain of the regulated industries is limited • Projects intended to address the supply shortage are delayed due to absent regulatory frameworks and below-cost tariffs which indirectly impacts the ability for energy operators/ suppliers to sustain demand • Decisions have been legally challenged • Encroachment of various departments in running NERSA affairs
Technological Advancements	<ul style="list-style-type: none"> • Fast changing energy landscape due to emerging innovative energy generation technologies • NERSA will have to move fast to keep up with the pace of technological change and the rising need for flexible operation of power systems • Regulatory frameworks need to balance the need for providing certainty while being flexible enough to effectively integrate new technologies and business models
Economic Outlook	<ul style="list-style-type: none"> • There is an unknown long-term impact on the economy and industry as a result of the recession, pandemic, credit downgrade, poverty, and inequality
Industry Changes	<ul style="list-style-type: none"> • There has been changes to the various operating industries (Sasol Gas' intentions to divest in some of its infrastructure assets) • There have been amendments to the competition act which need to be accounted for from a regulatory perspective • Industry development creates challenges in terms of legislation
Legislation Issues	<ul style="list-style-type: none"> • Several instances of legislative shortcomings persist





PART C: MEASURING OUR PERFORMANCE

1. INSTITUTIONAL PERFORMANCE INFORMATION

NERSA's mandate is to regulate the electricity, piped-gas and petroleum pipelines industries in line with each industry's specific legislation and regulations. Therefore, this part of the Strategic Plan will be divided into sections for each of the regulated industries as well as a section dealing with transversal regulatory and organisational matters.

2. IMPACT STATEMENT

In line with Government's priorities, NERSA's overall impact statement is as follows:

Secure, reliable, affordable, sustainable, competitive and transformed energy industry, which contributes to the economic growth of South Africa.

3. MEASURING OUR OUTCOMES

The attainment of the above impact statement will be driven by the industry specific and organisational impact statements and accompanying outcomes, as described in the sections below.





3.1. ELECTRICITY INDUSTRY REGULATION

Impact Statement	Sustainable, cost reflective, reliable, accessible, affordable, transparent, and demand-led electricity supply from diverse energy sources in a manner that maximises economic growth and transformation		
Outcome	Outcome Indicator	Baseline	Five year target
1. Accessible and cost reflective electricity that is equitably distributed for consumption	1.1. Energy Regulator decision on the review of Eskom's revenue application for year 1 of MYPD 5 considered by the relevant committee or the Energy Regulator within the stated timeframe of receiving all the required information for the application	Approved MYPD 4	Energy Regulator decision on the review of Eskom's revenue application for year 1 of MYPD 5 considered by the ER within 6 months after receipt of complete application
	1.2. Percentage of complete tariff applications of licensed distributors considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete tariff applications of licensed distributors considered by the REC/ELS within 60 working days of receipt of complete application	100% of complete tariff applications of licensed distributors considered by the REC/ELS within 60 working days of receipt of complete application
2. Diverse energy supply that is certain and secure for current and future user needs	2.1. Percentage of complete applications for a licence or for the registration of electricity generation activities are considered by the relevant committee or the Energy Regulator within the stated timeframes of receiving all the required information for the application	<ul style="list-style-type: none"> • 100% of complete licence applications considered by the ER within 120 working days after the period of objections expired and no objections were received or after objections are addressed • 100% of complete applications for registration of electricity generation facilities considered by the ELS within 60 days from receipt of all required information 	<ul style="list-style-type: none"> • 100% of complete licence applications considered by the ER within 120 working days after the period of objections expired and no objections were received or after objections are addressed • 100% of complete applications for registration of electricity generation facilities considered by the ELS within 60 days from receipt of all required information
	2.2. Approved regulatory framework for the licensing of the restructured electricity supply industry following the unbundling of Eskom	Approved regulatory framework for the licensing of the current electricity generation activities	Approved regulatory framework for the licensing of the restructured electricity supply industry following the unbundling of Eskom by 31 March 2025



Outcome	Outcome Indicator	Baseline	Five year target
	2.3. Number of audit reports on the state of compliance with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	3 audit reports by 31 March (one each for generation, transmission and distribution) on the state of compliance with licence conditions considered by the ELS/REC by 31 March	3 audit reports (one each for generation, transmission and distribution) on the state of compliance with licence conditions considered by the ELS/REC by 31 March
	2.4. Number of reports on the System Adequacy considered by the relevant committee or the Energy Regulator within the stated timeframe	1 report on the System Adequacy considered annually by the ELS/REC by 31 March	1 report on the System Adequacy considered annually by the ELS/REC by 31 March
	2.5. Number of reports on the performance of renewable technologies considered by the relevant committee or the Energy Regulator within the stated timeframe	1 report considered annually by the ELS/REC by 31 March	1 report considered annually by the ELS/REC by 31 March
	2.6. Number of reports on the analysis of Eskom's actual performance against the regulatory framework considered by the relevant committee or the Energy Regulator within the stated timeframe	1 report considered annually by the ELS/REC by 31 March	1 report considered annually by the ELS/REC by 31 March
3. Conducive regulatory environment that results in regulatory certainty and increased investment in the electricity industry	3.1. Number of reports on new entrants into the electricity supply industry considered by the relevant committee or the Energy Regulator within the stated timeframe	1 report on new entrants into the electricity supply industry considered annually by the ELS by 31 March	1 report on new entrants into the electricity supply industry considered annually by the ELS by 31 March
	3.2. Approved revenues and tariffs to facilitate the sustainability of electricity supply considered by the relevant committee or the Energy Regulator within the stated timeframe	1 report on refurbishments and upgrades of electricity infrastructure considered annually by the ELS by 31 March	1 report on refurbishments and upgrades of electricity infrastructure considered annually by the ELS by 31 March
	3.3. Percentage of applications from the ESI requiring amendment to or exemption from the South African grid code, considered by the relevant committee or the Energy Regulator within stated timeframe from receipt of complete information	100% applications from the ESI requiring amendment to or exemption from the South African grid code considered by the ELS/REC within 3 months from receipt of complete information	100% applications from the ESI requiring amendment to or exemption from the South African grid code considered by the ELS/REC within 3 months from receipt of complete information



Outcome	Outcome Indicator	Baseline	Five year target
	3.4. Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered by the relevant committee or the Energy Regulator	1 report considered annually by the ELS by 31 March	1 report considered annually by the ELS by 31 March

3.1.1. Explanation of Planned Performance over the Five-Year Planning Period

a) The rationale for the choice of the outcome indicators relevant to the respective outcomes is aligned with legislative requirements.

- To approve municipal tariffs that ensure the financial viability and sustainability of all licensed municipal distributors while also protecting the poor from rapidly increasing electricity prices;
- To approve Eskom's revenue requirements and prices/tariffs that allows for the sustainability of Eskom and therefore overall viability of the electricity supply industry.
- Ensure certainty for new licensees, in making sure they know all the applicable conditions in order to be connected to the grid.
- Ensure oversight of non-compliance to Grid Code to ensure speedy compliance
- Ensure risk mitigating measures are implemented in time to support security of supply
- Medium to long term infrastructure development planning is implemented according to the set license conditions

b) The following enablers were identified to achieve the five-year targets:

- Revised MYPD methodology;
- Monitoring of licensed distributor's performance;

- Tariff methodology;
- Wheeling methodology;
- Automated assistance to the licensing application and evaluation process;
- Grid Governance Code;
- Restructuring of the electricity supply industry; and
- Increasing resources within NERSA.

c) The identified outcomes should contribute as follows to the achievement of the impact statement:

- Sustainability of the electricity supply industry;
- Protection of the poor from rapidly increasing electricity prices;
- Make available grid code requirement for each technology;
- Audits will highlight areas of need and tariff decisions will provide funds to perform refurbishment;
- An up-to-date data base containing all submitted information in a format that can be easily interrogated;
- Reporting requirements are regularized by inclusion in the Grid Code;
- Encourage entry of new players;
- The licensing of operators ensures orderly development and the license conditions ensure that the licensees comply with proper standards;
- Regulatory certainty through appropriate pricing and tariffs methodologies.





3.2. PIPED-GAS INDUSTRY REGULATION

Impact Statement	Efficient, safe, effective, sustainable, accessible, competitive and transformed piped-gas industry
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Outcome	Outcome Indicator	Baseline	Five year target
1. Equitable access to affordable gas services at competitive prices	1.1. Percentage of complete maximum price applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications
	1.2. Percentage of complete transmission tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete transmission tariff applications considered by the ER within 120 working days after date of publication of preliminary assessment of tariff applications	100% of complete transmission tariff applications considered by the ER within 120 working days after date of publication of preliminary assessment of tariff applications
	1.3. Number of reports on the review of the definition of the piped-gas market considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	1 report considered annually by the PGS by 31 March
	1.4. Number of reports on the impact of developments on competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	One report on the impact of developments on competition in the gas industry considered annually by the PGS by 31 March ²³



Outcome	Outcome Indicator	Baseline	Five year target
2. Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry	2.1. Percentage of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	100% of complete applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received
	2.2. Percentage of complete registration applications of gas activities considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period	100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period
	2.3. Number of audit reports on compliance of the ROMPCO pipeline according to the compliance frameworks considered annually by the relevant committee or the Energy Regulator within the stated timeframe	1 audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March	1 audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March
	2.4. Number of monthly volume balance reports assessed and analysis reports to monitor the supply of 120m GJ p.a. from Mozambique to South Africa considered by the relevant committee or the Energy Regulator within the stated timeframe	12 monthly volume balance reports considered annually by the PGS by 31 March	12 monthly volume balance reports considered annually by the PGS by 31 March
	2.5. Number of reports on licensees' compliance with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	One annual report considered by PGS by 31 March regarding compliance inspections conducted on licensed facilities	One annual report considered by PGS by 31 March regarding compliance inspections conducted on licensed facilities





Outcome	Outcome Indicator	Baseline	Five year target
3. A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry	3.1. Number of reports on regulatory mechanisms required for the review of licensing rules considered by the relevant committee or the Energy Regulator within the stated timeframe	No report available	1 report on regulatory mechanisms required for the review of licensing rules considered by the PGS by 31 March 2022
	3.2. Revised tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	Current tariff methodology	Revised tariff methodology considered by the ER by March 2025
	3.3. Refined framework for conducting adequacy of competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Approved framework for the determination of the adequacy of competition in the gas sector	Refined framework for conducting adequacy of competition in the gas industry by 31 March 2021
	3.4. Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the relevant committee or the Energy Regulator within the stated timeframe	1 report on regulatory advocacy considered annually by the PGS by 31 March	1 report on regulatory advocacy considered annually by the PGS by 31 March



3.2.1. Explanation of Planned Performance over the Five-Year Planning Period

- a) The rationale for the choice of the outcome indicators relevant to the respective outcomes are the following:
- To allow customers to have a choice on the source of supply which will improve customer countervailing power, as well as the quality, cost and efficiency of supply of gas;
 - To promote enhanced entry into the gas supply market;
 - To improve access to gas supply and services;
 - To facilitate the growth of the gas sector in support of industrialization;
 - To increase access to and utilisation of gas in the market;
 - To promote compliance with licence conditions;
 - To regulate maximum prices and tariffs so as to mimic competitive outcomes in the gas market; and
 - To facilitate effective regulation of cross border assets.
- b) The following enablers to achieve the five-year targets were identified:
- Revised methodology for gas prices and tariffs to attract investment;
 - Efficient licensing of gas infrastructure;
 - Facilitation of 3rd party access to uncommitted capacity;
 - Effective framework for regulation of the gas industry;
 - Periodic assessment of adequacy of competition;
 - Compliance investigations;
 - Effective compliance monitoring and enforcement;
 - Adequate supply of gas to meet demand; and
 - Effective collaboration with other regulatory bodies such as TNPA and Competition Commission on matters of common interest
- c) The identified outcomes will contribute to the achievement of the impact as follows:
- Improved competition, leading to more competitive pricing and wider choice for customers;

- Improved security of supply;
- Effective regulation of licensed activities, maximum prices and tariffs;
- Promote import competition;
- Growth in gas imports and production;
- Switching to gas as an alternative energy source;
- Review of Methodologies and the tariff guidelines; and
- Enforcement of third party access.

- d) The following challenges have been identified:
- Current gaps in the Gas Act present a challenge on effective regulation of the gas industry e.g. Nersa has no mandate to regulate distribution tariffs, no third party access to gas distribution infrastructure etc. This increases barriers to entry and expansion at all levels of the gas supply chain, and also leads to other unintended consequences such as inefficient tariffs, and eligible customers migrating from distribution to transmission infrastructure, which may inhibit the orderly development of gas infrastructure.
 - Vertically integrated sole/dominant supplier with monopoly position;
 - Lack of adequate gas supply - SA does not have its own indigenous gas sources and currently relies on supply from Mozambique. This presents a challenge for security of supply, especially given the noted potential decline of gas supply from Mozambique from 2024;
 - No mandatory third party access to gas distribution pipelines;
 - Impact of exclusivity on distribution licenses with potential market foreclosure. This may inter alia affect new investments and entry of new players into the market as it would be the prerogative of the incumbent distribution network owner to allow entry into exclusive distribution areas;
 - Impact of COVID-19 has weakened enforcement abilities of the Energy Regulator on on-site inspections;
 - Weak enforcement model in the current Gas Act;
 - Inadequate competition; and
 - Dated gas infrastructure in some areas - results in increased maintenance costs with impact on tariffs.





3.3. PETROLEUM PIPELINES INDUSTRY REGULATION

Impact Statement	Efficient, safe, effective, sustainable, competitive and transformed petroleum pipelines industry
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Outcome	Outcome Indicator	Baseline	Five year target
1. Access to petroleum infrastructure	1.1. Number of reports on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered by the relevant committee or the Energy Regulator	2 reports on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered annually by the PPS by 31 March	1 report on the percentage utilisation of pipelines, storage facilities and loading facilities and third party access considered annually by the PPS by 31 March
	1.2. Percentage of complete pipeline, storage and loading facility tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of application	75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of application
	1.3. Approved efficiency adjustment factor for inclusion into the tariff methodology	None	Approved efficiency adjustment factor for inclusion into the tariff methodology by 31 March 2024
2. Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry	2.1. Percentage of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act
	2.2. Percentage of complete applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe	100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Sections 23 or 24 of the Petroleum Pipelines Act	100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Sections 23 or 24 of the Petroleum Pipelines Act



Outcome	Outcome Indicator	Baseline	Five year target
	2.3 Number of reports on the geographic spread of licences issued for petroleum infrastructure and new entrants considered annually by the relevant committee or the Energy Regulator	No report available	1 report on the geographic spread of licences issued for petroleum infrastructure and new entrants considered annually by the PPS by 31 March
3. A conducive regulatory environment that results in regulatory certainty and increased investment in the petroleum industry	3.1. Reviewed tariff methodology for storage, loading facilities and petroleum pipelines considered by the relevant committee or the Energy Regulator within the stated timeframe	Commenced with the review of the tariff methodology for storage and loading facilities to provide regulatory certainty and facilitate investment in the industry.	Approved reviewed tariff methodology for storage and loading facilities; and petroleum pipelines by 31 March 2025
		Approved tariff methodology for petroleum pipelines	
	3.2. Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by the relevant committee or the Energy Regulator	1 report on regulatory advocacy considered annually by the PPS by 31 March	1 report on regulatory advocacy considered annually by the PPS by 31 March

3.3.1. Explanation of Planned Performance over the Five Year Planning Period

- a) The rationale for the choice of the outcome indicators relevant to the respective outcomes are the following:
- To promote competition in the construction.
 - To facilitate access to affordable petroleum products.
- b) The following enablers to achieve the five-year targets were identified:
- Enabling legislation to be amended;
 - Revised tariff methodology;
 - Benchmark study to be able to assess prudency;
 - Efficient processing of applications;
 - Review of licensing rules;
 - Enforcement of compliance by the Tribunal; and
 - Audits for compliance monitoring.

- c) The identified outcomes will contribute to the achievement of the impact as follows:
- Lower the barriers to entry;
 - More transformed Industry;
 - Affordable tariffs;
 - Promote import competition;
 - Sufficient capacity to meet market demand;
 - Revised enabling legislation;
 - Reduced regulatory burden;
 - Improved third party access; and
 - Harmonized regulatory framework.



3.4. TRANSVERSAL REGULATORY AND ORGANISATIONAL

Impact Statement	NERSA established and perceived as an efficient, effective and credible regulator
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Outcome	Outcome Indicator	Baseline	Five year target
1. Creation of an enabling environment for internal and external stakeholders through proactive, dynamic and data-driven advisory, advocacy and decision making	1.1. Percentage of regulatory processes is based on appropriate Research within stated timeframe	None	100% of regulatory processes is based on appropriate research by 31 March 2025
	1.2. Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the relevant committee or the Energy Regulator by 30 September and 31 March	2 reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 31 March	2 reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 31 March
	1.3. Number of reports on the implementation of the Learnership and Internship Programmes considered annually by the relevant committee or the Energy Regulator by 31 March	1 report on the implementation of the Learnership and Internship Programmes considered annually by the HRRC by 31 March	1 report on the implementation of the Learnership and Internship Programmes considered annually by the HRRC by 31 March
	1.4. Improved level of contribution towards BBBEE	BBBEE Level 8	BBBEE Level 3 by 31 March 2025
2. An effective operating model that enables the organisation to fulfil its role effectively	2.1. Percentage of business processes are automated and efficient within the stated timeframe	Majority of business processes are manual	Reviewed Knowledge management framework and Strategy with an implementation plan considered by the ER by 31 March 2022
	2.2. Improved efficacy of the NERSA based on an organisational knowledge management approach	Knowledge management framework, Strategy and implementation plan 2010	Report on the improved of the efficacy of the regulator based considered by the REC by 31 March 2024 Reviewed Knowledge management framework and Strategy with an implementation plan considered by the ER by 31 March 2025



Outcome	Outcome Indicator	Baseline	Five year target
	2.3. Good governance demonstrated in audit outcomes	Unqualified audit	Unqualified with no findings in the management report

3.4.1. Explanation of Planned Performance over the Five Year Planning Period

a) The rationale for the choice of the outcome indicators relevant to the respective outcomes is to focus on the key requirement for the effective operations of the Energy Regulator.

b) The following enablers to achieve the five-year targets were identified:

- Improved data analysis
- Trends analysis (market study)
- Speedy processing of applications
- GIS
- Reviewed PPA
- Online application system

c) The identified outcomes will contribute to the achievement of the impact as follows:

- Proactively improving critical business and regulatory processes





4. KEY RISKS

The key risks which may affect the achievement of the identified outcomes are those that need to be mitigated in the medium to long-term, as the critical mitigating strategies relates to amendment of legislations and regulation which falls within the ambit.

NERSA's Integrated Enterprise Risk Management Framework provides for processes to manage the mitigating identified risks with quarterly reporting on progress made with the mitigating strategies. These strategies are solely within NERSA's control to mitigate the identified risks.

The risks indicated below are those that will be prevailing in the long-term due to the length of time it will take to mitigate those risks.

OUTCOMES	KEY RISK	RISK MITIGATION
<ul style="list-style-type: none"> • Conducive regulatory environment that results in regulatory certainty and increased investment in the electricity industry • A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry • A conducive regulatory environment that results in regulatory certainty and increased investment in the petroleum industry 	<ul style="list-style-type: none"> • Unresponsive regulatory framework to landscape changes in the sector 	<ul style="list-style-type: none"> • Improve approach to Regulatory Advocacy (continuously align as the market evolve) • Conduct environmental scan and develop draft studies (methodologies, guide lines and rules) in anticipation of industry changes • Review Methodology and Guidelines • Issue Rules for implementation of IRP
<ul style="list-style-type: none"> • Diverse energy supply that is certain and secure for current and future user needs • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry • Equitable access to affordable petroleum products, services an infrastructure at competitive prices • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry 	<ul style="list-style-type: none"> • Regulatory uncertainty 	<ul style="list-style-type: none"> • Emphasise compliance with NERSA's Methodologies in decisions • Review Methodologies to align to current circumstances • Improve approach to Regulatory Advocacy (continuously align as the market evolve) • Regular review of Rules to provide regulatory certainty • Improve MOAs with relevant Authorities
<ul style="list-style-type: none"> • Accessible and cost reflective electricity that is equitably distributed for consumption • Equitable access to affordable gas services at competitive prices • Diverse energy supply that is certain and secure for current and future user needs • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry • Equitable access to affordable petroleum products, services an infrastructure at competitive prices • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry 	<ul style="list-style-type: none"> • Rising energy costs - (High energy prices and tariffs) • Reputational damage 	<ul style="list-style-type: none"> • Full implementation of Prudency Guidelines • Enforce compliance to ring-fencing of electricity business costs in municipalities to ensure infrastructure maintenance using the allocated revenue • Facilitate development of projects to deliver domestic supply of primary fuels and electricity • Assist DMRE in the implementation National Free Basic Electricity Policy of Government¹.



OUTCOMES	KEY RISK	RISK MITIGATION
		<ul style="list-style-type: none"> • Ensure accuracy and high quality of RFDs • Regular review of Regulatory Tools to align with dynamics of the industry (Methodologies/ Rules/ Procedures) • Independent Peer review of NERSA's Regulatory Tools (Methodologies/ Rules/ Procedures) • Enhance compliance with Methodologies • Stakeholder Engagement • Streamline the decision making • Improve quality of Reasons for Decision • Improve regulatory advocacy Develop Standard Operation Procedures • Increase Stakeholder engagement (Public Hearing) • Effective implementation of Stakeholder Engagement Strategy and Plan • Conduct Stakeholder Surveys • Improve NERSA's PR systems
<ul style="list-style-type: none"> • Diverse energy supply that is certain and secure for current and future user needs • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry 	<ul style="list-style-type: none"> • Constraints of gas supply 	<ul style="list-style-type: none"> • Coordinated engagement with relevant stakeholders including Sasol Gas, DMRE and PASA /Regulatory Advocacy to develop a coordinated policy to incentivize investment • Prioritize licensing of new projects for LNG imports • Cooperation with authorities in Mozambique for continued gas supply opportunities • Fast-track current activities for local exploration of natural gas resources • Develop Gas-to-Power projects to accelerate development of GAS industry
<ul style="list-style-type: none"> • A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry 	<ul style="list-style-type: none"> • Disruptions of regulatory regime 	<ul style="list-style-type: none"> • Harmonisation of regulatory processes between SA and Mozambique



OUTCOMES	KEY RISK	RISK MITIGATION
<ul style="list-style-type: none"> • An effective operating model that enables the department to fulfil its role effectively • Creation of an enabling environment for internal and external stakeholders through proactive, dynamic and data-driven advisory, advocacy and decision making 	<ul style="list-style-type: none"> • Business continuity/ disruptions 	<ul style="list-style-type: none"> • Review financing Model of NERSA as Legislated • Review and implement Business Continuity Plan • Review and implement Business Continuity Management Policy • Conduct Disaster Management Training • Review IT Disaster Recovery Plan • Fund and implement ICT Strategy • Improve current IT support processes • Develop Financial sustainability Strategy • Review and monitoring of Going-concern assessment models • Review current NERSA strategy to make NERSA more relevant and effective
<ul style="list-style-type: none"> • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry • Equitable access to affordable petroleum products, services an infrastructure at competitive prices • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry 	<ul style="list-style-type: none"> • Uncompetitive outcomes 	<ul style="list-style-type: none"> • Advocacy with DMRE – to strengthen NERSA's regulatory powers / address regulatory gaps by amending the Gas and electricity Acts and addressing fragmentation of regulation in the Petroleum Pipelines industry. • Advocacy with DMRE and other regulatory bodies to develop a coordinated policy to incentivize investment • Finalisation of MoA between NERSA and other relevant regulatory authorities to set out processes for collaboration on competition matters in the energy sector • Review Methodologies • Lower barriers to entry





PART D: TECHNICAL INDICATOR DESCRIPTIONS

The technical indicator descriptions (TID) below is a description of the outcome indicators stated in this Plan, which defines the data collection processes and gathering of portfolios of evidence.

These indicators are divided in the following functional areas:

- Electricity Industry Regulation
- Piped-Gas Industry Regulation;
- Petroleum Pipelines Industry Regulation;
- Transversal Regulatory; and
- Organisational.

1. ELECTRICITY INDUSTRY REGULATION

Indicator title	Energy Regulator decision on the review of Eskom's revenue application for year 1 of MYPD 5 within the stated timeframe of receiving all the required information for the application	Percentage of tariff applications of licensed distributors considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the decision of the Energy Regulator on review of Eskom's revenue application, based on the Multi Year Price Determination (MYPD) – which incorporates some of the Rate of Return (RoR) and incentive based principles through the introduction of the transmission and distribution service incentive schemes and the energy efficiency demand side management (EEDSM) schemes	This is the percentage of complete tariff applications from licensed distributors for increases within the guideline and benchmark that are considered within a specified time frame.
Source of data	Eskom's revenue application; Information supplied by Eskom	Tariff Applications and D Forms; Tariff analysis schedules
Method of calculation / assessment	Decision of the Energy Regulator	$((\text{number of tariff applications approved within 60 days of receipt of complete application}) / (\text{number of received tariff applications})) * 100$
Assumptions	Eskom submits complete application	Complete applications received from licensees
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A





Indicator title	Energy Regulator decision on the review of Eskom's revenue application for year 1 of MYPD 5 within the stated timeframe of receiving all the required information for the application	Percentage of complete tariff applications of licensed distributors considered by the relevant committee or the Energy Regulator within the stated timeframe
Desired Performance	The Energy Regulator decided upon the recommendations following the review Eskom's revenue application for year 1 of MYPD 5 within 120 working days after receipt of complete application	100% of tariff applications of licensed distributors were considered by the REC/ELS (depending on delegation) within 60 working days of receipt of complete application
Indicator Responsibility	EM (ELR) and HOD (EPT)	EM (ELR) and HOD (EPT)

Indicator title	Percentage of complete applications for a licence or for the registration of electricity generation activities are considered by the relevant committee or the Energy Regulator within the stated timeframes of receiving all the required information for the application	
Definition	This is the percentage of complete licence applications that are considered in compliance within the legislated timeframes.	This is the percentage of complete applications for registration of electricity generation activities that are considered within the legislated timeframes.
Source of data	Licence application	Registration applications
Method of calculation / assessment	(number of processed licence applications within 120 days / number of received licence applications)*100	(number of processed licence applications within 60 days / number of received licence applications)*100
Assumptions	Applicants provide all required information to accept application for analysis	All required information is received from applicants
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A 	<ul style="list-style-type: none"> Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> Contribution to spatial transformation priorities: N/A Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> Contribution to spatial transformation priorities: N/A Description of Spatial Impact: N/A
Desired Performance	100% of complete licence applications are considered by the REC/ELS (depending on delegation) and submitted to the Energy Regulator for a final decision, within 120 working days of receiving all the required information for the application	100% of complete applications for the registration of electricity generation activities are considered by the REC/ELS (depending on delegation) and submitted to the Energy Regulator for a final decision within 120 working days of receiving all the required information for the application
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR) and HOD (ELC)



Indicator title	Number of audit reports on the state of compliance with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the System Adequacy annually considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on all the audits NERSA conducted on the state of distribution, generation and transmission licensees' compliance with licence conditions, including audit findings.	These are annual reports in which NERSA indicates the adequacy and performance of the generation system, as well as a capacity outlook for the near future.
Source of data	Compliance audit reports	Reports from Eskom
Method of calculation / assessment	Number of reports per year	Number of reports per year
Assumptions	Audits completed as planned	Information from Eskom received timeously
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	3 audit reports - one each for distribution, generation and transmission licensees - on the state of compliance of licensees with licence conditions considered annually by the REC/ELS (depending on delegation) by 31 March	1 System Adequacy Report considered annually by the REC/ELS (depending on delegation) by 31 March
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR)





Indicator title	Number of reports on the performance of renewable technologies considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the analysis of Eskom's actual performance against the regulatory framework considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on the performance of renewable technologies aimed at informing all stakeholders and decision makers on the status.	These are annual reports on the analysis of Eskom's actual performance against the regulatory framework in order to determine the level of compliance.
Source of data	Reports on the performance and progress of Renewable Energy	Reports from Eskom; compliance audit reports
Method of calculation / assessment	Number of reports per year	Number of reports
Assumptions	Analysis completed	Analysis completed
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	2 monitoring reports on the performance and progress of Renewable Energy projects for 2020/21 considered annually by the REC/ELS (depending on delegation) by 30 September and 31 March respectively	1 report on the outcome of the Eskom's actual performance against the regulatory framework considered annually by the REC/ELS (depending on delegation) by 31 March
Indicator Responsibility	EM (ELR) and HOD (EIP)	EM (ELR) and HOD (EIP)



Indicator title	Number of reports on new entrants into the electricity supply industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on refurbishments and upgrades of electricity infrastructure considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on new entrants (licensees in generation, transmission and distribution) into the electricity supply industry in order to determine the growth of the industry.	These are annual reports on the analysis of refurbishments and upgrades of electricity infrastructure by licensees – in order to monitor the level of security of electricity supply.
Source of data	License and registration applications	Reports from Eskom; compliance audit reports
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Analysis completed	Analysis completed
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	1 report on the assessment of new entrants into the electricity supply industry considered annually by the REC/ELS (depending on delegation) by 31 March	1 report on refurbishments and upgrades of electricity infrastructure considered annually by the ELS/REC by 31 March
Indicator Responsibility	EM (ELR) and HOD (EIP)	EM (ELR) and HOD (EIP)





Indicator title	Approved revenues and tariffs to facilitate the sustainability of electricity supply considered by the relevant committee or the Energy Regulator within the stated timeframe	Percentage of applications from the ESI requiring amendment to or exemption from the South African grid code, considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	To ensure that Eskom's revenue requirements for the next Multi-Year Price Determination period is approved annually to allow Eskom enough revenue to be a going concern but also to protect the consumers against inflated prices.	This is the percentage of applications for amendment of or exemption from the Grid Code considered within specified timeframe
Source of data	Applications from Eskom	Applications for amendment of or exemption from the grid code
Method of calculation / assessment	Application of tariff model	(number of applications requiring amendments or exemptions completed within 60 days / number of applications for exemptions received) * 100
Assumptions	Eskom submits complete application	Recommendations from Grid Code Advisory Committee submitted with all required supporting documents
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	Energy Regulator approved revenues and tariffs for Eskom within 6 months after receipt of the complete application	100% of applications from the ESI requiring amendment to or exemption from the distribution and transmission grid code, considered by the REC/ELS (depending on delegation) within 60 days from receipt of complete information
Indicator Responsibility	EM (ELR) and HOD (EPT)	EM (ELR) and HOD (EIP)



Indicator title	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on regulatory advocacy engagements with decision-makers on identified legislative and policy matters.
Source of data	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Number of reports
Assumptions	Reports on each engagement compiled
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	1 report on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the REC/ELS (depending on delegation) by 31 March
Indicator Responsibility	EM (ELR), HOD (ELC), HOD (EPT) and HOD (EIP)



2. PIPED-GAS INDUSTRY REGULATION

Indicator title	Percentage of complete maximum price applications considered by the relevant committee or the Energy Regulator within the stated timeframe	Percentage of complete tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete applications for maximum prices of piped-gas considered within a set timeframe, subject to a finding that there is inadequate competition.	This is the percentage of complete tariff applications considered within a set timeframe, subject to a finding that there is inadequate competition.
Source of data	Applications for maximum prices of gas	Applications for tariffs
Method of calculation / assessment	(number of applications for maximum prices completed within 120 days / number of applications for maximum prices received) * 100	(number of tariff applications completed within 120 days / number of applications for tariff applications received) * 100
Assumptions	Complete applications received from licensees	Complete applications received from licensees
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	100% of complete maximum price applications considered by the Energy Regulator within 120 working days after date of publication of preliminary assessment of the maximum price applications	100% of complete tariff applications considered by Energy Regulator within 120 working days after the date of the publication of preliminary assessment of the applications
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GPT)



Indicator title	Percentage of complete trading margin applications considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the review of the definition of the piped-gas market considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of trading margin applications considered within a set timeframe, aimed at enabling the licensee to: a) Recover all efficient and prudently incurred investment and operational costs, and b) Make a profit commensurate with risk.	These are annual reports on the review of the definition of the piped-gas market.
Source of data	Applications for trading margin	Research reports
Method of calculation / assessment	(number of trading margin applications completed within 120 days / number of applications for maximum prices received)*100	Number of reports
Assumptions	Complete applications received from licensees	Analysis completed
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	100% of complete trading margin applications considered by the Energy Regulator within 120 working days after the date of the publication of preliminary assessment of the applications	1 report on the review of the definition of the piped-gas market considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GLC)





Indicator title	Percentage of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe from date of close of public comment period or period of applicant's response to objections received	Percentage of complete registration applications of gas activities considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete licence applications considered within a set timeframe and conditions.	This is the percentage of the registration applications for operations or activities related to the production and importation of gas, considered within a set timeframe and conditions.
Source of data	Licence applications	Registration applications
Method of calculation / assessment	(Number of licence applications considered within 60 days after the end of the objection period or period of applicant's response to objections received) / (total number of applications received) * 100	(Number of registration applications considered within 120 days from receipt of complete application) / (total number of applications received) * 100
Assumptions	Complete applications submitted	Complete applications submitted
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	100% of complete licence applications considered by the REC or PGS (depending on the delegation) within 60 working days from date of close of public comment period or period of applicant's response to objections received	100% of complete registration applications of gas activities considered by the PGS within 60 working days from date of close of public comment period
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)



Indicator title	Number of audits conducted on the ROMPCO pipeline according to the compliance frameworks and audit reports considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of monthly volume balance reports to monitor the supply of 120m GJ p.a. from Mozambique to South Africa assessed and analysis reports considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual audits conducted on the ROMPCO pipeline according to the compliance framework, non-compliance notices issued (where necessary) and audit reports compiled.	These are reports on the assessment and analysis of Sasol's monthly volume balance reports considered within a stated timeframe, in order for NERSA to have regular, systematic, consistent, and sufficient non-financial information relevant to economic regulation, to enhance the efficiency and transparency of the regulatory process.
Source of data	Audit reports	Volume balance report assessment reports from Sasol
Method of calculation / assessment	Number of audits	Number of reports
Assumptions	Approved received to travel to Mozambique to conduct audit	Information received timeously from Sasol
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	1 audit conducted annually on the ROMPCO pipeline according to the compliance frameworks and audit reports considered by the PGS by 31 March	12 monthly volume balance reports assessed and analysis reports considered by the PGS to monitor the supply of 120m GJ p.a. from Mozambique to South Africa
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)





Indicator title	Number of inspections conducted, non-compliance notices issued (where necessary) and quarterly inspection reports considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the assessment of criteria for the allocation of uncommitted capacity considered annually by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are planned inspections conducted during the reporting year, aimed at enforcing monitoring and compliance of licensed entities with licence conditions. Notices of non-compliance are issued when necessary, and quarterly inspection reports compiled.	These are annual reports on the assessment of criteria for the allocation of uncommitted capacity
Source of data	Approved plan to annual inspections, Inspection reports	Reports from licensees
Method of calculation / assessment	Number of inspections	Number of reports
Assumptions	Inspections completed	Inputs received
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	Inspections conducted (as per the annual plan for inspections), non-compliance notices issued (where necessary) and quarterly inspection reports considered by the PGS	1 report on the assessment of criteria for the allocation of uncommitted capacity considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)



Indicator title	Number of reports on the implementation of the reviewed mechanism for enforcement of 3rd party access considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the engagements on harmonised requirements/ processes for regulation of cross border assets between SA and Mozambique considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is a report on the implementation of the reviewed mechanism for enforcement of 3rd party access	This is a report on continued engagements with the Mozambique regulator to facilitate harmonization of regulatory frameworks and policies required for the effective regulation of cross border assets between SA and Mozambique considered by 31 March 2025.
Source of data	Reports from licensees; compliance reports	Existing regulatory frameworks, MOUs
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Completed reports received	Engagements completed
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	1 report on the implementation of the reviewed mechanism for enforcement of 3rd party access considered by the Energy Regulator by 31 March 2025	1 report on the engagements on harmonised requirements/ processes for regulation of cross border assets between SA and Mozambique considered by the PGS by 31 March 2025
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR)



Indicator title	Number of reports on the assessment of adequacy of competition in the piped-gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on regulatory mechanisms required for the review of licensing rules considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is a report on the assessment conducted to determine the adequacy of competition in the piped-gas industry – which is an important component for tariff and pricing methodologies considered by 31 March 2025.	This is a report on regulatory advocacy engagements with key decision-makers on the review of licensing rules for the piped-gas industry considered by 31 March 2022.
Source of data	Research reports; analysis report	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Research and analysis completed	Reports on each engagement compiled
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	1 report on the assessment of adequacy of competition in the piped-gas industry considered by the Energy Regulator by 31 March 2025	1 report on regulatory mechanisms required for the review of licensing rules considered by the PGS by 31 March 2022
Indicator Responsibility	EM (GAR) and HOC (GCM)	EM (GAR) and HOD (GLC)



Indicator title	Revised tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	Refined framework for conducting adequacy of competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	The price and tariff methodology for the piped-gas industry will be reviewed to ensure to ensure correct decision-making in respect of price and tariff applications and considered by 31 March 2025.	The framework for conducting adequacy of competition in the piped-gas industry will be reviewed to guide the process to determine adequacy of competition in the piped-gas industry considered by 31 March 2021.
Source of data	Revised price and tariff methodology	Revised framework for conducting adequacy of competition
Method of calculation / assessment	Approved revised price and tariff methodology	Approved revised framework for conducting adequacy of competition
Assumptions	Participation by key stakeholders	Participation by key stakeholders
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	Revised tariff methodology is considered by the Energy Regulator by 31 March 2025	Reviewed framework for conducting adequacy of competition in the piped-gas industry is considered by the Energy Regulator by 31 March 2021
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GCM)





Indicator title	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on gas regulatory advocacy engagements with decision-makers on identified legislative and policy matters considered by 31 March annually.
Source of data	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Number of reports considered per annum
Assumptions	Reports on each engagement compiled
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	1 report on gas regulatory advocacy engagements with decision-makers on identified legislative and policy matters considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR), HOD (GLC) and HOD (GPT)





3. PETROLEUM PIPELINES INDUSTRY REGULATION

Indicator title	facilities and loading facilities and third party access considered by the relevant committee or the Energy Regulator within the stated timeframe	Percentage of complete pipeline, storage and loading facility tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on the percentage utilisation for pipelines, storage facilities and loading facilities and third party access aimed at promoting competition in the industry, considered annually by the PPS by 31 March.	This is the percentage of all complete pipeline, storage and loading facility tariff applications considered by the PPS/ER (depending on the delegation) within 8 months of receipt of complete application
Source of data	Analysis reports	Applications for tariffs
Method of calculation / assessment	Number of reports	$((\text{Number of tariff applications considered by the relevant Subcommittee within 8 months of receipt of complete application}) / (\text{Total number of tariff applications received})) * 100$
Assumptions	Analysis of trends completed	Complete applications received
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A 	<ul style="list-style-type: none"> Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> Contribution to spatial transformation priorities: N/A Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> Contribution to spatial transformation priorities: N/A Description of Spatial Impact: N/A
Desired Performance	1 report on the percentage utilisation for pipelines, storage facilities and loading facilities and third party access considered annually by PPS by 31 March	100% complete pipeline, storage and loading facility tariff applications considered by the PPS/ER (depending on the delegation) within 6 months from receipt of complete application
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PPT)





Indicator title	Percentage of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	Percentage of complete applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete licence applications that will be decided upon by the PPS/REC/ER (depending on the delegation) within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act	This is the percentage of complete applications for licence amendments that will be decided upon by the by the PPS/REC/ER (depending on the delegation)within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act
Source of data	Licence applications	Licence amendment applications
Method of calculation / assessment	(number of applications decided upon within statutory deadlines / number of received licence applications)*100	(number of applications decided upon within statutory deadlines / number of received licence applications)*100
Assumptions	Complete applications	Complete applications
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	100% of complete licence applications considered by the PPS/REC/ER (depending on the delegation) within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	100% of percentage of complete applications for licence amendments that will be decided upon by the by the PPS/REC/ER (depending on the delegation)within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)



Indicator title	Reviewed tariff methodology for storage and loading facilities considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	The tariff methodology for storage and loading facilities to provide regulatory certainty and facilitate investment in the petroleum pipelines industry considered by the Energy Regulator by 31 March 2015.	These are annual reports on regulatory advocacy aimed at the improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by the PPS by 31 March
Source of data	Reviewed tariff methodology for storage and loading facilities	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Reviewed tariff methodology for storage and loading facilities	Number of reports
Assumptions	Participation by key stakeholders	Reports on each engagement compiled
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A 	<ul style="list-style-type: none"> Target for women: N/A Target for youth: N/A Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> Contribution to spatial transformation priorities: N/A Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> Contribution to spatial transformation priorities: N/A Description of Spatial Impact: N/A
Desired Performance	The reviewed tariff methodology for storage and loading facilities approved by the Energy Regulator by 31 March 2015	1 report on regulatory advocacy aimed at the improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PPT)	EM (PPR), HOD (PLC) and HOD (PPT)

Indicator title	Number of reports on new entrants into the petroleum pipelines industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the geographic spread of petroleum pipelines infrastructure considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on new entrants into the petroleum pipelines industry in order to determine the growth of the industry, considered by the PPS by 31 March annually	These are annual reports indicating the geographic spread of petroleum pipelines infrastructure in order to provide information on the level of access to petroleum pipelines services across South Africa, considered by the PPS by 31 March annually
Source of data	License and registration applications	GIS reports; data base of licensees





Indicator title	Number of reports on new entrants into the petroleum pipelines industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the geographic spread of petroleum pipelines infrastructure considered by the relevant committee or the Energy Regulator within the stated timeframe
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Analysis completed	Analysis completed
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	1 report on new entrants into the petroleum pipelines industry considered annually by the PPS by 31 March	1 report on the geographic spread of petroleum pipelines infrastructure considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)





Indicator title	Number of reports on the pipelines, storage and loading licenses issued considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on the pipelines, storage and loading licenses issued in a particular financial year, considered annually by the PPS by 31 March
Source of data	Data base of licence applications
Method of calculation / assessment	Number of reports
Assumptions	Analysis completed
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	1 report on the pipelines, storage and loading licenses issued considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)





4. TRANSVERSAL REGULATORY AND ORGANISATIONAL

Indicator title	Percentage of business processes are automated and efficient within the stated timeframe	Percentage of regulatory processes is based on appropriate Research within stated timeframe
Definition	Business processes and internal control measures are digitized to improve efficacy	All processes applied for the regulation of the energy sector is based on relevant research
Source of data	Business process analysis	Research reports
Method of calculation / assessment	IT design	Approved regulatory processes
Assumptions	Business process analysis complete	Research completed
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	70% of processes are automated and efficient by 31 March 2025	100% of regulatory processes is based on appropriate research by 31 March 2025
Indicator Responsibility	CIO	SM (RAR)



Indicator title	Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the implementation of the Learnership and Internship Programmes considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on partnership creation, which include engagements with other regulators; participation in regulatory associations, events and conferences; and partnerships with other institutions for capacity building purposes – aimed at positioning NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant subcommittee	This is reports on the implementation of the learnership and Internship programmes
Source of data	Reports on an overview of international engagements and partnerships activities	Learnership and Internship programmes
Method of calculation / assessment	Number of reports	Number of reports
Assumptions	Analysis completed	Approved Learnership and Internship programmes
Disaggregation of Beneficiaries (where applicable)	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A 	<ul style="list-style-type: none"> • Target for women: N/A • Target for youth: N/A • Target for people with disabilities: N/A
Spatial transformation (where applicable)	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A 	<ul style="list-style-type: none"> • Contribution to spatial transformation priorities: N/A • Description of Spatial Impact: N/A
Desired Performance	2 reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 30 September and 31 March	1 report the implementation of the Learnership and Internship Programmes considered by HRRC annually by 31 March
Indicator Responsibility	EM (COS) and HOD (ICP)	CHCO





ANNUAL PERFORMANCE PLAN 2021/22 - 2023/24





TABLE OF CONTENTS

CHAIRPERSON'S STATEMENT	129
CHIEF EXECUTIVE OFFICER'S STATEMENT	132
OFFICIAL SIGN-OFF	135
ACRONYMS AND ABBREVIATIONS	136
LIST OF TABLES	138

PART A: OUR MANDATE **139**

1. UPDATES TO THE RELEVANT LEGISLATIVE AND POLICY MANDATES	139
2. UPDATES TO INSTITUTIONAL POLICIES AND STRATEGIES	140
3. UPDATES TO RELEVANT COURT RULINGS	147

PART B: OUR STRATEGIC FOCUS **149**

1. UPDATED SITUATION ANALYSIS	149
1.1. GLOBAL TRENDS	149
2. UPDATED EXTERNAL SITUATIONAL ANALYSIS	216

PART C: MEASURING OUR PERFORMANCE **225**

1. INSTITUTIONAL PROGRAMME PERFORMANCE INFORMATION	225
1.1. PROGRAMME 1: SETTING AND/OR APPROVAL OF TARIFFS AND PRICES	228
1.2. PROGRAMME 2: LICENSING AND REGISTRATION	238
1.3. PROGRAMME 3: COMPLIANCE MONITORING AND ENFORCEMENT	247
1.4. PROGRAMME 4: DISPUTE RESOLUTION, INCLUDING MEDIATION, ARBITRATION AND HANDLING OF COMPLAINTS	261
1.5. PROGRAMME 5: SETTING OF RULES, GUIDELINES AND CODES FOR THE REGULATION OF THE THREE ENERGY INDUSTRIES	267
1.6. PROGRAMME 6: ADMINISTRATION (ESTABLISHING NERSA AS AN EFFICIENT AND EFFECTIVE REGULATOR)	274
1.7. STRATEGIC RISK REGISTER	291

PART D: FUNDING FOR NERSA **293**

PART E: TECHNICAL INDICATOR DESCRIPTIONS **294**





CHAIRPERSON'S STATEMENT

The implementation of the National Energy Regulator of South Africa's (NERSA) Annual Performance Plan for 2020/21 - 2022/23 commenced in parallel with the nation-wide lockdown, which Government instituted as a critical measure to deal with threat of the COVID-19 pandemic to the country and its people. At that time, the effect of this virus was evident through the myriad of the reports from all over the world. These reports highlighted the adverse effect of the virus on countries' economies, the resultant social crises of job losses and financial hardships, and the rapid infection rate of the virus for which there was, at the time, no cure nor a vaccine.

From April 2020, under the guidance of Government, South Africa commenced with measures to brace ourselves for the unprecedented global threat and to plan how we will be able to carry out our mandate and contribute towards Government's interventions to our country's economic growth post the pandemic. NERSA was soon faced with the impact of the measures on our ability to carry out our mandate.

The whole range of consequences for the energy sector was yet to be revealed and these consequences were and some still are difficult to predict. However, it soon became clear that the demand for energy resources has dropped, prices have plummeted and non-payment of utility bills by consumers will have a detrimental effect for the energy sector. Many companies across different sectors globally have ceased or decreased capital expenditures where possible, and the energy sector is no exception. For example, globally electricity distributors are delaying initiating most projects, resulting in a substantial decrease in the procurement of goods and services. Non-critical investments have been suspended. The fulfilment of investment programmes by Transmission System Operators (TSO) and distributors is also at risk.

The COVID-19 pandemic is also having a special negative impact on the renewable energy sector. One of the key issues relates to the delivery of essential equipment to power plants. China, which was among the countries most heavily affected by the COVID-19, is the main global producer of many clean energy technologies i.e.

solar panels, wind turbines and batteries. Since the COVID-19 pandemic has delayed deliveries from China, renewable energy independent power producers (IPPs) were not able to comply with deadlines for equipment installations.

A number of countries around the world have taken steps to support the energy sector and to mitigate the negative effects of the COVID-19 crisis. There are numerous challenges that policymakers, regulators, utilities need to address to ensure energy security. Utilities have implemented a number of organisational measures relating to the safety of personnel, ensuring maintenance activities, securing supplies, among others. At this point in time, the International Energy Agency is of the view that the key questions about the impact of the pandemic include the *duration of the pandemic, the shape of the recovery, and whether energy and sustainability are built into the strategies adopted by governments to kick-start their economies.*

Over and above the challenges the country is facing due to the COVID-19 pandemic, South Africa's economy has taken an excessive strain in the last few years. South Africa's rapidly worsening fiscal metrics during the course of 2019 alerted all three major rating agencies to put the country on a negative outlook during the second half of 2019. These led to credit rating downgrades in March and April 2020. The impact of the COVID-19 pandemic added to reasons for the downgrade and has since overshadowed the economic fight. Different projections of sustained contractions in real gross domestic product (GDP) for the full year range between 5% and 10%. In April 2020, both Fitch and Standards & Poor's (S&P) Global Ratings downgraded South Africa's sovereign credit rating by another notch to push it deeper into sub-investment grade (sub-IG) territory. Fitch rating agency highlighted that the downgrade was due to 'the lack of a clear path towards government debt stabilisation', with a further shock to government finances and growth due to COVID-19. On 20 November 2020, South Africa sunk deeper into junk territory after Moody's Investors Service joined Fitch Ratings in lowering the country's credit ratings.



It is against this background that NERSA developed this Annual Performance Plan for 2021/22 to 2023/24. We have acknowledged the fact that as a regulator we have to, more than ever before, remain focused on the role NERSA plays in growth of South Africa's economy.

In modern economies, economic growth is closely associated with increasing energy consumption. The availability of secure, reliable and affordable energy supply is essential for industrial processes and the provision of public services such as lighting, heating, cooking, information and communication technology, and mobility. The key role of NERSA is underpinned by its mandate that is enshrined in its founding legislation and is aligned to objectives of our government.

Over and above the impact on the COVID-19 pandemic and the strain on the South African economy, NERSA also took cognisance of the following key issues relating to the energy transition:

- a) Effective energy transition is a timely transition towards a more inclusive, sustainable, affordable and secure global energy system that provides solutions to global energy related challenges, while creating value for business and society, without compromising the balance of the energy triangle.
- b) The success of country-specific actions for improving energy system performance across the three aforementioned imperatives depends on a wide set of enablers.
- c) Regulatory frameworks need to balance the need for providing certainty while showing flexibility to effectively integrate new technologies and business models when dealing with existing structures.
- d) Modern industry and society are intrinsically linked to energy production, delivery and consumption. Hence, energy transition has repercussions across business decisions, policy objectives and consumer behaviour. This poses the following two key questions for decision-makers :
 - What is required for an accelerated improvement in countries' energy systems?
 - How can the right conditions be put in place that will allow these systems to seize the opportunities from this energy transition?
- e) No single stakeholder in the energy system can drive such improvements alone.

Many actors in businesses, government and society will need to come together, bringing their different viewpoints, priorities and sentiments.

- f) A common fact-base and understanding of the challenges are required.
- g) Importantly, energy transition poses, amongst others, the following challenges:
 - Achieving simultaneous improvements in the three triangle imperatives (discussed in section (a) above) is not trivial or straightforward, and decision-makers will sometimes be faced with hard choices and trade-offs.
 - Countries will need to carefully manage system reliability and labour issues resulting from the changing energy mix, and markets will need to evolve to efficiently integrate new technologies and solutions while coexisting with legacy infrastructure.
 - It is rather a complex process with multiple interactions and feedback loops between these transformational cues and other elements of the economy and society.
 - The design of the energy transition requires a broad interdisciplinary mobilisation of expertise, convictions, resources and multi-stakeholder collaboration.
 - To better inform decision-makers about the competing nature of energy transition end objectives and the state of interdisciplinary forces at play, a robust fact base is necessary to understand the status quo and to identify systemic reforms that will enable an effective energy transition.

Although the Energy Regulator is committed to deliver on its mandate, under the challenging circumstances, it has become clear that NERSA will be required to ensure that it carries out its mandate in the best way possible. This will require a re-view of our operating model and ensuring that it is geared to regulate the three industries in the best possible manner. Therefore, it is critical that we leverage all the challenges brought about by the COVID-19 pandemic to improve our regulatory operations and approaches. This is confirmed by a statement in the Special report: Working in the 'new normal' - published by the British Standards Institution (BSI): *The COVID-19 crisis is the biggest challenge to have faced business in modern times. It is testing the resilience of firms in all sectors, of all sizes and in all parts of the country. It has also shown how organizations can be agile and innovative, and what can be achieved when business, unions and government work collaboratively.*



In developing this Annual Performance Plan, NERSA took cognisance of the aforementioned, as it assisted us in deciding on appropriate responses by incorporating any relevant trends and energy-related developments into our strategy.

Through the implementation of this Annual Performance Plan, NERSA will endeavour to carry out its mandate while at the same time focus on improving its overall efficacy. The latter will be informed by the lessons learnt in 2020 to ensure that we function as normal as possible, despite the restrictions of the various COVID-19 alert levels. This will include endeavouring to fast-track processes relating to applications for prices, tariffs, licences and registrations, without compromising the quality of the analysis of the applications. The Energy Regulator will also focus on the reduction of the regulatory burden on new electricity applicants and to ensure regulatory certainty in the energy sector during these trying times. In addition, the Energy Regulator will also collaborate with key role players to work towards affordable energy for all.

The Energy Regulator's resolve to contribute towards government's initiatives of economic growth and job creation through carrying out our mandate, is unwavering.

NERSA's Annual Performance Plan for the period 2021/22 to 2023/24 is informed by the five-year Strategic Plan (2020/21 - 2024/25). The Annual Performance Plan's targets have been set against each outcome outlined in the Strategic Plan. Specific, measurable, achievable, realistic and time-bound key performance indicators for 2020/21 with quarterly targets will ensure that the strategic outcomes are achieved.

Adequate resourcing of the organisation, as well as the quarterly performance reviews will ensure the assessment of the overall performance of each programme against this Annual Performance Plan.

The Energy Regulator takes pride in submitting its Annual Performance Plan, which sets out the strategic focus for the 2021/22 to 2023/24 planning period. The Energy Regulator fully endorses this Annual Performance Plan and commits to supporting its implementation.

Ms. Maleho M D Nkomo

Deputy Chairperson

National Energy Regulator of South Africa





STATEMENT BY THE ACTING CHIEF EXECUTIVE OFFICER

The National Energy Regulator of South Africa (NERSA) was established on 1 October 2005 in terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). Its mandate is to regulate the electricity industry in terms of the Electricity Regulation Act, 2006 (Act No. 4 of 2006), the piped-gas industry in terms of the Gas Act, 2001 (Act No. 48 of 2001), and the petroleum pipelines industry in terms of the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).

NERSA's mandate, as contained in the relevant legislation, is summarised as follows:

- Issuing of licences and setting pertinent conditions.
- Setting and/or approving tariffs and prices.
- Monitoring and enforcing compliance with licence conditions.
- Dispute resolution including mediation, arbitration and the handling of complaints.
- Gathering, storing and disseminating industry information.
- Setting of rules, guidelines and codes for the regulation of the three industries.
- Determination of conditions of supply and applicable standards.
- Registration of import and production activities.

In carrying out its mandate, NERSA endeavours to achieve its vision to be a recognised world-class leader in energy regulation. NERSA is expected to implement its mandate and to take the necessary regulatory decisions proactively in anticipation of and in response to the changing circumstances in the energy industry. The role of NERSA is to ensure the development and sustainability of the electricity, piped-gas and petroleum pipelines industries, while facilitating the affordability of and accessibility to these industries to balance the economic interests of all stakeholders to ensure sustainable socio-economic development of South Africa and a better life for all.

The previous planning period followed the announcement of the National State of Disaster on 15 March 2020 and the commencement of the nationwide lockdown from midnight on 26 March 2020. In light of this unprecedented global threat, NERSA,

as so many other employers, was forced to learn how to balance the protection of our staff while assuring that we are able to continue with NERSA operations. The measures put in place by Government to manage the impact of the COVID-19 pandemic on South Africa, have affected how we carried out our mandate. NERSA had to be innovative in terms of how some of our activities were implemented, especially those that require public participation and access to NERSA's offices, such as public hearings and attendance of meetings of the Energy Regulator and its regulatory subcommittees. In addition, processes and procedures were put in place to ensure that we function as normally as possible, despite the restrictions of the various COVID-19 alert levels, while ensuring the safety and health of our staff members. The key enabler of working effectively and efficiently under the COVID-19 restriction was technology. NERSA entered the virtual realm by conducting meetings online and enabling our staff to work from home as effectively as possible. All the aforementioned processes, procedures and protocols are encapsulated in a detailed COVID-19 Business Continuity Response Plan. The implementation thereof was monitored on a continuous basis.

NERSA's Annual Performance Plan 2020/21 – 2022/23 had to be reviewed as a result of the devastating impact of the COVID-19 pandemic on our ability to carry out our responsibilities effectively. The key challenge was our planned targets, which were affected by the COVID-19 restrictions that related to travel and gatherings.

Despite the challenges NERSA was able to continue with its operations to ensure the orderly development in the energy sector, mainly through licensing, setting and approving of prices and tariffs, compliance monitoring and enforcement, and dispute resolution in the electricity, piped-gas and petroleum pipelines industries.

The development of this Annual Performance Plan was informed by the Amended Strategic Plan for the 2020/21 to 2024/25 planning period. The targets identified





in the Annual Performance Plan provide the basis for our support of the following key priorities of Government:

- Priority 2: Economic transformation and job creation
- Priority 3: Education, skills and health
- Priority 7: A better Africa and world.

The identified targets will contribute to the achievement of the strategic outcomes as stated in the Amended Strategic Plan for 2020/21 to 2024/25. The achievement of those outcomes will be enabled through, amongst others, revised regulatory methodologies and rules; continued monitoring of licensees' performance; contributing towards the restructuring of the energy industry; periodic assessment of adequacy of competition; decreasing regulatory burden; and improved critical business and regulatory processes. In addition, the lessons learnt with the implementation of the previous Annual Performance Plan during the peak of the COVID-19 restrictions, will inform the review of NERSA's operating model, which will be aimed at improved efficacy as a regulator.

NERSA's targets are grouped into six programmes and we aim to achieve the following impact through the implementation of the targets in the Annual Performance Plan:

1. Programme 1: Setting and/or Approval of Tariffs and Prices

- Economic growth through affordable electricity price increases
- Economic growth through affordable electricity prices
- Fair balance between the needs of the customer (end-user) and the regulated entity contributing towards security of energy supply and affordable energy prices
- Optimal utilisation of energy infrastructure.

2. Programme 2: Licensing and Registration

- Increasing energy capacity in the country
- Investment in the regulated industries
- Orderly development of the energy industry

- Security of supply – from importation of required energy sources such as the liquefied natural gas (LNG) and petroleum products
- Access to more energy from new/alternative suppliers
- Fit-for-purpose electricity resources
- Transformation of the regulated industries, in line with the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003) (BBBEE Act).

3. Programme 3: Compliance Monitoring and Enforcement

- Security of supply
- Compliance with directives to govern relations between a licensee and its end-users
- Reliable supply of energy
- Safe, efficient and environmentally friendly operation of regulated energy facilities, including the transportation of energy.

4. Programme 4: Dispute Resolution, including Mediation, Arbitration and Handling of Complaints

- Improved understanding of the regulation of the energy sector between licensees, or between licensees and customers or end-users
- Sustainable, safe and reliable operation of regulated energy facilities – contributing towards security of energy supply.

5. Programme 5: Setting of Rules, Guidelines and Codes for the Regulation of the Three Energy Industries

- Investor confidence and lessening the regulatory burden on licensees
- Regulatory certainty
- Infrastructure investments.

6. Programme 6: Administration (Establishing NERSA as an Efficient and Effective Regulator)

- Effective and efficient regulation supported by appropriate systems, processes, procedures and resources
- Regional integration and harmonisation of regulatory processes, methodologies and procedure





- Appropriate skills for energy regulation
- Contributing to South Africa's skill base
- Orderly development of the three regulated industries.

The implementation of this Annual Performance Plan is driven by management and staff under the strategic guidance and support of the Energy Regulator. I would like to take this opportunity to state that our commitment to implementing this Plan is based on our history of achieving more than 90% of our planned targets for the last five years. Thus, we will succeed in facilitating a secure, reliable, affordable, sustainable, competitive and transformed energy industry, which contributes to the economic growth of South Africa.

NP Sithole

Nomalanga Sithole

Acting Chief Executive Officer of the National Energy Regulator of South Africa





OFFICIAL SIGN-OFF

It is hereby certified that this Annual Performance Plan:

- was developed by the Energy Regulator with inputs from the Executive Management of NERSA;
- takes into account all the relevant policies, legislation and other mandates for which the Energy Regulator is responsible; and
- accurately reflects the outcomes and outputs that the Energy Regulator will endeavour to achieve over the period 2021/22 – 2023/24.

Gerda Gräbe

Senior Manager: Strategic Planning and Monitoring

Ms. Bulelwa Pono

Chief Financial Officer

Adv. Nomalanga Sithole

Acting Chief Executive Officer (Accounting Officer)

Approved by

Mrs. Maleho M D Nkomo

Deputy Chairperson (on behalf of the Accounting Authority)





ACRONYMS AND ABBREVIATIONS

Acronym / Abbreviation	Stands for
AFDB	African Development Bank
AFUR	African Forum for Utility Regulators
APP	Annual Performance Plan
B-BBEE	Broad-Based Black Economic Empowerment
CAGR	Compound Annual Growth Rate
CBM	Coal Bed Methane
CNG	Compressed Natural Gas
CCGT	Closed Cycle Gas Turbine
CPI	Consumer Price Index
DJP	Durban-to-Johannesburg Pipeline
DoE	Department of Energy
DMRE	Department of Mineral Resources and Energy
ELR	Electricity Regulation
ESI	Electricity Supply Industry
FBE	Free Basic Electricity
FID	Final Investment Decision
FLNG	Floating Liquefied Natural Gas
GAR	Piped-Gas Regulation
GDP	Gross Domestic Product
GJ	Gigajoule
GSA	Gas Supply Agreement
GUMP	Gas Utilisation Master Plan
HDI/HDSA	Historically Disadvantaged Individuals/South Africans

Acronym / Abbreviation	Stands for
IBT	Inclining Block Tariff
IDM	Integrated Demand Management
IEA	International Energy Agency
IEP	Integrated Energy Plan
IPP	Independent Power Producer
IRP	Integrated Resource Plan
ISO	International Organisation for Standardisation
LNG	Liquefied Natural Gas
MPP	Multi-Product Pipeline
MTEF	Medium-Term Expenditure Framework
MTSF	Medium-Term Strategic Framework
MW	Megawatt
NDP	National Development Plan
NERSA	National Energy Regulator of South Africa
NFI	Non-Financial Information
OCGT	Open Cycle Gas Turbine
OECD	Organisation for Economic Co-operation and Development
PE(R)STEL	Political, Economic, Regulatory, Social, Technological, Environmental and Legal
PFMA	Public Finance Management Act, 1999 (Act No. 1 of 1999)
PPA	Power Purchase Agreement
PPR	Petroleum Pipelines Regulation
PV	Photovoltaic





Acronym / Abbreviation	Stands for
REIPP	Renewable Energy Independent Power Producer
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
RERA	Regional Electricity Regulatory Association
RIA	Regulatory Impact Assessment
ROMPCO	Republic of Mozambique Pipeline Investment Company
SACREEE	SADC Centre for Renewable Energy, Energy and Efficiency
SADC	Southern African Development Community
SAPIA	South Africa Petroleum Industry Association
SAPP	Southern African Power Pool
SCOA	Standard Chart of Accounts
SIP	Strategic Integrated Project





LIST OF TABLES

Table 1:	NERSA's contribution to the NDP	113
Table 2:	NERSA's contribution to the NIP	115
Table 3:	NERSA's contribution to the MTSF	117
Table 4:	Renewable Energy Targets in the SADC Member States	130
Table 5:	Political factors	138
Table 6:	Economic factors	141
Table 7:	Regulatory factors	144
Table 8:	Social factors	148
Table 9:	Technological factors	150
Table 10:	Environmental factors	153
Table 11:	Legal factors	155
Table 12:	NERSA Staff complement	157





PART A: OUR MANDATE

1. UPDATES TO THE RELEVANT LEGISLATIVE AND POLICY MANDATES

- 1.1. There have been no changes to NERSA's legislative and other mandates.
- 1.2. NERSA is the regulatory authority established in terms of the National Energy Regulator Act, 2004 (Act No. 40 of 2004) with the mandate to 'undertake the functions of the National Electricity Regulator as set out in the Electricity Regulation Act, 2006 (Act No. 4 of 2006), undertake the functions of the Gas Regulator as set out in the Gas Act, 2001 (Act No. 48 of 2001), undertake the functions of the Petroleum Pipelines Regulatory Authority as set out in the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003) and to perform such other functions as may be assigned to it by or under these Acts'.
- 1.3. The regulatory functions of NERSA, as contained in the legislation relevant for the regulation of the energy industry, are summarised as follows:
 - issuing of licences with conditions;
 - setting and/or approving tariffs and prices;
 - monitoring and enforcing compliance with licence conditions;
 - dispute resolution including mediation, arbitration and the handling of complaints;
 - gathering, storing and disseminating industry information;
 - setting of rules, guidelines and codes for the regulation of the three industries;
 - determining of conditions of supply and applicable standards;
 - consulting with government departments and other bodies with regard to industry development and regarding any matter contemplated in the three industry Acts;
 - expropriating land as necessary to meet the objectives of the relevant legislation;
 - registration of import and production facilities; and
 - performing any activity incidental to the execution of its duties
- 1.4. NERSA derives its revenue by, among others, imposing prescribed levies on the regulated industries following a prescribed transparent procedure. In this regard, the following Acts govern the imposition of such levies:
 - the Gas Regulator Levies Act, 2002 (Act No. 75 of 2002);
 - the Petroleum Pipelines Levies Act, 2004 (Act No. 28 of 2004); and
 - section 5B of the Electricity Act, 1987 (Act No. 41 of 1987).
- 1.5. Apart from the afore-mentioned industry specific legislation that anchors NERSA's mandate and the imposition of levies, the following facilitating and foundational legislation are also applicable to NERSA's conduct of its business:
 - the Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA), which specifies the accounting of NERSA as a Section 3A Public Entity;
 - the Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA), which determines the way that NERSA has to treat access to information;
 - the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000) (PAJA), which determines just administrative action of NERSA;
 - the Protection of Personal Information, 2013 (Act No 4 of 2013), which determines the way that NERSA has to treat personal information; and
 - all other applicable laws of the Republic of South Africa.
- 1.6. NERSA's mandate is further derived from published government policies and regulations developed by the Minister in terms of the Electricity Regulation Act, Gas Act and Petroleum Pipelines Act. As outlined in these legislative prescripts, NERSA must make decisions that are not at variance with published government policy. The relevant applicable policies are:
 - White Paper on Energy Policy for South Africa of 1998;
 - Electricity Pricing Policy (EPP) of the South African Electricity Supply Industry;
 - Free Basic Electricity Policy;
 - White Paper on Renewable Energy Policy for South Africa of 2003;
 - Energy Security Master Plan: Liquid Fuels published by the Department of Energy in 1998 and 2007;



- National Development Plan;
- Industrial Policy Action Plan (IPAP); and
- Integrated Resource Plan (IRP) 2019.

1.7. NERSA advocates the implementation of the White Paper on Energy Policy of 1998 before the principles enshrined in the policy and suite of subsequent legislation are overhauled. As the Energy Regulator, we are aware that the policies of 1998 and consequent suite of legislation (Gas Act, Petroleum Pipelines Act, National Energy Regulator Act and Electricity Regulation Act) that were developed between 2001 and 2006 have been actively implemented since the establishment of NERSA in October 2005. It is only now that we are able to give private investors some certainty regarding energy infrastructure investments and the level playing field we are expected to provide. Recent private sector licence applications in the piped-gas and petroleum pipelines industries are a testimony to the success of government's liberalisation policies.

1.8. The Electricity Regulation Act gives the mandate for competitive bidding of electricity generation capacity to the Department of Mineral Resources and Energy (DMRE), following a Cabinet decision that private sector participation in the electricity industry be split 70:30 between Eskom and the private sector, with DMRE procuring the plant and Eskom being the 'off-taker'. Thus, it is competition for the market but not within the market at this stage.

1.9. With the rapid price reduction of solar panels, a situation has arisen where rooftop solar has started to become attractive for residential consumers. This is more pronounced with commercial premises. These installations are not effectively dealt with in the current regulatory framework because the 'Electricity Regulations on New Generation Capacity' are only applicable to state-owned entities.

1.10. To license all of these small installations is also onerous to the installer and NERSA. It is a much too expensive and complex process to be a realistic option for dealing with this class of generation. However, in spite of their small size, the large amount of them means that collectively they will make up a significant portion of generation capacity. This will impact allocations made in the Integrated Resource Plan (IRP).

1.11. In the previous five-year planning period, NERSA has seen that there are developments in the three industries that are not covered by the current industry-specific Acts. This requires a review of the regulatory legislation.

2. UPDATES TO INSTITUTIONAL POLICIES AND STRATEGIES

2.1. Although policy formulation is outside of NERSA's realm of authority, specific policy gaps are continuously identified that require ongoing dialogue and strategic engagement with the Department of Mineral Resources and Energy in order to ensure that there is alignment between NERSA's strategic direction and the Department's policy thrusts.

2.2. In addition to its mandate as per the legislation mentioned in the previous section, the Energy Regulator's decisions are informed by published policies of government. Within the parameters of NERSA's mandate and the resultant functions, NERSA contributes towards critical government priorities and programmes. Below is a summary of NERSA's contributions towards the –

- enabling milestones in the National Development Plan (NDP);
- strategic integrated projects in the National Infrastructure Plan (NIP); and
- seven priorities announced by the Honourable President, Mr Cyril Ramaphosa during the State of the Nation Address (SONA) in Parliament on 20 June 2019





2.2.1. NERSA's contribution to the National Development Plan

- a) The National Development Plan (NDP) is a plan for the country to eliminate poverty and reduce inequality by 2030 through uniting South Africans, unleashing the energies of its citizens, growing an inclusive economy, building capabilities, enhancing the capability of the state and leaders working together to solve complex problems. The high-level objectives of the NDP are to:
- Reduce the number of people who live in households with a monthly income below R419 per person (in 2009 prices) from 39% to zero; and
 - Reduce inequality, as measured by the Gini Co-efficient, from 0.69 to 0.6.
- b) Chapter 4 of the NDP deals with *Economic infrastructure – the foundation of social and economic development*. This chapter places emphasis on the need for South Africa to maintain and expand, among others, its electricity infrastructure in order to support economic growth and social development goals. In respect of the regulation of the energy sector, NERSA noted that the NDP calls for more emphasis on stimulating market competition and promoting affordable access to quality services when issuing licences and setting tariffs.
- c) In order to achieve the NDP goals by 2030, 19 enabling milestones were identified. Even though NERSA contributes indirectly to most of the enabling milestones, NERSA contributes specifically to 4 pertinent enabling milestones. Table 1 below summarises NERSA's contribution to the relevant enabling milestones.





Table 1: NERSA's contribution to the NDP

Relevant enabling milestones	NERSA's contribution
1: Increase employment from 13 million in 2010 to 24 million in 2030	<ul style="list-style-type: none"> • Implementation of the Youth Employment Accord; • Implementation of a Learnership Programme as well as an Internship Programme; • Training and development of staff and stakeholders; and • Techno Girls programme where ten girls from grade 9 to grade 12 are exposed to NERSA's activities through visits to the organisation during school holidays.
4: Establish a competitive base of infrastructure, human resources and regulatory frameworks	<ul style="list-style-type: none"> • Publication of rules, codes and guides for the regulation of the electricity, piped-gas and petroleum pipelines industries; • Setting rules and frameworks that facilitate the building of new infrastructure; • Setting and/or approving cost reflective tariffs and market related prices that encourage investment; • Facilitating and enforcing third-party access to facilities; • Monitoring compliance through undertaking technical audits leading to regular maintenance and refurbishment of infrastructure and thus contributing to an increase in quality of supply;
5: Ensure that skilled, technical, professional and managerial posts better reflect the country's racial, gender and disability makeup	<ul style="list-style-type: none"> • NERSA ensures continued compliance with the Skills Development Act. • Implementation of an Employment Equity Plan; • When recruiting new staff members, NERSA ensures as far as possible that the representation within the relevant department and division reflects the country's racial, gender and disability makeup.
6: Broaden ownership of assets to historically disadvantaged groups	<ul style="list-style-type: none"> • Licensing and the setting and/or approving of tariffs and prices, as in this manner NERSA creates pre-conditions towards the achievement of this milestone; • Issuing licences to eligible applicants to facilitate the meeting of stated socio-economic development targets; • Facilitating and enforcing third-party access to facilities; • Promoting companies that are owned and controlled by Historically Disadvantaged Individuals (HDIs) to become competitive; and • Regulatory advocacy for strengthening the powers of the Regulator.





Relevant enabling milestones	NERSA's contribution
10: Produce sufficient energy to support industry at competitive prices, ensuring access for poor households, while reducing carbon emissions per unit of power by about one-third	<ul style="list-style-type: none"> • Regulating in a manner which facilitates security of supply; • Taking affordability into consideration when setting and/or approving tariffs and prices; • Determining inclining block tariffs and free basic electricity tariffs to protect the low income electricity consumers; • Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers; • Facilitation of the implementation of the Integrated Resource Plan (IRP) through considering concurring with determinations made by the Minister in line with section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006); • Development and implementation of the Grid Code for renewable energy to facilitate the introduction of renewable energy power producers; • Registration of gas importation and production facilities; • Monitor the implementation of the Gas Utilisation Master Plan (once promulgated).Facilitating access to electricity in setting aside some funds for the Electrification Cross-subsidy as part of determining electricity prices; • Incorporating compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) into licence conditions; • Promoting energy efficiency in general in South Africa and in particular in the NERSA building; • Facilitating the transition to a low carbon economy; and • Regulatory advocacy with regard to cleaner fuels policy.

2.2.2. NERSA's contribution to the Medium Term Strategic Framework 2019-2024

- a) The Medium Term Strategic Framework (MTSF) is a five-year plan of government that is intended to implement the electoral mandate and the National Development Plan Vision (NDP) 2030.
- b) It aims to address the challenges of unemployment, inequality and poverty through three pillars of the NDP:
- Achieving a more capable State
 - Driving a strong and inclusive economy;
 - Building and strengthening the capabilities of South Africans

- c) The seven priorities, which will be achieved through more focused implementation, coordination and integration by the various levels of government including state owned enterprises, the private sector and civil society, are as follows:
- Priority 1: A capable, ethical and developmental state
 - Priority 2: Economic transformation and job creation
 - Priority 3: Education, skills and health
 - Priority 4: Consolidating the social wage through reliable and quality basic services
 - Priority 5: Spatial integration, human settlements and local government
 - Priority 6: Social cohesion and safe communities
 - Priority 7: A better Africa and world



- d) NERSA identified the following government priorities to which it can contribute – as part of implementing its mandate:
- Priority 2: Economic transformation and job creation
 - Priority 3: Education, skills and health
 - Priority 7: A better Africa and world

Table 2: NERSA's contribution to government's priorities

Relevant Priorities	NERSA's contribution
2: Economic Transformation and Job Creation	<p>By facilitating investment in the energy industry and thereby contributing to economic growth, leading to job creation, NERSA contributes through:</p> <ul style="list-style-type: none"> • licensing and the setting and/or approving of tariffs and prices, as in this manner NERSA creates pre-conditions towards the achievement of this priority; • approving renewable energy licenses to ensure that the socio-economic development commitments specified in the bidding process are met; • promoting companies that are owned and controlled by Historically Disadvantaged Individuals (HDIs) to become competitive; and • regulating in a manner that facilitates security of supply. <p>Contributing to a competitive and responsive economic infrastructure network through:</p> <ul style="list-style-type: none"> • Setting rules and frameworks that facilitate the building of new infrastructure; • Setting and/or approving cost reflective tariffs and prices that encourage efficient investment; • Facilitating and enforcing third-party access to facilities; • Monitoring compliance and undertaking technical audits leading to regular maintenance and refurbishment of the infrastructure and therefor to the improvement in quality of supply; and • Promoting competition and competitiveness in the energy industry.





Relevant SIPs	NERSA's contribution
Priority 3: Education, skills and health	<ul style="list-style-type: none"> • Implementation of the Learnership and Internship Programmes; • Implementation of the bursary programme for qualifying external applicants; • Coordinating the design of a regulatory course at an accredited institution of higher learning; and • Coordinating the development of a technical regulatory training and development programme.
6: A Capable, Ethical and Developmental State	<ul style="list-style-type: none"> • Transparent regulatory processes; • All decisions and reasons thereof are made public through being published on the website; • The public is invited to make comments prior to decisions being made (written or in public hearing); • Customer education programmes and awareness campaigns; • Training and development of staff and stakeholders, including training to electricity distributors on the completion of the forms requesting information from them; and • Techno Girls programme - where ten girls from grade 9 to grade 12 are exposed to NERSA's activities through visits to the organisation during school holidays.

2.2.3. NERSA's contribution to the National Infrastructure Plan

a) The South African Government adopted a National Infrastructure Plan (NIP) in 2012 that intends to strengthen the delivery of basic services and transform South Africa's economic landscape while simultaneously creating significant numbers of new jobs. The plan also supports the integration of African economies. The New Growth Path sets a goal of five million new jobs by 2020, identifies structural problems in the economy to be overcome and points to opportunities in specific sectors and markets or 'jobs drivers'.

b) In order to address these challenges and goals, a total of 18 strategic integrated projects (SIPs) have been developed. The following three SIPs were identified for energy:

1. SIP 8: Green energy in support of the South African economy
 - Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the Integrated Resource Plan (IRP2010).

- Support bio-fuel production facilities.

2. SIP 9: Electricity generation to support socio-economic development
 - Accelerate the construction of new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances.
 - Monitor implementation of major projects such as new power stations: Medupi, Kusile and Ingula.

3. SIP 10: Electricity transmission and distribution for all
 - Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development.
 - Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.



Table 3 below summarises NERSA's contribution to the relevant strategic integrated projects.

Table 3: NERSA's contribution to the NIP

Relevant enabling milestones	NERSA's contribution
8: Green energy in support of the South African economy	<ul style="list-style-type: none"> • Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers; • Incorporating compliance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) into licence conditions; • Facilitation of the implementation of the Integrated Resource Plan (IRP) through considering concurring with determinations made by the Minister in line with section 34 of the Electricity Regulation Act, 2006 (Act No. 4 of 2006); • Facilitating the transition to a low carbon economy; and • Regulatory advocacy with regard to cleaner fuels policy.
9: Electricity generation to support socio-economic development	<ul style="list-style-type: none"> • Regulating in a manner which facilitates security of supply and investment; • Facilitating the conclusion of Power Purchase Agreements between the buyer and the renewable energy Independent Power Producers; • Setting rules and frameworks that facilitate the building of new infrastructure; • Setting and/or approving cost reflective tariffs and prices that encourage investment; • Monitoring compliance through undertaking technical audits leading to regular maintenance and refurbishment of infrastructure and thus contributing to an improvement in quality of supply.
10: Electricity transmission and distribution for all	<ul style="list-style-type: none"> • Facilitating access to electricity in setting aside some funds for the Electrification Cross-subsidy as part of determining electricity prices; • Taking affordability into consideration when setting and/or approving tariffs and prices, while allowing a provision for expansion of current operations; • Determining inclining block tariffs and free basic electricity tariffs to protect the low income electricity consumers; • Facilitating reliability of supply; • Determining benchmarks and monitoring maintenance of infrastructure; • Auditing of the implementation of the Transmission Development Plan; • Monitoring compliance with licence conditions; and • Dispute resolution, including mediation, arbitration and handling of complaints.





3. UPDATES TO RELEVANT COURT RULINGS

The ruling by the courts in the following two cases have a significant impact on the operations or service delivery obligations:

3.1. Interruption of supply of electricity to Emfuleni, which includes supply to Cape Gate Pty (Ltd)

3.1.1. Applicant: Cape Gate Pty (Ltd) and Others

3.1.2. Defendant / Respondent: Eskom, Emfuleni, NERSA and other

3.1.3. Synopsis: The Applicant sought an -

- interdict against Eskom to prevent it from implementing its power supply interruption decision;
- order that the decision to implement interruptions in the electricity supply be reviewed and set aside; and
- order that Eskom supply electricity on an uninterrupted basis to the Municipality on the basis that direct payment will be made to Eskom.

3.1.4. Court ruling: The following orders were issued:

- The dispute regarding non-payment by Emfuleni to Eskom was referred to the respondents for resolution in terms of section 41(3) of the Constitution.
- Eskom was interdicted from interrupting electricity supply to Emfuleni, pending resolution of the dispute within six months of this order or pending the outcome of the final determination of Part B of the application, whichever is earlier.
- The applicants were authorized, subject to appropriate oversight by NERSA, performing its statutory functions, to discharge their debt to Emfuleni by –
 - Making payment directly to Eskom for electricity they consume at the rate of Eskom, and submitting proof thereof to Emfuleni.
 - Continuing to pay the difference between the municipal tariff and Eskom

tariff (the municipal portion) to Emfuleni.

- The respondents, including NERSA, were directed to do all things necessary to give effect to the temporary order.
- Emfuleni's obligations and duties to the Applicants will not be affected by this order.

3.1.5. Ongoing impact on operations or service delivery obligations:

- The order authorising end users to make direct payments to Eskom for electricity they consume is not in line with the current legal framework. It was made as a just and equitable relief.
- It has serious implications for municipalities and the work that NERSA does.
- There is no timeline that the court has set for the operation of this disruptive process.

3.1.6. What has been done to remedy the disruptive effect of the judgement?

- Gauteng Provincial Government (COGTA Department) has kick started the intergovernmental process to deal with the effect of the judgement and soliciting means to remedy it.
- Eskom and NERSA is part of the IGR process.

3.2. Issues related to the approved maximum prices of gas and approved transmission tariffs for Sasol Gas

3.2.1. Applicant: NERSA and Sasol Gas

3.2.2. Defendant / Respondent: PG Group and Others

3.2.3. Synopsis:

- PG Group & Others, together called the Gas Users Group (GUG), were unhappy about the maximum prices of gas and transmission tariffs approved for Sasol Gas by NERSA, which came into operation on 26 March 2014. GUG submitted that the prices are excessive and therefore sought an order to -
 - review and set aside the abovementioned approvals by NERSA; and



- review and set aside the methodology used by NERSA to consider the abovementioned maximum price application, or declaring such methodology to be invalid for purposes of such consideration. NERSA contests the action by the applicants.
- After the Court granted judgement in favour of NERSA and SASOL, the GUG appealed.

3.2.4. Court ruling:

- Both the Supreme Court of Appeal and the Constitutional Court granted a judgement against NERSA and Sasol. The Constitutional Court effectively criticised the price indicator method used to determine maximum prices.

3.2.5. Ongoing impact on operations or service delivery obligations:

- Following the ruling of the Constitutional Court, the Energy Regulator has been unable to process any maximum price applications using the price indicator approach. Work is in progress to develop an interim mechanism, while attending to the review of the Maximum Price Methodology, in line with the Constitutional Court ruling.

3.2.6. What has been done post the judgement?

- NERSA has reviewed the Methodology to align it with the ConCourt judgement.





PART B: OUR STRATEGIC FOCUS

1. UPDATED SITUATIONAL ANALYSIS

1.1. EXTERNAL ENVIRONMENT ANALYSIS

The performance environment of NERSA is impacted upon by energy demand and supply trends and developments in the global, continental, regional and national environments.

1.1. GLOBAL TRENDS

1.1.1. Overview

1.1.1.1. The COVID-19 pandemic is unprecedented in its scale and speed in recent times, and it has the potential to redefine economic, political and social aspects relevant to the energy transition. It has forced countries around the world to change and relinquish valuable commodities and freedoms to collectively address this COVID-19 outbreak. An effect of similar magnitude is required for a successful energy transition. Beyond the uncertainty over its long-term consequences, it has unleashed gushing effects in real time. Compounded disruptions from the erosion of almost a third of global energy demand, delayed or stalled investments and projects, uncertainties over the employment prospects of millions of energy-sector employees, in addition to unprecedented oil price volatilities and subsequent geopolitical implications have created a perfect storm for energy markets. The 'new Earth' that will emerge after COVID-19 will be a 'new normal', but many fundamental challenges will still exist. Chief among them is the imperative to collectively work towards an effective and inclusive energy transition (World Economic Forum insight report).

1.1.1.2. The energy world is still marked by a series of deep disparities. The gap between the promise of energy for all and the fact that almost one billion people still do not have access to electricity. The gap between the

latest scientific evidence highlighting the need for evermore-rapid cuts in global greenhouse gas emissions and the data showing that energy related emissions hit another historic high in 2018. The gap between expectations of fast, renewables-driven energy transitions and the reality of today's energy systems in which reliance on fossil fuels remains stubbornly high. And the gap between the calm in well-supplied oil markets and the lingering unease over geopolitical tensions and uncertainties.

1.1.1.3. According to the *World Economic Forum* insight report, the following key issues regarding energy systems and energy transition are worth noting and summarized below:

1.1.1.4. Energy is a key element of the modern economy. The availability of secure and reliable energy supply is essential for industrial processes and the provision of public services such as lighting, heating, cooking, information and communications technology, and mobility.

1.1.1.5. The energy system is undergoing an unprecedented change, driven by forces such as technological innovation, changes in consumption patterns, supply dynamics and policy shifts. These forces offer opportunities to resolve the challenges that the global energy system faces today, namely:

- providing energy access to the more than one billion people who lack it;
- meeting demand for an additional two billion people by 2050 while delivering that energy at an affordable cost; and
- a declining carbon and emissions footprint.

1.1.1.6. The geopolitical landscape of energy is quickly shifting and environmental concerns have shaken the system's foundations. At the same time, the economics of competing energy sources have changed, and the advent of fourth industrial revolution (FIR) technologies have enabled new business models and made others obsolete.



- 1.1.1.7. The latter has created significant uncertainty about the pace and destination of the transformation, making a strong case for a systemic, multi-stakeholder approach that increases transparency on the enablers and reforms needed for countries to achieve an effective energy transition.
- 1.1.1.8. Energy systems are complex and are at the heart of every country's economy. These systems aim to support society in the three dimensions of the energy triangle, namely:
- inclusive economic development;
 - environmental sustainability; and
 - secure and reliable access to energy.
- 1.1.1.9. The boundaries of energy systems have recently started shifting. The stakeholders are diverse, including:
- End users and Industrial consumers;
 - Energy companies;
 - Financial sector entities;
 - Policy-makers;
 - Cities;
 - International energy organizations; and
 - Civil society.
- 1.1.1.10. In the last decade the following trends have emerged:
- Technological progress/enhancement has allowed new forms of producing, storing, transforming and consuming energy, altering the nature of the energy system.
 - Energy consumption patterns have fundamentally shifted in the last years, resulting in new demand dynamics.
 - Policy-makers have started to adapt energy policies, and new coalitions have been formed to address challenges and harness opportunities associated with these developments.
- 1.1.1.11. Countries can use these game-changing trends to enhance their energy systems and improve the wellbeing of their populations.

1.1.2. COVID-19 Pandemic and CO2 Emissions

The current COVID-19 pandemic is above all a global health crisis. As of the 23rd of July, there were 14.971 million confirmed cases and over 618 000 deaths due to the illness. As a consequence of the efforts to slow the spread of the virus, the share of energy use that was exposed to containment measures jumped from 5% in mid-March to 60% in mid-May. Several European countries and the United States have announced that they expect to reopen parts of their economies by May 2020, so April 2020 may be the hardest hit month. It should be noted that beyond the immediate impact on health, the COVID-19 pandemic has major implications for global economies, energy use and CO2 emissions.

1.1.2.1. The impact of the COVID-19 crisis on global energy demand and CO2 emissions

- 1.1.2.1.1. According to the International Energy Agency (IEA)¹ the key questions about the impact of the pandemic include *“the duration of the pandemic, the shape of the recovery, and whether energy and sustainability are built into the strategies adopted by governments to kick-start their economies”*.
- 1.1.2.1.2. The International Energy Agency estimates that *“energy demand in 2020 was set to be 5% lower than in 2019. Since the most carbon-intensive fuels, coal and oil, are bearing the brunt of this demand reduction, and renewables are least affected, CO2 emissions are set to fall by nearly 7%. Capital investment in the energy sector is anticipated to fall by 18% in 2020, with the largest drop in spending on new oil and natural gas supply. This slump in investment is likely to have major repercussions for energy markets in the coming years, even though the economic downturn is also putting downward pressure on demand. The crisis is meanwhile provoking changes in the strategic orientation of companies and investors, as well as in consumer behavior”*.

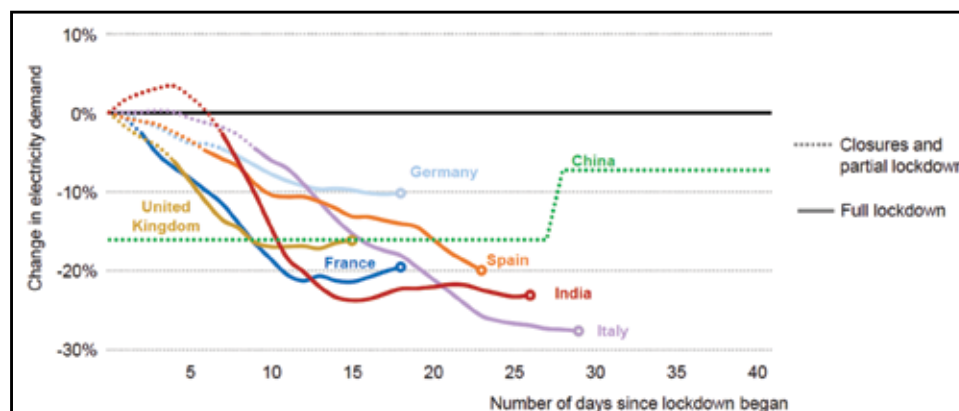




1.1.2.1.3. Global energy demand declined by 3.8% in the first quarter of 2020, with most of the impact felt in March as lockdown measures were enforced in North America, Asia, Europe and elsewhere.

- a. **Global coal demand** was hit the hardest, falling by almost 8% compared with the first quarter of 2019 (see Figure 2 below). There are three reasons that have advanced to explain falling global coal demand, First, China – a coal-based economy – was the country the hardest hit by COVID-19 pandemic in the first quarter of 2020; Second, cheap gas and continued growth in renewables elsewhere challenged the usage of coal; and third, mild weather also capped coal use.

Figure 1: Evolution of electricity demand following lockdown implementation²



Source: International Energy Agency (2020)

- b. **Oil³ demand** was also hit strongly, down nearly 5% in the first quarter, mostly by curtailment in mobility and aviation, which account for nearly 60% of global oil demand. By the end of March, global road transport activity was almost 50% below the 2019 average and aviation 60% below.
- c. The impact of the pandemic **on gas demand** was more moderate, at around 2%, as gas-based economies were not strongly affected in the first quarter of 2020.
- d. **Renewables** were the only source that posted a growth in demand, driven by larger installed capacity and priority dispatch.
- e. **Electricity demand** has been significantly reduced as a result of lockdown measures, with knock-on effects on the power mix (see Figure 1 above). Electricity demand has been depressed by 20% or more during periods of full lockdown in several countries, as upticks for residential demand are far outweighed by reductions in commercial and industrial operations. For weeks, the shape of demand resembled that of a prolonged Sunday. Demand reductions have lifted the share of renewables in the electricity supply, as their output is largely unaffected by demand. Demand fell for all other sources of electricity, including coal, gas and nuclear power. Global electricity demand falls by 5%, with 10% reductions in some regions. Low-carbon sources would far outstrip coal-fired generation globally, extending the lead established in 2019.

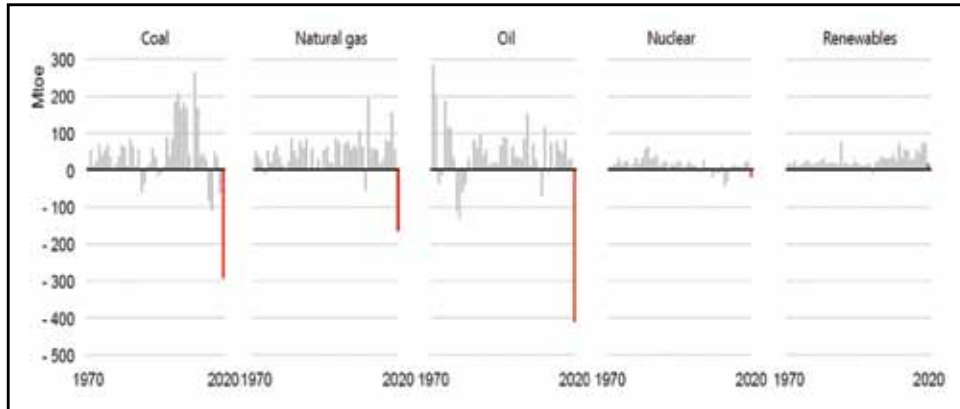
¹ World Energy Outlook 2020: Part of World Energy Outlook; Flagship report — October 2020

² Electricity demand drops to Sunday levels under lockdown, with dramatic reductions in services and industry only partially offset by higher residential use. Service-based economies suffer the most.

³ Oil means crude oil and the refined product produced from oil.



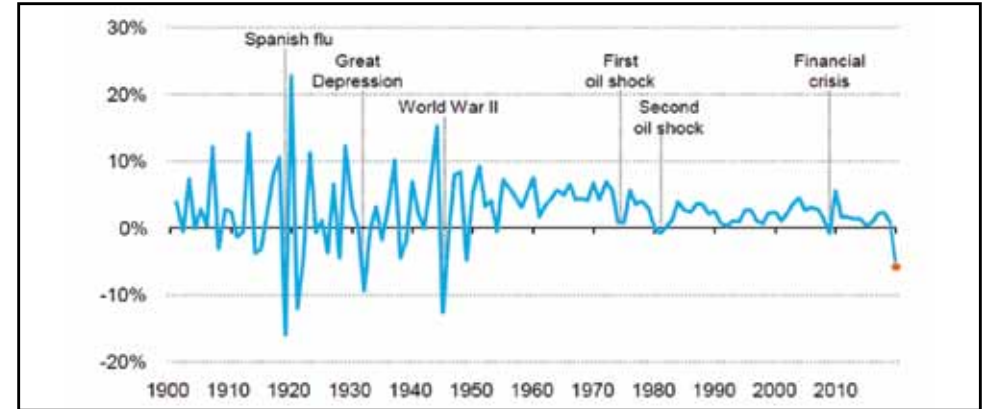
Figure 2: Change in global energy demand by fuel, 1970– 2020⁴



Source: International Energy Agency (2020)

- f) Looking at the full year ahead (2020), the International Energy Agency (2020) explored a scenario that quantifies the energy impacts of a widespread global recession caused by months-long restrictions on mobility and social and economic activity. Within this scenario (forecast), the recovery from the depths of the lockdown recession is only gradual and is accompanied by a substantial permanent loss in economic activity, despite macroeconomic policy efforts.
- g) The IEA (2020) forecasts that energy demand contracts by 6%, the largest in 70 years in percentage terms and the largest ever in absolute terms. The impact of COVID-19 on energy demand in 2020 would be more than seven times larger than the impact of the 2008 financial crisis on global energy demand (see Figure 3 below).

Figure 3: Change in global energy demand, 1990-2020



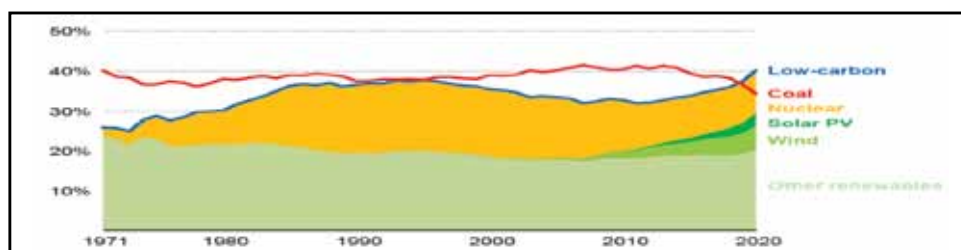
- h) All fuels will be affected as follows:
- Oil demand** could drop by 9%, or 9 mb/d on average across the year, returning oil consumption to 2012 levels.
 - Coal demand** could decline by 8%, in large part because electricity demand will be nearly 5% lower over the course of the year. The recovery of coal demand for industry and electricity generation in China could offset larger declines elsewhere.
 - Gas demand** could fall much further across the full year than in the first quarter, with reduced demand in power and industry applications.
 - Nuclear power demand** would also fall in response to lower electricity demand.
 - Renewables demand** is expected to increase because of low operating costs and preferential access to many power systems. Recent growth in capacity, some new projects coming online in 2020, would also boost output.

⁴ Coal is set for the largest decline since World War II, alongside sharp reductions for gas and oil. Nuclear power is less affected by lockdown measures, while renewables are the only energy source on the rise in 2020.



- i) Global CO₂ emissions are expected to decline by 8%, or almost 2.6 gigatonnes (Gt), to levels of 10 years ago (see Figure 4 below). Such a year-on-year reduction would be the largest ever, six times larger than the previous record reduction of 0.4 Gt in 2009 – caused by the global financial crisis – and twice as large as the combined total of all previous reductions since the end of World War II. As after previous crises, however, the rebound in emissions may be larger than the decline, unless the wave of investment to restart the economy is dedicated to cleaner and more resilient energy infrastructure.

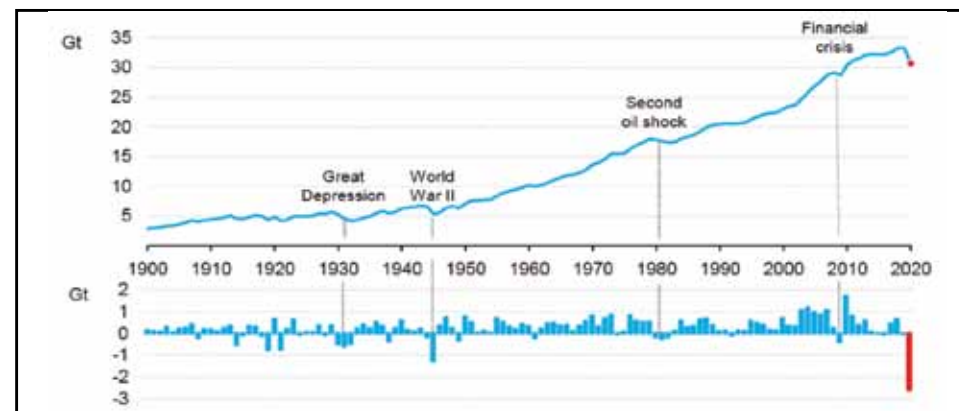
Figure 4: Global generation shares from coal and low-carbon sources, 1971-2020⁵



- j) CO₂ emissions drop the most due to the COVID-19 crisis (see Figure 5 below). Global energy-related CO₂ emissions are set to fall nearly 8% in 2020 to their lowest level in a decade. Reduced coal use contributes the most. However, evidence suggests that a large rebound is likely post the COVID-19 crisis.

⁵ For the first time in 50 years, low carbon technologies overtook coal as the leading source of electricity in 2019, and they are moving further ahead in 2020.

Figure 5: Global energy-related CO₂ emissions and annual change 1900-2020



1.1.2.2. Implications

The COVID-19 crisis and measures taken to slow its spread have had a profound impact on energy demand, the likes of which have not been seen for 60-70 years. The full impact of the current situation, is yet unknown, will be determined by the duration of lockdown measures and the recovery paths taken around the world. This unprecedented situation and the stimulus packages that governments around the world are putting in place will shape the energy sector for years to come, with significant consequences for the energy industry at large, energy security and clean energy transitions.

1.1.2.2.1. Energy industry

- a. The industry is feeling the financial impact throughout value chains, with most energy companies losing substantial revenues. In effect, they are being hit twice, first by lower demand for their products – including oil, gas, coal and electricity – and again by lower prices for these



products. Average oil prices fell sharply, with West Texas Intermediate hitting negative prices for the first time in history as excess storage became scarce.

- b. LNG prices have declined to all-time lows in European and Asian markets, which were abundantly supplied even before the COVID-19 crisis depressed demand. Natural gas prices have gone negative in parts of the United States, where storage is full. The smallest impact is on coal: as the supply chain is less affected by logistical constraints than oil and natural gas. A combination of cheap gas and weakening demand have also led to power prices declining by one-third to one-half in liberalised wholesale markets. Market prices for electricity have dipped below zero in the United States and a number of countries in Europe, including Germany, Denmark, France, Belgium, Sweden, Finland and Switzerland.
- c. The energy sector that emerges from the COVID-19 crisis may look significantly different from what came before. Low prices and low demand in all subsectors will leave energy companies with weakened financial positions and often strained balance sheets. Business lines that are insulated to a degree from market signals, including those with renewable electricity projects, will emerge in the best financial position. Private firms that are the most exposed to market prices will experience the most severe financial impacts. Market concentration and consolidations are likely.
- d. Across the energy sector, the COVID-19 crisis will have a significant impact on investment. This could raise concerns about energy security because investment is necessary even if global energy demand takes a long time to return to the pre-crisis trajectory. A considerable proportion of global energy investment is devoted to just sustaining existing levels of energy supply: maintaining oil and gas production at current levels, replacing aging power generation capacity –

often with a capital-intensive combination of renewables and flexibility sources – and reinvesting in aging electricity networks. Investment in these activities will have to remain robust even with a subdued recovery.

1.1.2.2.2. Energy security

- a. Energy security has been put to the test in new ways by the crisis, including in oil and gas markets. Simultaneous supply and demand shocks have sent oil markets into turmoil. Oil plays a central role in global macro finance, both as a share of international trade and as a critical source of government revenues for several major producers. National lockdown measures have caused unprecedented demand declines, whose speed and magnitude greatly exceed the normal market flexibility of supply. As a result, even with attempts at coordinated management, a disorderly production shutdowns resulted some places. The consequent macroeconomic and financial disruptions could undermine the industry's ability to ramp up production as the world economy and oil demand recover. The supply situation has stabilised as countries globally relaxed lock down restrictions.
- b. The supply of natural gas is critical to operations in all sectors, including industry, residential and services heating, and electricity supply. Due to large investments in recent years and the slump in demand because of COVID-19, global gas markets are abundantly supplied and storage levels are very high. At the same time, intense financial strain is hurting the industry, including companies who own and operate critical infrastructure facilities. Policymakers and regulators need to ensure that operational, maintenance and safety expenditures are prioritised and appropriately maintained. US liquefied natural gas (LNG) has played a major role in improving energy security and market efficiency in several regions, but the ongoing challenging market conditions risk significant shut-in of US LNG facilities.





- c. Electricity security's place at the heart of modern economies has been underscored by the COVID-19 crisis. A robust, uninterrupted electricity supply is a key precondition of both the functioning of the health care system and the maintenance of social welfare and online economic activity. Robust power systems have enabled adaptations to the ongoing crisis, including a huge expansion of teleworking activities, particularly in advanced economies. In some parts of the world, however, a reliable supply cannot be taken for granted. In Africa, several thousand hospitals and health care facilities have no access to electricity. In both Africa and South Asia, electricity reliability problems limit social distancing.
- d. Electricity security has remained robust as the COVID-19 crisis has accelerated the shift to renewable energy in the power mix. The share of renewables has jumped several years ahead of pre-pandemic expectations, including the shares of wind and solar, curbing CO2 emissions and air pollution. The rise of renewables has posed some problems for electricity security. However, in advanced economies, the main cause of blackouts is the inability of the system to manage sudden changes in power flows and various network problems. Lower electricity demand paired with continued growth of wind and solar PV has stepped up the share of variable renewables, calling for more flexibility to keep the lights on. At the same time, available flexibility has been limited by the shutdown of industrial facilities that provide demand response and because dispatchable power plants are idle because power prices are extremely low. As the energy industry's financial challenges grow, the cost of restarting dispatchable power capacity that had been mothballed could emerge as a significant energy security concern as economies and electricity demand recover. To date, electricity systems in major economies have maintained robust reliability, but continuous vigilance will be needed from system operators, regulators and governments.

1.1.2.2.3. Clean energy transitions

- a. The COVID-19 crisis is also influencing the path for clean energy transitions. Global CO2 emissions are set for the largest year-to-year reduction on record, but a sustainable energy pathway calls for continuous efforts and commitment. The unprecedented decline in emissions in 2020 may only be temporary without structural changes. Recoveries from past crises have caused immediate rebounds in CO2 emissions, including the highest year-on-year increase on record in 2010.
- b. Importantly, governments around the world will play a major role in shaping the energy sector's recovery from the COVID-19 crisis, just as they have long been in the driving seat in orienting energy investment. In particular, the design of economic stimulus packages presents a major opportunity for governments to link economic recovery efforts with clean energy transitions – and steer the energy system onto a more sustainable path. While the clean energy transitions and stimulus discussions are gathering momentum, a co-ordinated policy effort will be needed to harvest its opportunities and lead to a more modern, cleaner and more resilient energy sector for all.

1.1.3. **Energy Trends**

1.1.3.1. Energy security remains paramount, and oil stays in the spotlight

- a. Shale output from the United States (US) stays higher for longer, reshaping global markets, trade flows and security.
- b. Higher US output pushes down the share of OPEC countries and Russia in total oil production.
- c. Whichever pathway the energy system follows, the world still relies heavily on oil supply from the Middle East.





- 1.1.3.2. Electricity moves to the heart of modern energy security
 - a. Cost reductions in renewables and advances in digital technologies are opening huge opportunities for energy transitions, while creating some new energy security dilemmas.
- 1.1.3.3. The rise of the African energy consumer
 - a. Africa is increasingly influential for global energy trends.
 - b. More than half a billion people are added to Africa's urban population by 2040.
- 1.1.3.4. Critical fuel choices hang in the balance
 - a. A three-way race is underway among coal, natural gas and renewables to provide power and heat to Asia's fast-growing economies.
 - b. Global growth in oil demand slows markedly post-2025 before flattening out in the 2030s.
 - c. Consumer preferences for SUVs could offset the benefits from electric cars.
- 1.1.3.5. However fast overall energy demand grows, electricity grows faster
 - a. Electricity use grows at more than double the pace of overall energy demand confirming its place at the heart of modern economies.
 - b. Solar PV becomes the largest component of global installed capacity.
- 1.1.3.6. Offshore wind is gathering speed
 - a. Cost reductions and experience gained in Europe's North Sea are opening up a huge renewable resource.
 - b. Increasingly cost-competitive offshore wind projects are on course to attract a trillion dollars of investment to 2040.
- 1.1.3.7. What's in the pipeline for gas?
 - a. Gas grids provide a crucial mechanism to bring energy to consumers, typically delivering more energy than electricity networks and providing a valuable source of flexibility.

- 1.1.3.8. Shale and solar PV show that rapid change is possible, but the direction and speed is set by governments.
 - a. Ten years ago, the idea that the United States could become a net exporter of both oil and gas was almost unthinkable.
 - b. Today, solar PV and some other renewable technologies – mostly in the power sector – are similarly turning initial policy and financial support into large-scale deployment.
 - c. Meeting rising demand for energy services, including universal access, while cutting emissions is a formidable task. All can help, but governments must take the lead.

1.1.4. Energy Transition

- 1.1.4.1. The pathway towards the transformation of the global energy sector from fossil-based to zero-carbon by the second half of this century has emerged as a very important discussion around the world. At the epicentre of this is the need to reduce energy-related CO2 emissions to limit climate change. While countries around the world are scrambling to deal with the fallout from the COVID-19 pandemic, the international oil shock and financial market disruptions, maintaining focus on the energy transition and climate change is essential.
- 1.1.4.2. The effects of the COVID-19 pandemic and climate change are similar in terms of their global scale, the exponential growth of their impacts, the need for decisive action, the importance of scientific evidence, the risks to all parts of the economy, and the existential threat to the poor sections of society. Moreover, as is the case with COVID-19, it is only through concerted societal action that the primary objective of "bending the curve", in this case of emissions, can be achieved. Furthermore, effective actions that withstand the test of time require a comprehensive approach to decision-making that results in long-term, stable and ambitious policy actions.



1.1.4.3. The following are the key issues related to the energy transition discussions around the world:

- 1.1.4.3.1. Effective energy transition is a timely transition towards a more inclusive, sustainable, affordable and secure global energy system that provides solutions to global energy related challenges, while creating value for business and society, without compromising the balance of the energy triangle.
- 1.1.4.3.2. The success of country-specific actions for improving energy system performance across the three aforementioned imperatives depends on a wide set of enablers.
- 1.1.4.3.3. Regulatory frameworks need to balance the need for providing certainty while showing flexibility to effectively integrate new technologies and business models when dealing with existing structures.
- 1.1.4.3.4. Modern industry and society are intrinsically linked to energy production, delivery and consumption. Hence, energy transition has repercussions across business decisions, policy objectives and consumer behaviour. This poses two key questions for decision-makers:
 - What is required for an accelerated improvement in countries' energy systems, and
 - How can the right conditions be put in place that will allow these systems to seize the opportunities from this energy transition?
- 1.1.4.3.5. No single stakeholder in the energy system can drive such improvements alone. Many actors in businesses, government and society will need to come together, bringing their different viewpoints, priorities and sentiments.
- 1.1.4.3.6. A common fact-base and understanding of the challenges are required.

1.1.4.4. Importantly, energy transition poses, amongst other, the following challenges:

- Achieving simultaneous improvements in the three triangle imperatives (discussed in section 1.1.1 above) is not trivial or straightforward, and decision-makers will sometimes be faced with hard choices and trade-offs.
- Countries will need to carefully manage system reliability and labour issues resulting from the changing energy mix, and markets will need to evolve to efficiently integrate new technologies and solutions while coexisting with legacy infrastructure.
- It is rather a complex process with multiple interactions and feedback loops between these transformational cues and other elements of the economy and society.
- The design of the energy transition requires a broad interdisciplinary mobilization of expertise, convictions, resources and multi-stakeholder collaboration.
- To better inform decision-makers about the competing nature of energy transition end objectives and the state of interdisciplinary forces at play, a robust fact base is necessary to understand the status quo and to identify systemic reforms that will enable an effective energy transition.

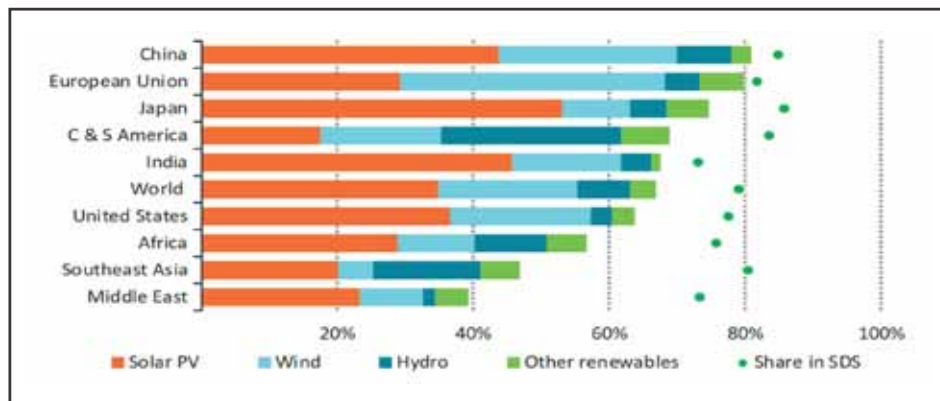
1.1.5. Global Energy Consumption and Demand Trends

1.1.5.1. According to the International Energy Agency (IEA) World Energy Outlook 2020 report, global primary energy demand grew by 2.3% in 2018, its largest annual increase since 2010. China, the United States and India accounted for 70% of the total energy demand growth. Despite the fact that growth in renewables has outpaced growth in all other forms of energy since 2010, the share of fossil fuels in global primary energy demand remains above 80%.

1.1.5.2. Figure 6 below shows that the renewable sources dominate the increase in global power generation capacity with solar PV taking the lead in all the regions.



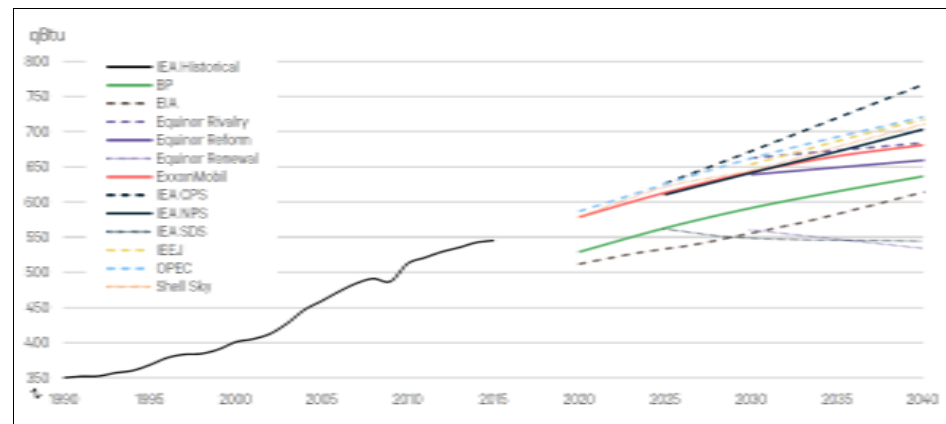
Figure 6: Share of renewables in total capacity additions by region and scenario



Notes: C&S America = Central and South America; SDS = Sustainable Development Scenario. Other renewables include geothermal, concentrating solar power, bioenergy and marine

1.1.5.3. The International Energy Outlook current policies scenario (IEA CPS) shows the highest consumption in 2040 at 767 qBtu, an increase of 41% from 2015's levels. OPEC and the Institute of Energy Economics Japan (IEEJ) project consumption of roughly 720 qBtu in 2040, similar to the absolute levels of growth from the previous 25 years. Evolving Policies scenarios project moderately slower growth, led by the IEA new policy scenario (NPS) (703 qBtu), ExxonMobil (681 qBtu), and Equinor's Reform Scenario (659 qBtu). Under two of three Ambitious Climate scenarios [IEA sustainable development scenario (SDS) and Shell Sky], global energy consumption levels are roughly flat until 2040. In the IEA SDS, demand is 544 qBtu in 2040, while Equinor Renewal projects' consumption falls to 534 qBtu in 2040. On the other hand, under Shell Sky, demand grows to 711 qBtu by 2040, higher than any Evolving Policies scenarios.

Figure 7: Global primary energy consumption⁶



1.1.5.4. With regard to the shares of global primary energy consumption by fuel projections, the Global Energy Outlook (2019) report states that fossil fuels, which made up 82% of global primary energy in 2015, dominate across Reference and Evolving Policies scenarios, ranging from 74% to 79% in 2040. Under Ambitious Climate scenarios, fossil fuels decline from 60% to 62%.

1.1.5.5. Liquid fuels (primary oil) will continue to be the single largest fuel source in the energy mix across most outlooks, though its share shifts from 32% in 2015 to between 28% and 32% in the Evolving Policies scenarios. Under ambitious climate policies, liquids still account for 26% to 27% by 2040, but of a smaller aggregate energy base in the case of IEA SDS and Equinor Renewal.

⁶ Global Energy Outlook (2019)



- 1.1.5.6. On the other hand, natural gas becomes the second largest source in most outlooks, rising from 21% in 2015 to between 21% and 27% by 2040.
- 1.1.5.7. According to forecasts, coal loses market share across all projections. Under Ambitious Climate scenarios, coal declines from 28% of the mix in 2015 to between 12% and 17% by 2040. Under Evolving Policies, it falls to 20% to 22%.
- 1.1.5.8. Renewables, led by wind and solar, will grow under all projections, though the rate of growth varies widely. Under Reference scenarios, renewables increase from 14% of the mix in 2015 to between 16% and 17%. Under Ambitious Climate scenarios, they become the largest source of global primary energy, overtaking petroleum to reach as high as 31% in 2040.
- 1.1.5.9. Projections for nuclear's share of the mix also vary substantially, and is highest under Ambitious Climate scenarios, where it provides 8% to 9% of global primary energy, up from 5% in 2015. For other scenarios, nuclear accounts for 4% to 7% of the mix.
- 1.1.5.10. According to the BP Report (2019) , world energy demand is projected to grow by 1.3% per annum from 2016 to 2040 with all the growth coming from emerging economies. China and India will account for over a quarter of this increase. Global energy intensity [the ratio of energy demand to Gross Domestic Product (GDP)] is projected to decline by 1.9% per annum over this period. Renewables are the fastest growing fuel source, however oil and gas are still expected to account for more than half of global energy in 2040. Coal demand peaks, with its share of primary energy expected to fall to 21% by 2040. Natural gas is expected to replace coal as the second largest source of energy, after oil.
- 1.1.5.11. The emerging trends are as follows:
- Renewables are the world's fastest-growing energy source over the projection period. Renewable energy consumption is expected to increase by an average of 2.6% per year between 2012 and 2040.
 - Nuclear power is the world's second fastest growing energy source, with consumption increasing by 2.3% per year over that period.
 - Even though the consumption of non-fossil fuels is expected to grow faster than the consumption of fossil fuels, it is projected that fossil fuels will still account for 78% of energy use in 2040.
 - Natural gas is expected to grow faster than other fossil fuels in the next two decades. Abundant natural gas resources and robust production, including rising supplies of tight gas, shale gas, and coalbed methane, will contribute to the strong competitive position of natural gas. Shell has warned in its annual report released in March 2018 that there could be a shortage in the Liquefied Natural Gas (LNG) market in the next decade unless new investment is undertaken soon. Investment decisions on new LNG supply have come to a near standstill over the last two years. In 2017, only one large-scale LNG project reached Final Investment Decision, namely the 3.4 MTPA Coral South FLNG in Mozambique, marking the lowest volume of sanctioned LNG in nearly twenty years (IGU, 2018) . According to the IGU (2018), the total volume and number of LNG contracts signed has declined consistently over the past three years.
 - Although liquid fuels (mostly petroleum based) will remain the largest source of world energy consumption, the liquids share of world market energy consumption falls from 33% in 2012 to 30% in 2040. Contributing to the decline are rising oil prices in the long term, which lead many energy users to adopt more energy efficient technologies and to switch away from liquid fuels.
 - Coal, the world's slowest growing energy source, will rise by 0.6% per annum and will be surpassed by natural gas by 2030.



1.1.6. Continental Developments

1.1.6.1. Overview

1.1.6.1.1. In 2000, Africa's population of around 820 million accounted for about 13% of the world's 6.1 billion people (World Energy outlook, 2019). In 2018, this share had increased to around 17%, as its population expanded at more than twice the global rate. Africa has the world's fastest growing and youngest population. The last two decades have seen the number of people living in cities increase by 90% and this trend continues over the next two decades. By 2040, an additional 580 million Africans will be living in cities, an amount greater than the entire population of the European Union today, and a pace of urbanisation that is unprecedented. Despite its large and growing population, Africa accounts for a very small share of global energy sector investment. In 2018, around \$100 billion was invested in the energy sector in Africa, or about 5.5% of the global total. Of this, \$70 billion was invested in fossil fuels and \$13 billion in renewables. Another \$13 billion was spent on electricity networks (World Energy Outlook, Africa Report 2019).

1.1.6.1.2. In recent decades, African energy demand has been driven by the growing needs of North Africa, Nigeria and South Africa. In 2018, primary energy demand in Africa was more than 830 million tonnes of oil equivalent (Mtoe): North Africa (24%), Nigeria (19%), and South Africa (16%) together accounted for almost 60% of this despite making up only 35% of the population. Average energy consumption per person in most African countries is well below the world average of around 2 tonnes of oil equivalent (toe) per capita and is broadly comparable to India's average of 0.7 toe/capita. In 2018, per capita consumption in sub-Saharan Africa was highest in South Africa at 2.3 toe/capita and in Nigeria at 0.8 toe/capita. Most other sub-Saharan African countries have per capita consumption of around 0.4 toe/capita and in most a large part of it consists of the relatively inefficient use of solid biomass.

1.1.6.1.3. The rate of growth in energy demand in sub-Saharan Africa has slightly slowed in recent years and remains lower compared to GDP growth. Between 2000 and 2010, energy demand increased at an annual average rate of 3%, but this slowed to 2.5% from 2010 to 2018, with very marked variations. Countries such as the Democratic Republic of Congo (Africa's fourth most populous country) saw their primary energy demand more than double between 2000 and 2018, whereas others such as Côte d'Ivoire, Ghana and Mozambique have witnessed an increase in demand of around half. The smaller increase in demand does not mean energy services didn't grow at the same rate: in the case of Côte d'Ivoire, the push towards LPG for cooking has resulted in a decline in solid biomass use, and this has produced large efficiency gains.

1.1.6.1.4. Traditional biomass is used mostly for cooking in Africa, but it is also used in industry. It is by far the most widely used energy source across Africa, with the exception of North Africa, where oil and gas dominate, and South Africa, where the energy mix is coal-heavy. In sub-Saharan Africa, bioenergy's share in the overall energy mix has barely changed over the last 25 years, and it continues to dominate the primary energy mix, accounting for 60% of total energy use in the region (if South Africa is excluded, this share increases to almost three-quarters). There is no other region in the world that relies so heavily on bioenergy.

1.1.6.1.5. Fossil fuels represent almost 40% of the overall energy mix in sub-Saharan Africa and more than half of the African energy mix. Oil demand stands at almost four million barrels per day (mb/d). The transport sector accounts for most oil use (60%), but diesel is also consumed for back-up generators, kerosene or LPG within households for lighting and cooking, and a variety of oil products are used by industry. Natural gas overtook coal as the third fuel in the African energy mix in 2015. Today, natural gas accounts for 16% of that mix, with nearly 160 billion cubic metres (bcm) consumed each year: almost 80% of this is consumed in North Africa and over 10% in Nigeria. Coal now accounts for 13% of the primary energy mix (compared





with around a quarter globally), with consumption of almost 160 Mtoe. South Africa accounts for the overwhelming majority of the continent's coal consumption, where it is used for power generation, industrial processes, transport (after coal-to-liquid conversion), and household heating.

1.1.6.2. Power Sector

1.1.6.3. *Electricity demand*

1.1.6.3.1. Despite being home to almost a fifth of the world's population, Africa accounts for little more than 3% of global electricity demand with North African countries (42%) and South Africa (30%) representing nearly three-quarters of this. Africa's electricity demand is growing, but only at half the rate of developing Asian countries: it rose to 3% a year on average between 2010 and 2018, increasing from 560 terawatt-hours (TWh) in 2010 to around 705 TWh. The latter figure is equivalent to a fifth of electricity demand in Europe in 2018.

1.1.6.3.2. Electricity accounts for around 10% of Africa's total final energy consumption, but per capita electricity demand in Africa remains very low at around 550 kWh (370 kWh in sub-Saharan Africa) compared with 920 kWh in India and 2 300 kWh in Developing Asia.

1.1.6.4. *Electricity supply from centralised grids*

1.1.6.4.1. Electricity generation in Africa increased to 870 TWh in 2018 from 670 TWh in 2010. Natural gas and coal (the latter largely in South Africa) accounted for 40% and 30% of generation output in 2018 respectively. Hydropower accounted for a further 16% and oil for 9%. However, there are large regional differences.

1.1.6.4.2. In North Africa, for example, natural gas contributed more than three-quarters to power generation in 2018. South Africa in contrast is hugely reliant on coal and to a modest extent on nuclear power while in the remainder of sub-Saharan Africa, hydropower provides over half of generation output with oil and gas accounting for most of the balance. Although non-hydro renewables in sub-Saharan Africa (excluding South Africa) increased by 250% over the 2010-18 period, accounting for slightly more than 7% of all renewables and 4% of total generation output in 2018.

1.1.6.4.3. It should be noted that, natural gas fuelled most of the increase in electricity supply for the continent on the whole, but fuel shares varied by region and coal dominated in South Africa.

1.1.6.4.4. Between 2010 and 2018, total installed generation capacity in Africa increased from around 155 gigawatts (GW) to almost 245 GW, or about a quarter of the capacity in European Union countries. South Africa and North African countries account for around 165 GW of this installed capacity. The capacity mix by fuel varies across the continent by country and region. North Africa accounts for almost 85 GW of Africa's 100 GW of gas-fired power plants, while the remainder is concentrated in Nigeria, Ghana, Côte d'Ivoire, Tanzania and Mozambique. South Africa accounts for 85% of the almost 50 GW of coal-fired capacity on the continent. Oil-fired capacity totals just over 40 GW; its relative importance varies greatly by country.

1.1.6.4.5. Renewable power capacity increased from 28 GW in 2010 to almost 50 GW in 2018. Hydropower is the largest source of renewable power by far and its capacity increased from 26 GW in 2010 to 35 GW in 2018, although its share in the overall generation mix has remained relatively constant at around 15%. Other renewable sources have started to develop but, for the moment, their share in generation and capacity is low. Although



it has expanded in recent years, wind power development in Africa has been limited in scale compared to hydro with close to 5.5 GW of installed capacity in 2018, up from almost 1 GW in 2010.

1.1.6.4.6. North Africa accounts for around 2.6 GW of this capacity and South Africa for around 2 GW. The growth of wind power in South Africa is in part a result of its Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) that was launched in 2011 and has delivered close to 3 GW of new capacity over the past five years: notable projects include the Loeiresfotein and Khobab Wind Farms (140 megawatts each) which were commissioned in 2017. Countries such as Ethiopia, Ghana, Tunisia, Kenya and Morocco are making efforts to increase their wind deployment by adopting the independent power producers (IPPs) model (Greentech Media, 2019).

1.1.6.5. Fossil fuel resources and supply

1.1.6.5.1. Africa has large fossil fuel resources, with sub-Saharan Africa holding around half of the continent's oil and gas resources and nearly all of the coal resources. Remaining technically recoverable oil resources in Africa amount to some 450 billion barrels or around 7% of the world's oil resources. The 100 trillion cubic metres of remaining recoverable gas resources in Africa represent 13% of the world's gas resources. Coal resources are relatively small and concentrated in South Africa and, to a lesser extent, Mozambique (See Table 1 Below).

Table 1: Remaining recoverable fossil fuel resources in Africa, 2018¹⁰

Oil 450 billion barrels		Natural gas 100 Trillion meters		Coal 300 billion tonnes	
Libya	23%	Algeria	26%	South Africa	72%
Nigeria	16%	Nigeria	15%	Mozambique	8%
Angola	10%	South Africa	13%	Other SSA	20%
Gabon	5%	Mozambique/ Tanzania	7%		
Chad	4%	Angola	2%		
Mozambique	4%	Other North Africa	16%		
Congo	3%	Other SSA	15%		
South Africa	2%				
Other North Africa	18%				
Other SSA	16%				

Source: IEA (2019)

1.1.6.5.2. The African continent is also home to many of the minerals essential to the energy industry. It has around 20% of the world's uranium resources and 40% of the manganese reserves. It also produces a large share of key precious and base metals, for example, two-thirds of global cobalt production comes from DR Congo.

1.1.6.5.3. The continent's resource wealth has attracted interest from international companies. Between 2011 and 2014, Africa accounted for around 20% of global oil discoveries with six countries Angola, Nigeria, Republic of the Congo (Congo), Ghana, Mozambique and Senegal adding around 5 billion barrels of offshore resources. With major discoveries in Mozambique and Tanzania, Africa also accounted for around 45% of global gas discoveries during this period.

¹⁰ Africa has abundant fossil fuel resources; sub-Saharan Africa accounts for around half of the continent's oil and gas resources.





1.1.6.5.4. Since the fall in oil prices in 2014, oil exploration has fallen sharply, and Africa accounted for less than 10% of global oil discoveries between 2015 and 2018. There has however been a series of major offshore gas discoveries in Egypt (2015), Mauritania and Senegal (2015-17) and South Africa (2019).

1.1.6.6. *Oil*

1.1.6.6.1. Oil production in Africa has seen major swings since 2000. In the early years after 2000, sub-Saharan Africa showed strong production growth as the expansion in Nigeria and Angola was joined by new producers such as Chad and Equatorial Guinea. The pace of production growth in sub-Saharan Africa was four-times faster than the global average and the region accounted for almost a quarter of global production growth between 2000 and 2010. This resulted in a 50% increase in net export volumes and, thanks to rising oil prices, a threefold increase in oil revenue.

1.1.6.6.2. However, sub-Saharan Africa faced a sharp reversal of fortune after 2010. Nigerian oil production started to decline from 2010 as regulatory uncertainties, militant attacks and the theft of oil took their toll, and Nigerian sweet crude oil also faced fierce competition from surging US tight oil output in export markets. Angola too struggled to keep up production levels as new investments failed to compensate for the rapid decline in maturing fields. Other producers such as Equatorial Guinea and Gabon also registered a gradual output decline. As a result, oil production in sub-Saharan Africa decreased by 15% from its peak in 2010 to 5 mb/d in 2018. Coupled with a 35% increase in domestic demand, this led to a 35% decline in net exports and associated revenue

1.1.6.7. *Natural gas*

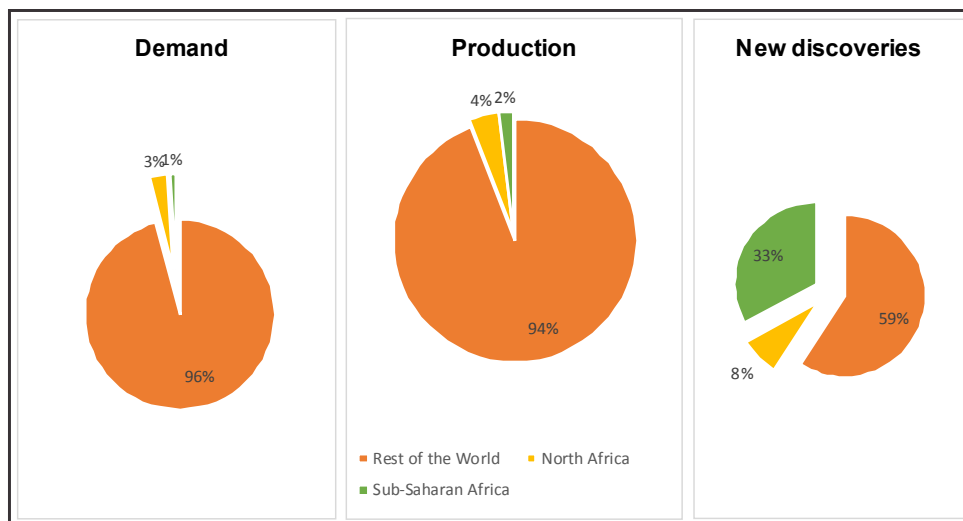
1.1.6.7.1. Africa's gas production increased rapidly in the 2000s, led by strong growth in Nigeria where the rise in oil production was accompanied by a large amount of associated gas, and in Egypt where shifting attention to gas use brought about threefold production growth. However, Africa's gas production stagnated from about 2010. Egyptian production started to trend downwards until 2016 as unfavourable energy price schemes, mounting arrears to international companies and social unrest caused a significant reduction in investment. Nigeria's rapid production growth also came to a halt as fiscal and legislative uncertainties weighed on investment. Algeria managed to maintain output levels, although its largest gas field, Hassi R'Mel, is already mature.

1.1.6.7.2. A series of major new gas discoveries seem likely to boost future gas production in Africa (See Figure 10 below). The start of production at the large Zohr offshore field has already led to a turnaround in Egypt. A gas discovery on the maritime border of Mauritania and Senegal has been followed by a final investment decision (FID) on the Tortue LNG project. FIDs on new onshore liquefaction plants are coming to fruition in Mozambique to exploit the huge offshore resources in the Rovuma basin¹¹. Total has also recently made a significant gas condensate discovery off the southern coast of South Africa, and the estimated volume of resources is over 20% of the world's entire gas discoveries in 2018.

¹¹ Coral LNG reached a FID in 2017 and started construction in 2018. Mozambique LNG reached a FID in 2019 and Rovuma LNG by ExxonMobil is approaching a final investment decision at the time of writing.



Figure 8: Share of Africa in global gas demand and production, 2018, and new discoveries, 2011-2018



Recent discoveries offer the potential to fundamentally change the role of gas in Africa

1.1.6.7.3. Gas in Africa is at a critical juncture. Where resources are plentiful, it could provide the continent with additional electricity for baseload and flexibility needs, energy for industrial growth and a sizeable source of revenue. But whether that happens depends on countries with gas putting in place well-articulated strategies to turn the discoveries into production and to build infrastructure to deliver gas to consumers cost-effectively in a competitive global LNG market.

1.1.6.8. Coal

1.1.6.8.1. Coal production in Africa is dominated by South Africa, which accounted for 93% of the continent's output in 2018. Production in the main current producing region in Mpumalanga province is starting to fall, and mining activities are now shifting to the northern Limpopo province on the border

with Mozambique (IEA, 2018). Around two thirds of the country's output is consumed in domestic markets and most of the rest is exported via the Richards Bay Coal Terminal. Mozambique started coal production in 2010 and is the second-largest coal producer in Africa. Other countries such as Botswana and Zimbabwe are aiming to ramp up coal output, although building infrastructure – rail or roads – to connect production sites to demand or export centres remains a challenge.

1.1.6.9. Renewable resources and supply

1.1.6.9.1. Africa is home to abundant renewable energy resources and its renewable energy power potential is substantially larger than the current and projected power consumption of the continent. Growth has been constrained, so far, by limited access to financing, underdeveloped grids and infrastructure, unstable off-taker financial arrangements and, in many countries, an uncertain policy environment (IEA, 2018). Despite this, recent advances in renewable energy technologies and accompanying cost reductions mean that the large-scale deployment of renewable energy now offers Africa a cost-effective path to sustainable and equitable growth. In many parts of Africa, decentralised renewable energy technologies offer an economical solution for electrification in remote areas as well as for grid extension.

Solar

1.1.6.9.2. Development of solar in Africa has been slow, with only around 4 GW of new solar PV capacity added between 2010 and 2018, more than two-thirds of it in sub-Saharan Africa. The main challenges and barriers that countries face include limited institutional capacity within government, lack of scale and competition, high transaction costs and the perceived high risk of such projects (World Bank, 2018). This has prompted the World Bank to start the Scaling Solar initiative to address these challenges by providing a "one-stop shop" to help governments mobilise privately funded grid connected solar projects at competitive costs.





1.1.6.9.3. The International Renewable Energy Agency (IRENA) also assessed the potential of CSP on the continent and estimated the likely potential as being around 470 000 TWh a year. East Africa has the highest potential, followed by Southern Africa. Here too development has been slow with the exception of large solar CSP projects in Morocco and South Africa.

Hydropower

1.1.6.9.4. Hydropower has been the main renewable energy resource developed to date with around 35 GW of hydro capacity across Africa, with Angola, Ethiopia, DR Congo, Zambia, South Africa, Sudan, Mozambique and Nigeria each having 2 GW or more. Ethiopia has hydropower capacity of nearly 4 GW and more developments are planned, most notably the 6 GW Grand Ethiopian Renaissance Dam, which will be the largest in Africa when it comes into service in 2022. South Africa has installed hydropower capacity of close to 4 GW including the recent 1.3 GW Ingula plant.

1.1.6.9.5. Central Africa has very rich hydropower resources thanks mostly to the Congo River, the deepest river in the world and the second-longest in Africa after the Nile. There is a large mismatch between the significant hydropower potential in this region and the much more limited local electricity demand. This means that large-scale regional interconnections will be essential to promote its development. The DR Congo in particular has enormous hydropower potential that has been estimated at 100 GW, which could generate about 774 TWh of electricity per year. Plans in DR Congo to develop the Grand Inga Dam further have been beset with difficulties, but projects have been moving forward elsewhere.

1.1.6.9.6. While state-owned enterprises remain the largest developers of hydropower projects, many have been built by Chinese developers and backed by concessional financing. Chinese investors accounted for 60% of investment in sub-Saharan hydropower projects between 2010 and 2015.

1.1.6.9.7. Small-scale hydropower (1-10 MW) and mini-hydro power (0.1-1 MW) could provide power for rural electrification in some areas of sub-Saharan Africa, and there is particular potential in the central and south-eastern parts of the continent. A recent study estimated around 21 800 MW of small-scale hydropower technical potential (Korkovelos et al., 2018), with the central corridor of the sub-continent and especially South Africa, DR Congo and Sudan having the most potential. The same study also estimated that total mini-hydropower technical potential in sub-Saharan Africa was around 3 400 MW.

Wind

1.1.6.9.8. With close to 5.5 GW of installed wind power capacity in 2018, there is plenty of room for expansion given its theoretical potential to produce as much as 460 000 TWh of electricity a year (IRENA, 2014). Most wind resources are found close to coastal locations, mountain ranges and other natural channels in the eastern and northern regions of the continent. Algeria, Egypt, Somalia, South Africa and Sudan are among the countries with the highest wind energy potentials (IRENA, 2014). The best offshore wind energy potential is found off the coasts of Madagascar, Mozambique, Tanzania, Angola and South Africa.

1.1.6.9.9. Wind can be cost competitive with other technologies where the resources are good, but other factors could limit its deployment. For example, in East and North Africa, where the best resource potential is estimated, domestic markets are small and power grids are not well developed, meaning that significant variable generation from wind could be challenging to manage without additional grid investment.

Geothermal

1.1.6.9.10. Geothermal resources can be found throughout Africa but the bulk of the potential is concentrated in the East Africa Rift System, where total potential could be as much as 15 GW (BGR, 2016). This potential is largely



untapped at present. Only Kenya has tapped its geothermal potential and installed capacity of almost 700 MW.

- 1.1.6.9.11. Other countries in East Africa are now taking steps to make use of geothermal energy: Ethiopia is operating a 7 MW pilot plant and new developments totalling more than 1 GW are planned in Djibouti, Eritrea, Tanzania and Uganda. The expansion of geothermal power in the East Africa region faces a number of barriers, but technical and financial support is available (notably from Japan) to help countries formulate geothermal master plans and to promote private sector funding and local capabilities.

Bioenergy

- 1.1.6.9.12. Bioenergy continues to dominate the sub-Saharan energy mix and made up almost 60% of primary energy use in 2018. Almost three-quarters of bioenergy demand are accounted for by the traditional use of solid biomass in the residential sector, although there is also some use of solid biomass and biogas for modern power generation and heat.
- 1.1.6.9.13. Bioenergy can generate around 800 MW of electricity from current installed capacity, mainly in East and South Africa. However, large-scale deployment will be challenging, as the levelised costs of power generation from bioenergy are often higher than gas-fired generation and hydropower, due in part to the cost of collecting the biomass.

1.1.7. Regional Developments

1.1.7.1. Overview

- 1.1.7.1.1. Energy is also vital to development in the Southern African Development Community (SADC). Beyond its use in daily life, fuel and electricity catalyse infrastructure projects that drive both regional integration and economic

growth. As the SADC region industrialises on its path to improved human development, energy production and distribution will only increase in importance. Recognising the fundamental role of energy in accomplishing its goals, SADC passed the Protocol on Energy in 1996, which provides a framework for cooperation on energy policy among SADC Member States.

- 1.1.7.1.2. Since the adoption of the Protocol on Energy, SADC has enacted several strategic plans for energy development in the region. Although implementation of these strategies has been slow, the region has made significant strides, particularly in electricity. At present, nine Member States of SADC have merged their electricity grids into the Southern African Power Pool, reducing costs and creating a competitive common market for electricity in the region. Similarly, SADC has established the Regional Electricity Regulatory Association (RERA), which has helped in harmonising the region's regulatory policies on energy and its subsectors.
- 1.1.7.1.3. While SADC is enacting a number of initiatives to address these issues, it has identified two chief points of focus, as follows:
 - Electricity Generation – Southern Africa has ample resources for electricity generation, though occasionally lacks the capacity for development.
 - Hydropower and Renewable Energy – Renewable energy has grown in importance for both regional and global energy markets
- 1.1.7.1.4. The region still faces significant challenges in energy development and usage. The Regional Infrastructure Development Master Plan Assessment Report of 2019 highlights the following issues:
 - a) Only 32% of rural areas in the Region have access to electricity;
 - b) SADC falls behind in Africa regarding access to electricity. Approximately 50% of the region's residents have access which is equivalent to the weighted average for Sub-Saharan Africa while North Africa countries have reached 100% access to electricity;
 - c) An electricity shortage has strained the region since 2007. Although



this shortage was expected to be corrected by 2019, projects intended to address the shortage lag behind deadline due to lack of funding;

- d) Slow migration to cost reflective tariffs, inadequate project preparation, issues with Power Purchase Agreements, and absent regulatory frameworks stunt investment and financing in the energy sector;
- e) Coal supplies 62% of power generation in Southern Africa, but is considered a contributing factor to global warming;
- f) Weak infrastructure and foreign commitments inhibit use of the region's abundant petroleum and natural gas resources; and
- g) Pricing and infrastructure hurdles such as grid connections, manufacturing, and quality testing impede development of the region's renewable energy potential.

1.1.7.1.5. The region is relatively well endowed with energy resources. The SADC region has vast energy potential from solar, wind, nuclear, hydro, thermal, gas and petroleum sources in several countries. However, biomass is by far the major source of energy in most regional countries. According to a report by the Renewable Energy Policy Network for the 21st Century (REN21, 2015), traditional biomass such as wood and charcoal accounts for more than 45 percent of final energy consumption in the region.

1.1.7.1.6. Electricity, as the dominant source of energy in the region, is generated mainly through thermal or hydroelectric resources. The coal industry so far is the backbone of power generation in the region and a significant share of the resource is allocated for export. The region has a large reserve of low-cost hydroelectricity in the north (especially Inga Reservoir in the DRC) and Kariba Dam on the Zambia/Zimbabwe border in the middle of the regional system, as well as large reserves of cheap coal in Botswana, Mozambique, South Africa and Zimbabwe.

1.1.7.1.7. Natural gas is becoming more significant to the region's energy sector, as Mozambique, Namibia, South Africa and Tanzania are developing the natural gas fields in their respective countries (SARDC, 2010). New natural gas discoveries by international oil companies in Mozambique and Tanzania during the past decade have ignited investor interest in this previously under-explored region. The nascent petroleum and gas sub-sector is however plagued by volatile prices. Although the region is endowed with some petroleum and gas resources, these are not directly available to the region due to either foreign commitments or the lack of the necessary infrastructure to exploit, process, and store and distribute throughout the region.

1.1.7.1.8. Furthermore, the region has some of the most significant known reserves of uranium and the mineral is being mined in Namibia and South Africa for use as fuel for nuclear power plants while exploration is underway in Botswana and Zimbabwe. Nuclear technology is included in the electricity sub-sector but what is required is to demonstrate that nuclear power can be a safe electricity generation option and win the confidence of the population and governments to endorse nuclear energy deployment in the SADC region. Only South Africa has nuclear capacity, with tentative plans for a new nuclear programme.

1.1.7.1.9. The region has a large potential for renewable energy, including hydropower, which is already being exploited on a commercial scale. However, the necessary infrastructure for grid connection is poor. The prices for most renewable energy technologies are coming down but more needs to be done in the form of innovative financing. A key factor of the SADC energy sector is the fact that the region has faced an electricity deficit since 2007 due to a combination of factors that have contributed to a diminishing generation surplus capacity against increasing growth in demand. In recent years, the sub-region has experienced a power deficit situation due to a number of reasons, including growing demand against limited expansion in generation capacity.



1.1.7.2. SADC Regional Infrastructure Development Master Plan 2012

- 1.1.7.2.1. The SADC Regional Infrastructure Development Master Plan (RIDMP) that was adopted by SADC Heads of State and Government at their 32nd SADC Ordinary Summit held in August 2012 in Maputo, Mozambique.
- 1.1.7.2.2. As energy is a chief component of infrastructure development, the RIDMP outlines SADC's intentions for energy over the next 25 years, which involves a strong renewable energy component.
- 1.1.7.2.3. The Regional Infrastructure Development Master Plan and its Energy Sector Plan advises that SADC Member States capitalise on the renewable energy opportunities available in Southern Africa, investing in infrastructure that allows the sector to compete with already-established fossil fuels.
- 1.1.7.2.4. Renewable energy is already productive in the region. While coal-generated electricity still constitutes the majority of energy production, both traditional biomass and hydropower also contribute substantially to the region's power grid, the Southern African Power Pool. These renewable sources will also likely increase in productivity in the future as SADC intends to increase the share of renewable energy in the grid to 21% by 2017, 33% by 2022, and 37% by 2027, in pursuit of the goal of 100% renewable energy by 2050.
- 1.1.7.2.5. Moving toward these goals, further hydropower development is already underway. The Energy Sector Plan addressed the previous lack of clearly defined renewable energy projects. SADC has identified four hydropower plants as priority areas in meeting these renewable energy targets: the Mpanda-Nkuwa in Mozambique, the Inga III in the Democratic Republic of Congo, the Batoka Gorge project between Zambia and Zimbabwe, and the Lesotho Highlands Water Project Phase II in Lesotho. The projects, along with smaller hydropower developments and other forms, are anticipated to meet the region's renewable energy requirements and to offer a sustainable alternative to the fossil fuel electricity generated in the region.

1.1.7.3. Challenges To Renewable Energy

- 1.1.7.3.1. While SADC is committed to renewable energy and aims to meet its renewable energy objectives, a number of challenges still remain:
 - a) Renewable energy entails high upfront costs, especially for technology.
 - b) Most renewable energy equipment is imported, with no local options for manufacturing.
 - c) There may not be capacity to connect large-scale energy projects to the grid.
 - d) Much renewable energy equipment is of poor quality and the region lacks appropriate testing facilities to ensure effectiveness.
 - e) Research, development, and production of renewable energy infrastructure occur outside the region and there are no localisation strategies in place.
 - f) Renewable energy depends heavily on donor subsidies at present.
 - g) There are no guidelines for assessing the impacts and benefits of renewable energy incentives, such as feed-in tariffs.
 - h) Data on possible deforestation caused by biomass development is lacking, inhibiting progress on regulation and decision-making.

1.1.7.4. Implementation And Regulation

- 1.1.7.4.1. Another challenge for SADC is the lack of "soft" infrastructure in the form of policies, strategies, and institutions available to ensure that the renewable energy projects identified in the Regional Infrastructure Development Master Plan are implemented.
- 1.1.7.4.2. While the Protocol on Energy and the Regional Indicative Strategic Development Plan address SADC's broad energy objectives, they make little mention of renewable energy aside from hydropower. Within the SADC region, only Mauritius and South Africa have developed comprehensive strategies and action plans for renewable energy; at present, there is no region-wide regulatory framework that specifically addresses renewable energy.





1.1.7.4.3. In conjunction with Member States, the Southern African Power Pool, and the Regional Electricity Regulators Association, SADC intends to harmonise cross-border policies and regulations for renewable energy in the region in the coming years, establishing a coherent framework that will foster development of this important sector.

1.1.7.5. Electricity

1.1.7.5.1. Although plans have been put in place to address the supply shortage by 2020, projects intended to address the shortage lag behind the deadline due to failure to package projects for funding, below-cost tariffs, poor project preparation, issues with Power Purchase Agreements (PPAs), and absence of regulatory frameworks, among other constraints. Massive investment in generation, transmission and distribution infrastructure will be required to sustain the projected increase in power demand in the region. Approximately between US\$93 billion and US\$212 billion is required for short and long-term projects to boost power supply by 2015 and 2027.

1.1.7.5.2. One of the most pressing constraints is the need to improve the transmission line capacity and strengthen the regional grid. Approximately 60-70% of the matched bids in the Southern African Power Pool (SAPP) cannot take place due to transmission capacity constraints.

1.1.7.5.3. More than 23 085 MW of new generation capacity is expected to be commissioned between 2019 and 2023. A number of rehabilitation and new generation projects are being undertaken to address the generation supply gap. Table 3 below shows planned committed generation capacity country by country. IPPs will contribute 15%. Solar and wind contribution is at 10% and 2% respectively. A total of 3 766 MW is planned to be commissioned in 2020 down from 4824 MW that was planned for 2019.

1.1.7.5.4. The SAPP's generation mix is currently dominated by thermal (coal) with 60.67%. Other generation technologies available in SAPP are hydropower, solar, distillate, nuclear, wind, gas biomass and landfill.

1.1.7.5.5. Nearly all the SAPP Member States have high solar penetration levels that provide a great potential and meaningful contribution of solar energy to the current power deficit. The total renewable energy contribution is expected to rise to at least 35% of the regional energy mix by 2030.

1.1.7.5.6. In its bid to meet the rising demand of electricity, the SADC region is implementing several Generation and Transmission projects across the region. Some of the projects include the following amongst others:

- Zambia-Tanzania-Kenya interconnector
- Mozambique-Malawi Interconnector and Namibia-Angola-Interconnector
- Zimbabwe - Zambia - Botswana - Namibia Interconnector
- Mozambique-Zimbabwe-South Africa Inter-connector

1.1.7.5.7. The interest to increase renewable energy and energy efficiency initiatives in Southern Africa has been driven largely by electricity supply shortages affecting several countries in the region.

1.1.7.5.8. Furthermore, the changing economics of renewable energy and in particular wind and solar energy as well as the emergence of new policy concepts such as feed-in tariffs, net metering, auctioning of power supply from IPPs and clean energy certificates (CECs), have led to increasing renewable energy investments.

1.1.7.5.9. The following are some of the highlighted causes of electricity supply shortages within the SADC region:

- a. The increase in the population (approximately 277 million).
- b. Economic expansion in most regional countries requiring more power to supply new industries. GDP growth has averaged around 5% in the SADC region since 2010.
- c. Non-economic tariffs in some cases that do not support reinvestment in power generation.
- d. No significant capital injection into the generation projects from either private or public sector.
- e. Poor plant performance especially thermal power plants.



1.1.7.6. Petroleum And Gas

- 1.1.7.6.1. The SADC region is endowed with significant deposits of coal (and associated coal bed methane gas), crude oil, shale gas and natural gas. This optimal exploitation could potentially prove to be the “missing ingredient” in terms of diversifying the region’s energy mix, reducing the cost of energy and improving its accessibility to the citizens of the region, as well as reducing carbon dioxide emissions, which are associated with advancing global warming and climate change. Natural gas is becoming more significant to the region’s energy sector as Angola, DRC, Madagascar, Mozambique, Namibia, South Africa and Tanzania develop natural-gas fields in their respective countries. Parallel to these developments, countries endowed with coal resources, particularly Botswana, Mozambique, South Africa and Zimbabwe are redoubling efforts to extract coal-bed methane gas on a commercial scale.
- 1.1.7.6.2. Investments in the oil and gas sector are rising, particularly in Angola, Mozambique and Tanzania due to the vast resources found in those countries. Mauritania and Senegal are countries where hydrocarbons have recently been discovered. However, the sector is plagued by volatile prices, where low prices are generally discouraging investment.
- 1.1.7.6.3. The main producers of gas in the SADC region are Angola, Tanzania, DRC and Mozambique. Angola leads the region in deposits of gas and petroleum, while South Africa is rich in shale gas and coal-bed methane gas. Tanzania is emerging as a force in this sector as new discoveries of natural gas continue to be made along its Indian Ocean coast. Mozambique has also seen a rapid expansion of its gas industry since the commissioning of the 865 km-long gas pipeline from Pande and Temane gas fields in south-central Mozambique to Secunda in South Africa by the multinational company ROMPCO, headquartered in South Africa.
- 1.1.7.6.4. The Rovuma area, in the far north of Mozambique near the Tanzanian border, has seen positive results of natural gas exploration while the Tete Province, with its vast coal deposits, is also home to significant coal-bed methane gas. The Democratic Republic of Congo (DRC) Namibia, have recently discovered significant reserves of natural gas offshore. The other SADC Member States such as Botswana, Malawi, Zambia and Zimbabwe have large reserves of coal and hence coal-bed methane gas, which has not yet been extracted commercially, although extensive pilot tests have been conducted, especially in Botswana and Zimbabwe.
- 1.1.7.6.5. The Anadarko-operated Mozambique LNG project will be Mozambique’s first onshore LNG development. It will initially consist of two LNG trains with a total nameplate capacity of 12.88 mtpa to support the development of the Golfinho/ Atum fields. The project is entirely located within Offshore Area 1.
- 1.1.7.6.6. Only 6 countries have proven gas reserves with Namibia being the only one of these with no gas production. The remaining SADC countries Lesotho, Madagascar, Malawi, Mauritius, Seychelles, Swaziland, and Zambia have no known reserves.
- 1.1.7.6.7. Mozambique will serve as the second-largest LNG producer in Africa after the completion of various ongoing projects, and it has the potential to become the third-largest global LNG exporter after Qatar and Australia. To put this into perspective, the combined production capacity of Mozambique’s Area 1 LNG Project, the Rovuma LNG Project, and Coral South FLNG Project would equal 81% of all African LNG exports in 2018.
- 1.1.7.6.8. The region of Cabo Delgado, north of Mozambique, is home to one of the world’s recent richest gas finds. However, it is also playing host to a spate of violence pitting government forces against internal rebels. The rebels, for the third time this year, have seized Mocimboa da Praia, located about 60 kilometres south of the LNG project and the closest harbour.





1.1.7.6.9. North of Mozambique, Tanzanian gas demand is set to rise in the coming years on the back of higher consumption in the power sector, as the government looks to provide more access to electricity for the southeast African country's growing population. Whilst the country's \$30 billion LNG project which has been in the planning for the past five years is being held up by regulatory delays, Tanzania's onshore Mnazi Bay gas field producing some 65 - 75 MMcf/d of gas and is providing around 70% of the country's gas supply.

1.1.7.6.10. The gas demand is expected to rise further as Tanzania builds out its Kinyerezi power station complex near the capital Dar es Salaam. The discovery of over 46 trillion cubic feet (TCF) of offshore natural gas in Tanzania places the East African country as a significant competitor in the global LNG market. Their proximity to the Asian LNG market heightens the expectation of this resource for power generation, regional supply, and intercontinental export.

1.1.7.7. SADC REGIONAL RESPONSE TO COVID-19 PANDEMIC¹²: RECOMMENDATIONS FOR THE ENERGY SECTOR

1.1.7.7.1. According to SADC, decisions being taken now to address the social and economic impacts of the crisis come amid uncertainty about both the course of the pandemic and its long-term ramifications for society. The immediate priority remains to save as many lives as possible, bring the health emergency under control and protect the vulnerable sections of society (SADC, 2020).

1.1.7.7.2. At the same time, governments are embarking on the monumental task of devising stimulus and recovery packages that will define the trajectory of economies for years to come.

1.1.7.7.3. These initiatives must be in alignment with the key strategic objectives of energy security, improving access, renewable energy, achieving financial investment and environmental sustainability. The pandemic has put a focus on the weaknesses in how things have been done in the sector. We need to therefore reprioritise, accelerate and refocus the programmes and plans to address these shortcomings to enhance resilience.

1.1.8. Economic Outlook

1.1.8.1. Overview

1.1.8.2. Prior to the global crisis caused by the COVID-19 pandemic and the devastating lockdown restrictions implemented domestically and abroad to manage and mitigate its effects, South Africa's domestic outlook for 2020 was already very weak. South Africa is currently in its longest downward business cycle since records started in 1945, with rising unemployment, declining real GDP per capita, and declining business confidence. Forecasts suggest that this could be worse due to the effects of COVID-19.

1.1.8.3. Real GDP suffered a third consecutive quarter of decline in the first quarter of 2020, prolonging the second half of 2019 recession. The GDP declined by 2% quarter-on-quarter (quarter-on-quarter, annualised) in 2020Q1. While this figure could be revised in future and is in its own right a very poor performance, the decline was a lot less than the consensus and as expectation were for a 4% decline. Compared with 2019Q1, the seasonally adjusted annual GDP decline was 0.3%. Although not as bad as feared, the first quarter data still highlights just how weak the economy was even before the unprecedented COVID-19 pandemic crisis hit with full force in 2020Q2. The quarterly contraction follows GDP declines of 0.8% and 1.4% in 2019Q3 and 2019Q4 respectively.

1.1.8.4. Measured from the production side, the primary and secondary sectors fared worse than in 2019Q4, while the tertiary sector saw an (likely temporary) improvement. The primary sector was a mixed bag with agriculture finally

¹² Covid-19 Regional Power Sector Assessment note for the SADC region



showing some life after disappointing for some time. The economy had built in a robust rise for agriculture, but the large 28% quarter-on-quarter increase handsomely exceeded expectations. There is likely to be more positive news from agriculture in 2020Q2/03 as SA is set for a bumper summer crop, including maize.

- 1.1.8.5. In line with the Statistics South Africa (StatsSA) data, the mining sector was in the red yet again. Stats SA data shows that the steep Q1 mining decline was driven by lower iron ore, manganese and chromium output.
- 1.1.8.6. The secondary sector contracted by 7.5% in 2020Q1 with broad-based weakness across manufacturing, electricity output (due to notable load shedding) and the construction subsector. While load shedding was absent in 2020Q2, Stats SA's high-frequency monthly data showed that electricity output plunged by almost 17% month-on-month (m-o-m) in April as a number of units were taken off amid extremely low lockdown-induced power demand.
- 1.1.8.7. Relative to expectations, the tertiary sector surprised on the upside in 2020Q1 as all of the subcategories performed better than expected. This was especially true for the trade (retail, wholesale, motor trade and restaurants) and financial sectors.

1.1.8.8. Impact Of The COVID-19

GDP growth

- 1.1.8.8.1. Although GDP was already very weak in the first quarter, it does not come close to what likely transpired in quarter 2 of 2020. We continue to expect a record GDP contraction in the second quarter as the economy was under different stages of COVID-19 -induced lockdowns for the entire quarter.

- 1.1.8.8.2. The South African Reserve Bank (SARB) currently expects GDP in 2020 to contract by 7.3%, compared to the 7.0% contraction forecasted in May. The bank highlights that even as the lockdown is relaxed in coming months, for the year as a whole, investment, exports and imports are expected to decline sharply. Job losses are also expected to rise further. The SARB indicates that GDP is forecasted to grow by 3.7% in 2021 and by 2.8% in 2022 respectively.

- 1.1.8.8.3. While the true magnitude of the Q2 GDP decline remains uncertain, there is little doubt it will be historic. Easing of the lockdown (from level 5) has supported growth in recent months and high frequency activity indicators show a pickup in spending from extremely low levels. However, getting back to pre-pandemic activity levels will take time. There are a number of factors that suggest South Africa's recovery back to pre-COVID-19 levels will be protracted. According to the Bureau for Economic Research (BER), these factors include:

- a. Severe pre-COVID-19 vulnerabilities, as highlighted by the first quarter GDP data from StatsSA. These vulnerabilities have been building for many years. The economy will be in the 80th month of a business cycle downswing, i.e. general economic activity and confidence below the long-term trend, in July. This is by far the longest downswing on record. The previous longest downswing phase was between 1989 and 1993, with the average downswing since 1945 and lasted 20 months.
- b. One of the strictest lockdowns in the world. This is according to Oxford University's lockdown stringency index¹³.
- c. A precarious fiscal position going into the crisis. This means that government cannot afford to fully offset the effects of the pandemic.
- d. A long cycle of reaching the virus infection peak. Related to this is the difficulty of enforcing social distancing in densely-populated informal settlements. This implies a prolonged period of below-normal economic activity.
- e. To date, limited take up of government's loan guarantee scheme.

¹³ Coronavirus stringency index: A look at government responses to COVID-19. Available on <https://www.bsg.ox.ac.uk/node/5421>





Interest rates

1.1.8.8.4. For the fifth time in 2020, the South African Reserve Bank (SARB) reduced the repo policy interest rate. The repo rate was cut by another 25 bps to 3.50% in July 2020, adding to the 275 basis points worth of easing announced by the SARB earlier in the year. The prime lending rate declined to 7%. The SARB has for some time highlighted the extreme uncertainty about the economic outlook given the economic crisis.

1.1.8.8.5. In addition to continued easing of interest rates, the SARB has relaxed regulatory requirements on banks and has taken important steps to ensure adequate liquidity in domestic markets. These actions are intended to free up more capital for lending by financial institutions to households and firms. Monetary policy can ease financial conditions and improve the resilience of households and firms to the economic implications of COVID-19.

Consumer Price Index (CPI)

1.1.8.8.6. On the inflation front, the SARB's projection also remained largely unchanged with headline CPI expected to average 3.4% (unchanged from May) and 4.3% (4.4%) in 2020 and 2021 respectively. The economic contraction and slow recovery is expected to keep inflation well below the midpoint of the target range for this year i.e. inflation target of 3%-6%.

1.1.8.8.7. However, electricity and other administered prices continue to be a concern. Upside risks to inflation could also emerge from heightened fiscal risks and sharp reductions in the supply of goods and services.

Unemployment Rate

1.1.8.8.8. Due to the effects of the COVID-19 on the economy, BER forecast indicate that around 1.5 million people could lose their jobs between 2019Q4 and 2021Q2. Unemployment rate is expected to rise from a 33.2% in 2020

to 36.2% in 2021 with further increases to 36.9%, 37.1% and 37.2% in 2022, 2023, and 2024, respectively.

SA credit ratings downgraded

1.1.8.8.9. South Africa's rapidly worsening fiscal metrics during the course of 2019 alerted all three major ratings agencies to put the country on a negative outlook during the second half of 2019. These led to credit rating downgrades in March and April 2020, taking the country to general sub-investment grade and SA exiting the Financial Times Stock Exchange (FTSE) World Government Bond Index on 30 April following the final downgrade from investment-grade status by Moody's at the end of March. The impact of the COVID-19 pandemic added to reasons for the downgrade and has since overshadowed the economic fight. Different projections of sustained contractions in real GDP for the full year range between 5% and 10%.

1.1.8.8.10. In April 2020, both Fitch and Standards & Poor's (S&P) Global Ratings downgraded SA's sovereign credit rating by another notch to push it deeper into sub-investment grade (sub-IG) territory. Fitch rating agency highlighted that the downgrade was due to "the lack of a clear path towards government debt stabilisation", with a further shock to government finances and growth due to COVID-19. Fitch had South Africa's foreign currency rating two notches below investment grade, while S&P Global Ratings is at three notches below IG.

1.1.8.8.11. On 20 November 2020, South Africa sunk deeper into junk territory after Moody's Investors Service joined Fitch Ratings in lowering the country's credit ratings. Moody's cut the nation's foreign and local-currency ratings to Ba2, two levels below investment grade, from Ba1. The outlook remains negative (Bloomberg). Fitch cut the nation's foreign and local-currency ratings to BB-, three levels below investment grade, from BB, also with a negative outlook. S&P kept its assessment of South Africa's foreign-currency debt three levels below investment grade, with a stable outlook¹⁴.

¹⁴ Source: <https://businesstech.co.za/news/finance/450475/what-the-latest-rating-downgrades-mean-for-the-average-south-african/>



1.1.9. National Environment

1.1.9.1. Petroleum and Gas Sector

1.1.9.1.1. Inputs of petroleum products play an important role in transport and production activities of various other sectors of the South African economy. However, South Africa does not have its own economically extractable natural crude oil resources. Therefore, South Africa relies on imports of crude oil and refined fuels to meet its liquid fuels needs. South Africa has the second largest refining capacity in Africa after Egypt, with a total refining/liquid fuels capacity of 718 000 barrels per day (b/d) up from 703 000 b/d in 2015 (SAPIA, 2018).

1.1.9.1.2. Approximately 10 773 million litres of petrol were consumed in South Africa in 2019, a decrease of 3.31% from the 11142 million litres consumed in 2018. About 12 909 million litres of diesel were consumed in 2019 representing an increase of 2.95% compared to 12 539 million litres in 2018 (DMRE, 2020) (See Figure 14 below). Figure 10 below shows an increase in the consumption of jet fuel from 2 346 million litres in 2018 to 2 439 million litres in 2019, representing a 3.96% increase. Less of illuminating and power paraffin was consumed in 2019 than in 2018 with 620 million litres and 702 million litres respectively. This decrease in paraffin consumption represents an 11.68%. Approximately 410 million litres of furnace oil were consumed in 2019 representing a 25.72% decrease from consumption of 552 in 2018. Furthermore, there was a decrease of 1.78% in the consumption of Liquefied Petroleum Gas (LPG) with 495 million litres and 504 million litres in 2019 and 2018 respectively.

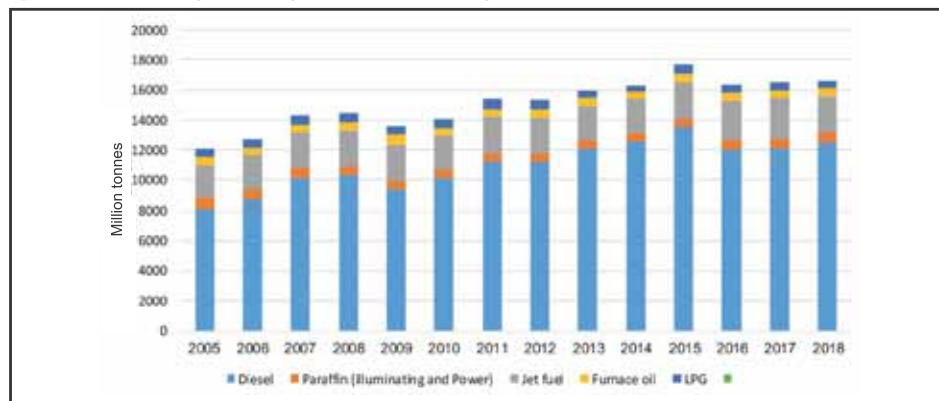
1.1.9.1.3. Petroleum products consumed in South Africa comes mostly from domestic refineries that import crude oil and Coal-to-liquid (CTL) and Gas-to-liquid (GTL) plants. According to the Department of Mineral Resources and Energy (DMRE) a significant amount of crude oil was sourced from African countries; however, the Middle Eastern countries are still an important source of crude oil for South Africa. About 51% of crude oil requirements were met by African countries, mainly from Nigeria (33%), Angola (12%), Ghana (5%) and Togo (1%). This figure increased from 48% in the previous financial year on average. About 89 million barrels per day was from within the continent. The crude oil imports from January to December 2018 were about 170 million barrels per day. There was a 16.44% increase in the crude oil imports in 2018 as compared to the year 2017. This increase may be that the refineries were operating with minimal or no disruption.

1.1.9.1.4. The majority of South Africa's refinery output is transported via pipeline, road or rail. Transnet operates two liquid petroleum pipelines between Durban and the inland region - the Multi Products Pipeline (MPP) and the crude oil pipeline to Sasolburg servicing the NATREF refinery. As of 2018, TPL has stopped injecting petroleum products into the Durban to Johannesburg Pipeline (DJP) and after 6 to 7 months of smooth operation of the MPP, the DJP will be decommissioned. In an effort to alleviate the supply burden resulting from demand growth, there are plans to build a 300 000 boe/d refinery located in the Eastern Cape Province called Project Mthombo. Current refinery operators are reluctant to expand present capacity due to the high cost involved and because of the surfeit of liquid petroleum products available in the international market. Nonetheless, South Africa's refineries are well placed on a cash operating basis within its regional peer group (European and African countries that have more than one refinery) indicating their current competitive situation relative to these other manufacturers.





Figure 9: Consumption of petrol and diesel products in South Africa



Source: DMRE

1.1.9.1.5. Renergen is the first company in South Africa to build a small-scale onshore LNG plant. It intends to monetise its LNG by developing between 12 - 18 LNG filling stations across South Africa by 2023. Renergen has signed a deal with Total under which the French major will rebrand two of its filling stations on the N3 national route between Johannesburg and Durban as LNG outlets. The LNG sold at these filling stations would be exclusively for the use of trucks and buses, and will reportedly cost 15 - 25% less than diesel. The first phase of the project is planned to supply 400 trucks from 2021, with the second phase supplying approximately 3,000 - 5,000 trucks from 2023.

1.1.9.1.6. Sasol has confirmed the much speculated intention to sell its equity interests in the ROMPCO. Speculations emerged as early as April this year that the petrochemicals producer was seeking to sell off some of its African assets as part of its restructuring. It was said that the company had appointed advisers to sell its stakes in a power plant in Mozambique and a gas pipeline running from the country into South Africa. Sasol said that the sale is part of its drive to raise as much as \$5 billion through asset sales amid cost overruns and lower oil prices by end of its 2021 financial year.

1.1.9.1.7. Meanwhile government departments, including Infrastructure South Africa (and entity of the Department of Public Works and Infrastructure), the National Treasury, and the DBSA have recently signed a memorandum of agreement that will kick-start work on the National Infrastructure Fund. A joint statement released by these government departments, said that the fund: "is meant to fundamentally transform the state's approach to the financing of infrastructure projects, reduce the current fragmentation of infrastructure spend, and thereby ensure more efficient and effective use of resources and improve the speed and quality of delivery". Indications are that spending on energy infrastructure is likely to make up a large portion of such infrastructure investments.

1.1.9.1.8. The Gas Amendment Bill was presented at the Economic Cluster on Tuesday, 18 August 2020 and was well received. The Bill will now be submitted to DPME for the issuing of a final SEIAS sign-off certificate that will accompany the Bill to Parliament. After the certificate is issued, the Bill will be considered by Cabinet to get approval for submission to Parliament.

1.1.9.1.9. It is expected that small-scale importation and trading of LNG will precede the establishment of LNG storage and gasification terminals in South Africa. In this regard, the Energy Regulator has recently licenced the operations of Volco (Pty) Ltd (Volco) and Volco Alfa (Pty) Ltd (Volco Alfa), which will import the small-scale LNG into South Africa in the Western Cape Province. The LNG will then be transported to customers' sites via trucks using 40' ISO containers, where it will be stored, regasified and traded to the customers in gaseous form.

1.1.9.2. Gas to Power procurement programme

1.1.9.2.1. In order to support the implementation of the Integrated Energy Plan (EIP), the Department of Mineral Resources and Energy (DMRE) is currently finalising the Gas Utilisation Master Plan (GUMP) for South Africa. The GUMP would act as a roadmap for the development of the gas industry in the South African economy. It analyses the potential and opportunity



for the development of South Africa's gas economy and sets out a path of how this could be achieved. One of the main objectives is to enable the development of indigenous gas resources and to create the opportunity to stimulate the introduction of a portfolio of gas supply options.

1.1.9.2.2. The key challenges in the sector are to bring gas demand and supply on stream at the same time and spread geographically to stimulate broader localised demand. Without local demand, it would be difficult to develop distributed gas supply and without such distributed gas supply, it would be difficult to develop local gas demand. One way of overcoming this challenge is to develop a Gas to Power Programme. This would potentially anchor gas demand while creating a long-term sustainable gas demand. The intention of the Gas to Power Programme is that of not only supplying power but also that of supplying a limited amount of gas, marketed in the form of a Gas Supply Agreement (GSA), for use by industrial and other users.

1.1.9.2.3. Gas to Power: Whilst the plan indicates a requirement for 1000 MW in 2023 and 2000 MW in 2027, at a 12% average load factor, the Integrated Resource Plan (IRP2019) indicates that this is premised on certain constraints that we have imposed on gas, taking into account the locational issues like ports, environment, transmission etc. The IRP 2019 further highlights that this represents low gas utilization, which will not likely justify the development of new gas infrastructure and power plants predicated on such sub-optimal volumes of gas. Consideration must therefore be given to the conversion of the diesel-powered peakers on the east coast of South Africa, as this is taken to be the first location for gas importation infrastructure and the associated gas to power plants. Eskom is also looking at the feasibility of converting old power stations to gas. This would have a triple benefit. It will provide dispatchable baseload power, it is relatively clean and it will provide socio economic benefit to the areas around the stations which would otherwise see major economic devastation.

1.1.9.2.4. The availability of gas in South Africa therefore provides an opportunity to convert to closed cycle gas turbine (CCGT) and run open-cycle gas turbine plants at Ankerlig (Saldanha Bay), Gourikwa (Mossel Bay), Avon (Outside Durban) and Dedisa (Coega IDZ) on gas.

1.1.9.3. *Electricity*

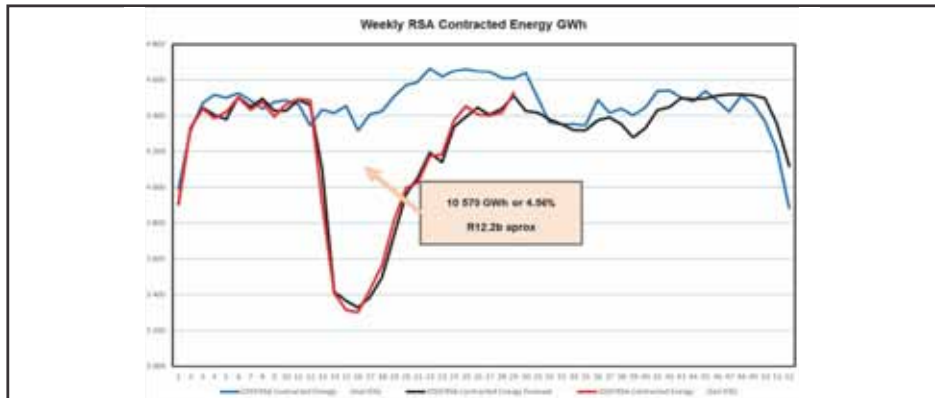
1.1.9.3.1. Impact of COVID-19

- a. The Global Pandemic has also impacted South Africa's Electricity Industry and this likely to have an impact for some time to come. Not all impacts are negative but most are. The lockdown did allow Eskom some space to do extra plant maintenance and that has had an impact on the security of supply as it did improve the plant reliability overall.
- b. On the negative side it had the following impacts:
 - i. Reduction in the energy demand as a result industry closing down.
 - ii. Reduction in the revenue accrued by Eskom.
 - iii. Delays in commissioning of new generation capacity.
 - iv. Slight reduction in the peak demand but not to the same extent as the energy demand reduction because it is driven more by residential load and everybody was at home.
- c. The figures below show the impact by comparing the pre-lockdown forecast with the actual to week 29 and the revised forecast thereafter.





Figure 10: Impact of COVID-19 on energy forecast



d. The above shows graphically the impact and the result is that the current estimated impact is about 4.56% reduction in energy sales which will result in an RCA claim by Eskom of more than R12.2b.

e. The Demand curve shown below does not have quite the same impact as it is driven by the evening peak which is residential load. This has meant that for those hours Eskom was still using the OCGTs.

Figure 11: Impact of COVID-19 on energy demand curve



f. The lockdown also impacted international travel and this has delayed the commissioning of a number of RE IPPs as well as work on Koeberg and Kusile. The future impact of all this is not clear yet.

1.1.9.3.2. Electricity as an economic enabler

a. It is apparent that the price of electricity has impacted economic growth in South Africa. The graph below shows the steady decline in sales as the price increased.

Figure 17: Eskom Sales MWh vs Price c/kWh



b. This has also been testified to under oath by industry players at the public hearings that NERSA has held on various Eskom tariff and RCA applications. What is clear from interactions with industry is that the electricity price is a major factor in decisions to retrench staff and scale back activities. It is not the only factor, that is clear, and they don't claim it to be the only factor but it is a major factor.



- c. There is also a growing call to change the pricing methodology from industry players. This mirrored by that self-same sentiment within NERSA. If electricity is to play its rightful key role in economic recovery then something needs to change and there needs to be a new approach to Eskom tariff setting as well as municipal tariff setting.
- d. Since Eskom has applied to NERSA for approval of its Retail Tariff Plan and in addition the review of the MYPD methodology falls due now is the opportune time to address these issues in a holistic manner. This needs to include the addressing of the whole subsidy framework as the current framework is part of the problem in that the industrial customers are paying too much in subsidies.
- e. The review of the Negotiated Pricing Agreement Framework for both long term agreements and short term agreements is underway with the Department of Mineral Resource and Energy and these are vital short term measures to save and preserve economic activity. However what is required are standard tariffs for qualifying customers based upon some of the key principles in these frameworks. This would provide a platform for increased economic activity which would in turn lead to lower electricity prices in real terms in the future. It would also provide a strong message to investors that South Africa is a good location to establish production facilities.

1.1.9.3.3. Impact of Distributed Generation

- a. The advent of widespread rooftop solar generation brings with it a number of issues which are not immediately obvious to those who are not involved in the industry. These issues arise from the desire of the possessors of this type of generation to sell back onto the Grid. However SolarPV is only an energy source and does not contribute anything towards the capacity requirements of the network. Thus the Network Service Provider (NSP) is still left with the same Maximum Demand Charge whether the SolarPV is present or not. Since residential

properties are generally on an average tariff this means that the reduction in standard time sales impacts the overall price for everybody. This means that non owners of SolarPV start to subsidize the owners of SolarPV which will eventually lead to the poor subsidizing the rich.

- b. To counter the situation described above the tariffs need to be changed and a new approach taken which starts to correctly allocate fixed or network infrastructure costs from variable costs. This will result in all customers paying higher fixed charges but lower energy charges. For the average customer overall the total unit charge will remain the same on a billing period basis. This approach will also need to address the tariff paid to those feeding energy back onto the Grid. There needs to be a standard formula for this that will apply to all municipalities as some seem to not understand fully all the issues.

1.1.9.3.4. The Integrated Resource Plan for electricity (IRP)

- a. The IRP provides South Africa's long-term plan for electricity generation. It primarily aims to ensure security of electricity supply, minimise the cost of that supply, limit water usage and reduce greenhouse gas (GHG) emissions, while allowing for policy adjustment in support of broader socio-economic developmental imperatives. The IRP2019 was promulgated in October 2019 and replaced the IRP2010 as the country's official electricity infrastructure plan.
- b. It calls for 37 696MW¹⁵ of new and committed capacity to be added between 2019 and 2030 from a diverse mix of energy sources and technologies as ageing coal plants are decommissioned and the country transitions to a larger share of renewable energy. By 2030, the electricity generation mix is set to comprise of 33 364MW (42.6%) coal, 17 742MW (22.7%) wind, 8 288MW (10.6%) solar photovoltaic (PV), 6 830MW (8.7%) gas or diesel, 5000MW (6.4%) energy storage, 4600MW (5.9%) hydro¹⁶, 1 860MW (2.4%) nuclear and 600MW (0.8%) concentrating solar power (CSP). Additionally, a short-term gap at least 2000MW is to be filled between 2019 and 2022, thereby further





raising new capacity requirements, while distributed or embedded generation for own-use is positioned to add 4 000MW between 2023 and 2030. The IRP is intended to be frequently updated, which could impact future capacity allocations from various energy sources and technologies.

- c. The execution of the IRP is informed by Ministerial determinations, made by the Minister of Mineral Resources and Energy in accordance with section 34 of the Electricity Regulation Act No.4 of 2006 (i.e. new generation capacity). Once released and concurred with NERSA, the determinations signify the start of a procurement process and creates certainty for investors. Up until the release of the IRP2019, procurement under the IPPPP was informed by Ministerial determinations made in accordance with the IRP2010¹⁷.

1.1.9.3.5. There is currently no annual growth in electricity demand. There has not been for the last 10 years and there is no sign of that changing. Eskom has 51 757MW of licenced capacity and the renewable licenced capacity is 6 676.90MW.

1.1.9.3.6. South Africa has a high level of Renewable Energy potential and in line with the national commitment to transition to a low carbon economy. According to IRP2019 total installed capacity for renewable energy (solar PV, wind, CSP) will be 26 630MW by 2030 and 11017MW of coal plants will be decommissioned. Renewable Energy sources are self-dispatchable and therefore cannot completely replace baseload plant that is closing down. In fact, as an example one Megawatt of baseload plant would have

to be replaced by about 3.3MW of Solar coupled with about 16MWh of storage. The exact figures can be debated but the principle needs to be taken cognisance of. Therefore future iterations of the IRP2019 will provide a view of the total capacity and technologies required beyond 2030.

- 1.1.9.3.7. According to the IPP office, the REIPPPP has made the following significant impacts in the energy sector as of March 2020:
 - a. 6 422MW¹⁸ of electricity had been procured from 112 RE Independent Power Producers (IPPs) in seven bid rounds¹⁹;
 - b. 4 201MW of electricity generation capacity from 67 IPP projects has been connected to the national grid;
 - c. As of March 2020, 46 946GWh of energy has been generated by renewable energy sources procured under the REIPPPP since the first project became operational. Renewable energy IPPs have proven to be very reliable. Of the 67 projects that have started operations, 64 projects have been operational for longer than a year. The electrical energy generated over the past 12-month period for the 64 projects is 11 176GWh which is 94% of their annual energy contribution projections of 11 882GWh over a 12-month delivery period. Twenty-seven (27) of the 64 projects (42%) have individually exceeded their projections.
 - d. Investment (equity and debt) to the value of R209.7 billion, of which R41.8billion (20%) is foreign investment, was attracted.
 - e. Created 50985 job years²⁰ for South African citizens to date.
 - f. Socio-economic development contributions of R1.2 billion to date.

1.1.9.3.8. Response to the COVID 19 pandemic: DMRE and its entities

- a. The Department of Mineral Resources and Energy (DMRE) in May 2020 presented to the Portfolio Committee on Mineral Resources and Energy and the Select Committee on Land Reform, Environment, Mineral Resources and Energy the economic in economic interventions in response to the economic impact induced by the COVID-19 pandemic and economic downgrade of the country by rating agencies.

¹⁵ Excluding Koeberg nuclear plant life extension, a 2000MW gap to be filled between 2019 and 2022 and distributed/ embedded generation capacity allocations for own use.

¹⁶ 2 500MW imported hydro is planned by 2030 to facilitate the Grand Inga Hydro power Project Treaty between South Africa and the Democratic Republic of Congo(DRC).

¹⁷ Ministerial determinations for IPP procurement of 30 130MW have been made in alignment with the IRP2010, including 14 725MW from renewable energy (excluding 2 609MW imported hydro) and 12796MW from non-renewable energy (including 1800MW cogeneration).

¹⁸ 6 422MW from 92 large scale RE plus 9MW from 20 small scale REIPPs.

¹⁹ Bid windows 1, 2, 3, 3.5, 4 and smalls BW1 (1S2) and smalls BW2 (2S2).

²⁰ The equivalent of a full time employment opportunity for one person for one year.



- b. The COVID-19 specific interventions focused on DMRE's operational readiness, SAMI Health & Safety readiness, interventions and responses within the broader mining and energy sectors.
- c. The following key energy sector interventions are worth noting and summarized below.
 - i. Additional procurement of electricity capacity from existing IPPS (approximately 128 MW and Eskom to procure short-term power (approximately 128 MW).
 - Impact on the economy: Security of energy supply and support industrial economy with no power supply interruptions (load-shedding).
 - ii. Acceleration of the nuclear built programme.
 - Nuclear New Build Programme of 2 500MW.
 - Koeberg Nuclear Power Plant Life Extension Project.
 - Replacement of SAFARI-1 research reactor with Multipurpose reactor project.
 - Central interim storage facility project.
 - The Nuclear branch will also provide policy oversight on various projects that will be implemented by Nuclear State Owned Enterprises.
 - iii. Carbon Capture and Utilisation through the Utilisation of Carbon as feedstock to manufacture chemicals, fuels etc.
 - Impact on jobs and the economy: Carbon dioxide emissions reduction, Development of a new industries in South Africa, adding to GDP, sustain and prolonged use of coal, contribution to food security and increased food production, local production of chemicals et al, job creation opportunities, replacement of imports to South Africa, for example of fertilisers, as well as adding to export potential.
 - iv. Smart Grids: Municipal financial sustainability projects.
 - Impact on jobs and the economy: Financially sustainable municipalities, improved asset management, improved revenue collection, efficient smart energy systems, Municipal capacity building and job creation.
- v. Energy efficient infrastructure development: A high-level committee made up on international and local experts to provide advice on greening infrastructure projects
 - Impact on the economy: energy efficient infrastructure projects, energy costs savings and energy security
- vi. Ensure fuel price benefits are passed to end consumers thus indirectly contributing to the lowering of inflation for the benefit of all South Africans and lowered costs of doing business within the country.
 - The country to work towards the lowering of price inflation, lower interest rates and low cost of doing business in South Africa through fuel price relief which will directly contribute to reduced cost of doing business in the country.
- vii. The government through Strategic Fuel Fund (SFF) is also looking at opportunity of increasing the levels of Strategic Stocks through purchasing of crude oil at these lower prices.
 - Lower oil prices have also created storing opportunity for the SFF which has been able rent out some their tanks to International oil traders, earning an income from this activity.
- viii. Energy security – Regulatory support
 - The National Energy Regulator to ensure energy security through the following initiatives; fast-tracking of application of processes, reduction of regulatory burden on new electricity applications, consider proposals around the reduction of energy prices and ensure sector regulatory certainty.
 - Fast-track legislation (Upstream Petroleum Bill and Gas Amendment Bill).
 - Facilitate investments into gas imports and gas infrastructure. These will provide a legal framework and unlock investment opportunities for gas projects and the activation of rigorous activity in the upstream petroleum space.





ix. Energy security: shifting of power stations (open cycle turbines) demand from diesel to natural gas within the next 5 years.

- Mossel Bay Refinery upgrade (July 2020- 2023)- Conversion project of Mossel Bay refinery from the dwindling natural gas feedstock to condensate/ liquid feedstock whilst gas sources like Brulpada are being developed.
- Gourikwa Gas Supply (G2P) (beginning December 2020): Remaining Mossel Bay gas to be supplied to Eskom Gourikwa and other close-by industrial markets. This will help stabilize Eskom supply by possible convert it from peak power to mid-merit or even base load due to favourable gas price (away from expensive diesel currently used).
- Upstream E&P Project (beginning August 2020) - Develop known in-country gas resources and develop the external sourcing of gas to be able to supply gas to Eskom. This will provide a diversified feedstock for power generation and generate economic contributions for South Africa.
- Coega LNG Project (0,5 Mtpa) (beginning August 2020) - Phased Gas Pipeline Network is earmarked for development linking up the West Coast and Southern Cape gas resources to the LNG hub in Coega for mainly supply to G2P plants and industrial customers. Concept study completed.
- Acquisition of assets (beginning August 2020): Fuel downstream entry project through acquisition of downstream entity and development of its associated storage facilities. Due diligence is being undertaken. Coal assets acquisition as international investors dump coal assets. Some targets are being assessed.

x. Energy security: shifting of households' electricity demand to LPG within the next 5 years. DMRE highlights that this will require approximately R1 billion rand in form of incentives and activation/promotion programme.

- LPG Gas supply – convert key customers from electricity to LPG- Move to convert industrial, commercials, households' customers to use LPG for processes and thermal heating thus increasing Eskom's excess capacity
- Convert some Eskom plants from paraffin and diesel to LPG before

natural gas availability. LPG to Power Plant and LPG for gas generators. Possibly change peak plants to mid-merit plants due to favourable gas prices compared to diesel.

- The DMRE is also working to finalise a regulation, which will unlock significant local production of LPG but will also enable importation of LPG when there is a shortfall nationally.

xi. Energy security: conversion of PetroSA from being a gas-2-liquid to be a liquid refining facility. Liquid fuels: execute, through upgrading, a 46kbpd liquids refining facility in Mossel Bay, including LPG production, and develop a world-class grass roots clean fuels compliant refinery with 6 to 12 months.

- Liquid Fuels: Execute, through upgrading, a 46kbpd liquids refining facility in Mossel Bay, including LPG production, and develop a world-class grass roots clean fuels compliant refinery.

xii. Energy Security: strategic asset consolidation of assets that are in the market within 9 to 12 months.

- Trading, supply and Logistics - Expand the distribution network, through reseller and storage that will enable wholesale sales and marketing of liquids fuels.
- Build a New Refinery in Richards Bay.
- Acquisition of existing Downstream Player and expand regionally.
- Consider participating in the acquisition of strategic energy assets that are in the market in order to consolidate the portfolio of the DMRE Group and to take a strategic position in the market.

1.1.9.4. *Regulated Energy Industry*

1.1.9.4.1. Energy is at the core of current and future industrial and technological development. The National Development Plan (NDP) envisages that the country will have an energy sector that promotes economic growth and development through adequate investment in infrastructure by 2030. Furthermore, the plan envisages that the country will have an adequate





supply of electricity and liquid fuels to ensure that economic activities and welfare are not disrupted and that 95% of the population will have access to some form of energy.

1.1.9.4.2. NERSA has commenced with a process to determine the size of the NERSA regulated activities within the energy sector (Electricity, Piped Gas and Petroleum Pipelines).

1.1.9.4.3. This section presents the state of the energy industries that the Energy Regulator regulates in South Africa.

a. ²¹The Energy Regulator has seen a rapid increase in the number of operational licensees over the 2014-2019 period with the exception of 2017-18, where a significant decrease occurred in the electricity distribution space. Currently, there are 369 licensees operating and under the regulation of the Energy Regulator (See Table 8 below). The bulk of these licensees are in the electricity sector with 270 followed by petroleum pipelines with 73 and piped-gas sector with 26 respectively.

b. In particular, electricity generation has seen a rapid increase in licences issued since the implementation of the Department of Energy (DoE) Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) that was officially launched in 2011. Between 2014 and 2019, an additional 33 licensees were licenced (14%

increase). However, there was an increase of 2 (0.75%) licensees from 268 in 2018 to 270 in 2019.

c. In 2019, the petroleum pipelines recorded a decrease in the number of licensees from 75 in 2018 to 73 in 2019. While the piped-gas industry recorded an increase of 2 licensees from 24 in 2018 to 26 in 2019.

d. In 2017, there was a major shift in the electricity distribution where there were mergers of 26 distribution licensees into 12 (see Table 9 below). This major reduced the number of total distribution licensees from 188 in 2016 to 177 in 2017. Of the 26 merged licensees 4

Table 2: Total number of licensees in operation

INDUSTRY	2014	2015	2016	2017	2018	2019
ELECTRICITY (Total)	237	249	267	270	268	270
Generation	48	60	76	90 ²²	88 ²³	90
Transmission	2	2	2	2	2	2
Distribution	186	186	188 ²⁴	177 ²⁵	177	177
Trading	1	1	1	1	1	1
PETROLEUM PIPELINES (Total)	65	84	79²⁶	74²⁷	75	73
Pipelines	10	11	11	9	9	9
Storage facilities	45	61	54	49	50	48
Loading facilities	10	12	14	16	16	16
PIPED GAS	12	15	16	21	24²⁸	26
Transmission	3	3	3	5	6	6
Distribution	1	2	2	3	3	3
Storage	3	3	4	5	5	5
Trading	5	7	7	8	10	12
GRAND TOTAL	314	348	362	365	367	369

Source: NERSA

²¹ NERSA's Regulated Industries Report 2017/18

²² 90 Licensees with 130 Power Stations.

²³ 131 Power stations

²⁴ Distribution licenses consists of 175 municipalities, 12 Private distributors and 1 Eskom distribution licence.

²⁵ The reason for the decrease in the number of distribution Licensees was caused by the mergers of 38 licensees into 12 licensees.

²⁶ Some licensees have combined licences that may include combinations of pipeline, storage facility and/or loading facility.

²⁷ Some licensees have combined licences that may include combinations of pipeline, storage facility and/or loading facility. It is important to also note that there are 17 Joint Ventures (JVs) in the Petroleum Pipelines Industry which are categorised as follows: 3 in Pipelines, 8 in Storage and 6 in Loading Facilities.

²⁸ 3 Licensees were added in 2018 as follows Reatile Gas for Transmission, Egoli Gas for trading (2 licences) and Scaw Metals for Trading.





(Indaka, Imbabazane, Ezingoleni and Khara Hais) were under Eskom Distribution.

- e. The Petroleum pipelines industry regulated facilities have a regulated capacity of 22 127 097 m³ transported by pipelines in 2019, 12 327 610 m³ in storage facilities and 16 177 014 MT in loading facilities. Of particular interest is the storage sub-sector which saw a

Table 3: Distribution Licensees Mergers

New Licensee name based on the Amalgamation process in 2016	Merged Licensees ²⁹	Province
Dr Beyers Naude	Ikwezi, Baviaans & Camdeboo	EC
Enoch Mgijima	Inkwanca, Tsolwana & Lukhanji	EC
Raymond Mhlaba	Nxuba & Nkonkobe	EC
Walter Sisulu	Gariep & Maletswai	EC
Rand West City	Westonaria and Randfontein	GP
Alfred Duma	Emnambithi/Ladysmith & Indaka	KZN
Inkosi Langalibalele	Imbabazane & Umtshezi	KZN
Ray Nkonyeni	Ezingoleni & Hibiscus	KZN
Modimolle and Mookgopong	LIM 368 (Modimolle & Mookgophong)	LI
City of Mbombela	Mbombela & Mjindi	MP
Dawid Kruiper	Khara Hais & Mier	NC
JB Marks (Ventersdorp /Tlokwe)	Ventersdorp & Tlokwe	NW

Source: NERSA

²⁹ Cogenerators

³⁰ Renewable

12% increases in regulated facilities from 2014 to 2015. There was a slight decline from 2015 to 2016, due to the implementation of the bulk determination by the Regulator.

- f. With respect to the Electricity sector, there are 133 regulated facilities of which 30 are owned by Eskom, 12 by general IPPs, 84 by renewable IPPs and 7 by Municipalities. This jointly represents 59 626.25MW of electricity generation in the country. There is a 1.52% increase in the number of regulated facilities from 2018. Interestingly, Independent Power Producers (IPPs) combined represent 96 facilities with a capacity of 7061MW in 2019.
- g. The total number of regulated facilities (operational) by type of facilities and capacity licensed varies across industries as depicted in Table 10 below. The variation is mainly on account of differences in industry sizes. As shown in Table 10 below, Petroleum Pipelines has 224 facilities, Electricity 133. Overall, there has been an increase of 4 facilities from 357 in 2018 to 361 facilities in 2019 representing a 10.30% decrease.
- h. In addition, as per the Gas Act, the Energy Regulator is mandated to register certain gas activities in order to keep abreast with key developments in the gas industry. Table 8 below, shows the number of biogas production facilities registered as well as the number of registrants between 2014 and 2019. As of 2019, 121 biogas facilities and 41 biogas registrants are registered with the Energy Regulator



Table 4: Total number of regulated facilities (operational) by type of facilities and capacity licensed

INDUSTRY	NUMBER OF FACILITIES				TOTAL CAPACITY			
	2016	2017	2018	2019	2016	2017	2018	2019
ELECTRICITY (Total)	127	155	131	133	56 954MW	56 954MW	61 074.90MW	59 626.25MW
Generation: Eskom	32	31	30	30	47 868MW	47 868MW	51 757.9MW	51 757,90MW
Generation: IPPs (General)	37	31	16 ³⁰	12	2 239MW	2 239MW	2 358MW	292,10MW
Generation: IPPs (Renewable Energy)	50	85	78 ³¹	84	6 123MW	6 123MW	6 235MW	6 768,90MW
Generation: Municipalities	8	8	7	7	724 MW	724 MW	724 MW	807,35MW
PETROLEUM PIPELINES³² (Total)	218	226	226	224				
Pipelines ³³	17	18 ³⁴	18	19	17 396 697 m3	22 127 097 m3	22 127 097 m3	22 127 097 m3
Storage facilities ³⁵	184	186	186 ³⁶	183 ³⁷	12 014 534 m3	12 181 962 m3	12 329 854 m3 ³⁸	12 327 610 m3 ³⁹
Loading facility	9	22	22	22	16 173 861 MT	16 177 014 MT	16 177 014 MT	16 177 014 MT
PIPED GAS	5	4	1	2	14 962,080GJ	941 000GJ		
Transmission	2	2	1	2 ⁴⁰	7 647,480GJ	224 000GJ		
Distribution	2	1	0	0	4 196,040GJ	657 000GJ	0GJ	0GJ
Storage ⁴¹	1	1	0	0	3 118,560GJ	60 000GJ	0GJ	0GJ
GRAND TOTAL	358	398	357	361				

Source: NERSA

³⁰ Cogenerators

³¹ Renewable

³² This combined capacity excludes the operation licences issued, but where facilities are still under construction.

³³ Theoretical installed design capacity for Transnet with NMPP operational and DJP decommissioned. This figure excludes three licensed activities for Sasol SNI, Chevron Refinery crude line and PetroSA 7 lines in Mossel Bay. Remaining pipelines are associated with marine loading activities.

³⁴ One facility owned by Burgan was added in May 2017 with volumes based on average operational capacity of 540 m3/hr which translates to a capacity of 4 730 400 m3/annum.

³⁵ The majority of the licensed capacity is for crude oil storage including strategic storage, while refined products only account for approximately 2.2 bN m3

³⁶ This excludes 4 revocations still being finalised in 2019.

³⁷ This excludes revocations 2019/20 FY.

³⁸ This include the amendments processed which resulted in a net increase in storage capacity compared with 2017 calendar year.

³⁹ This does not include yet reconciling the amendments processed (new tanks added/tanks removed).

⁴⁰ Phambili Gas (Pty) Ltd and Zemvelo (Pty) Ltd

⁴¹ It should be noted that this is not a conventional storage facility (i.e. underground storage or built up tanks) instead it is mobile storage/transport units that are used to transport gas from one place to another hence rated per hour.




Table 5: Total number of registered Biogas production facilities (operational)

INDUSTRY	NUMBER OF FACILITIES									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
Biogas Facilities	13	2	33	53	2	3	9	3	3	121
Number of Registrants	12	2	3	6	2	3	7	3	3	41

Source: NERSA

- i. There is a significant amount of energy assets in operation under the ambit of the Energy Regulator. Table 12 below, presents the total value of operational assets under regulation from 2014 to 2019. As of 2019, there are R879.722billion worth of operational assets under regulation with the Electricity industry the dominant player representing 93.92%, 5.03% and 1.05% for Petroleum Pipelines and Piped-Gas respectively.
- j. Of particular interest in Table 9 below is the amount of assets in the Electricity industry (R826.292billion) and the amount of assets added through the introduction of IPPs in the generation mix since 2014. Between 2018 and 2019, IPPs have added assets worth R80.005 billion into the economy.
- k. Aggregated, the Petroleum pipelines assets are currently worth R44.254billion. On the other hand, in 2019, the Piped Gas operational assets were worth R9.176billion.





Table 6: Total value of operational assets under regulation (ZAR millions)

INDUSTRY	2014	2015	2016	2017	2018	2019
ELECTRICITY (Total)	746 051	768 550	789 955	792 785	782 934	826 292
Eskom	699 609	706 391	709 950	712 780	702 929	746 287
IPPs	46 442	62 159	80 005	80 005	80 005	80 005
PETROLEUM PIPELINES	21 211	25 043	28 063	112 762	37 862	44 254
Pipelines	20 013	23 037	24 468	27 053	36 552	41 534
Storage Facilities	868 560	2 006	3 595	85 3556 ⁴²	3 595	2 504
Loading Facilities	330	-	-	353 460	353 460	215 689
PIPED GAS⁴³	-	-	11 592	11 592	9 224	9 176
GRAND TOTAL	-	-	829 610	917 139	830 020	879 722

Source: NERSA

l. The energy sector is undergoing major reforms with the construction of a number of projects that will add significant amounts of capacity in the short term as depicted in Table 13 below. As of 2019, there are R147 106 billion assets under construction of which R146 802 billion assets are in the Electricity sector, R265million in Petroleum Pipelines and R39 492 million in Piped Gas. The electricity sector construction projects include the approved DMRE REIPPPP projects and Eskom power projects. IPPs, in particular, have investment projects worth R66.384billion (45.2%) and Eskom through its new build programme accounts for R 80 418billion (54.7 %) with projects such as Medupi and Kusile power stations still under construction. It should be noted that some of these projects are nearing completion and will be adding significant amounts of electricity to the South African power grid.

m. In the Petroleum Pipelines sector, there was R265 million worth of pipelines under construction with no storage and loading facilities being built in 2019. Cumulatively, the Energy regulator has approved R47 354 billion Petroleum Pipelines investment projects since 2006 while, a total of 2 790 billion construction projects were approved in the Piped Gas sector. Some of these Piped Gas projects include a distribution line in Tarlton by Sasol for R43.4 million, compressor station in Komatipoort by ROMPCO for R651 million, a transmission line from Secunda to Sasolburg by Sasol for R1.5 billion respectively.

⁴² These includes assets that were approved on standard option of the value of R7 082 789 364

⁴³ Data not available for 2017.




Table 7: Total value of assets under construction (ZAR)

INDUSTRY	2016	2017	2018	2019	ACCUMULATIVE			
					(2006 – 2016)	(2006 – 2017)	(2006 – 2018)	(2006 – 2019)
ELECTRICITY (Total)	223 339 000 000	152 157 698 000	146 896 698 000	146 802 300 000				
Eskom	84 455 000 000	85 679 000 000	80 418 000 000	80 418 000 000				
IPPs	138 884 000 000	66 478 698 000 ⁴⁴	66 478 698 000	66 478 698 000				
PETROLEUM PIPELINES⁴⁵	565 200 000⁴⁶	1 514 000 000	265 000 000	265 000 000	55 802 100 000	47 080 138 000	47 354 238 000⁴⁷	47 354 237 803⁴⁸
Pipelines	0	0	265 000 000	265 000 000	29 455 000 000	29 488 900 000	29 753 000 000	29 752 999 993 ⁴⁹
Storage Facilities	565 200 000	1 500 000 000	0	0	26 124,100 000	17 364 238 000	17 364 238 000	17 364 237 810 ⁵⁰
Loading Facilities		14 000 000	0	0	223 000 000	237 000 000	237 000 000	237 000 000
PIPED GAS⁴³	60 518 000⁵¹	17 100 000	18 283 311	39 492 847	2 716 000 000	2 733 100 000	2 751 383 311	2 790 876 158
GRAND TOTAL	196 816 718 000	226 094 100 000	147 179 981 311	147 179 981 311	61 495 100 000	48 813 238 000	50 105 621 311	

Source: NERSA

⁴⁴ These includes assets that were approved on standard option of the value of R7 082 789 364

⁴⁵ Data not available for 2017.

⁴⁶ These includes assets that were approved on standard option of the value of R7 082 789 364

⁴⁷ Data not available for 2017.

⁴⁸ These includes assets that were approved on standard option of the value of R7 082 789 364

⁴⁹ Data not available for 2017.

⁵⁰ Data not available for 2017.

⁵¹ Data not available for 2017.



n. Table 8 below presents the amount of licensed capacity per industry (operational and non-operational). Total licenced capacity in the Electricity sector is currently at 62 427.17MW down from 63 586.3MW in 2018 representing a 1,82 percent decrease. As shown in Table 14 below, Eskom generation has the biggest share of 82.90 percent while renewable and general IPPs contribute 15.79% and Municipalities 1.29%. Interestingly, IPPs combined capacity has increased from 7 480MW in 2014 to 9861.9MW in 2019 which translates to a 31,84% increase in new licensed capacity over the 6-year period.

o. In the Petroleum Pipelines sector, pipelines and loading capacity have remained roughly the same except for the storage facilities which has increase from 12 329 854m³ in 2018 to 13 090 062m³ in 2019 an increase of 6.16%. While, in the Piped Gas sector, gas volume transported per year is at 188 488 997GJ in 2018 up from 180 688 997 GJ in 2017.

Table 8: Amount of licensed capacity per industry³ (Operational and non-operational)

INDUSTRY	2015	2016	2017	2018	2019
ELECTRICITY (Total)	63 132 MW	63 096 MW	64 276.6MW	63 586.3MW	62 427.17MW
Generation: Eskom	52 689 MW	52 569 MW	52 668MW	51 943MW ⁵²	51 757.90MW
Generation: IPPs (General)	3 254 MW	3 268 MW	3 274.2MW	3 269MW	3 269MW
Generation: IPPs (Renewable Energy)	6 465 MW	6 535 MW	6 552.8MW	6 592.7MW	6 592.9MW
Generation: Municipalities	724 MW	724 MW	1 781.6MW	1 781.6MW	807.37MW
PETROLEUM PIPELINES					
Pipelines ⁵³ (m ³)	19 981 213	17 396 697	17 396 697	17 396 697	17 396 697
Storage facilities (m³)	12 083 528	12 014 534	12 176 534	12 329 854⁵⁴	13 090 062
Loading facilities⁵⁵	66 149 m³/hr	16 173 861MT	16 174 912MT	16 174 912MT	16 174 912MT
PIPED-GAS					
Volumes of gas per year (GJ)	176 609 720	172 282 304	180 688 997	188 488 997	178 229 809

Source: NERSA

⁵² Duvha Unit 3 (600MW installed/575MW nominal capacity) removed from installed/nominal base. Hendrina Unit 3 (195MW installed/185MW nominal capacity) removed from installed/nominal base.

⁵³ Annual volumes are only for the Transnet pipeline system.

⁵⁴ Only operation capacity shown which included amendments processed in 2018. Units of measure is cubic metres (m³).

⁵⁵ Annual volumes only for SBM in Durban (80% of RSA crude imports).





p. Capacity under construction varies across energy sectors as depicted in Table 15 below. The variation is based on the number and size of projects under construction. However, we are unable to provide an aggregated amount of capacity under construction as the three regulated sectors use different units of capacity measurements.

q. In the Electricity sector, 8851,2MW of capacity is still under construction with Eskom 6382MW and 2 469.2MW for Independent Power Producers (IPPs). The 8851,2MW capacity

represents a 0.22% decrease from the 8 871.2MW for 2018. The capacity under construction for IPPs between 2014 and 2018 has been increasing indicating that some construction projects have been completed. There has been a constant decline in capacity under construction for Eskom between 2014 and 2017, after which a steady capacity has been maintained at 6 382 MW.

r. In the Petroleum Pipelines sector, 2 789 944m³ storage capacity and 21 560m³/hr are currently under construction.

Table 9: Capacity of assets under construction

INDUSTRY	2015	2016	2017	2018	2019
ELECTRICITY (Total)	13771	10751	8 901.2	8851.1	8851.2
Eskom (MW)	11532	8450	6382	6382 ⁵⁶	6382
Municipalities	0	0	0	0	0
IPPs ⁵⁷	2239	2301	2519.2⁵⁸	2 469.1MW⁵⁹	2 469.2MW
PETROLEUM PIPELINES					
Storage facilities	0 m3	2 946 297 m ³	3 128 297 m ³	2 956 469 m ³	2 789 944m ³
Loading facilities ⁶⁰	714 m³/hr	0 m3/hr	300 m3/hr	20 360m3/hr	21 560m³/hr
PIPED-GAS⁶¹ (Not Applicable)					

Source: NERSA

⁵⁶ As at March 2018, Medupi 3*794 and Kusile 5*800.

⁵⁷ The 2015 and 2016 figures include renewable energy projects that were licensed but yet to reach financial close with Eskom.

⁵⁸ BW 3.5, 4 and Small Scale

⁵⁹ This figure does not include data for the BID Window approved by Minister Jeff Radebe in February 2019.

⁶⁰ For loading facilities, additional capacity licensed prior to 2014 (except Sunrise) plus Burgan and Vopak facilities in 2014. In 2015 Sunrise facilities were under construction. Loading facilities includes own auxiliary pipelines.

⁶¹ No new capacity being built, only projects that seek to connect customers who already have capacity contracts.



- s. The Energy Regulator allowable revenue is fairly distributed based on the size of the regulated entities as depicted in Table 16 below. Electricity as the biggest sector has the largest allowable revenue share compared to the Piped Gas and Petroleum Pipelines sectors. The 2019 aggregate indicates that the Energy Regulator granted a total of R207 062 billion in allowable revenue. This is the amount that all regulated entities can recoup from their customers. However, this amount does not include SASOL.
- t. Eskom the largest regulated entity was allowed a revenue of R198 715 billion in 2019 representing a 4.39% decrease from R190 348 billion allowed in 2018.

- u. With respect to the Petroleum Pipelines entities, R5 728 billion was granted in 2018 shared among pipelines and storage facilities. This amount represents a 20.89% decrease from R7 241 billion granted in 2017. An allowable revenue of R6 598 billion was granted for the 2019 period. This amount represents increase of 15.18% from the 2018 figure.
- v. The Piped Gas sector regulated entities were granted allowable revenue of R15 460 billion in 2018 up with 3.65% from R14 915 billion granted in 2017. However, the 2017 allowable revenue was below R5. 631 billion allowed in 2014. The sector was granted an allowable revenue of R 1 749 billion in 2019. However, the allowable revenue for the SASOL Trading was not approved due to the challenges associated with the current Piped-Gas Methodology. This figure therefore does not include that of SASOL Trading.

Table 10: Allowable Revenue (NERSA Approved, ZAR)

INDUSTRY	2013	2014	2015	2016	2017	2018	2019
ELECTRICITY (Total)	143 101 000 000	156 057 000 000	179 587 000 000	198 035 000 000	205 214 000 000	190 348 000 000	198 715 000 000
Eskom ⁶²	143 101 000 000	156 057 000 000	179 587 000 000	198 035 000 000	205 214 000 000	190 348 000 000	198 715 000 000
Municipalities	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PETROLEUM PIPELINES	2 896 080 000	4 449 540 000	4 329 630 000	4 522 710 000	7 241 811 501	5 728 377 208	6 598 378 963
Pipelines	2 896 080 000	3 554 580 000	3 515 800 000	3 471 830 000	4 979 830 000	5 418 815 909	5 890 300 000
Storage facilities		698 760 000	813 830 000	1 050 880 000	2 059 791 501 ⁶³	309 561 299	614 424 246
Loading facilities ⁶⁴		196 200 000			202 190 000		93 654 717
PIPED-GAS	2 394 120 000	5 631 350 000	4 035 340 000	5 254 080 000	14 915 052 737⁶⁵	15 460 908 459⁶⁶	1 749 398 228⁶⁷
GRAND TOTAL	155 227 200 000	173 664 890 000	188 696 970 000	206 154 790 000	227 370 864 238	211 537 285 667⁶⁸	207 062 777 191

Source: NERSA

⁶²Allowable revenue includes IPPs

⁶³These includes Allowable Revenue that was approved on standard option of the value of R1 851 811 501

⁶⁴No tariff applications received for 2015 and 2016.

⁶⁵Allowable Revenue of Transnet, Spring Light Gas, ROMPCO and Sasol Gas.

⁶⁶Allowable Revenue of Transnet, Spring Light Gas, ROMPCO and Sasol Gas.

⁶⁷Figure excludes Sasol Trading.

⁶⁸The majority of these revocations were due to name change or new ownership and the capacities were not lost.



- w. According to the governing legislation, the Energy Regulator is empowered to revoke licences issued to regulated entities in certain circumstances. Table 17 below presents the number of revoked licenses and capacities from 2014 to 2019. Of particular interest in Table 17 is the number of licenses revoked in the Petroleum Pipelines sector (26) in 2016, specifically in the storage facilities (23) in 2016. With regards to capacity, 200 655m³ of storage capacity was affected in 2016.
- x. However, it should be noted that the majority of these licences were from facilities that were re-applied for by their new owners. There has only been 1 revocation in the Electricity industry in the past 5 years.

This particular revocation was in 2016 for 10MW. There were no revocations in the Petroleum Pipelines sector in 2017 contrary to 2018 and 2019 where 6 and 8 licences were revoked respectively. Of the 6 revoked licences in 2018, 5 were for storage facilities with a capacity of 65406 m³ including 1 loading facility licence with a capacity of 3340 m³/hr. Furthermore, the 8 revoked licences in 2019 were for storage facilities with a combined storage capacity of 2244m³. A total of 5 licences were revoked in the Piped Gas regulated entities in 2018 and 4 licences in 2019. The 4 licences revoked in 2019 were for a construction of a distribution facility, operation of a distribution facility, trading in gas and conversion of a distribution facility

Table 11: Number of revoked licences and capacity

INDUSTRY	LICENCES						CAPACITY					
	2014	2015	2016	2017	2018	2019	2014	2015	2016	2017	2018	2019
ELECTRICITY (Total)	0	0	1	0	0	0	0	0	1	0m ³	0m ³	0m ³
PETROLEUM PIPELINES⁶⁹	0	9	26	0	6	8	1 167 m ³	1 081 m ³	26	0m ³		2244m ³
Pipelines	0	1 ⁷⁰	0	0	0	0	0m ³	0m ³	0m ³	0m ³	0m ³	0m ³
Storage facilities	2	6	23	0	5 ⁷¹	8 ⁷²	1 167m ³	1 081 m ³	23	0m ³	65406 m ³	2244m ³
Loading facilities	0	2 ⁷³	0	0	1	0	0	0m ³	0	0m ³	3340 m ³ /hr	0m ³
PIPED-GAS⁷⁴	0	0	3	3	5 ⁷⁵	4	0	0	0	340 720 GJ		
GRAND TOTAL	2	9	27	3	11	12	1 167m ³	1 081 m ³		340 720 GJ		

Source: NERSA

⁷⁰ORTIA JV pipeline was revoked on 16 February 2015, but immediately re-applied for by the new owner and issued on 1 July 2015. Net effect is no capacity lost.

⁷¹Two revocations due to ownership changes. IVS Richards Bay (Pty) Ltd to IVS Limited were granted, but was immediately re-issued to the new legal entity, Royale Energy, who re-applied for the same facility. 2018 is taken as a calendar year.

⁷²Includes revocations due to ownership or name changes.

⁷³Shell JV loading facilities revoked (name change), but immediately re-applied for. Net effect is no capacity lost.

⁷⁴No capacity lost as these were trading licenses, the business was then taken over by other owners.

⁷⁵Capacity for the revoked licences not available.

⁷⁶Sasol Gas Ltd – Phoenix (Construction of distribution facility, Operation of distribution facility, Trading in gas, Conversion of distribution facility) revoked 11 March 2019.



1.1.9.4.4. Employment Creation

- a. The total number of employment opportunities generated as a result of issuing a construction and/or operation license to the licensees generally depends on the size of the facility to be built or operated. The number of jobs created during the construction phase is temporary, while those generated as a result of operating the facilities are permanent and sustainable. However, at the operation phase of these facilities, licensees require fewer workers.
- b. Electricity infrastructure investment in South Africa creates both informal and formal jobs. Most of these jobs are indirect as the majority of electricity is generated from coal whose supply is dependent on mining activities.
- c. According to the NERSA RIA study (2016), Electricity infrastructure investment in South Africa over the period 2006 – 2013 sustained about 402 000 jobs on average, representing 3% of total formal employment in South Africa during 2013 (see Table 12 below). Over the period 2006 to 2013, an average of about 230 000 jobs was created directly through electricity infrastructure investment. Over the same period, approximately 170 000 jobs were created indirectly in the sectors that provide inputs for electricity infrastructure components, as well as through the payment of salaries and wages of the employees working at the various stages of the infrastructure expansion.

Table 12: Electricity Investment impact on employment from 2006 to 2013.

Average annual number of jobs over the period	Direct impact	Indirect impact	Induced impact	Total impact
2006-2013	228 743	44 104	129 326	402 173

Source: NERSA RIA study (2016)

- d. On the other hand, Petroleum pipeline and loading facility infrastructure investment in South Africa over the period 2006 – 2013 sustained about 18 000, direct, indirect and induced jobs on average (see Table 13 below). These jobs represented a 1.0% of total formal employment in South Africa during 2013. Over the period 2006 to 2013, an average of approximately 9 600 jobs were created directly through infrastructure investment. Over the same period, approximately 8 400 jobs were created indirectly in the sectors that provide inputs for petroleum pipelines and loading facilities infrastructure components, as well as through the payment of salaries and wages of the employees working at the various stages of the infrastructure expansion. Investment in the infrastructure development of storage facilities also has a large impact on the South African economy. If the total amount that was budgeted was invested, about 6 000 jobs on average could have been sustained between 2006 and 2013. However, only about 1 500 jobs were sustained over this period, due to only a small portion of the budgeted amount being invested.

Table 13: Petroleum Pipelines investment impact on employment from 2006 to 2013.

	Direct impact	Indirect impact	Induced impact	Total impact
Impact from investment in pipeline and loading facilities	9 632	2 850	5 918	18 301
Potential impact from budgeted investment in storage facilities	3 571	937	1578	6 087
Impact from actual investment in storage facilities	874	229	386	1 490

Source: NERSA RIA study (2016)





- e. The Piped gas infrastructure investment in South Africa over the period 2006 – 2013 sustained about 1 500 direct, indirect and induced jobs on average, representing a 0.08% of total formal employment in South Africa during 2013. An average of about 760 jobs were created directly through infrastructure investment over the same period. Moreover, approximately 700 jobs were created indirectly in the sectors that provide inputs for gas infrastructure components, as well as through the payment of salaries and wages of the employees working at the various stages of the infrastructure expansion (see Table 14 below).

Table 14: Piped Gas investment impact on employment from 2006 to 2013

Average annual number of jobs over the period	Direct impact	Indirect impact	Induced impact	Total impact
2006-2013	405	433	905	1744

Source: NERSA RIA study (2016)

Table 15: Number of people employed per regulated industry

INDUSTRY	2012	2013	2014	2015 ⁷⁷	2016	2017	2018	2019
ELECTRICITY ⁷⁸	60 564	61 922	64 681	63 659	74 699*	80 190 ⁷⁹	75 714 ⁸⁰	No Data
PETROLEUM PIPELINES				44 878*	45 251*	Na	Na	No Data
PIPED-GAS				2 083*	2 000*	Na	Na	No Data
GRAND TOTAL				110 620*	121 950*	80 190	75 714	No Data

Source: NERSA, Eskom and Conningarth Economists

Notes: All figures with superscript* were obtained from Conningarth Economists

⁷⁷ Conningarth Economists forecast

⁷⁸ Includes Generation, Transmission and Distribution business for both Eskom and municipalities and private distributors.

⁷⁹ Consists of 40,5% (32 532) accumulative jobs created by IPPs for South African citizens as of June 2017 of which 41 % is youth. The remaining 59,4% (47 658) is Eskom employees including 5 718 which translates to 11,99% of Eskom Rotek Industries employees.

⁸⁰ 39 186 Eskom jobs excluding Rotek plus 36 528 IPP job years (The equivalent of a full time employment opportunity for one person for one year).

- f. According to NERSA statistics in Table 15 below, the electricity regulated entities (Eskom and Municipalities) employed approximately 63 659 people in 2015. According to Conningarth Economists, electricity entities employed approximately 74 699 in 2016, representing a 17.3% increase from 63 659 in 2015. According to Eskom, the electricity sector employed approximately 75 714 people in 2018 down by 5.58% in 2017 (see Table 21 below). However, no data was available for 2019. According to Conningarth Economists, about 45 251 people were employed in the Petroleum Pipelines sector in 2015 representing a 0.8% increase from 44 878 in 2014. To the contrary 2000 people were employed in the Piped-Gas sector in 2015 representing a 3.9% decrease from 2014.



1.1.10. PE(R)STEL Factors Analysis

The specific factors considered in the environmental scan are shown in the tables below.

Table 16: Political factors

Political factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Municipalities' executive authority for funding of municipal infrastructure	<ul style="list-style-type: none"> Some municipalities are unable to fund, build, operate and maintain adequate electricity infrastructure – which has a negative impact on security of supply Ring-fencing of municipal electricity revenues Unsustainable cross subsidising of municipal services 	<ul style="list-style-type: none"> Engage with relevant ministries regarding municipal funding more broadly Base municipal tariffs within the broader municipal funding model
2. Role of SOEs in economic recovery	<ul style="list-style-type: none"> Regulatory mandates that promote a just energy transition undermined Reputational damage to NERSA 	<ul style="list-style-type: none"> Eskom Political Task Team (PTT) involvement Establish and execute Eskom Engagement Task Team under steer of the PTT Develop collaborative relationships with key delivery ministries, such as, inter alia, National Treasury (Operation Vulindlela), Department of Public Enterprises, COGTA etc.
Piped-Gas Industry Regulation		
1. Delays in finalisation of legislative amendments and developments (with specific reference to the Gas IPP and the Gas Utilisation Master Plan)	<ul style="list-style-type: none"> Cost of gas may be too high It may deter / delay entry into the gas market 	<ul style="list-style-type: none"> Develop a report on regulatory advocacy and engagements with relevant policy makers
2. Lack of policy on gas infrastructure investment	<ul style="list-style-type: none"> Uncertainty for investment Lost opportunity to encourage competition in piped-gas industry Impedes growth of the gas market in SA It may deter / delay entry into the gas market 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Advocate the development of the Gas Utilisation Master Plan, Gas IP, Gas Infrastructure Plan





Political factors	Impact if factor is not addressed	NERSA response to the factor
3. Emerging gas policy in Mozambique	<ul style="list-style-type: none"> • Security of gas supply – Supply diversification 	<ul style="list-style-type: none"> • Monitor ability of SASOL to supply • Undertake regulatory and intergovernmental engagements • Monitor utilisation of excess capacity in ROMPCO Pipeline • Approve tariffs for SA side of cross border assets to facilitate investment and additional gas supply
4. Regulating the gas market – bundled and unbundled approach to LNG projects	<ul style="list-style-type: none"> • May deter infrastructure investments • Regulatory uncertainty 	<ul style="list-style-type: none"> • Develop a NERSA position paper on regulating the gas market – bundled and unbundled • Continued regulatory advocacy and engagements with relevant policy makers • Revisit the Gas Rules
5. Alignment of Gas Infrastructure Plan, the IRP and IEP	<ul style="list-style-type: none"> • Possible duplication or contradictions • Regulatory uncertainty 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers
Petroleum Pipelines Industry Regulation		
<ul style="list-style-type: none"> • Geo-political upheavals impacting on petroleum producing transient countries 	<ul style="list-style-type: none"> • Higher and volatile fuel prices • Rand/dollar exchange rate volatility 	<ul style="list-style-type: none"> • Regulatory advocacy on price regulation by the DMRE • Participate in fuel price policy and regulatory framework reviews • Participating in regional structures dealing with petroleum matters
<ul style="list-style-type: none"> • Neighbouring countries finding alternative sources of fuel 	<ul style="list-style-type: none"> • Low tariffs through the NMPP and concomitant high tariffs • Threats to security of supply 	<ul style="list-style-type: none"> • Monitor interventions by Transnet to increase the volumes • Regulate in a manner that promotes immigration from pipelines to other modes of transport • Participate in supply managers forums and other security of supply committees • Continued regulatory advocacy



Political factors	Impact if factor is not addressed	NERSA response to the factor
<ul style="list-style-type: none"> Decline in investment friendliness of South Africa 	<ul style="list-style-type: none"> Further large-scale investments in petroleum infrastructure (and demand sectors) slows down. Petroleum Infrastructure may not be sufficient to meet future demand Decline in fuel demand which can lead to higher tariffs and/or stranded assets 	<ul style="list-style-type: none"> Adjust regulatory framework to attract investments Continued regulatory advocacy and engagements with relevant policy makers to ensure efficiencies Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory frameworks, methodologies and mechanisms Regulate in a manner that promotes competition
Transversal Regulatory and Organisational		
1. Developmental State	<ul style="list-style-type: none"> Decisions of NERSA could be in conflict with policy 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers
2. Manage interface between different policy thrusts of Government (new growth path, IPAP2)	<ul style="list-style-type: none"> Decisions of NERSA could be in conflict with policy 	<ul style="list-style-type: none"> Make decisions that are not in conflict with the Acts Develop and implement a strategic engagement framework on developing legislation/policy changes
3. Policy gaps and inconsistencies	<ul style="list-style-type: none"> Regulatory uncertainty Lack of credibility of regulatory system 	<ul style="list-style-type: none"> Review impact on NERSA's mandate Continued regulatory advocacy and engagements with relevant policy makers Develop a report on the cost of projects, the impact and implications thereof e.g. Integrated Resource Plan
4. Discussion/debate around nationalisation	<ul style="list-style-type: none"> Uncertainty for investment 	<ul style="list-style-type: none"> Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes
5. Review of Sustainable Development Goals	<ul style="list-style-type: none"> NERSA may not assist the country in achieving its goals 	<ul style="list-style-type: none"> Regulate in such a manner that accessibility and affordability is enhanced



Table 17: Economic factors

Economic factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Lack of competition in electricity supply industry	<ul style="list-style-type: none"> Impact on the ability of the Independent Power Producers to access the industry High electricity prices to industrial consumers 	<ul style="list-style-type: none"> Enforce Third-Party Access through regulatory decisions Amend the dispatch rules to include balancing rules Continued regulatory advocacy and engagements with relevant policy makers
2. Subsidies in Industry	<ul style="list-style-type: none"> Subsidies cause wrong investment decisions 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements, also focusing on the following: <ul style="list-style-type: none"> approval of municipal tariffs that rationalise application of subsidies; and limiting surpluses that municipalities can accumulate for cross-subsidisation.
3. Electricity Price to commercial entities in the municipalities has reached a critical level	<ul style="list-style-type: none"> Commerce and industry closing down 	<ul style="list-style-type: none"> Develop a paper on tariffs in municipalities, focusing on, among others: <ul style="list-style-type: none"> Influencing tariff structures Determining whether the actual application of tariffs yields expected result.
4. Impact of poverty	<ul style="list-style-type: none"> Lack of affordability and accessibility 	<ul style="list-style-type: none"> Focus on pro-poor regulation
5. Increased consumption of coal by China and India	<ul style="list-style-type: none"> Security of supply 	<ul style="list-style-type: none"> Regulate the stock piles Develop a report on the introduction of renewable energy in the energy mix (taking into account its limitations)
6. Inter-dependency of SADC on SA economy	<ul style="list-style-type: none"> SADC countries' power plans not realised 	<ul style="list-style-type: none"> Contribute through regional structures such as RERA towards the realisation of SADC countries' power plans Review NERSA's role in international trade



Economic factors	Impact if factor is not addressed	NERSA response to the factor
7. Economic decline and low credit rating	<ul style="list-style-type: none"> Depressed economy leading to less disposable income, which in turn would result in an increase in bad debt and an ESI that is not economically viable. Low credit rating Limits investment attraction, Reduction in economic growth affects affordability 	<ul style="list-style-type: none"> Ensure that electricity price increases are kept to the minimum by enforcing efficient licensee operations and ensure that pro-poor regulation is strengthened Infrastructure investments and development implementation has been affected and delayed. Requires regulation review to align the economy and investment attraction
8. Credit worthiness of State-Owned Entities (SOEs)	<ul style="list-style-type: none"> Impact on infrastructure investment due to higher cost of debt and inability to issue bonds Higher tariffs 	<ul style="list-style-type: none"> Regulate in a manner that drives efficiency Set credit rating criteria in the MYPD methodology
9. Drought – water infrastructure	<ul style="list-style-type: none"> Development of shale gas prospects to encourage gas-to-power projects in the country Security of supply 	<ul style="list-style-type: none"> Review the efficient management of water resources in generation of electricity
10. Decline in electricity demand due to COVID-19 pandemic	<ul style="list-style-type: none"> Low demand has led to low income and profit sustainability. In addition this has threatened energy security and investment attraction as delays in manufacturing have halted mega projects 	<ul style="list-style-type: none"> There is a need to review tariffs and price methodologies to determine whether it is responsive to the long, medium and short term economic impact of COVID-19 and develop appropriate responses
Piped-Gas Industry Regulation		
1. Lack of competition in gas industry	<ul style="list-style-type: none"> Barrier to competitive outcomes (key barriers including lack of gas supplies and infrastructure to enable such supplies)) Likely perpetuation of current monopoly in the industry 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers to facilitate entry Enforce Third-Party Access through regulatory decisions Review and implement Maximum Prices Methodology and Tariff Guidelines
2. Lack of infrastructure investment	<ul style="list-style-type: none"> No/limited growth in the gas market Lack of gas import infrastructure Lack of entry of new gas suppliers 	<ul style="list-style-type: none"> Develop a regulatory advocacy report to the DMRE and IPPs regarding gas-to-power procurement programme Continued advocacy with policy makers to expedite finalisation of Gas Masterplan and alignment of IEP, IRP and Gas Infrastructure Plan





Economic factors	Impact if factor is not addressed	NERSA response to the factor
3. Economic growth stagnation	<ul style="list-style-type: none"> • May deter investments and present barriers to entry 	<ul style="list-style-type: none"> • Continued advocacy with policy makers
4. Lack of indigenous gas sources	<ul style="list-style-type: none"> • Impact growth of gas industry • Discourage investment • Lack of competition in gas industry 	<ul style="list-style-type: none"> • Continued research and monitoring of developments in new gas sources • Develop and maintain gas trade relations with neighbouring countries. • Explore prospects for LNG imports
5. Gas industrialisation campaign	<ul style="list-style-type: none"> • Ineffective regulation of the gas market 	<ul style="list-style-type: none"> • Continued regulatory advocacy • Undertake intergovernmental engagements
6. Gas supply certainty – Sasol Gas indicated in FY19 that it expects its gas fields to start declining in 2023	<ul style="list-style-type: none"> • Sasol Gas may not be able to meet supply obligations going forward • May jeopardise existence and growth of the gas industry. 	<ul style="list-style-type: none"> • Engagements with relevant stakeholders, including <i>inter alia</i> Sasol Gas, the Industrial Gas Users Association –Southern Africa regarding the viability of potential new sources of supply • Gather data from Sasol Gas in terms of S28 and Regulation 9 of the Gas Act, in terms of which Sasol is expected to provide information on its gas reserves • Continued regulatory advocacy and engagements with relevant policy makers to facilitate the entry of new gas suppliers, and the development of infrastructure to enable such supplies
Petroleum Pipelines Industry Regulation		
1. Low economic growth in South Africa	<ul style="list-style-type: none"> • Reduced demand for liquid fuel • Further large-scale investments in petroleum infrastructure will stop. • Petroleum Infrastructure may not be sufficient to meet future demand 	<ul style="list-style-type: none"> • Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes.
2. HDSA and B-BBEE participation	<ul style="list-style-type: none"> • No third-party access to storage facilities • Non-transformed petroleum pipelines industry • Social upheavals 	<ul style="list-style-type: none"> • Participate in Charter Counsel • Develop and implement a strategic engagement framework on transformation



Economic factors	Impact if factor is not addressed	NERSA response to the factor
Petroleum Pipelines Industry Regulation		
3. Importation of fuels via trucks through other ports of entry into South Africa	<ul style="list-style-type: none"> • Lower volumes through pipelines leading to higher tariffs. • Disruption of regulatory framework 	<ul style="list-style-type: none"> • Monitor developments in this regard • Continued regulatory advocacy
Transversal Regulatory and Organisational		
1. Impact of environmental levies and the Carbon Tax Act on prices	<ul style="list-style-type: none"> • Impossible to facilitate achievement of affordable energy services 	<ul style="list-style-type: none"> • Develop a position paper on the impact of environmental levies to policy makers
2. Manage interface between different policy thrusts of Government	<ul style="list-style-type: none"> • Decisions of NERSA could be in conflict with policy 	<ul style="list-style-type: none"> • Make decisions that are not in conflict with the Acts • Develop and implement a strategic engagement framework on developing legislation/policy changes
3. Downgrade of South Africa's credit status	<ul style="list-style-type: none"> • Capital flight (foreign and local) 	<ul style="list-style-type: none"> • Identify and implement key measures to improve regulatory certainty through consistent and defensible decisions, based on world-class regulatory standards, procedures and processes.
4. Persistently low economic growth rate	<ul style="list-style-type: none"> • Cost of energy – impact on consumers 	<ul style="list-style-type: none"> • Review tariffs to encourage manufacturing



Table 18: Regulatory factors

Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Regulatory reform in the electricity sector	<ul style="list-style-type: none"> • Electricity supply and demand misaligned with weak market signals to curb inefficient electricity use • Electricity market reforms poorly managed with avoidable unintended consequences • Information asymmetry <ul style="list-style-type: none"> o Poor quality of evidence used to base decisions o Unsubstantiated decisions taken due to lack of all relevant information available • Contraction in energy intensive usage sectors • Loss of value from natural resource endowments • Economic recovery constrained 	<ul style="list-style-type: none"> • Establish regulatory reform department with capability to assess: <ul style="list-style-type: none"> o Technical aspects o Economic aspects o Legal aspects • Techno-economic evaluation of a regulated ESI that promotes choices that encourages: <ul style="list-style-type: none"> o Productive (technical) efficiency (least cost of supply); o Allocative efficiency (provide the greatest benefit relative to costs). o Dynamic efficiency (timely responses to changes that enhance economic efficiency) • Acquisition of global, regional and national data to support decision making and advocacy • Establishment of an Integrated Energy Modelling capability and associated Integrated Energy Modelling System (IEMS) • Review of licencing/registration regulations/rules • Promoting collaboration and information sharing with stakeholders whose activities are affected by Energy Regulator decisions and advice • Policy, legislative and regulatory advice to relevant ministries, • Research and implement programmes to progress electricity sector reforms with specific focus on, inter alia: <ul style="list-style-type: none"> o Tariff setting methodology reviews – cost reflective tariffs driven by efficiency o Capacity investments in a high reserve margin environment – underutilised/stranded assets o Transition to 'smart' tariffs – to reflect how and when electricity is consumed



Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
2. Rationally regulated electricity supply industry	<ul style="list-style-type: none"> Weakly coordinated and poorly managed unbundling of Eskom Unpredictable and uncertain electricity price path Inefficient use of electricity resulting from weak regulatory signals Inefficient investment decisions resulting in stranded assets NERSA reputational risks 	<ul style="list-style-type: none"> Implementation of the Regulatory Reporting System for financial data and a Regulatory Reporting System for non-financial data: <ul style="list-style-type: none"> Revision of ERTSA Establish 'municipal' ERTSA Development of energy database that integrates energy production and consumption data as evidence for: <ul style="list-style-type: none"> Developing and regularly updating a benchmarked and trusted electricity price path Making sound and substantiated decisions, including inter alia, review of the tariff setting methodology and all other tariffs setting/approval processes The transition to efficient cost reflective tariffs; The integrated Type of Use and Time of Use tariffs, The development of regulatory instruments that promote equitable access to electricity, including, inter alia, a review of the Inclining Block Tariffs, the efficiency of the Free Basic Electricity subsidy etc. Conclusion of Eskom matters – regulatory, legal or otherwise, including, inter alia: <ul style="list-style-type: none"> MYPD applications (consolidated or otherwise) RCA reviews Supplementary applications, Review and revision of MYPD methodology Development and finalisation of MYPD5 methodology implement mechanisms to address EAF and reserve margin to address the 'fallacy of capacity constraints'





Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
3. Compliance of municipalities with electricity licence conditions	<ul style="list-style-type: none"> • Undermine reliability of municipal distribution of electricity - Security and quality of supply • Undermine affordability of, and accessibility to, electricity • Continued tariff misalignment between Eskom, IPPs and municipalities • Key national programmes will be undermined • Undermine service delivery 	<ul style="list-style-type: none"> • Benchmarking of municipal electricity supply metrics • Base approval of municipal tariffs on cost of supply studies • Increased compliance monitoring and robust enforcement of licence conditions – penalties, tribunals etc. • Continued regulatory advocacy and engagements, also focusing on the following: <ul style="list-style-type: none"> ◦ Interdepartmental engagement to locate evidence-based electricity tariffs within the broader municipal funding model; ◦ limiting surpluses that municipalities can accumulate for cross-subsidisation. ◦ approval of municipal tariffs based on cost of supply studies; and
4. Coordinated regulation of gas and electricity industries	<ul style="list-style-type: none"> • Inconsistent policy messages deterring investment • Incorrect signals sent to the market resulting in inefficient investment decisions and stranded assets 	<ul style="list-style-type: none"> • Strengthen internal coordination and strategic interactions with government structures • Collaboration with other regulators to address regulatory asymmetry
5. Management of concurrent jurisdiction with other regulators or institutions	<ul style="list-style-type: none"> • Regulatory overlap • No clear roles and responsibilities • Lack of cooperation may lead to delay in decision making. 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers • Develop and implement Memorandums of Understanding (MOUs) and Memorandums of Agreement (MOAs) with appropriate regulators or institutions



Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
Piped-Gas Industry Regulation		
1. Light-handed approach of current regulatory framework and weak enforcement powers	<ul style="list-style-type: none"> • Difficult to effectively enforce regulatory mandate 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers, with specific reference to the review of the Gas Act and the National Energy Regulator Act • Develop and implement MOUs with the appropriate regulators or institutions, focusing among others on reducing confusion and unnecessary regulatory burden and cost
2. Regulatory gaps, limited discretion and fragmentation of legislation (gas) (not regulating entire value chain)	<ul style="list-style-type: none"> • Unnecessary regulatory burden • Unintended consequences (e.g. High distribution tariffs) • Ineffective regulation of industry • Difficulty in approving vs setting gas prices and tariffs 	<ul style="list-style-type: none"> • Report on regulatory advocacy and engagements regarding provisions/ measures to be included in the Gas Amendment Bill • Amendments to the Gas Act by the DoE
3. Lack of experience in regulating new activities (e.g. LNG, Shale gas, FSRU, regasification)	<ul style="list-style-type: none"> • Inappropriate regulation of new activities 	<ul style="list-style-type: none"> • Develop the rules, norms and standards for the regulation of the new activities • Develop and implement a skills gap analysis and appropriate training for staff in regulating new activities
4. Information asymmetry	<ul style="list-style-type: none"> • Possible incorrect decisions taken due to lack of accurate/ adequate information for decision making 	<ul style="list-style-type: none"> • Develop and implement an appropriate method of ensuring the collection of accurate data • Implement the Regulatory Reporting Manuals to overcome information asymmetry
5. Concurrent jurisdiction regarding the regulation of gas	<ul style="list-style-type: none"> • Lack of cooperation may lead to delay in decision making 	<ul style="list-style-type: none"> • Development and implementation of MOUs and MOAs with regulators with concurrent jurisdiction





Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
6. Gaps and inconsistencies between regulations and the Act	<ul style="list-style-type: none"> Regulatory uncertainty Leads to confusion among stakeholders Legal challenges 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Advocate for the gas amendment process by DoE/DMRE
7. Cross-border regulation and harmonisation of processes, methodologies and procedures	<ul style="list-style-type: none"> Regulatory uncertainty 	<ul style="list-style-type: none"> Continued engagement with INP to harmonise regulatory processes. Finalise and implement MOU with Mozambique regarding sharing of information and mutual co-operation on regulatory matters
8. Complementary jurisdiction misalignment in application of policy objectives	<ul style="list-style-type: none"> Regulatory and investment uncertainty 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagement in with relevant policy makers Develop appropriate MOUs
Petroleum Pipelines Industry Regulation		
1. Concurrent and complementary jurisdiction	<ul style="list-style-type: none"> Regulatory uncertainty 	<ul style="list-style-type: none"> Harmonise regulatory methodologies (internally and externally) Continued regulatory advocacy and engagements with relevant policy makers and other regulators
2. Cross-border regulation and harmonisation of processes, methodologies and procedures	<ul style="list-style-type: none"> Regulatory uncertainty Reduce intra-regional and/or intercontinental trade 	<ul style="list-style-type: none"> Participation in RERA's Petroleum and Gas Regulatory Subcommittee Participation in regional and continental regulatory structures
3. Policies lagging behind	<ul style="list-style-type: none"> Impacting NERSA's ability to effectively regulate the industry 	<ul style="list-style-type: none"> Continued alignment and revisions between DMRE mandate and associated policies.



Regulatory factors	Impact if factor is not addressed	NERSA response to the factor
<ul style="list-style-type: none"> Possible market interventions by Government: biofuels strategic stocks security of supply cleaner fuels New refinery LNG importation 	<ul style="list-style-type: none"> Inadequate regulatory framework 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Continued participation in SADC structures (e.g. Oil and Gas Subcommittee) Identify potential regulatory process amendments Provide inputs on suggested policy and regulatory amendments Pro-actively engage on possible market interventions and adjust framework accordingly
<ul style="list-style-type: none"> Inconsistency in storage and loading tariff and storage methodology 	<ul style="list-style-type: none"> Undue over-compensation 	<ul style="list-style-type: none"> Revise the methodology
Transversal Regulatory and Organisational		
1. Management of concurrent jurisdiction	<ul style="list-style-type: none"> Regulatory overlap No clear roles and responsibilities 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Develop and implement MOUs and MOAs with regulators with concurrent jurisdiction
2. Perception of independence of the Regulator	<ul style="list-style-type: none"> Uncertainty for investment 	<ul style="list-style-type: none"> Develop and execute a Stakeholder Engagement Strategy to inform a Stakeholder relations management system Communication strategy, including, inter alia, attention to NERSA's activities, information dissemination, approach to Records of Decision etc.
3. Review of the Energy Regulator Act	<ul style="list-style-type: none"> Negative impact on regulatory ability if identified gaps are not addressed in the Act 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers
4. Implementation of regulatory programmes and projects approved at continental and regional level	<ul style="list-style-type: none"> NERSA may not be in a position to contribute to continental and regional matters that may have an impact on the energy industry, and the country as a whole 	<ul style="list-style-type: none"> NERSA needs to incorporate continental and regional programmes in its regulatory activities (<i>since RSA is a member and an important role player in regional and continental structures, e.g. RERA & AUC</i>)





Table 19: Social factors

Social Factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Resistance from consumers to have pre-paid split meters	<ul style="list-style-type: none"> Increased losses (energy and costs) for licensees Ineffective credit control and negative impact on viability of distributors 	<ul style="list-style-type: none"> Consumer education
2. Regulatory instruments to reduce poverty	<ul style="list-style-type: none"> Increased poverty Boycotting of payments of electricity Social unrest and ongoing service delivery protests Destruction of electricity supply infrastructure 	<ul style="list-style-type: none"> Public consultations to understand community grievances and extent to which regulatory instruments can influence outcomes Develop regulatory approaches and instruments that promote equitable and appropriate access to electricity Continued regulatory advocacy and engagements with relevant policy makers – with specific reference to poverty reduction measures Review Free Basic Electricity and other proactive poverty reduction subsidies to reduce social wealth gaps
3. Social unrest and ongoing service delivery protests	<ul style="list-style-type: none"> Destruction of electricity supply infrastructure 	<ul style="list-style-type: none"> There is a need to regulate in a manner that promotes equitable distribution
Piped-Gas Industry Regulation		
1. Implementation of HDSA/B-BBEE participation policy	<ul style="list-style-type: none"> Limited participation in market by HDSA/B-BBEE and industry transformation Access to gas and infrastructure 	<ul style="list-style-type: none"> Ensure third-party access Continued regulatory advocacy and engagements with relevant policy makers – with specific reference to the development of a charter Enforce transformation provisions in BBBEE legislation
2. Uncontrolled building on pipeline servitudes	<ul style="list-style-type: none"> May result in damage to pipelines, posing a threat to security of supply 	<ul style="list-style-type: none"> Increase pressure on licensees to consult with municipalities by monitoring and enforcing compliance with licence conditions and Regulations



Social Factors	Impact if factor is not addressed	NERSA response to the factor
3. Skills development	<ul style="list-style-type: none"> Inadequate skills to match new technically inclined developments upstream 	<ul style="list-style-type: none"> Monitor construction plans Ensure skills transfer in interactions with specialist service providers (e.g. skills transfer clauses in service level agreements with consultants) Ensure continued training on new developments in the industry
Petroleum Pipelines Industry Regulation		
1. Lack of awareness of positioning of pipelines by other relevant authorities	<ul style="list-style-type: none"> Health, safety and environmental risks – bad publicity or reputational risk for NERSA 	<ul style="list-style-type: none"> Public awareness campaigns to explain NERSA's role and responsibilities Monitor and enforce compliance with licence conditions and Regulations for licensees to liaise with municipalities
2. Increase of attempted theft on the pipelines	<ul style="list-style-type: none"> Security of supply compromised Health and safety risk 	<ul style="list-style-type: none"> Monitor and enforce compliance with licence conditions Promote improved coordination and cooperation with other regulatory authorities, municipalities and law enforcement agencies
Transversal Regulatory and Organisational		
1. High level of unemployment	<ul style="list-style-type: none"> Political instability that can affect delivery of infrastructure to the poor 	<ul style="list-style-type: none"> Ensure that NERSA's Internship and Learnership programmes are current and effective Investigate how NERSA can use tariffs to allow licensees to employ young people as apprentices
2. Service delivery protests (consumer activism)	<ul style="list-style-type: none"> Alienated and marginalised communities Potential increase in tariffs 	<ul style="list-style-type: none"> Conduct customer education and public consultation initiatives Develop a position paper on the most appropriate funding mechanisms Develop a position paper on tariff reducing instruments in order to obtain policy clarity





Social Factors	Impact if factor is not addressed	NERSA response to the factor
Transversal Regulatory and Organisational		
3. Perception of independence of the Regulator	<ul style="list-style-type: none"> • Uncertainty for investment 	<ul style="list-style-type: none"> • Develop a strategic engagement framework with all role players • Develop a proactive communication strategy on NERSA's activities – particularly on how decisions are reached
4. Resistance to energy infrastructure close to settlements	<ul style="list-style-type: none"> • Security of supply 	<ul style="list-style-type: none"> • Ensure that the sector is ready for expropriation proceedings in terms of the Electricity Regulation Act

Table 20: Technological factors

Technological factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Technological innovation e.g. Smart Grid	<ul style="list-style-type: none"> • Security of supply • Stranded assets 	<ul style="list-style-type: none"> • Develop appropriate rules to cater for technological innovation in the sector • Monitor compliance with robust enforcement • Develop measures in order to protect user information • As the grid becomes more sophisticated, NERSA may need new regulations to protect the grid over the long-term • Customer education • Engagement with smart technology providers and platforms (especially SOEs, where potential leverage and social benefit – such as Telkom, SITA etc.) to develop smart tariff applications towards real-time monitoring of the electricity systems.
2. Renewable Generation	<ul style="list-style-type: none"> • Security of supply • SA not meeting environmental targets 	<ul style="list-style-type: none"> • Amend the Grid Code to include dispatch rules • Create market and balancing rules
3. Gas as primary energy source	<ul style="list-style-type: none"> • Security of supply 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers



Technological factors	Impact if factor is not addressed	NERSA response to the factor
4. Nuclear Generation	<ul style="list-style-type: none"> • Security of supply • Higher tariffs 	<ul style="list-style-type: none"> • Develop a report on the introduction of nuclear energy in the energy mix • Conduct customer education • Conduct a skills analysis and develop a strategy to upgrade NERSA skills
5. Energy efficiency	<ul style="list-style-type: none"> • Revenue shortfall for municipalities/distributors/ Eskom 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers with specific reference to a different funding model for municipalities so that they do not have to depend mainly on electricity revenues • Continued monitoring of the implementation and the impact of energy efficient measures
6. Storage technologies	<ul style="list-style-type: none"> • Could impact prices and security of supply • Will not harness the benefits of e.g. renewable energy, mini grids, etc. 	<ul style="list-style-type: none"> • Create a regulatory environment to include this technology and capacity building of NERSA staff to improve understanding • Develop rules codes to define how these technologies connect with the electricity grid
7. Embedded and self-generation	<ul style="list-style-type: none"> • Eskom and Municipal sustainability at risk 	<ul style="list-style-type: none"> • Engage with stakeholders • Develop a framework to address sustainability issues • Develop rules for registration • Develop systems to ensure monitoring to form inputs into planning processes.
Piped-Gas Industry Regulation		
1. Regulatory framework lags technological innovation	<ul style="list-style-type: none"> • Unregulated gas activities (risk) • Deters entry and investment • Regulatory uncertainty • NERSA could be exposed to possible legal action • Ineffective regulation 	<ul style="list-style-type: none"> • Continued regulatory advocacy • Incentivise through tariffs, prices and licensing • Monitor developments in the industry • Ensure that a regulatory framework is developed in order to be ready for the regulation of the industry with technological innovation
2. Lack of piped-gas infrastructure for new technology (Liquefied Natural Gas, regasification, Compressed Natural Gas, Floating Liquefied Natural Gas, Liquefied Natural Gas tanks etc.)	<ul style="list-style-type: none"> • Deters investment and growth of downstream industry 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers





Technological factors	Impact if factor is not addressed	NERSA response to the factor
Piped-Gas Industry Regulation		
3. Resistance to new gas technology (e.g. Shale Gas hydraulic fracturing)	<ul style="list-style-type: none"> SA misses out on opportunity to replace crude imports with domestic GTL 	<ul style="list-style-type: none"> Conduct research on new gas technology and the impact on regulation Continuously monitor developments of gas technologies Review adequacy of current regulatory regime and rules Continued regulatory advocacy and engagements with relevant policy makers Conduct a skills analysis and develop a strategy to upgrade NERSA skills on regulation of new gas technologies
4. Lack of gas storage infrastructure	<ul style="list-style-type: none"> Security of supply could be compromised 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers
Petroleum Pipelines Industry Regulation		
1. Alternative forms of energy and technological improvements that reduce demand for petrol	<ul style="list-style-type: none"> Risk of stranded assets Risk of bankrupting new entrants Lower pipeline volumes will lead to higher tariffs, which may result in incentives to use alternative modes of transport 	<ul style="list-style-type: none"> Forward looking regulatory framework Monitor trends and potential alignment of tariff methodologies Create an environment to regulate within changing landscape Monitor supply and demand
2. Fragmentation of the different product grades of fuel – losing economies of scale	<ul style="list-style-type: none"> Lower volumes will lead to higher tariffs. Higher Transnet Pipeline costs due to higher interface volumes. It will reduce available storage capacity for individual products It will reduce availability of storage capacity per product grade and may consequently further reduce third-party access 	<ul style="list-style-type: none"> Licence tanks to store more than one type of product
Transversal Regulatory and Organisational		
1. Rapid development in ICT sector	<ul style="list-style-type: none"> Lost efficiencies and limited communication impact and reach 	<ul style="list-style-type: none"> Harness technologies to speed up processes and improve efficiency Implement cyber security controls



Technological factors	Impact if factor is not addressed	NERSA response to the factor
Transversal Regulatory and Organisational		
2. Technological Developments;	<ul style="list-style-type: none"> There are several advancements that affect NERSA's ability to deliver and respond 	<ul style="list-style-type: none"> NERSA needs to assess how to take advantage of technological advancement in their operations beyond COVID-19

Table 21: Environmental factors

Environmental Factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Climate change imperatives	<ul style="list-style-type: none"> Can impact the security of supply because renewable energy generators cannot contribute to meeting peak demand and are unreliable in delivery of energy. The current high cost of renewable energy generators will impact on the accessibility to all end users. 	<ul style="list-style-type: none"> Evidence based regulatory advocacy and engagements with, inter alia: <ul style="list-style-type: none"> Relevant policy makers; Civil Society; and Consumers
2. Environmental activism	<ul style="list-style-type: none"> Security of supply 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers
3. Growing awareness of environmental factors	<ul style="list-style-type: none"> SA not meeting its reduction in greenhouse gas emission targets 	<ul style="list-style-type: none"> Utilise the Multi-Year Price Determination to facilitate contributing towards the reduction of greenhouse gas emissions
4. Carbon tax (off sets and carbon trading)	<ul style="list-style-type: none"> Higher prices of all non-renewable energy 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Monitor developments and decisions taken by the G20
5. Minimum Emission Standard	<ul style="list-style-type: none"> Shutting down of power stations that do not comply Security of supply 	<ul style="list-style-type: none"> Sensitise stakeholders on the impact of the standard
6. Reduction in emission due to low activities	<ul style="list-style-type: none"> This has presented an opportunity for use of alternative energy sources 	<ul style="list-style-type: none"> NERSA needs to adjust its policies and processes to address procurement of large renewable energy projects. The regulatory methodologies to deal with these need to be revised





Environmental Factors	Impact if factor is not addressed	NERSA response to the factor
Piped-Gas Industry Regulation		
1. Environmental activism, global warming, carbon taxes and emissions reduction	<ul style="list-style-type: none">• Gas market cannot grow	<ul style="list-style-type: none">• Continued regulatory advocacy and engagements with relevant policy makers – specifically to promote gas as a more attractive option and environmentally friendly energy source• Monitor developments and decisions taken by the G20 and climate change agreements
2. Shale Gas hydraulic fracturing perceived as an environmental threat	<ul style="list-style-type: none">• SA misses out on shale gas potential• SA misses out on an opportunity to become energy self-sufficient	<ul style="list-style-type: none">• Conduct research on shale gas and the environment• Continued regulatory advocacy and engagements with relevant policy makers• Participate in national debate on shale gas and task teams where possible
Petroleum Pipelines Industry Regulation		
1. Reduction of carbon emissions	<ul style="list-style-type: none">• Additional cost to the economy with no alternative fuel source of any scale• Taxes applied by the economy cannot respond to the signal	<ul style="list-style-type: none">• Develop a report on the impact of the introduction of the Carbon Tax Act
2. Automotive industry is globally moving towards cleaner fuels and the market demand for cleaner fuels is increasing.		
Transversal Regulatory and Organisational		
1. Environmental levies and Carbon tax policy	<ul style="list-style-type: none">• SA not meeting its environmental targets• Lack of affordability• Policy uncertainty	<ul style="list-style-type: none">• Continued regulatory advocacy and engagements with relevant policy makers• Monitor developments and decisions taken by the G20
2. Delays in issuing environmental Impact Assessments	<ul style="list-style-type: none">• Security of supply	<ul style="list-style-type: none">• Continued regulatory advocacy and engagements with relevant policy makers
3. Health and Safety	<ul style="list-style-type: none">• Possible environmental disasters such as petroleum/ gas leaks from pipelines, wind turbine blades coming loose etc.	<ul style="list-style-type: none">• NERSA to ensure that it discharges its responsibility regarding health and safety



Table 22: Legal factors

Legal factors	Impact if factor is not addressed	NERSA response to the factor
Electricity Industry Regulation		
1. Electricity Regulation Act under review	<ul style="list-style-type: none"> It will compromise the regulation of electricity supply industry 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers, with specific reference to the need for effective regulation of electricity supply industry
2. Regulatory Principles compromise	<ul style="list-style-type: none"> Loss of credibility Listed as Regulatory Risk NERSA subject to liability claims 	<ul style="list-style-type: none"> Make sure all decisions are made in accordance with sound regulatory principles.
Piped-Gas Industry Regulation		
1. Delays in legislative amendments and developments	<ul style="list-style-type: none"> May deter entry into the gas market Weak mandate on regulation of piped-gas Uncertainty in terms of the separation of the oil and gas provision in the Bill 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers
Petroleum Pipelines Industry Regulation		
1. Fragmentation of legislations – possible consolidation of downstream petroleum legislation	<ul style="list-style-type: none"> Regulatory burden to licensees Duplication of resources 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Prepare for defragmentation
2. Possible legal / legislative intervention: <ul style="list-style-type: none"> Petroleum Liquid Fuels Sector Codes Petroleum Pipelines Act and Regulations Mineral and Petroleum Resources Act 	<ul style="list-style-type: none"> Regulatory uncertainty Non-compliance with the BBBEE Act in issuing licenses 	<ul style="list-style-type: none"> Continued regulatory advocacy and engagements with relevant policy makers Continued efficient regulation Amend licensing rules to include BBBEE requirements



Legal factors	Impact if factor is not addressed	NERSA response to the factor
Transversal Regulatory and Organisational		
1. National Energy Regulator Amendment Bill	<ul style="list-style-type: none"> • NERSA's views not taken into consideration • NERSA not ready when the National Energy Regulator Amendment Bill becomes operational 	<ul style="list-style-type: none"> • Continued regulatory advocacy and engagements with relevant policy makers Regulatory Advocacy • Proactively start preparing for a change in mandate
2. Ability to influence supplementary legislation	<ul style="list-style-type: none"> • NERSA's views not included • NERSA's powers weakened 	<ul style="list-style-type: none"> • Develop a strategic engagement framework on developing legislation/policy changes • Continued regulatory advocacy and engagements with relevant policy makers
3. Compliance with regulatory requirements (Public Finance Management Act and others)		
4. Fragmentation of legislations		
5. Infrastructure Development Act	<ul style="list-style-type: none"> • Expectation to fund out of tariff and tax instead of by investment. 	<ul style="list-style-type: none"> • Develop a position paper on what the funding model should be
6. Pending legal cases	<ul style="list-style-type: none"> • Uncertainty on regulatory decisions and regulatory tools 	<ul style="list-style-type: none"> • Implement decisions of the court as soon as the judgement is given



2. UPDATED EXTERNAL SITUATIONAL ANALYSIS

2.1.1. Organisational capacity

2.1.1.1. NERSA has an approved structure of 253 staff members. The staff strength as at 30 June 2019 is 238. This includes the 213 permanent employees, three Full-Time Regulator Members (FTRMs), three fixed-term contract employees and 19 interns.

2.1.1.2. Table 16 below summarises the staff complement of NERSA.

Table 16: NERSA Staff complement

DIVISION	DEPARTMENT	COMPLEMENT
Electricity Regulation (ELR)	FTRM	3
	Executive	3
	Electricity Pricing and Tariffs (EPT)	35
	Electricity Licensing, Compliance and Dispute Resolution (ELC)	34
	Electricity Infrastructure Planning (EIP)	13
Total		88
Piped-Gas Regulation (GAR)	FTRM	3
	Executive	5
	Gas Pricing and Tariffs (GPT)	8
	Gas Licensing, Compliance and Dispute Resolution (GLC)	11
	Gas, Competition and Market Analysis (GCM)	4
Total		31
Petroleum Pipelines Regulation (PPR)	FTRM	3
	Executive	6
	Petroleum Pipelines Tariffs (PPT)	9
	Petroleum Licensing, Compliance and Dispute Resolution (PLC)	9
Total		27

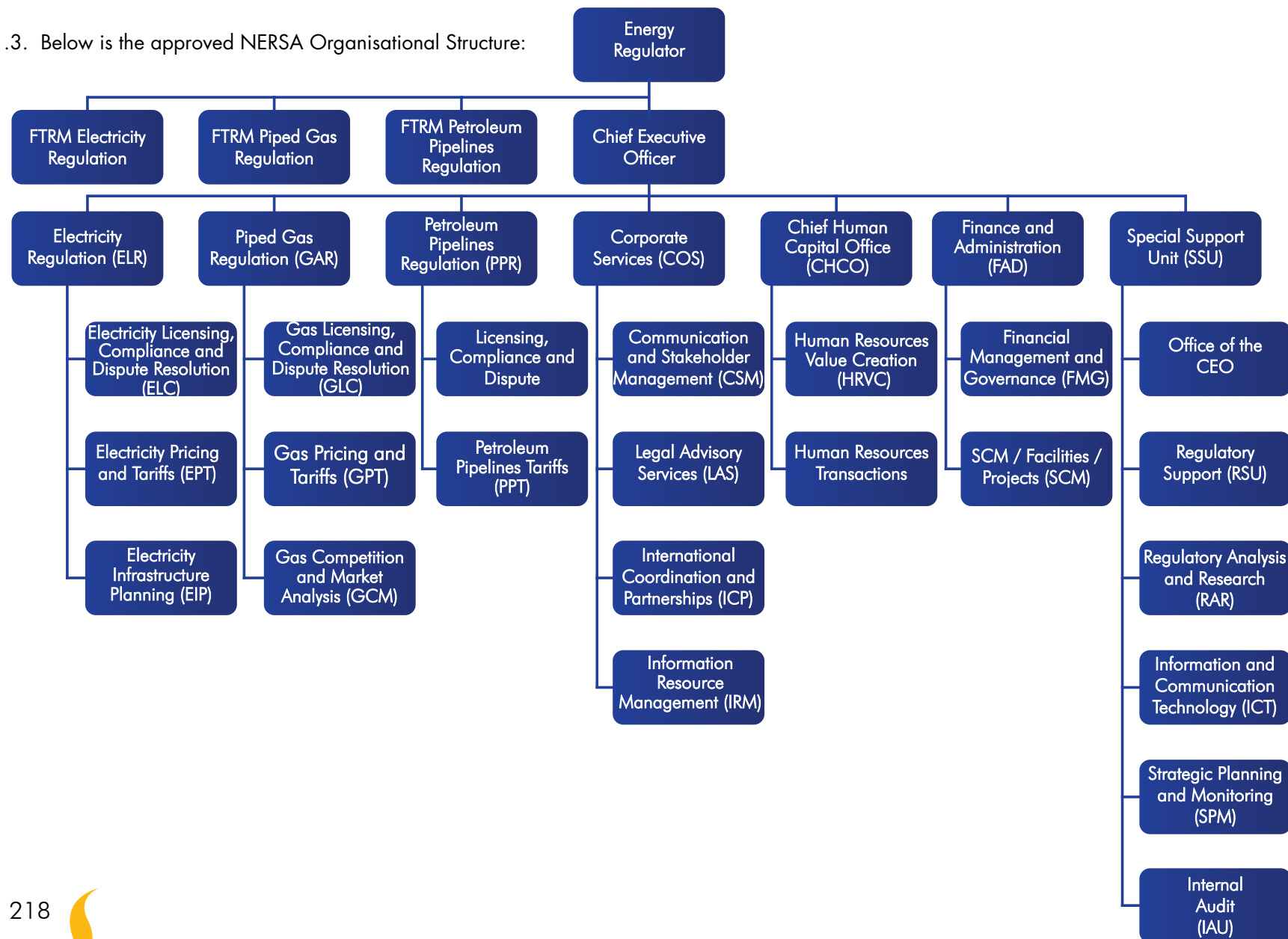




DIVISION	DEPARTMENT	COMPLEMENT
Finance and Administration (CFO)	Executive	3
	Financial Management and Governance (FMG)	7
	Supply Chain Management	13
Total		23
Human Resources (CHO)	Executive	2
	Human Resources – Value Creation	8
	Human Resources -Transactions	3
Total		13
Corporate Services (COS)	Executive	3
	Legal Advisory Services (LAS)	6
	Communication and Stakeholder Management (CSM)	9
	International Co-ordination and Partnerships (ICP)	3
	Information Resources Management (IRM)	7
Total		28
Specialised Support Units (SSU)	Internal Audit (IAU)	7
	Strategic Planning and Monitoring (SPM)	4
	Regulator Support (RSU)	11
	CEO's Office Operations (COO)	5
	Regulatory Analysis and Research (RAR)	6
	Information and Communication Technology (ICT)	10
Total		43
Grand Total NERSA Staff Complement		253



2.1.1.3. Below is the approved NERSA Organisational Structure:





2.1.2. Status regarding compliance with the BBBEE Act

In 2017/2018 NERSA embarked on its first B-BBEE accreditation and was awarded a Level eight (8) B-BBEE contribution status level. According to the BBBEE report, NERSA was accredited a Level seven (7) B-BBEE contribution Status. However, due to the fact that NERSA's skills development and enterprise development did not meet the minimum threshold, NERSA was discounted to a Level eight (8) contribution level.

Plans have been developed and implemented to improve the skills development and enterprise development requirements. In March 2019 the Energy Regulator approved the Enterprise Development Strategy and implementation commenced from April 2019.

2.1.3. Status regarding women and people with disabilities

- a) As at the end of 31 December 2020, NERSA's staff strength is 236 and comprises 100 (42%) males and 136 (58%) females.
- b) As at the end of 31 December 2020, there are 13 (54%) females and 11 (46%) males in management positions.
- c) As at the end of 31 December 2020, the percentage of persons with disabilities is 2%.

2.1.4. Strengths, Weaknesses, Opportunities and Threats facing NERSA

A Strengths, Weakness, Opportunities and Threats (SWOT) framework was used to analyse the internal situation at NERSA. Each element of the SWOT analysis was further categorized into key themes and documented in the table below.





STRENGTHS	
THEME	FACTORS
Financial Outlook	• Year-on-year annual budget increase (pre COVID-19)
	• Stable revenue stream as actual revenue reported was 0.9% greater than what was budgeted for before the pandemic
Skilled Workforce	• Skilled personnel with extensive knowledge and understanding on how licensees work and how to support/ respond to solve problems
	• There is a high degree of transparency
	• Intimate knowledge of regulated industries
	• Staff complement constitutes 57% females, which positively contributes to the is developmental agenda
COVID-19 Response	• Adequate management of NERSA's operational, maintenance and safety expenditures in order to effectively respond to the COVID-19 pandemic and ensure investments stabilise/ improve over time
	• New ways of working in response to COVID-19 pandemic have enhanced staff wellbeing and ensured business continuity
Corporate Governance	• NERSA has been able to achieve consecutive clean audit reports during the past five years
Environmentally Sustainable	• NERSA is continuing their journey towards becoming a green organisation by reducing paper usage and carbon footprint. The organisation is also busy with the refurbishment of its building where after it will receive a Green Building certificate on completion of the project



WEAKNESSES	
THEME	FACTORS
B-BBEE Threshold Compliance	<ul style="list-style-type: none"> • Inability to meet the minimum threshold targets on spend for skills development and enterprise development resulting in NERSA's overall B-BBEE level being discounted from a Level 7 to a Level 8
Cultural Issues	<ul style="list-style-type: none"> • Perceptions of bureaucracy exist widely throughout the organisation • High staff turnover, especially at the top management band
	<ul style="list-style-type: none"> • Slow decision making and delegation of associated activities
	<ul style="list-style-type: none"> • Span of control in the divisional organisational structure is not optimal
	<ul style="list-style-type: none"> • Trust issues persists and result in challenges in obtaining external support in the development of information systems
	<ul style="list-style-type: none"> • Ambiguous roles and responsibilities between NERSA governance and management/ executive committees
	<ul style="list-style-type: none"> • Lack of clear direction from members as instructions continuously change
	<ul style="list-style-type: none"> • Lack of exposure of employees to the industry
	<ul style="list-style-type: none"> • Lack of training
	<ul style="list-style-type: none"> • Lack of innovation/ creation of new ideas
	<ul style="list-style-type: none"> • Misalignment in terms of actual vs expected remuneration
	<ul style="list-style-type: none"> • Decisions are not aligned to the developments within the global and regional energy industry
	<ul style="list-style-type: none"> • Skills of individuals are under-utilised
	<ul style="list-style-type: none"> • Several team members feel as though they are working in silos
	<ul style="list-style-type: none"> • Lack of knowledge sharing, cooperation, and collective decision making/ contributions from various departments
	<ul style="list-style-type: none"> • Gap between organisational structure and skills required in specific areas (e.g. relevant and needed skillsets among board composition)
External Relationships	<ul style="list-style-type: none"> • There is a need to focus on improving relationships between NERSA and industry players and ensure information is shared, collected and used in a timely manner that benefits the collective
	<ul style="list-style-type: none"> • Negative perceptions of stakeholders exists
	<ul style="list-style-type: none"> • There is a need to clarify the roles between NERSA and the Environmental department



WEAKNESSES	
THEME	FACTORS
Processes and Procedures	<ul style="list-style-type: none"> • Lack of effective and efficient documentation management (process to receive and archive/store documents in soft and hard copy formats)
	<ul style="list-style-type: none"> • Government policies make it difficult to automate and streamline processes
	<ul style="list-style-type: none"> • Internal processes and systems need to be updated, digitised and improved in order to support the “new normal” ways of working (e.g. home working)
	<ul style="list-style-type: none"> • Decentralised and fragmented data – as information is not stored on a single platform and cannot be easily accessed for informed decision-making (licensee data and information)
	<ul style="list-style-type: none"> • NERSA is mainly responsive to industry developments (need to become more proactive)
	<ul style="list-style-type: none"> • Improvements in retention processes and procedures is required
	<ul style="list-style-type: none"> • There is a need for formalised procedures to manage time (e.g. meeting) and ensure productivity
Organisational Strategy	<ul style="list-style-type: none"> • Lack of alignment of structure to strategy
	<ul style="list-style-type: none"> • Lack of common understanding of the strategy

OPPORTUNITIES	
THEME	FACTORS
Implementation of Technological Innovations	<ul style="list-style-type: none"> • Technological progress has allowed for new forms of producing, storing, transforming, and consuming energy, altering the nature of the energy system (need to keep up with the pace of technological change)
	<ul style="list-style-type: none"> • There is a need to integrate new technologies and business models into existing structures
	<ul style="list-style-type: none"> • There is a need to establish a process to collect information from industries
Response to changing customer Needs	<ul style="list-style-type: none"> • NERSA should consider the option of utilising electrification funds that are collected through the tariff to support vulnerable customers who are unable to afford their energy bills
	<ul style="list-style-type: none"> • Use of analytics (energy modelling, investment, and economic driver analytics) to inform a demand-led strategy
	<ul style="list-style-type: none"> • Ensure energy security through; reduction of the regulatory burden on new electricity applications, ensure sector regulatory certainty, fast-tracking of application processing and consider proposals on the reduction of energy prices





OPPORTUNITIES	
THEME	FACTORS
Collaboration and Relationship Development	<ul style="list-style-type: none"> • Continue interactions with DMRE in order to legislate and establish a structure to implement mandate
	<ul style="list-style-type: none"> • Implement DMRE regulations to unlock significant local production and importation (when there is a shortfall) of LPG
	<ul style="list-style-type: none"> • Implement SADC's established Regional Electricity Regulatory Association (RERA) that will assist in harmonising the region's cross border policies and regulations (once finalised)
Departments/ Divisions	<ul style="list-style-type: none"> • Opportunity exists for NERSA to develop/ employ individuals responsible for data modelling in order to accelerate the decision-making processes
	<ul style="list-style-type: none"> • Improve the alignment of internal characteristics to the external environment
	<ul style="list-style-type: none"> • There is potential to invest in additional digital infrastructure / innovations across the value chain in order to stay up to date/ ahead of the market
	<ul style="list-style-type: none"> • Prepare NERSA for different outcomes/ responses to disaster using scenario based responses (e.g. mild, harsh, severe)
Employees	<ul style="list-style-type: none"> • Balance diverse expectations of employees in order to build trust within NERSA
	<ul style="list-style-type: none"> • Capitalise on the ability to learn from new colleagues, to generate new ideas and remain relevant





THREATS	
THEME	FACTORS
COVID-19 Pandemic	<ul style="list-style-type: none"> • The COVID-19 crisis may have a significant impact on investments, sustainability of energy supply, ability to invest in aging electricity networks, infrastructure and revenues due to changes in industry volumes • Adjust to new ways of working, upskilling staff and continued virtual activities/ operations
Energy Finance Sector	<ul style="list-style-type: none"> • There has been a slow migration to cost reflective tariffs, inadequate project preparation, issues with Power Purchase Agreements, and absent regulatory frameworks which stunt investment and financing in the energy sector
Regulatory Landscape	<ul style="list-style-type: none"> • Lack of region-wide regulatory framework that addresses renewable energy • Limited relevance of regulation within the emerging distributed energy landscape • Regulatory control within the entire supply chain of the regulated industries is limited • Projects intended to address the supply shortage are delayed due to absent regulatory frameworks and below-cost tariffs which indirectly impacts the ability for energy operators/ suppliers to sustain demand • Decisions have been legally challenged • Encroachment of various departments in running NERSA affairs
Technological Advancements	<ul style="list-style-type: none"> • Fast changing energy landscape due to emerging innovative energy generation technologies • NERSA will have to move fast to keep up with the pace of technological change and the rising need for flexible operation of power systems • Regulatory frameworks need to balance the need for providing certainty while being flexible enough to effectively integrate new technologies and business models
Economic Outlook	<ul style="list-style-type: none"> • There is an unknown long-term impact on the economy and industry as a result of the recession, pandemic, credit downgrade, poverty, and inequality
Industry Changes	<ul style="list-style-type: none"> • There has been changes to the various operating industries (Sasol Gas' intentions to divest in some of its infrastructure assets) • There have been amendments to the competition act which need to be accounted for from a regulatory perspective • Industry development creates challenges in terms of legislation
Legislation Issues	<ul style="list-style-type: none"> • Several instances of legislative shortcomings persist





PART C: MEASURING OUR PERFORMANCE

1. INSTITUTIONAL PROGRAMME PERFORMANCE INFORMATION

The table below indicates the link between NERSA programmes and the outcomes stated in the Strategic Plan as well as the envisaged impacted for each programme.

Outcomes	Programme	Envisaged impact
<ul style="list-style-type: none"> • Accessible and cost reflective electricity that is equitably distributed for consumption • Diverse energy supply that is certain and secure for current and future user needs • Conducive regulatory environment that results in regulatory certainty and increased investment in the electricity industry • Equitable access to affordable gas and related gas services at competitive prices • Equitable access to affordable petroleum products, services and infrastructure at competitive prices 	Programme 1: Setting and/or Approval of Tariffs And Prices	<ul style="list-style-type: none"> • Economic growth through affordable electricity prices; • Fair balance between the needs of the customer (end user) and the regulated entity contributing towards security of energy supply and affordable energy prices • Optimal use of energy infrastructure
<ul style="list-style-type: none"> • Sustainable modern electricity sector • Predictable and reliable electricity supply • Secure and stable Electricity Supply Industry • Informed and empowered electricity sector stakeholders • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipeline industry 	Programme 2: Licensing and Registration	<ul style="list-style-type: none"> • Increasing energy capacity in the country; • Investment in the regulated industries; • Orderly development of the energy industry • Security of supply - from importation of required energy sources such as LNG and petroleum products • Access to more energy from new/alternative suppliers • Fit for purpose electricity resources • Transformation of the regulated industries, in line with the BBEE Act



Outcomes	Programme	Envisaged impact
<ul style="list-style-type: none"> • Diverse energy supply that is certain and secure for current and future user needs • Predictable and reliable electricity supply • Secure and stable Electricity Supply Industry • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry 	Programme 3: Compliance monitoring and Enforcement	<ul style="list-style-type: none"> • Security of supply; • Compliance with directives to govern relations between a licensee and its end users • Reliable supply of energy • Safe, efficient and environmentally friendly operation of regulated energy facilities, including the transportation of energy
<ul style="list-style-type: none"> • Informed and empowered electricity sector stakeholders • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry • Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry 	Programme 4: Dispute Resolution, Including Mediation, Arbitration And Handling Of Complaints	<ul style="list-style-type: none"> • Improved understanding of the regulation of the energy sector between licensees, or between licensees and customers or end-users; • Sustainable, safe and reliable operation of regulated energy facilities – contributing towards security of energy supply
<ul style="list-style-type: none"> • Predictable and reliable electricity supply • Informed and empowered electricity sector stakeholders • Sustainable modern electricity sector • A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry • A conducive regulatory environment that results in regulatory certainty and increased investment in the petroleum industry 	Programme 5: Setting Of Rules, Guidelines And Codes For The Regulation Of The Three Energy Industries	<ul style="list-style-type: none"> • Investor confidence and lessening the regulatory burden on licensees; • Regulatory certainty • Infrastructure investments





Outcomes	Programme	Envisaged impact
<ul style="list-style-type: none"> • Secure and stable Electricity Supply Industry • Sustainable modern electricity sector • Predictable and reliable electricity supply • Informed and empowered electricity sector stakeholders • A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry • A conducive regulatory environment that results in regulatory certainty and increased investment in the petroleum industry • Creation of an enabling environment for internal and external stakeholders through proactive, dynamic and data-driven advisory, advocacy and decision making 	<p>Programme 6: Administration (Establishing NERSA as an efficient and effective regulator)</p>	<ul style="list-style-type: none"> • Effective and efficient regulation supported by appropriate systems, processes, procedures and resources; • Regional integration and harmonisation of regulatory processes, methodologies and procedure • Appropriate skills for energy regulation; • Contributing to South Africa's skills base; • Orderly development of the three regulated industries



1.1. PROGRAMME 1: SETTING AND/OR APPROVAL OF TARIFFS AND PRICES

The programme purpose is to set and/or approve tariffs and prices in order to ensure a fair balance between the needs of the customer and the regulated entity. While the customer needs to be protected against misuse of monopolistic powers and unnecessary price hikes, the regulated entities needs to have sufficient income to ensure that they can continue operating as a going concern and have enough revenue for the maintenance and refurbishment of infrastructure.

This programme is in support of **MTSF Priority 2: Economic Transformation and Job Creation.**

1.1.1. INDUSTRY SPECIFIC SUB-PROGRAMMES

1.1.1.1. Electricity Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Accessible and cost reflective electricity that is equitably distributed for consumption	1. 100% of complete tariff applications of licensed distributors for <u>increases higher than the guideline and benchmark</u> considered by the ELS within 60 working days of receipt of complete application	% of complete tariff applications of licensed distributors for <u>increases higher than the guideline and benchmark</u> considered by the relevant committee or the Energy Regulator within the stated timeframe	New Target	New Target	100%	100%	100%	100%	100%





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	2. 100% of complete tariff applications of licensed distributors for <u>increases within the guideline and benchmark</u> considered by the REC within 60 working days of receipt of complete application.	% of complete tariff applications of licensed distributors for <u>increases within the guideline and benchmark</u> considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%
	3. One report on the monitoring of the implementation of IBTs by licensed distributors in South Africa eligible for IBT implementation considered annually by ELS by 31 March	Number of reports on the monitoring of the implementation of IBTs by licensed distributors in South Africa eligible for IBT considered by the relevant committee or the Energy Regulator within the stated timeframe	-	-	1	-	1	1	1
	4. Energy Regulator decision on the review of the complete Eskom RCA application for 2020/21 taken annually by the ER by 31 March	Energy Regulator decision on the review of the complete Eskom RCA application for previous financial year taken by the relevant committee or the Energy Regulator within the stated timeframe	New target	-1 ⁸¹	Energy Regulator decision	Energy Regulator decision	Energy Regulator decision	Energy Regulator decision	Energy Regulator decision
	5. One report on the analysis of the complete Eskom ERTSA application for 2022/23 considered annually by the ER by 31 March	Number of reports on the analysis of the complete Eskom ERTSA application for the coming financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-1 ⁸²	1	1	1	1	1



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	6. Energy Regulator decision on the review of Eskom's revenue application for year 1 of MYPD 5 considered by ER within 6 months after receipt of complete application	Energy Regulator decision on the review of Eskom's revenue application for year 1 of MYPD 5 considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	No target planned	-	Energy Regulator decision	-	-
	7. One report on the analysis of Eskom's performance based on Regulatory Financial Reports (RFRs) considered annually by the ELS/REC by 31 March	Number of reports on the analysis of Eskom's performance based on Regulatory Financial Reports (RFRs) considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
	8. One report on the calculation of the FBE Rate for the compensation of Eskom considered annually by ER by 31 March	Number of reports on the calculation of the FBE Rate for the compensation of Eskom considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1

⁸¹ The report on the review of Eskom's RCA application could not be considered by 31 December 2018, as planned, because NERSA only received Eskom's application in September 2018 and not in June 2018 as expected. NERSA needs at least six months to conclude the analysis and consultation process. Hence the amendment of the indicator. The target was however completed within the reporting period.

⁸² NERSA received Eskom's applications in September 2018, hence this target could not be completed by 31 December 2018, as planned. It was however completed within the reporting period.



b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complete tariff applications of licensed distributors for <u>increases higher than the guideline and benchmark</u> considered by the ELS within 60 working days of receipt of complete application	% of complete tariff applications of licensed distributors for <u>increases higher than the guideline and benchmark</u> considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
2. 100% of complete tariff applications of licensed distributors for <u>increases within the guideline and benchmark</u> considered by the REC within 60 working days of receipt of complete application.	% of complete tariff applications of licensed distributors for <u>increases within the guideline and benchmark</u> considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
3. One report on the monitoring of the implementation of IBTs by licensed distributors in South Africa eligible for IBT implementation considered annually by ELS by 31 March	Number of reports on the monitoring of the implementation of IBTs by licensed distributors in South Africa eligible for IBT considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
4. Energy Regulator decision on the review of the complete Eskom RCA application for 2020/21 taken annually by the ER by 31 March	Energy Regulator decision on the review of the complete Eskom RCA application for previous financial year taken by the relevant committee or the Energy Regulator within the stated timeframe	Energy Regulator decision	-	-	-	Energy Regulator decision
5. One report on the analysis of the complete Eskom ERTSA application for 2022/23 considered annually by the ER by 31 March	Number of reports on the analysis of the complete Eskom ERTSA application for the coming financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
6. Energy Regulator decision on the review of Eskom's revenue application for year 1 of MYPD 5 considered by ER within 6 months after receipt of complete application	Energy Regulator decision on the review of Eskom's revenue application for year 1 of MYPD 5 considered by the relevant committee or the Energy Regulator within the stated timeframe	Energy Regulator decision	-	-	-	Energy Regulator decision
7. One report on the analysis of Eskom's performance based on Regulatory Financial Reports (RFRs) considered annually by the ELS/REC by 31 March	Number of reports on the analysis of Eskom's performance based on Regulatory Financial Reports (RFRs) considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
8. One report on the calculation of the FBE Rate for the compensation of Eskom considered annually by ER by 31 March	Number of reports on the calculation of the FBE Rate for the compensation of Eskom considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1



1.1.1.2. Piped-Gas Industry Regulation

a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Equitable access to affordable gas services at competitive prices	1. 100% of complete maximum price applications ⁸³ considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	% of complete maximum price applications considered by the relevant committee or the Energy Regulator within the stated time-frame	100%	100%	100%	100%	100%	100%	100%
	2. 100% of complete applications on distinguishing features considered by the ER within 120 working days after the date of the publication of preliminary assessment of the applications	% of complete applications on distinguishing features considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	100%	100%	100%	100%	100%
	3. 100% of complete transmission tariff applications considered by ER within 120 working days after date of publication of preliminary assessment of tariff applications	% of complete transmission tariff applications considered by the relevant committee or the Energy Regulator within the stated time-frame	100%	No applications received	100%	100%	100%	100%	100%

⁸³ A maximum price application comprise of two components: (1) The price of a gas molecule (the GE price) and (2) the trading margin



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	4. Four calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoules considered quarterly by the PGS	Number of calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoule considered by the relevant committee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4
	5. One report on the assessment of the adequacy of competition considered by the PGS by 31 March 2022	Number reports on the assessment of the adequacy of competition considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	1	-	-



b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	% of complete maximum price applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
2. 100% of complete applications on distinguishing features considered by the ER within 120 working days after the date of the publication of preliminary assessment of the applications	% of complete applications on distinguishing features considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
3. 100% of complete transmission tariff applications considered by ER within 120 working days after date of publication of preliminary assessment of tariff applications	% of complete transmission tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
4. Four calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoules considered quarterly by the PGS	Number of calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoule considered by the relevant committee or the Energy Regulator within the stated timeframe	4	1	1	1	1
5. One report on the assessment of the adequacy of competition considered by the PGS by 31 March 2022	Number reports on the assessment of the adequacy of competition considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1

⁸⁴ A maximum price application comprise of two components: (1) The price of a gas molecule (the GE price) and (2) the trading margin



1.1.1.3. Petroleum Pipelines Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Equitable access to affordable petroleum products, services an infrastructure at competitive prices	1. 75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of application	% of complete pipeline, storage and loading facility tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	70%	90%	75%	75%	80%	80%
	2. Revised tariff methodology to include approved efficiency adjustment factor decided upon by ER by 31 March 2024	Regulator decision on the revised tariff methodology to include approved efficiency adjustment factor taken by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	New target	-	-	Revised tariff methodology to include approved efficiency adjustment factor

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of complete application	% of complete pipeline, storage and loading facility tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe	75%	75%	75%	75%	75%



1.1.2. EXPLANATION OF PLANNED PERFORMANCE OVER THE MEDIUM TERM PERIOD

The planned output is in line with one of the regulatory functions of NERSA, as contained in relevant legislation, namely setting and/or approving tariffs and prices.

1.1.3. PROGRAMME RESOURCE CONSIDERATIONS

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2021/22 for Programme 1: Setting and/or approval of tariffs and price

REGULATED INDUSTRY	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Electricity	Electricity Regulation	3	1 670 941	20%
	Electricity Pricing and Tariffs	35	34 787 183	100%
	Electricity Infrastructure Planning	13	1 841 440	10%
Piped-Gas	Piped-Gas Regulation	5	2 011 221	20%
	Piped-Gas Pricing and Tariffs	8	11 750 130	100%
	Piped-Gas Competition and Market Analysis	4	1 381 974	30%
Petroleum Pipelines	Petroleum Pipelines Regulation	6	1 977 669	20%
	Petroleum Pipeline Tariffs	9	10 520 978	100%

Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.

Please refer to Part D: Funding for NERSA for the detailed budget.





1.1.4. KEY RISKS

Please refer to Section 1.7 below for NERSA's detailed Strategic Risk Register.





1.2. PROGRAMME 2: LICENSING AND REGISTRATION

The programme purpose is to ensure the orderly development of the energy industry and to ensure that all activities related to all operations are licensed and registered as required by the Electricity Regulation Act, 2006 (Act No. 4 of 2006), Gas Act, 2001 (Act No. 48 of 2001) and the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).

1.2.1. INDUSTRY SPECIFIC SUB-PROGRAMMES

1.2.1.1. Electricity Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Diverse energy supply that is certain and secure for current and future user needs	1. 100% of new complete licence applications considered by ELS/REC/ER within 120 working days after the period of objections expired and no objections were received or after objections are addressed	% of new complete licence applications considered by the relevant committee or the Energy Regulator within the stated time-frame	100%	100%	100%	100%	100%	100%	100%
	2. 100% of complete applications for amendment/revocation of licences considered by the ELS/REC/ER within 120 working days after the period of objections expired and no objections were received or after objections are addressed	% of complete applications for amendment of licence considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	100%	100%	100%	100%	100%





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	3. 100% of complete applications for registration of electricity generation facilities considered by the ELS within 60 working days from receipt of all required information	% of complete applications for registration of electricity generation facilities considered by the relevant committee or the Energy Regulator within the stated time-frame	New target	New target	100%	100%	100%	100%	100%
Conducive regulatory environment that results in regulatory certainty and increased investment in the electricity industry	4. One report on new entrants into the electricity supply industry considered annually by the ELS by 31 March	Number of reports on new entrants into the electricity supply industry considered by the relevant committee or the Energy Regulator	New target	New target	New target	1	1	1	1

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of new complete licence applications considered by ELS/REC/ER within 120 working days after the period of objections expired and no objections were received or after objections are addressed	% of new complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
2. 100% of complete applications for amendment/ revocation of licences considered by the ELS/REC/ER within 120 working days after the period of objections expired and no objections were received or after objections are addressed	% of complete applications for amendment of licence considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%



OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
3. 100% of complete applications for registration of electricity generation facilities considered by the ELS within 60 working days from receipt of all required information	% of complete applications for registration of electricity generation facilities considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
4. One report on new entrants into the electricity supply industry considered annually by the ELS by 31 March	Number of reports on new entrants into the electricity supply industry considered by the relevant committee or the Energy Regulator	1	-	-	-	1

1.2.1.2. Piped-Gas Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry	1. 100% of complete licence applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	2. 100% of complete applications for licence amendments considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete applications for licence amendments considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	100%	100%	100%	100%	100%	100%
	3. 100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period	% of complete applications for the registration of gas activities considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complete licence applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%



OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
2. 100% of complete applications for licence amendments considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete applications for licence amendments considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
3. 100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period	% of complete applications for the registration of gas activities considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%

1.2.1.3. Petroleum Pipelines Industry Regulation

a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry	1. 100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	% of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%
	2. 100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	100%	100%	100%	100%





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	3. One report on investigations done into suspected unlicensed activities considered annually by the REC by 31 March	Number of reports on investigations done into suspected unlicensed activities considered by the relevant committee or the Energy Regulator within the stated timeframe	4	4	1 ⁸⁵	1	1	1	1
A competitive petroleum pipelines industry	4. One report on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered annually by the relevant committee or the Energy Regulator	Number of reports on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered annually by the relevant committee or the Energy Regulator	New target	New target	New target	New target	1	1	1

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	% of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%

⁸⁵ It became clear that 4 quarterly reports are too many. It was therefore decided that one consolidated report on all the investigations would be done.



OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
2. 100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of complete applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
3. One report on investigations done into suspected unlicensed activities considered annually by the REC by 31 March	Number of reports on investigations done into suspected unlicensed activities considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
4. One report on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered annually by the relevant committee or the Energy Regulator	Number of reports on the geographic spread of licences issued for petroleum pipelines infrastructure and new entrants considered annually by the relevant committee or the Energy Regulator	1	-	-	-	1





1.2.2. EXPLANATION OF PLANNED PERFORMANCE OVER THE MEDIUM TERM PERIOD

The planned output is in line with one of the regulatory functions of NERSA, as contained in relevant legislation, namely:

- Issuing of licences with conditions; and
- Registration of electricity generation activities and gas activities.

1.2.3. PROGRAMME RESOURCE CONSIDERATIONS

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2020/21 for Programme 2: Licensing and Registration:

REGULATED INDUSTRY	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Electricity	Electricity Regulation	3	1 670 941	20%
	Electricity licencing, Compliance, and Dispute Resolution	34	14 272 868	40%
Piped-Gas	Piped-Gas Regulation	5	2 011 221	20%
	Piped-Gas Licensing, Compliance and Dispute Resolution	11	5 100 293	40%
Petroleum Pipelines	Petroleum Pipelines Regulation	6	1 977 669	20%
	Petroleum Licensing, Compliance and Dispute Resolution	9	4 395 145	40%

Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.

Please refer to Part D: Funding for NERSA for the detailed budget.



1.2.4. KEY RISKS

Please refer to Section 1.7 below for NERSA's detailed Strategic Risk Register.





1.3. PROGRAMME 3: COMPLIANCE MONITORING AND ENFORCEMENT

1.3.1. INDUSTRY SPECIFIC SUB-PROGRAMMES

The programme purpose is to ensure that all licensees in the three regulated industries fully comply with their licence conditions, including those relating to health, safety, security and environmental standards and requirements, as well as any other standards and requirements prescribed by the relevant industry-specific legislation. The programme will also ensure compliance with directives to govern relations between a licensee and its end users. Compliance monitoring will be done in such a way that a fair balance between the interests of all stakeholders is encouraged and maintained.

This programme is in support of **MTSF Priority 2: Economic Transformation and Job Creation.**

1.3.1.1. Electricity Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Diverse energy supply that is certain and secure for current and future user needs	1. One consolidated distribution audit report on the state of compliance of licensees with licence conditions considered annually by the ELS/REC by 31 March	Number consolidated distribution audit reports on the state of compliance of licensees with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
	2. One consolidated generation audit report on the state of compliance of generation facilities with licence conditions considered annually by the ELS/REC by 31 March	Number of consolidated generation audit reports on the state of compliance of power stations with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	3. One consolidated transmission audit report on the state of compliance of Main Transmission Substations with licence conditions considered annually by the ELS/REC by 31 March	Number of consolidated transmission audit reports on the state of compliance of Main Transmission Substations with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
	4. Three reports (one each for transmission, generation and distribution facilities), on the monitoring of the implementation of the corrective action plans by non-complying licensees considered annually by the ELS/REC by 31 March	Number of progress reports on the monitoring of the implementation of the corrective action plans by non-complying licensees considered by the relevant committee or the Energy Regulator within the stated timeframe	3	3	3	3	3	3	3
	5. One audit report on the annual performance of IDM for 2020/21 considered by the ELS/REC/ER after receipt of Eskom's IDM Annual Report	Number of audit reports on the annual performance of IDM considered by the relevant committee or the Energy Regulator by 31 March.	1	1	1	1	1	1	1





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	6. One audit report on the Transmission Network Development 2020/21 projects for compliance with the South African Grid Code considered annually by the ELS/REC by 31 March, subject to all information available	Number of audit reports on the Transmission Network Development for the previous financial year projects for compliance with the South African Grid Code, considered by the relevant committee or the Energy Regulator within the stated timeframe, subject to all information available	1	1	1	1	1	1	1
	7. One audit report on the Distribution Network Development 2020/21 projects for compliance with the South African Grid Code considered annually by the ELS/REC by 31 March, subject to all information available	Number of audit reports on the Distribution Network Development for the previous financial year projects for compliance with the South African Grid Code, considered by the relevant committee or the Energy Regulator within the stated timeframe, subject to all information available	New target	New target	New target	1	1	1	1
	8. Two monitoring reports on the performance and progress of Renewable Energy projects for 2022/23 considered annually by the ELS/REC by 30 September and 31 March respectively	Number of monitoring reports on the performance and progress of Renewable Energy projects for the next financial year, considered by the relevant committee or the Energy Regulator within the stated timeframe	2	2	2	2	2	2	2



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	9. Two reports on the implementation of the Service Quality Incentive (SQI) – one each for transmission and distribution considered annually by the ELS/REC by 31 March	Number of reports on the implementation of the Service Quality Incentive (SQI) – one each for transmission and distribution considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	2	2	2	2

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One consolidated distribution audit report on the state of compliance of licensees with licence conditions considered annually by the ELS/REC by 31 March	Number consolidated distribution audit reports on the state of compliance of licensees with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
2. One consolidated generation audit report on the state of compliance of generation facilities with licence conditions considered annually by the ELS/REC by 31 March	Number of consolidated generation audit reports on the state of compliance of power stations with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
3. One consolidated transmission audit report on the state of compliance of Main Transmission Substations with licence conditions considered annually by the ELS/REC by 31 March	Number of consolidated transmission audit reports on the state of compliance of Main Transmission Substations with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1





OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
4. Three reports (one each for transmission, generation and distribution facilities), on the monitoring of the implementation of the corrective action plans by non-complying licensees considered annually by the ELS/REC by 31 March	Number of progress reports on the monitoring of the implementation of the corrective action plans by non-complying licensees considered by the relevant committee or the Energy Regulator within the stated timeframe	3	-	-	-	3
5. One audit report on the annual performance of IDM for 2020/21 considered by the ELS/REC/ER after receipt of Eskom's IDM Annual Report	Number of audit reports on the annual performance of IDM considered by the relevant committee or the Energy Regulator by 31 March.	1	-	-	-	1
6. One audit report on the Transmission Network Development 2020/21 projects for compliance with the South African Grid Code considered annually by the ELS/REC by 31 March, subject to all information available	Number of audit reports on the Transmission Network Development for the previous financial year projects for compliance with the South African Grid Code, considered by the relevant committee or the Energy Regulator within the stated timeframe, subject to all information available	1	-	-	-	1
7. One audit report on the Distribution Network Development 2020/21 projects for compliance with the South African Grid Code considered annually by the ELS/REC by 31 March, subject to all information available	Number of audit reports on the Distribution Network Development for the previous financial year projects for compliance with the South African Grid Code, considered by the relevant committee or the Energy Regulator within the stated timeframe, subject to all information available	1	-	-	-	1
8. Two monitoring reports on the performance and progress of Renewable Energy projects for 2022/23 considered annually by the ELS/REC by 30 September and 31 March respectively	Number of monitoring reports on the performance and progress of Renewable Energy projects for the next financial year, considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1
9. Two reports on the implementation of the Service Quality Incentive (SQI) – one each for transmission and distribution considered annually by the ELS/REC by 31 March	Number of reports on the implementation of the Service Quality Incentive (SQI) – one each for transmission and distribution considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	-	-	2



1.3.1.2. Piped-Gas Industry Regulation

a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry	1. Twelve monthly volume balance reports assessed and analysis reports considered quarterly by the PGS	Number of monthly volume balance reports assessed and analysis reports considered by the relevant committee or the Energy Regulator within the stated timeframe	12	12	12	12	12	12	12
	2. One audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March ⁸⁶	Number of audit reports on compliance of the ROMPCO pipeline considered by the relevant committee within the stated timeframe	1	1	1	1	1	1	1
	3. One report on compliance with licence conditions considered annually by the PGS by 31 March ⁸⁷	Number of reports on licensees' compliance with licence conditions considered by the relevant Committee within the stated timeframe	40	48	45	1	1	1	1
	4. 100% of monitoring reports ⁸⁸ on the implementation of transmission tariffs considered annually by the PGS by 31 March, after one year following the approval of the transmission tariff	% of monitoring reports on the implementation of transmission tariffs considered by the relevant committee or the Energy Regulator within the stated timeframe	3	3	3	3	100%	100%	100%

⁸⁶ The target was changed in July 2020 from number of audits conducted to number of reports on audits conducted. This was necessitated by the impact of the COVID-19 pandemic on NERSA's ability to implement this target in the same manner as before.

⁸⁷ The output was changed in July 2020 from number of audits conducted to number of reports on audits conducted. This was necessitated by the impact of the COVID-19 pandemic on NERSA's ability to implement this output in the same manner as before.

⁸⁸ The output was amended to reflect a deliverable that is within NERSA's control.





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	5. Four reports (one for each licensee – SASOL, ROMPCO, Transnet and SLG) on the implementation of the RRM for the preceding financial year considered annually by the PGS/REC by 31 March	Number of reports on the implementation of the RRM for the preceding financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	4	No target planned	4	4	4	4	4
	6. 100% of monitoring reports ⁸⁹ on the implementation of Maximum Prices, after one year following the approval of the maximum price considered annually by the PGS by 31 March	% of monitoring reports per licensee on the implementation of Maximum Prices considered by the relevant committee or the Energy Regulator within the stated timeframe	1	4 ⁹⁰	1	1	100%	100%	100%



b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Twelve monthly volume balance reports assessed and analysis reports considered quarterly by the PGS	Number of monthly volume balance reports assessed and analysis reports considered by the relevant committee or the Energy Regulator within the stated timeframe	12	3	3	3	3

⁸⁹ The output was amended to reflect a deliverable that is within NERSA's control.

⁹⁰ The monitoring of the implementation of the maximum prices was carried out quarterly instead of annually. This was because of the problems encountered with the methodology.

⁹¹ The target was changed in July 2020 from number of audits conducted to number of reports on audits conducted.

This was necessitated by the impact of the COVID-19 pandemic on NERSA's ability to implement this target in the same manner as before.

⁹² The output was changed in July 2020 from number of audits conducted to number of reports on audits conducted. This was necessitated by the impact of the COVID-19 pandemic on NERSA's ability to implement this output in the same manner as before.





OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
2. One audit report on the compliance of ROMPCO pipeline considered annually by the PGS by 31 March ⁹¹	Number of audit reports on compliance of the ROMPCO pipeline considered by the relevant committee within the stated timeframe	1	-	-	-	1
3. One report on compliance with licence conditions considered annually by the PGS by 31 March ⁹²	Number of reports on licensees' compliance with licence conditions considered by the relevant Committee within the stated timeframe	1	-	-	-	1
4. 100% of monitoring reports ⁹³ on the implementation of transmission tariffs considered annually by the PGS by 31 March, after one year following the approval of the transmission tariff	% of monitoring reports on the implementation of transmission tariffs considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	-	-	-	100%
5. Four reports (one for each licensee – SASOL, ROMPCO, Transnet and SLG) on the implementation of the RRM for the preceding financial year considered annually by the PGS/REC by 31 March	Number of reports on the implementation of the RRM for the preceding financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	4	-	-	-	4
6. 100% of monitoring reports ⁹⁴ on the implementation of Maximum Prices, after one year following the approval of the maximum price considered annually by the PGS by 31 March	% of monitoring reports per licensee on the implementation of Maximum Prices considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	-	-	-	100%

⁹³ The output was amended to reflect a deliverable that is within NERSA's control.

⁹⁴ The output was amended to reflect a deliverable that is within NERSA's control.



1.3.1.3. Petroleum Pipelines Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry	1. Two reports on trends regarding utilisation of storage facilities and third-party access considered bi-annually by the PPS by 30 September and 31 March	Number of reports on trends regarding utilisation of storage facilities and third-party access, considered by the relevant committee or the Energy Regulator within the stated timeframe	2	2	2	2	2	2	2
	2. One report on the implementation of the methodology to determine uncommitted capacity considered annually by the PPS by 31 March	Number of reports on the implementation of the methodology to determine uncommitted capacity considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	Reviewed methodology to determine uncommitted capacity considered by PPS by 31 March 2019	1	1	1	1	1





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	3. Two ⁹⁵ reports on the construction of new facilities considered bi-annually by the PPS by 30 September and 31 March	Number of reports on the construction of new facilities considered by the relevant committee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4
	4. Two ⁹⁶ reports on licensees' compliance with statutory reporting requirements considered bi-annually by the PPS by 30 September and 31 March	Number of reports on licensees' compliance with statutory reporting requirements considered by the relevant committee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Two reports on trends regarding utilisation of storage facilities and third-party access considered bi-annually by the PPS by 30 September and 31 March	Number of reports on trends regarding utilisation of storage facilities and third-party access, considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1
2. One report on the implementation of the methodology to determine uncommitted capacity considered annually by the PPS by 31 March	Number of reports on the implementation of the methodology to determine uncommitted capacity considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1

⁹⁵ The PPS requested that only two reports be considered during a year

⁹⁶ The PPS requested that only two reports be considered during a year



OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
3. Two ⁹⁷ reports on the construction of new facilities considered bi-annually by the PPS by 30 September and 31 March	Number of reports on the construction of new facilities considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1
4. Two ⁹⁸ reports on licensees' compliance with statutory reporting requirements considered bi-annually by the PPS by 30 September and 31 March	Number of reports on licensees' compliance with statutory reporting requirements considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1

⁹⁷ The PPS requested that only two reports be considered during a year

⁹⁸ The PPS requested that only two reports be considered during a year





1.3.2. EXPLANATION OF PLANNED PERFORMANCE OVER THE MEDIUM TERM PERIOD

The planned output is in line with one of the regulatory functions of NERSA, as contained in relevant legislation, namely:

- Monitoring and enforcing compliance with licence conditions as well as NERSA decisions on maximum prices and tariffs for the piped-gas industry.

1.3.3. PROGRAMME RESOURCE CONSIDERATIONS

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2021/22 for Programme 3: Compliance monitoring and enforcement

REGULATED INDUSTRY	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Electricity	Electricity Regulation	3	1 670 941	20%
	Electricity licencing, Compliance, and Dispute Resolution	34	10 704 651	30%
	Electricity Infrastructure Planning	13	14 731 521	80%
Piped-Gas	Piped-Gas Regulation	5	2 011 221	20%
	Piped-Gas Licensing, Compliance and Dispute Resolution	11	5 100 293	40%
	Piped-Gas Competition and Markets	4	1 381 974	30%
Petroleum Pipelines	Petroleum Pipelines Regulation	6	1 977 669	20%
	Petroleum Licensing, Compliance and Dispute Resolution	9	4 395 145	40%

Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.

Please refer to Part D: Funding for NERSA for the detailed budget.



1.3.4. KEY RISKS

Please refer to Section 1.7 below for NERSA's detailed Strategic Risk Register.





1.4. PROGRAMME 4: DISPUTE RESOLUTION, INCLUDING MEDIATION, ARBITRATION AND HANDLING OF COMPLAINTS

The programme purpose is to ensure that disputes and complaints between licensees or between licensees and customers or end-users are managed effectively and settled in a manner that is appropriate. This programme will also ensure that when needed, any mediation or arbitration required will be done within prescribed procedures.

This programme is in support of **MTSF Priority 2: Economic Transformation and Job Creation**.

1.4.1. INDUSTRY SPECIFIC SUB-PROGRAMMES

1.4.1.1. Electricity Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Conducive regulatory environment that results in regulatory certainty and increased investment in the electricity industry	1. 87% of disputes/complaints including initiated investigations closed within 120 working days from receipt ⁹⁹	% of disputes/complaints, including initiated investigations, closed within the stated timeframe	80%	99% ¹⁰⁰	85%	60% ¹⁰¹	87%	90%	93%
	2. One report on the trends regarding to the status of disputes and complaints in the electricity industry considered annually by the ELS/REC by 31 March	Number of reports on the trends regarding to the status of disputes and complaints in the electricity industry considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1

⁹⁹ The number of days were amended from 180 to 120 working days to be aligned with the approved Dispute Resolution Procedure.

¹⁰⁰ The planned target was 85%.

¹⁰¹ The output and target were reduced to from 87% to 60% because of travel restrictions due to the COVID-19 pandemic. The licensees are also working with skeleton staff.



b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 87% of disputes/ complaints including initiated investigations closed within 120 working days from receipt ¹⁰²	% of disputes/complaints, including initiated investigations, closed within the stated timeframe	87%	87%	87%	87%	87%
2. One report on the trends regarding to the status of disputes and complaints in the electricity industry considered annually by the ELS/REC by 31 March	Number of reports on the trends regarding to the status of disputes and complaints in the electricity industry considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1

¹⁰² The number of days were amended from 180 to 120 working days to be aligned with the approved Dispute Resolution Procedure



1.4.1.2. Piped-Gas Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible piped gas industry	1. 50% of complaint investigations completed within 12 months and a report on findings considered by the PGS	% of complaint investigations completed and a report on findings considered by the relevant committee or the Energy Regulator within the stated timeframe	50%	No complaint investigation needed to be completed in the reporting period	50%	50%	50%	50%	50%
	2. 50% of initiated investigations and inquiries completed within 12 months and a report on findings considered by the PGS	% of initiated investigations completed and a report on findings considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	50%	50%	50%	50%	50%

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 50% of complaint investigations completed within 12 months and a report on findings considered by the PGS	% of complaint investigations completed and a report on findings considered by the relevant committee or the Energy Regulator within the stated timeframe	50%	50%	50%	50%	50%
2. 50% of initiated investigations and inquiries completed within 12 months and a report on findings considered by the PGS	% of initiated investigations completed and a report on findings considered by the relevant committee or the Energy Regulator within the stated timeframe	50%	50%	50%	50%	50%



1.4.1.3. Petroleum Pipelines Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Efficient, sustainable, equitable and orderly development of a transformed, competitive and accessible petroleum pipelines industry	1. 100% of complaints investigated and report considered by the PPS within 12 ¹⁰³ months of receipt of complete information form relevant parties	% of complaints investigated and report considered by the relevant committee or the Energy Regulator within the stated timeframe of receipt of complete information form relevant parties	No complaints were received	No complaints were received	100%	100%	100%	100%	100%

b) *Indicators, Annual and Quarterly Targets*

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complaints investigated and report considered by the PPS within 12 months of receipt of complete information form relevant parties	% of complaints investigated and report considered by the relevant committee or the Energy Regulator within the stated timeframe of receipt of complete information form relevant parties	100%	100%	100%	100%	100%

¹⁰³ The timeframe was amended from 6 to 12 months to be in line with the newly approved Procedure.

¹⁰⁴ The timeframe was amended from 6 to 12 months to be in line with the newly approved Procedure.



1.4.2. EXPLANATION OF PLANNED PERFORMANCE OVER THE MEDIUM TERM PERIOD

The planned output is in line with one of the regulatory functions of NERSA, as contained in relevant legislation, namely:

- Dispute resolution including mediation, arbitration and the handling of complaints.

1.4.3. PROGRAMME RESOURCE CONSIDERATIONS

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2021/22 for Programme 4: Dispute resolution including mediation, arbitration and the resolution of complaints:

REGULATED INDUSTRY	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Electricity	Electricity Regulation	3	1 670 941	20%
	Electricity licencing, Compliance, and Dispute Resolution	34	10 704 651	30%
	Electricity Infrastructure Planning	5	2 011 221	20%
Piped-Gas	Piped-Gas Regulation	11	2 550 146	20%
	Piped-Gas Licensing, Compliance and Dispute Resolution	4	1 381 974	30%
	Piped-Gas Competition and Markets	6	1 977 669	20%
Petroleum Pipelines	Petroleum Pipelines Regulation	9	2 197 573	20%
	Petroleum Licensing, Compliance and Dispute Resolution	3	1 670 941	20%

Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.

Please refer to Part D: Funding for NERSA for the detailed budget.



1.4.4. KEY RISKS

Please refer to Section 1.7 below for NERSA's detailed Strategic Risk Register.





1.5. PROGRAMME 5: SETTING OF RULES, GUIDELINES AND CODES FOR THE REGULATION OF THE THREE ENERGY INDUSTRIES

The programme purpose is to ensure the setting of appropriate rules, guidelines and codes of best practices in the quest to promote uniformity and standardise practices in the regulation of the three energy industries. This will facilitate the creation of investor confidence and lessen the regulatory burden on licensees. In order to achieve orderly investor confidence in the energy industries, there must be standardised practices, which are the same for all participants and NERSA must maintain and safeguard these standards. This will facilitate investment in the energy industries, as investors and developers need a sound regulatory framework to ensure that they receive the expected returns for their investment.

This programme is in support of **MTSF Priority 2: Economic Transformation and Job Creation**.

1.5.1. INDUSTRY SPECIFIC SUB-PROGRAMMES

1.5.1.1. Electricity Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Conducive regulatory environment that results in regulatory certainty and increased investment in the electricity industry	1. 100% of complete applications from the ESI <u>requiring exemption</u> to the South African grid code, considered by the ELS/REC within 3 months ¹⁰⁵ from receipt of complete information	% of complete applications from the ESI <u>requiring exemptions</u> to the South African grid code, considered by the relevant committee or the Energy Regulator within the stated timeframe	74%	100%	100%	100%	100%	100%	100%
	2. 100% of complete applications from the ESI <u>requiring amendment</u> to the South African grid code, considered by the ELS/REC within 3 months ¹⁰⁶ from receipt of complete information	% of complete applications from the ESI <u>requiring amendment</u> to the South African grid code, considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%	100%	100%

¹⁰⁵ This time frame was changed from 60 working days to 3 months due to the increased number of requests from the Renewable Energy companies. The challenge is that the Grid is not designed for renewables.

It is being updated to deal with renewables and the changing industry

¹⁰⁶ This time frame was changed from 60 working days to 3 months due to the increased number of requests from the Renewable Energy companies. The challenge is that the Grid is not designed for renewables.

It is being updated to deal with renewables and the changing industry



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	3. One report on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the ELS by 31 March	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered by the relevant committee or the Energy Regulator within stated timeframe	New target	New target	New target	1	1	1	1
	4. One report on the proposed guidelines and benchmarks for 2022/23 considered by the ELS/REC within 3 months after the decision on the ERTSA ¹⁰⁷	Number of reports on the proposed guidelines and benchmarks for the next financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	-1 ¹⁰⁸	1	1	1	1	1	1

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. 100% of complete applications from the ESI <u>requiring exemption</u> to the South African grid code, considered by the ELS/REC within 3 months ¹⁰⁹ from receipt of complete information	% of complete applications from the ESI <u>requiring exemptions</u> to the South African grid code, considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%
2. 100% of complete applications from the ESI <u>requiring amendment</u> to the South African grid code, considered by the ELS/REC within 3 months ¹¹⁰ from receipt of complete information	% of complete applications from the ESI <u>requiring amendment</u> to the South African grid code, considered by the relevant committee or the Energy Regulator within the stated timeframe	100%	100%	100%	100%	100%





OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
3. One report on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the ELS by 31 March	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered by the relevant committee or the Energy Regulator within stated timeframe	1	-	-	-	1
4. One report on the proposed guidelines and benchmarks for 2022/23 considered by the ELS/REC within 3 months after the decision on the ERTSA ¹¹¹	Number of reports on the proposed guidelines and benchmarks for the next financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1

¹⁰⁷ This output was amended to reflect a timeframe that is within NERSA's control.

¹⁰⁸ The report on the proposed guideline and benchmarks for 2019/20 could not be completed by 31 December 2019, as planned, because this project is dependent on the approval of ERTSA, which in turn is dependent on the approval of Eskom's revenue application.

¹⁰⁹ This time frame was changed from 60 working days to 3 months due to the increased number of requests from the Renewable Energy companies. The challenge is that the Grid is not was designed for renewables. It is being updated to deal with renewables and the changing industry

¹¹⁰ This time frame was changed from 60 working days to 3 months due to the increased number of requests from the Renewable Energy companies. The challenge is that the Grid is not was designed for renewables. It is being updated to deal with renewables and the changing industry

¹¹¹ This output was amended to reflect a timeframe that is within NERSA's control.



1.5.1.2. Piped-Gas Industry Regulation

a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry	1. One report on gas regulatory advocacy considered annually by the PGS by 31 March	Number of reports on gas regulatory advocacy considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One report on gas regulatory advocacy considered annually by the PGS by 31 March	Number of reports on gas regulatory advocacy considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1





1.5.1.3. Petroleum Pipelines Industry Regulation

a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
A conducive regulatory environment that results in regulatory certainty and increased investment in the petroleum industry	1. One report on the monitoring of the implementation of the revised methodology considered annually by the PPS by 31 March	Number of reports on the monitoring of the implementation of the tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	No re-View needed	Prudency Guidelines considered by the ER by 31 March 2019	Reviewed Tariff Methodology incorporating prudency guidelines, considered by the ER by 31 March 2020	1	1	1	1
	2. Reviewed pipelines tariff methodology considered by the ER by 31 March 2023	Reviewed pipelines tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	-	1	-

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One report on the monitoring of the implementation of the revised methodology considered annually by the PPS by 31 March	Number of reports on the monitoring of the implementation of the tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1



1.5.2. EXPLANATION OF PLANNED PERFORMANCE OVER THE MEDIUM TERM PERIOD

The planned output is in line with one of the regulatory functions of NERSA, as contained in relevant legislation, namely:

- Setting of rules, guidelines and codes for the regulation of the electricity, piped-gas and petroleum pipelines industries.

1.5.3. PROGRAMME RESOURCE CONSIDERATIONS

The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.

The table below indicates the approved staff complement and the approved budget for 2020/21 for Programme 5: Setting of rules, guides and codes for regulation

REGULATED INDUSTRY	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Electricity	Electricity Regulation	3	1 670 941	20%
	Electricity Infrastructure Planning	13	1 841 440	10%
Piped-Gas	Piped-Gas Regulation	5	2 011 221	20%
	Piped-Gas Competition and Markets	4	1 842 632	40%
Petroleum Pipelines	Petroleum Pipelines Regulation	6	1 977 669	20%

Note: The % allocation is based on the staff complement of the Organisation in line with the ring-fencing methodology.

Please refer to Part D: Funding for NERSA for the detailed budget.





1.5.4. KEY RISKS

Please refer to Section 1.7 below for NERSA's detailed Strategic Risk Register.





1.6. PROGRAMME 6: ADMINISTRATION (ESTABLISHING NERSA AS AN EFFICIENT AND EFFECTIVE REGULATOR)

The programme purpose is to ensure that systems, processes, procedures and resources are in place that will put NERSA in the position to appropriately advise policy makers on any matter relating to the effective and efficient regulation of the electricity, piped-gas and petroleum pipelines industries, thereby contributing towards the broader government objectives aimed at the economic development of the country. The purpose includes the development to skills, both internally and externally, in energy regulation.

This programme is in support of **MTSF Priority 2: Economic Transformation and Job Creation; Priority 3: Education, Skills and Health and Priority 7: A better Africa and the World.**

1.6.1. INDUSTRY SPECIFIC SUB-PROGRAMMES

1.6.1.1. Electricity Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Security of Supply	1. One System Adequacy Report considered annually by the ELS/REC by 31 March	Number of System Adequacy Reports considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
Empowered stakeholders with relevant energy industry as well as economic regulatory knowledge and information	2. Fifty customer education programmes ¹¹² undertaken annually by 31 March	Number of customer education programmes undertaken within the stated timeframe	45	56	55	30 ¹¹³	50	75	75
	3. One consolidated report on the customer education programmes undertaken considered annually by the ELS/REC by 31 March	Number of consolidated reports on the customer education programmes undertaken considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	1	1	1	1

¹¹² Distribution of brochures and radio interviews will be considered as part of customer education programmes

¹¹³ The target was changed from 60 to 30 customer education programmes due to the restrictions on traveling and gathering of people that will make conducting customer education workshops difficult. NERSA will utilise radio interviews and the distribution of brochures to conduct some level of customer education programmes.





b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One System Adequacy Report considered annually by the ELS/REC by 31 March	Number of System Adequacy Reports considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
2. Fifty customer education programmes ¹¹⁴ undertaken annually by 31 March	Number of customer education programmes undertaken within the stated timeframe	50	10	10	15	15
3. One consolidated report on the customer education programmes undertaken considered annually by the ELS/REC by 31 March	Number of consolidated reports on the customer education programmes undertaken considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1

¹¹⁴ Distribution of brochures and radio interviews will be considered as part of customer education programmes



1.6.1.2. Piped-Gas Industry Regulation

a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry	1. One report on stakeholder workshops / meetings considered annually by the PGS by 31 March	Number of reports on stakeholder workshops / meetings considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
	2. Two reports on new developments in the gas industry considered annually by the PGS by 30 September and 31 March	Number of reports on new developments in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	2	3 ¹¹⁵	2	2	2	2	2
	3. One report on the impact of developments on competition in the gas industry considered annually by the PGS by 31 March ¹¹⁶	Number of reports on the impact of developments on competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	1	-	1	-

¹¹⁵ The planned target was 2 reports. The 3rd report was produced due to major developments in the gas industry that took place in the last quarter of the financial year

¹¹⁶ The wording of this output was amended as the review of the definition of the piped-gas market was done as part of the d review of adequacy of competition





b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One report on stakeholder workshops / meetings considered annually by the PGS by 31 March	Number of reports on stakeholder workshops / meetings considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
2. Two reports on new developments in the gas industry considered annually by the PGS by 30 September and 31 March	Number of reports on new developments in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1
3. One report on the impact of developments on competition in the gas industry considered annually by the PGS by 31 March ¹¹⁷	Number of reports on the impact of developments on competition in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1

¹¹⁷ The wording of this output was amended as the review of the definition of the piped-gas market was done as part of the d review of adequacy of competition



1.6.1.3. Petroleum Pipelines Industry Regulation

a) *Outcomes, Outputs, Performance Indicators and Targets*

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
A conducive regulatory environment that results in regulatory certainty and increased investment in the piped-gas industry	1. Two reports on the inland security of supply considered annually by the PPS by 30 September and 31 March	Number of reports on the inland security of supply considered by relevant committee or the Energy Regulator within the stated time-frame	2	2	2	2	2	2	2
	2. One report on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by PPS by 31 March	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	New target	1	1	1	1





b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. Two reports on the inland security of supply considered annually by the PPS by 30 September and 31 March	Number of reports on the inland security of supply considered by relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1
2. One report on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered annually by PPS by 31 March	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies for the petroleum pipelines industry considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1



1.6.2. SUB-PROGRAMMES

1.6.2.1. Transversal Regulation

a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Creation of an enabling environment for internal and external stakeholders through proactive, dynamic and data-driven advisory, advocacy and decision making	1. One progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered annually by the REC by 31 March	Number of progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	-
	2. One report on the impact of global, regional and local energy trends on NERSA's business considered annually by the REC by 31 May 2021	Number of reports on the impact of global, regional and local energy trends on NERSA's business considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1
	3. Two reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information considered annually by the REC by 30 September and 31 March	2 progress reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information, considered by the relevant committee or the Energy Regulator within the stated timeframe	2	2	2	2	2	2	2





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	4. Two reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 30 September and 31 March	Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	2	2	2	2	2

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered annually by the REC by 31 March	Number of progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
2. One report on the impact of global, regional and local energy trends on NERSA's business considered annually by the REC by 31 May 2021	Number of reports on the impact of global, regional and local energy trends on NERSA's business considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	-	-	1
3. Two reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information considered annually by the REC by 30 September and 31 March	2 progress reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information, considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1
4. Two reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 30 September and 31 March	Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1



1.6.2.2. Organisational

a) Outcomes, Outputs, Performance Indicators and Targets

OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Creation of an enabling environment for internal and external stakeholders through proactive, dynamic and data-driven advisory, advocacy and decision making	1. One report on the implementation of the Employment Equity Plan considered annually by the HRRC by 30 September and 31 March	Number of reports on the implementation of the Employment Equity Plan considered by the relevant committee or the Energy Regulator within the stated timeframe	2	2	2	2	2	2	2
	2. 50% of women in management positions	% of women in management positions	New target	52%	50%	50%	50%	5%	5%
	3. 2% of people with disabilities employed	% of people with disabilities employed	New target	2%	2%	2%	2%	2%	2%
	4. Four reports on the implementation of the Youth Employment Accord considered quarterly by the HRRC	Number of reports on the implementation of the Youth Employment Accord considered by the relevant committee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4
	5. One report on the implementation of the Learnership and Internship Programmes considered annually by the HRRC by 31 March	Number of reports on the implementation of the Learnership and Internship Programmes considered by the relevant committee or the Energy Regulator within the stated timeframe	1	1	1	1	1	1	1





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	6. One report on the implementation of the bursary programme for qualifying external applicants considered annually by the HRRC by 31 March	Number of reports on the implementation of the bursary programme for qualifying external applicants considered by the relevant committee or the Energy Regulator within the stated time-frame	1	1	1	1	1	1	1
	7. One reports on the design of a regulatory course at an accredited institution of higher learning considered annually by the HRRC by 31 March	Number of reports on the design of a regulatory course at an accredited institution of higher learning considered by the relevant committee or the Energy Regulator within the stated time-frame	New target	New target	Planning phase concluded and considered by the HRRC by 31 March 2020	2	1	1	1
	8. One report on the leadership development programme considered by the HRRC by 31 March 2023	Number of reports on leadership development programme considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	Planning phase concluded and considered by the HRRC by 31 March 2020	-	-	1	-



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	9. One report on the development of a technical regulatory training and development programme considered by the HRRC by 31 March 2021	Number of reports on the development of a technical regulatory training and development programme considered by the relevant committee or the Energy Regulator within the stated time-frame	New target	New target	Comprehensive leadership development programme considered by the Energy Regulator by 31 March 2020	1	1	1	-
	10. Two reports on the implementation of the NERSA Enterprise Development Plan considered by the ER by 30 September 2021 and by 31 March 2022	Number of reports on the implementation of the NERSA Enterprise Development Plan considered the relevant committee or the Energy Regulator within the stated timeframe	New target	NERSA Enterprise Development Plan considered by the ER by 31 March 2019 and relevant black female-owned enterprises identified	4 quarterly reports on the implementation of the NERSA Enterprise Development Plan considered by the ER	Reviewed NERSA Enterprise Development Plan considered by the ER by 31 March 2021 and new target group identified	2 reports on the implementation of the NERSA Enterprise Development Plan considered by the ER	Reviewed NERSA Enterprise Development Plan considered by the ER by 31 March 2023	2 reports on the implementation of the NERSA Enterprise Development Plan considered by the ER





OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
	11. 100% of implementation of Preferential Procurement Policy Framework, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	% of implementation of Preferential Procurement Policy Framework, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	New target	100% with ≥80% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100%, with ≥82% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100%, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100%, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100% with ≥86% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100% with ≥88% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better
	12. One report on the implementation of the stakeholder management plan considered annually by the REC by 31 March	Number of reports on the implementation of the stakeholder management plan considered by the relevant committee or the Energy Regulator within the stated timeframe	New target	New target	1 report on 3-yearly stakeholder survey considered by the REC by 31 March 2020	1	1	1	-
	13. 100% of creditors paid within 30 days after all relevant documentation have been received	% of creditors paid within 30 days after all relevant documentation have been received	100%	100%	100%	100%	100%	100%	100%
	14. Four reports on legislative and policy developments impacting on the Regulator considered quarterly by the REC	Number of reports on legislative and policy developments impacting on the Regulator, considered by the relevant committee or the Energy Regulator within the stated timeframe	4	4	4	4	4	4	4



OUTCOMES	OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS						
			Audited performance			Estimated performance	MTEF Period		
			2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
An effective operating model that enables the organisation to fulfil its role effectively	15. Audit Report that is not qualified	Unqualified audit	Clean audit	Clean audit	Unqualified audit	Unqualified audit	Unqualified audit	Unqualified audit	Unqualified audit
	16. Four reports on the progress made regarding certification with an appropriate international standard on quality management considered quarterly by the REC	Number of reports on the progress made regarding certification with an appropriate international standard on quality management, considered by the relevant committee or the Energy Regulator within the stated time-frame	4	4	4	4	4	4	4
	17. Two reports on the implementation of the approved ICT Strategy considered quarterly by the ITGC by 30 September and 31 March	Number of reports on the implementation of the approved ICT Strategy considered by the relevant committee or the Energy Regulator within the stated time-frame	New target	New target	New target	New target	2	2	2

b) Indicators, Annual and Quarterly Targets

OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
1. One report on the implementation of the Employment Equity Plan considered annually by the HRRC by 30 September and 31 March	Number of reports on the implementation of the Employment Equity Plan considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	-	-	1
2. 50% of women in management positions	% of women in management positions	50%	-	-	-	50%
3. 2% of people with disabilities employed	% of people with disabilities employed	2%	-	-	-	2%
4. Four reports on the implementation of the Youth Employment Accord considered quarterly by the HRRC	Number of reports on the implementation of the Youth Employment Accord considered by the relevant committee or the Energy Regulator within the stated timeframe	4	1	1	1	1





OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
5. One report on the implementation of the Learnership and Internship Programmes considered annually by the HRRC by 31 March	Number of reports on the implementation of the Learnership and Internship Programmes considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
6. One report on the implementation of the bursary programme for qualifying external applicants considered annually by the HRRC by 31 March	Number of reports on the implementation of the bursary programme for qualifying external applicants considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
7. One reports on the design of a regulatory course at an accredited institution of higher learning considered annually by the HRRC by 31 March	Number of reports on the design of a regulatory course at an accredited institution of higher learning considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
8. One report on the development of a technical regulatory training and development programme considered by the HRRC by 31 March 2021	Number of reports on the development of a technical regulatory training and development programme considered by the relevant committee by 31 March relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
9. Two reports on the implementation of the NERSA Enterprise Development Plan considered by the ER by 30 September 2021 and by 31 March 2022	Number of reports on the implementation of the NERSA Enterprise Development Plan considered the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1
10. 100% of implementation of Preferential Procurement Policy Framework, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	% of implementation of Preferential Procurement Policy Framework, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	100%	100%	100%	100%	100%
11. One report on the implementation of the stakeholder management plan considered annually by the REC by 31 March	Number of reports on the implementation of the stakeholder management plan considered by the relevant committee or the Energy Regulator within the stated timeframe	1	-	-	-	1
12. 100% of creditors paid within 30 days after all relevant documentation have been received	Unqualified audit	100%	100%	100%	100%	100%



OUTPUTS	OUTPUT INDICATORS	ANNUAL TARGETS	QUARTERLY TARGETS			
			Q1	Q2	Q3	Q4
13. Four reports on legislative and policy developments impacting on the Regulator considered quarterly by the REC	% of creditors paid within 30 days after all relevant documentation have been received	4	1	1	1	1
14. Audit Report that is not qualified	Number of reports on legislative and policy developments impacting on the Regulator, considered by the relevant committee or the Energy Regulator within the stated timeframe	Unqualified audit	-	Unqualified audit	-	-
15. Four reports on the progress made regarding certification with an appropriate international standard on quality management considered quarterly by the REC	Number of reports on the progress made regarding certification with an appropriate international standard on quality management, considered by the relevant committee or the Energy Regulator within the stated timeframe	4	1	1	1	1
16. Two reports on the implementation of the approved ICT Strategy considered quarterly by the ITGC by 30 September and 31 March	Number of reports on the implementation of the approved ICT Strategy considered by the relevant committee or the Energy Regulator within the stated timeframe	2	-	1	-	1





1.6.3. EXPLANATION OF PLANNED PERFORMANCE OVER THE MEDIUM TERM PERIOD

- a) The planned outputs for the regulated industries subprogrammes are aimed at contributing towards NERSA being recognised as a world-class regulator, through reporting on the status of the regulated industries in order to ensure security of supply.
- b) The outputs for the transversal regulator and organisational subprogrammes are aimed at contributing towards NERSA being recognised as a world-class regulator. This included providing an enabling environment for the effective and efficient regulation of the energy industry.

1.6.4. PROGRAMME RESOURCE CONSIDERATIONS

- a) The budget for activities relating to the regulation of the energy industry is based on a ring-fencing methodology that was approved to comply with section 13 of the National Energy Regulator Act, 2004 (Act No. 40 of 2004). The methodology is based on direct employment cost as a basis of common costs apportionment. Direct costs are allocated directly to the respective industry.
- b) The table below indicates the approved staff complement and the approved budget for 2021/22 for Programme 6: Establishing NERSA as an efficient and effective organisation

REGULATED INDUSTRY	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Electricity	FTRM	3	119 413 908	58%
	Finance and Administration	23		
	Corporate Services	38		
	Human Resources	13		
	Specialised Support Units	33		
Piped-Gas	FTRM	3	43 236 070	21%
	Finance and Administration	23		
	Corporate Services	38		
	Human Resources	13		
	Specialised Support Units	33		



REGULATED INDUSTRY	RELEVANT STRUCTURES	STAFF COMPLEMENT	BUDGET (R)	% ALLOCATION
Petroleum Pipelines	FTRM	3	43 236 070	21%
	Finance and Administration	23		
	Corporate Services	38		
	Human Resources	13		
	Specialised Support Units	33		

Note: The % allocation is based on the staff complement of the Organisation in line with the rich-fencing methodology.

Please refer to Part D: Funding for NERSA for the detailed budget.





1.7 STRATEGIC RISK REGISTER

Ranking	Risk Description	Root Causes (Background)	Impact	Likelihood	Inherent Risk	Current controls	Control Effectiveness	Residual risk	Risk Owner	Risk Response Strategies (Action plans)	Action Owner	Time scale
R1	Unresponsive regulatory framework to landscape changes in the sector	1. NERSA not aligned/ upreast with regulatory dynamics 2. Law not quick enough to adjust to dynamics of the industry 3. NERSA 534 determinations challenged in court	Major	4 Likely	4 High	1. Provision to develop rules, procedures and guidelines on tariffs and licences 2. Regulatory Advocacy to influence at DMRE level 3. Methodology (Tariffs, Pricing) 4. Economic Framework for determination of adequacy of competition in Pipogas Industry	Fair 0,80	High 12,8	ACEO	1 & 2. Improve approach to Regulatory Advocacy (continuously align as the market evolve) 1.1 Conduct environmental scan and develop draft studies (methodologies, guidelines and rules) in anticipation of industry changes 1.2 Review Methodology and Guidelines 3. Issue Rules for implementation of IRP	1. & 1.1 & 1.2 EMs: (ELR/PPR/ GAR) 3. EM: ELR	1. October 2020 1.1. Ongoing 1.2. October 2020 3. March 2021
R2	Regulatory uncertainty	1. NERSA decisions challenged in court 2. Outdated Regulatory Methodology 3. Unresponsive industry legislation 4. Inadequacy of NERSA Rules 5. Regulatory overlaps 6. Fragmentation of Regulations (Non- alignment of regulation activities)	Critical	5 Almost Certain or Common	5 Very High	1. NERSA Rules 2. MOAs with relevant other Authorities 3. Methodology (Tariffs, Pricing) 4. Economic Framework (GAS) 5. MoAs with TNPA and Ports Regulator	Fair 0,80	Very High 20	ACEO	1. Emphasise compliance with NERSA's Methodologies in decisions 2. Review Methodologies to align to current circumstances 3. Improve approach to Regulatory Advocacy (continuously align as the market evolve) 4. Regular review of Rules to provide regulatory certainty 5. Improve MOAs with relevant Authorities	EMS: ELR/PPR/GAR	1. As an when decision made 2. October 2020 3. October 2020 4. October 2020 5. January 2020
R3	Rising energy costs - (High energy prices and tariffs)	1. Inefficient operations by licensees 2. Geo- political factors	Critical	5 Almost Certain or Common	5 Very High	1. Methodology (Tariffs, Pricing) 2. Prudency Assessment	Fair 0,80	Very High 20	ACEO	1. Full implementation of Prudency Guidelines 1.1 Enforce compliance to ring-fencing of electricity business costs in munics to ensure infrastructure maintenance using the allocated revenue 2. Facilitate development of projects to deliver domestic supply of primary fuels and electricity 2.2 Assist DMRE in the implementation National Free Basic Electricity Policy of Government	1. EMS: ELR/PPR/GAR 1.1. January 2021 2. As an when required 2. EM: ELR 2.2. EM: ELR	1. October 2020 1.1. January 2021 2. As an when required 2.2. October 2020
R4	Reputational damage (Quality of regulatory decisions - threatening reputation and credibility)	1. Increased litigations 2. Non- adherence to Methodologies 3. Delays in making decisions 4. Concurrence of Non- allocation of technologies in the IRP 5. Inadequate stakeholder engagement - (Planning processes)	Major	4 Almost Certain or Common	5 Very High	1. Public Hearings Procedure 2. Methodologies and Legislative framework 3. Stakeholder Engagement Strategy and Plan 4. Customer Education 5. The media monitoring & customer satisfaction surveys 6. Processes to seek legal advice (LAS / External) 7. Standard Operating Procedures (SOP) 8. Regulatory advocacy 9. Reasons for decision	Fair 0,80	High 16	ACEO	1. Ensure accuracy and high quality of RFDs 2. Regular review of Regulatory Tools to align with dynamics of the industry (Methodologies/ Rules/ Procedures) 2.1. Independent Peer review of NERSA's Regulatory Tools (Methodologies/ Rules/ Procedures) 3. Enhance compliance with Methodologies 3.1 Stakeholder Engagement 3.2. Streamline the decision making 4. Improve quality of Reasons for Decision 4.1 Improve regulatory advocacy Develop Standard Operation Procedures (ELR/ GAR/ PPR) 5. Increase Stakeholder engagement (Public Hearing) I 5.1 Effective implementation of Stakeholder Engagement Strategy and Plan 5.2 Conduct Stakeholder Surveys 5.3. Improve NERSA's PR systems	1. LAS 2. SM: RAR 3. EMS: ELR/PPR/GAR 4. EMS: ELR/PPR/GAR 5. EM: Corporate Services	2. November 2020 - March 2022 5. November 2020 -



Ranking	Risk Description	Root Causes (Background)	Impact	Likelihood	Inherent Risk	Current controls	Control Effectiveness	Residual Risk	Risk Owner	Risk Response Strategies (Action plans)	Action Owner	Time scale
R1	Unresponsive regulatory framework to landscape changes in the sector	1. NERSA not aligned/ upreast with regulatory dynamics 2. Law not quick enough to adjust to dynamics of the industry 3. NERSA 534 determinations challenged in court	Major	4	High	1. Provision to develop rules, procedures and guidelines on tariffs and licences 2. Regulatory Advocacy to influence at DMRE level 3. Methodology (Tariffs, Pricing) 4. Economic Framework for determination of adequacy of competition in Pipogas Industry	Fair 0,80	High 12,8	ACEO	1 & 2. Improve approach to Regulatory Advocacy (continuously align as the market evolve) 1.1 Conduct environmental scan and develop draft studies (methodologies, guidelines and rules) in anticipation of industry changes 1.2 Review Methodology and Guidelines 3. Issue Rules for implementation of IRP	1. & 1.1 & 1.2 EMs: (ELR/PPR/ GAR) 3. EM: ELR	1. October 2020 1.1. Ongoing 1.2. October 2020 3. March 2021
R2	Regulatory uncertainty	1. NERSA decisions challenged in court 2. Outdated Regulatory Methodology 3. Unresponsive industry legislation 4. Inadequacy of NERSA Rules 5. Regulatory overlaps 6. Fragmentation of Regulations (Non- alignment of regulation activities)	Critical	5	Very High	1. NERSA Rules 2. MOAs with relevant other Authorities 3. Methodology (Tariffs, Pricing) 4. Economic Framework (GAS) 5. MoAs with TNPA and Ports Regulator	Fair 0,80	Very High 20	ACEO	1. Emphasise compliance with NERSA's Methodologies in decisions 2. Review Methodologies to align to current circumstances 3. Improve approach to Regulatory Advocacy (continuously align as the market evolve) 4. Regular review of Rules to provide regulatory certainty 5. Improve MOAs with relevant Authorities	EMS: ELR/PPR/GAR	1. As an when decision made 2. October 2020 3. October 2020 4. October 2020 5. January 2020
R3	Rising energy costs - (High energy prices and tariffs)	1. Inefficient operations by licensees 2. Geo- political factors	Critical	5	Very High	1. Methodology (Tariffs, Pricing) 2. Prudency Assessment	Fair 0,80	Very High 20	ACEO	1. Full implementation of Prudency Guidelines 1.1 Enforce compliance to ring-fencing of electricity business costs in munics to ensure infrastructure maintenance using the allocated revenue 2. Facilitate development of projects to deliver domestic supply of primary fuels and electricity 2.2 Assist DMRE in the implementation National Free Basic Electricity Policy of Government	1. EMS: ELR/PPR/GAR 1.1. January 2021 2. As an when required 2. EM: ELR 2.2. EM: ELR	1. October 2020 1.1. January 2021 2. As an when required 2.2. October 2020
R4	Reputational damage (Quality of regulatory decisions - threatening reputation and credibility)	1. Increased litigations 2. Non- adherence to Methodologies 3. Delays in making decisions 4. Concurrence of Non- allocation of technologies in the IRP 5. Inadequate stakeholder engagement - (Planning processes)	Major	4	Very High	1. Public Hearings Procedure 2. Methodologies and Legislative framework 3. Stakeholder Engagement Strategy and Plan 4. Customer Education 5. The media monitoring & customer satisfaction surveys 6. Processes to seek legal advice (LAS / External) 7. Standard Operating Procedures (SOP) 8. Regulatory advocacy 9. Reasons for decision	Fair 0,80	High 16	ACEO	1. Ensure accuracy and high quality of RFDs 2. Regular review of Regulatory Tools to align with dynamics of the industry (Methodologies/ Rules/ Procedures) 2.1. Independent Peer review of NERSA's Regulatory Tools (Methodologies/ Rules/ Procedures) 3. Enhance compliance with Methodologies 3.1 Stakeholder Engagement 3.2. Streamline the decision making 4. Improve quality of Reasons for Decision 4.1 Improve regulatory advocacy Develop Standard Operation Procedures (ELR/ GAR/ PPR) 5. Increase Stakeholder engagement (Public Hearing) I 5.1 Effective implementation of Stakeholder Engagement Strategy and Plan 5.2 Conduct Stakeholder Surveys 5.3. Improve NERSA's PR systems	1. LAS 2. SM: RAR 3. EMS: ELR/PPR/GAR 4. EMS: ELR/PPR/GAR 5. EM: Corporate Services	2. November 2020 - March 2022 5. November 2020 -



PART D: FUNDING FOR NERSA

NERSA's approved budget is attached as Annexure A





PART E: TECHNICAL INDICATOR DESCRIPTIONS

2. Performance Indicators

These indicators are divided in programmes as well as in the following functional areas:

- Electricity Industry Regulation
- Piped-Gas Industry Regulation;
- Petroleum Pipelines Industry Regulation;
- Transversal Regulatory; and
- Organisational.

2.1. ELECTRICITY INDUSTRY REGULATION

2.1.1. Programme 1: Setting and/or approval of tariffs and prices

Indicator title	% of complete tariff applications of licensed distributors for increases higher than the guideline and benchmark considered by the relevant committee or the Energy Regulator within the stated timeframe	% of complete tariff applications of licensed distributors for increases within the guideline and benchmark considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete tariff applications from licensed distributors for increases higher than the guideline and benchmark that are considered by the Regulator Executive Committee or the Electricity Subcommittee (depending on delegation) and submitted to the Energy Regulator for a final decision, in compliance with the legislated timeframes.	This is the percentage of complete tariff applications from licensed distributors for increases within the guideline and benchmark that are considered by the Regulator Executive Committee or the Electricity Subcommittee (depending on delegation) and submitted to the Energy Regulator for a final decision, in compliance with the legislated timeframes.
Source of data	Tariff Applications and D Forms; Tariff analysis schedules	Tariff Applications and D Forms; Tariff analysis schedules
Method of calculation / assessment	$((\text{number of tariff applications approved within 60 days of receipt of complete application}) / (\text{number of received tariff applications})) * 100$	$((\text{number of tariff applications approved within 60 days of receipt of complete application}) / (\text{number of received tariff applications})) * 100$
Means of verification	Applications; Reasons for Decisions; Minutes of REC and ELS meetings	Applications; Reasons for Decisions; Minutes of REC and ELS meetings
Assumptions	Complete applications received from licensees	Complete applications received from licensees
Calculation Type	Non-cumulative	Non-cumulative





Indicator title	% of complete tariff applications of licensed distributors for increases higher than the guideline and benchmark considered by the relevant committee or the Energy Regulator within the stated timeframe	% of complete tariff applications of licensed distributors for increases within the guideline and benchmark considered by the relevant committee or the Energy Regulator within the stated timeframe
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete tariff applications of licensed distributors for increases higher than the guideline and benchmark considered by the ELS within 60 working days of receipt of complete application	100% of complete tariff applications of licensed distributors for increases within the guideline and benchmark considered by the REC within 60 working days of receipt of complete application.
Indicator Responsibility	EM (ELR) and HOD (EPT)	EM (ELR) and HOD (EPT)

Indicator title	Number of reports on the monitoring of the implementation of IBTs by eligible licensed distributors in South Africa considered by the relevant committee or the Energy Regulator within the stated timeframe	Energy Regulator decision on the review of Eskom's RCA application for the previous financial year within the stated timeframe
Definition	These are reports aimed at providing the Regulator with information on how licensed distributors implement the IGTs	This is the decision of the Regulator on the Regulatory Clearing Account application which is based on the evaluation of the account (for the purpose of determining the pass-through) will be done towards the end of Eskom's financial year (approximately 2 months prior to year-end) with actuals for the 9 months and Eskom projections to year end/
Source of data	Tariff Applications and D Forms; Tariff analysis schedules	RCA application; Information supplied by Eskom
Method of calculation / assessment	Add up number of reports per year	Decision of the Energy Regulator
Means of verification	Submissions to ELS/REC; Minutes of REC and ELS meetings	Applications; Reasons for Decisions; Minutes of ER meetings
Assumptions	Information provided by licensed distributors eligible for IBT implementation	Eskom submits complete application
Calculation Type	Cumulative	Cumulative
Reporting cycle	Every 3 years	Annual
	One three-yearly report on the monitoring of the implementation of IBTs by licensed distributors in South Africa eligible for IBT implementation considered by ELS/REC by 31 March 2023	Energy Regulator decision on the review of Eskom's RCA application for 2019/20 within 6 months after receipt of complete application
Indicator Responsibility	EM (ELR) and HOD (EPT)	EM (ELR) and HOD (EPT)



Indicator title	Number of reports on the proposed guidelines and benchmarks for the next financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	Energy Regulator decision on the review of Eskom's complete revenue application for year 1 of MYPD 5 considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are reports in which proposed municipal guidelines and benchmarks for the forthcoming financial year are stated, based on an analysis that was performed, taking into account the MYPD3, the current financial year's Municipal tariff increases and benchmarks as well as inflation targets and others.	This is the decision of the Regulator on review of Eskom's revenue application, based on the Multi Year Price Determination (MYPD) – which incorporates some of the Rate of Return (RoR) and incentive based principles through the introduction of the transmission and distribution service incentive schemes and the energy efficiency demand side management (EEDSM) schemes.
Source of data	Reasons for Decision of MYPD3 and previous Municipal tariff increases and benchmarks; Guidelines for Municipal tariff increases and Benchmarks for the current financial year; and minutes of ELS and ER meetings	Eskom's revenue application; Information supplied by Eskom
Method of calculation / assessment	Number of reports per year	Decision of the Energy Regulator
Means of verification	Submissions to ELS/REC; Minutes of REC and ELS meetings	Applications; Reasons for Decisions; Minutes of ER meetings
Assumptions	Eskom submit their ERTSA application on time	Eskom submits complete application
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	One report on the proposed guidelines and benchmarks for 2021/22 considered by the ELS/REC within 3 months after the decision on the ERTSA	Energy Regulator decision on the review of Eskom's complete revenue application for year 1 of MYPD 5 considered by ER within 6 months after receipt of complete application
Indicator Responsibility	EM (ELR) and HOD (EPT)	EM (ELR) and HOD (EPT)





Indicator title	Number of reports on the analysis of Eskom's performance based on submitted Regulatory Financial Reports (RFRs) considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on Eskom's ERTSA for the coming financial year considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These reports provide the Regulator with information on Eskom's performance, which are based on an analysis of Eskom's Regulatory Financial Reports and on the MYPD3 determination.	The decision is based on the review of Eskom's annual application to adjust the tariffs applicable to the respective customer groups; the annual submission of a proposed schedule of standard tariffs applicable to each of the customer groups for each year of the MYPD as well as the Reasons for Decision (RfD).
Source of data	Eskom report on its actual performance against the MYPD3	ERTSA Application by Eskom
Method of calculation / assessment	Add up number of reports per year	Application of tariff model
Means of verification	Submissions to ELS/REC; Minutes of REC and ELS meetings	Reasons for Decision and Minutes (ELS and Energy Regulator).
Assumptions	Eskom submits completed RFRs	Eskom submits complete application
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	One report on the analysis of Eskom's performance based on submitted Regulatory Financial Reports (RFRs) considered by the ELS/REC within 3 months after receipt of completed RFRs from Eskom	One report on analysis of Eskom's ERTSA for the coming financial year considered by the ELS/ER within 6 months after receipt of complete application
Indicator Responsibility	EM (ELR) and HOD (EPT)	EM (ELR) and HOD (EPT)

Indicator title	Number of reports on the calculation of the FBE Rate for the compensation of Eskom considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the Energy Regulator decision on the determination of the rate at which Eskom can charge the municipalities annually for supplying FBE on its behalf, based on an analysis of Eskom's FBE reports which contains customer statistics and consumption information and an analysis of Eskom's approved IBT (1st block) rate.
Source of data	Eskom - FBE customer statistics and consumption information; NERSA - the Approved 1st block of The Eskom Retail Tariff
Method of calculation / assessment	FBE is in line with the tariff model
Means of verification	Submissions to ELS and ER; minutes of ELS and ER
Assumptions	Eskom submits FBE reports timeously



Indicator title	Number of reports on the calculation of the FBE Rate for the compensation of Eskom considered by the relevant committee or the Energy Regulator within the stated timeframe
Calculation Type	Cumulative
Reporting cycle	Annual
Desired performance	One report on the calculation of the FBE Rate for the compensation of Eskom considered by ELS/ER within 2 months after the approval of ERTSA
Indicator Responsibility	EM (ELR) and HOD (EPT)

2.1.2. Programme 2: Licensing and registration

Indicator title	% of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	% of complete applications for amendment of licence considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete licence applications that are considered by the Regulator Executive Committee or the Electricity Subcommittee (depending on delegation) and submitted to the Energy Regulator for a final decision, in compliance with the legislated timeframes.	This is the percentage of applications for the amendment of a licence that are considered by the Regulator Executive Committee or the Electricity Subcommittee (depending on delegation) and submitted to the Energy Regulator for a final decision, in compliance with the legislated timeframes.
Source of data	Licence application	Licence applications
Method of calculation / assessment	(number of processed licence applications within 120 days / number of received licence applications)*100	(number of processed licence applications within 120 days / number of received licence applications)*100
Means of verification	Reasons for decision (RFD). The RFD documents outlines the timelines in the processing of applications and Minutes (REC/ELS/ER depending on delegation)	Reasons for decision (RFD). The RFD documents outlines the timelines in the processing of applications and Minutes (REC/ELS/ER depending on delegation)
Assumptions	Applicants provide all required information to accept application for analysis	Applicants provide all required information to accept application for analysis





Indicator title	% of complete licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe	% of complete applications for amendment of licence considered by the relevant committee or the Energy Regulator within the stated timeframe
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete licence applications considered by the ER within 120 working days after the period of objections expired and no objections were received or after objections are addressed	100% of complete applications for amendment of licence considered by the ELS/REC within 120 working days from receipt of all required information or after objections are addressed
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR) and HOD (ELC)

Indicator title	% of complete applications for registration of electricity generation facilities considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complete applications for registration of electricity generation activities that are considered by the Regulator Executive Committee or the Electricity Subcommittee (depending on delegation) and submitted to the Energy Regulator for a final decision, in compliance with the legislated timeframes.
Source of data	Registration applications
Method of calculation / assessment	$(\text{number of processed licence applications within 60 days} / \text{number of received licence applications}) * 100$
Means of verification	Applications; Reasons for decision (RFD). The RFD documents outlines the timelines in the processing of applications and Minutes (REC/ELS/ER depending on delegation)
Assumptions	All required information is received from applicants
Calculation Type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	100% of complete applications for registration of electricity generation facilities considered by the ELS within 60 days from receipt of all required information
Indicator Responsibility	EM (ELR) and HOD (ELC)



2.1.3. Programme 3: Compliance monitoring and enforcement

Indicator title	Number consolidated distribution audit reports on the state of compliance of licensees with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of consolidated generation audit reports on the state of compliance of power stations with licence conditions considered by the relevant committee or the Energy Regulator the stated timeframe within the stated timeframe
Definition	These are annual reports on all the audits NERSA conducted on the state of distribution licensees' compliance with licence conditions, including audit findings	These are annual reports on all the audits NERSA conducted on the state of generation licensees' compliance with licence conditions, including audit findings
Source of data	Compliance audit reports	Compliance audit reports
Method of calculation / assessment	Number of reports per year	Number of reports per year
Means of verification	Submissions to ELS/REC; minutes of ELS/REC	Submissions to ELS/REC; minutes of ELS/REC
Assumptions	Audits completed as planned	Audits completed as planned
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annually	Annually
Reporting cycle	One consolidated distribution audit report on the state of compliance of licensees with licence conditions considered annually by the ELS/REC by 31 March	One consolidated generation audit report on the state of compliance of power stations with licence conditions considered annually by the ELS/REC by 31 March
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR) and HOD (ELC)





Indicator title	Number of consolidated transmission audit reports on the state of compliance of Main Transmission Substations with licence conditions considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of progress reports on the monitoring of the implementation of the corrective action plans by non-complying licensees considered by the relevant subcommittee or the Energy Regulator within the stated timeframe
Definition	These are annual reports on all the audits NERSA conducted on the state of transmission licensees' compliance with licence conditions, including audit findings	These are reports, one each for transmission, generation and distribution licensees, indicating the progress made by licensees' with their corrective action plans, based on the audit findings by NERSA regarding the state of their compliance with license conditions.
Source of data	Compliance audit reports	Compliance audit reports; status reports on the implementation of corrective action plans
Method of calculation / assessment	Number of reports per year	Number of reports per year
Means of verification	Submissions to ELS/REC; minutes of ELS/REC	Submissions to ELS/REC; minutes of ELS/REC
Assumptions	Audits completed as planned	Audits completed as planned
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annually	Annually
Desired performance	One consolidated transmission audit report on the state of compliance of Main Transmission Substations with licence conditions considered annually by the ELS/REC by 31 March	Three reports, one each for transmission, generation and distribution licensees, on the monitoring of the implementation of the corrective action plans by non-complying licensees considered annually by the ELS/REC by 31 March
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR) and HOD (ELC)



Indicator title	Number of audit reports on the review the annual performance of IDM for the previous financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of audit reports on the Transmission Network Development for the previous financial year projects for compliance with the South African Grid, considered by the relevant committee or the Energy Regulator within the stated timeframe, subject to all information available
Definition	These are annual audit reports of the IDM performance based on Eskom's breakdown of all IDM programmes/ technologies with their estimated costs, demand and energy savings that was submitted to the Energy Regulator with the MYPD application.	These are reports regarding the audits conducted on projects included in Eskom's approved Transmission Development Plan in order to evaluate the compliance of these projects with the approved Grid Code
Source of data	Approved audit report that details the assessment and evaluation of IDM for compliance with the South African Grid Code	Approved audit report that details the assessment and evaluation of projects in Eskom's approved Transmission Development Plan for compliance with the South African Grid Code
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to ELS/REC; minutes of ELS/REC	Submissions to ELS/REC; minutes of ELS/REC
Assumptions	Audits completed as planned	Audits completed as planned
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	Audit report on the review the annual performance of IDM for 2019/20 considered by the ELS/REC/ER within 180 working days after receipt of Eskom's IDM audited Annual Report	Audit report on the Transmission Network Development 2019/20 projects for compliance with the South African Grid considered annually by the ELS/REC by 31 March, subject to all information available
Indicator Responsibility	EM (ELR) and HOD (EIP)	EM (ELR) and HOD (EIP)





Indicator title	Number of audit reports on the Distribution Network Development for the previous financial year projects for compliance with the South African Grid, considered annually by the relevant committee or the Energy Regulator within the stated timeframe, subject to all information available	Number of monitoring reports on the performance and progress of Renewable Energy projects for the next financial year, considered annually by the relevant committee or the Energy Regulator within the stated timeframe
Definition	These are reports regarding the audits conducted on projects included in Eskom's approved Distribution Development Plan in order to evaluate the compliance of these projects with the approved Grid Code	These are monitoring reports on the performance of and progress made with renewable energy aimed at informing all stakeholders and decision makers on the status.
Source of data	Approved audit report that details the assessment and evaluation of projects in Eskom's approved Distribution Development Plan for compliance with the South African Grid Code	Reports on the performance and progress of Renewable Energy
Method of calculation / assessment	Number of audit reports per year	Number of reports per year
Means of verification	Submissions to ELS/REC; minutes of ELS/REC	Submissions to ELS/REC; minutes of ELS/REC
Assumptions	Audits completed as planned	Audits completed as planned
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Bi-annually
Desired performance	One audit report on the Distribution Network Development 2019/20 projects for compliance with the South African Grid considered annually by the ELS/REC by 31 March, subject to all information available	Two monitoring reports on the performance and progress of Renewable Energy projects for 2020/21 considered annually by the ELS/REC by 30 September and 31 March respectively
Indicator Responsibility	EM (ELR) and HOD (EIP)	EM (ELR) and HOD (EIP)



2.1.4. Programme 4: Dispute resolution, including mediation, arbitration and handling of complaints

Indicator title	% of disputes/complaints, including initiated investigations, closed within the stated timeframe	Number of reports on the trends regarding to the status of disputes and complaints in the electricity industry considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of complaints / disputes closed with set timelines	This is a report compiled on an annual basis, on the trends regarding to and the status of complaints in the electricity industry
Source of data	Records of complaints received	Records of complaints and disputes
Method of calculation / assessment	$(\text{number of closed disputes / complaints within 180 days of receipt} / \text{number of received complaints}) * 100$	Number of reports per year
Means of verification	Database of all complaints/disputes received and closed	Submissions to ELS/REC; minutes of ELS/REC
Assumptions	Complete information is received from complainants	Audits completed as planned
Calculation Type	Non-cumulative	Cumulative
Reporting cycle	Quarterly	Annually
Desired performance	87% of disputes/ complaints including initiated investigations closed within 120 working days from receipt	One report on the trends regarding to the status of disputes and complaints in the electricity industry considered annually by the ELS/REC by 31 March
Indicator Responsibility	EM (ELR) and HOD (ELC)	EM (ELR) and HOD (ELC)





2.1.5. Programme 5: Setting of rules, guidelines and codes for the regulation of the electricity industry

Indicator title	% of complete applications from the ESI <u>requiring exemptions</u> to the South African grid code, considered by the relevant committee or the Energy Regulator within the stated timeframe	% of complete applications from the ESI requiring <u>amendment</u> to the South African grid code, considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of decisions taken regarding applications for exemption from the Grid Code made by the relevant Subcommittee within 60 days from receipt of application	This is the percentage of decisions taken regarding applications for amendment of the Grid Code made by the relevant Subcommittee within 60 days from receipt of application
Source of data	Applications for <u>exemptions</u> of the grid code	Applications for <u>amendments</u> to the grid code
Method of calculation / assessment	(number of applications <u>requiring exemptions</u> completed within 60 days / number of applications for <u>exemptions</u> received)* 100	(number of applications requiring <u>amendments</u> completed within 60 days / number of applications for <u>amendments</u> received)* 100
Means of verification	Applications; recommendations from the Grid Code Advisory Committee	Applications; recommendations from the Grid Code Advisory Committee
Assumptions	Recommendations from Grid Code Advisory Committee submitted with all required supporting documents	Recommendations from Grid Code Advisory Committee submitted with all required supporting documents
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete applications from the ESI requiring exemption to the South African grid code, considered by the ELS/REC within 3 months from receipt of complete information	100% of complete applications from the ESI requiring amendment to the South African grid code, considered by the ELS/REC within 3 months from receipt of complete information
Indicator Responsibility	EM (ELR) and HOD (EIP)	EM (ELR) and HOD (EIP)



Indicator title	Number of reports on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on gas regulatory advocacy engagements with decision-makers on identified legislative and policy matters
Source of data	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Number of reports considered per annum
Means of verification	Submissions to ELS; Minutes of ELS
Assumptions	Reports on each engagement compiled
Calculation Type	Cumulative
Reporting cycle	Annual
Desired performance	One report on regulatory advocacy aimed at improvement of the regulatory framework provided through legislation, regulation and government policies considered annually by the ELS by 31 March
Indicator Responsibility	EM (ELR) and HODs

2.1.6. Programme 6: Administration (Establishing NERSA as an efficient and effective regulator)

Indicator title	Number of System Adequacy Reports considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of customer education programmes undertaken by 31 March
Definition	These are reports in which NERSA indicates the generation system adequacy and performance, as well as capacity outlook for the near future.	This is the number of customer education programmes conducted where NERSA engages its stakeholders in a number of ways, including education programmes
Source of data	Reports from Eskom	Annual plan for customer education programmes
Method of calculation / assessment	Number of reports per year	Number of stakeholder engagements and education programmes held
Means of verification	Submissions to ELS/REC; minutes of ELS/REC	Submissions to ELS; minutes of ELS
Assumptions	Information from Eskom received timeously	Programmes conducted as planned
Calculation Type	Cumulative	Cumulative





Indicator title	Number of System Adequacy Reports considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of customer education programmes undertaken by 31 March
Reporting cycle	Annually	Quarterly
Desired performance	One System Adequacy Report considered annually by the ELS/REC by 31 March	Customer education programmes undertaken annually by 31 March
Indicator Responsibility	EM (ELR)	EM (ELR) and HOD ELC

Indicator title	Number of consolidated reports on the customer education programmes undertaken considered annually by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of consolidated reports on the customer education programmes undertaken annual – indicating the geographic spread of where the programmes were conducted, the number of attendees and key issues raised at the sessions
Source of data	Reports of each programme conducted
Method of calculation / assessment	Number of reports
Means of verification	Submissions to ELS; minutes of ELS
Assumptions	Individual reports are completed for each programme conducted
Calculation Type	Cumulative
Reporting cycle	Annually
Desired performance	One consolidated report on the customer education programmes undertaken considered annually by the ELS/REC by 31 March
Indicator Responsibility	EM (ELR) and HOD ELC



2.2. PIPED-GAS INDUSTRY REGULATION

2.2.1. Programme 1: Setting and/or approval of tariffs and prices

Indicator title	% of complete maximum price applications considered by the relevant committee or the Energy Regulator within the stated timeframe after date of publication of preliminary assessment of the maximum price applications	% of complete trading margin applications considered by the relevant committee or the Energy Regulator within the stated timeframe after the date of the publication of preliminary assessment of the applications
Definition	This is the percentage of applications for maximum prices of piped-gas considered by the relevant Subcommittee, within a set timeframe, subject to a finding that there is inadequate competition	This is the percentage of trading margin applications by the relevant Subcommittee, within a set timeframe, aimed at enabling the licensee to: a) Recover all efficient and prudently incurred investment and operational costs, and; b) Make a profit commensurate with risk
Source of data	Applications for maximum prices of gas	Applications for trading margin
Method of calculation / assessment	(number of applications for maximum prices completed within 120 days / number of applications for maximum prices received) * 100	(number of trading margin applications completed within 120 days / number of applications for maximum prices received) * 100
Means of verification	Reason for decisions; minutes of ER	Reason for decisions; minutes of ER
Assumptions	Complete applications received from licensees	Complete applications received from licensees
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete maximum price applications considered by the ER within 120 working days after date of publication of the preliminary assessment of the maximum price applications	100% of complete trading margin applications considered by the ER within 120 working days after the date of the publication of the preliminary assessment of the applications
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GPT)





Indicator title	% of complete applications on distinguishing features considered by the relevant committee or the Energy Regulator within the stated timeframe after the date of the publication of preliminary assessment of the applications	% of complete transmission tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe after date of publication of preliminary assessment of the applications
Definition	This is the percentage of applications on distinguishing features considered by the relevant Subcommittee, within a set timeframe	This is the percentage of transmission tariff applications considered by the relevant Subcommittee, within a set timeframe, subject to a finding that there is inadequate competition
Source of data	Applications f on distinguishing features	Applications for transmission tariff
Method of calculation / assessment	(number of trading margin applications completed within 120 days / number of applications for maximum prices <u>received</u>)*100	(number of transmission tariff applications completed within 120 days / number of applications for transmission tariffs <u>received</u>)*100
Means of verification	Reason for decisions; minutes of ER	Reason for decisions; minutes of ER
Assumptions	Complete applications received from licensees	Complete applications received from licensees
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete applications on distinguishing features considered by the ER within 120 working days after the date of the publication of preliminary assessment of the applications	100% of complete transmission tariff applications considered by ER within 120 working days after date of publication of preliminary assessment of tariff applications
Indicator Responsibility	EM (GAR) and HOD (GPT)	EM (GAR) and HOD (GPT)



Indicator title	Number of calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoule considered quarterly by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoules considered by the relevant Subcommittee, within a set timeframe
Source of data	Schedule One to the Agreement and PPI from StatsSA, Report containing the ROMPCO tariffs for volumes below 120 GJ
Method of calculation / assessment	Actual number of calculations and publication of the ROMPCO tariff for volumes below 120 Gigajoule
Means of verification	Submissions to PGS; minute of the PGS
Assumptions	Information received timeously from ROMPCO
Calculation Type	Cumulative
Reporting cycle	Quarterly
Desired performance	Four calculations of the ROMPCO tariff for gas volumes below 120 million Gigajoules considered quarterly the PGS
Indicator Responsibility	EM (GAR) and HOD (GPT)

2.2.2. Programme 2: Licensing and Registration

Indicator title	% of complete licence applications considered by the relevant committee within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of applications for licence amendments considered by the relevant committee or the Energy Regulator within the stated timeframe from date of close of public comment period or period of applicant's response to objections received
Definition	This is the percentage of the licence applications considered by the REC or PGS (depending on the delegation) within a set timeframe	This is the percentage of the applications for license amendment, considered by the relevant subcommittee within a set timeframe
Source of data	Licence applications,	Applications for licence amendments
Method of calculation / assessment	(Number of licence applications considered within 60 days after the end of the objection period or period of applicant's response to objections received) / (total number of applications received) * 100	(Number of applications for amendments considered within 120 days from receipt of complete application) / (total number of applications received) * 100
Means of verification	Reasons for decision; Minutes of REC / PGS (depending on delegation)	Reasons for decision; Minutes of REC / PGS (depending on delegation)
Assumptions	Complete applications submitted	Complete applications submitted





Indicator title	% of complete licence applications considered by the relevant committee within 60 working days from date of close of public comment period or period of applicant's response to objections received	% of applications for licence amendments considered by the relevant committee or the Energy Regulator within the stated timeframe from date of close of public comment period or period of applicant's response to objections received
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete licence applications considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received	100% of complete applications for licence amendments considered by the PGS/REC within 60 working days from date of close of public comment period or period of applicant's response to objections received
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)

Indicator title	% of registration are processed and considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of the registration applications for operations or activities related to the production and importation of gas, considered by the relevant subcommittee within a set timeframe
Source of data	Registration applications
Method of calculation / assessment	$(\text{Number of registration applications considered within 120 days from receipt of complete application}) / (\text{total number of applications received}) * 100$
Means of verification	Reasons for decision; Minutes of PGS
Assumptions	Complete applications submitted
Calculation Type	Non-cumulative
Reporting cycle	Annual
Desired performance	100% of complete applications for the registration of gas activities are processed and considered by the PGS within 60 working days from date of close of public comment period
Indicator Responsibility	EM (GAR) and HOD (GLC)



2.2.3. Programme 3: Compliance monitoring and enforcement

Indicator title	Number of monthly volume balance reports assessed and analysis reports considered quarterly by the relevant committee or the Energy Regulator within the stated timeframe	Number of audits conducted on the ROMPCO pipeline according to the compliance frameworks and audit reports considered annually by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on the assessment and analysis of Sasol's volume balance reports considered by the relevant Subcommittee, within 60 days from date of receipt of information from Sasol, in order for NERSA to have regular, systematic, consistent, and sufficient non-financial information relevant to economic regulation, to enhance the efficiency and transparency of the regulatory process.	This is the number of audits conducted on the ROMPCO pipeline according to the compliance framework, non-compliance notices issued (where necessary) and audit reports considered by the relevant committee by the end of the financial year
Source of data	Volume balance report assessment reports	Audit reports
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PGS; Minutes of PGS	Submissions to PGS; Minutes of PGS
Assumptions	Information received timeously from Sasol	Approved received to travel to Mozambique to conduct audit
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Annually
Desired performance	Twelve monthly volume balance reports assessed and analysis reports considered quarterly by the PGS	One audit conducted on the ROMPCO pipeline according to the compliance framework and audit reports considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)





Indicator title	Number of inspections conducted, non-compliance notices issued (where necessary) and inspection reports considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of monitoring reports on the implementation of transmission tariffs considered by the relevant committee or the Energy Regulator within the stated timeframe after one year following the approval of the transmission tariff
Definition	This is the number of inspections conducted aimed at enforcing monitoring and compliance of licensed entities with licence conditions and to issue notices of non-compliance if and when necessary	This is the number of reports on the monitoring of the implementation of transmission tariffs by ROMPCO, Transnet and Sasol Gas respectively, considered by the relevant committee with stated timeframe
Source of data	Approved plan to annual inspections, Inspection reports	Monitoring reports
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PGS; Minutes of PGS	Submissions to PGS; Minutes of PGS
Assumptions	Inspections completed	Analysis of implementation of transmission tariffs completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	Forty-five inspections conducted, non-compliance notices issued (where necessary) and quarterly inspection reports considered by the PGS	Three monitoring reports on the implementation of transmission tariffs (one each for ROMPCO, Transnet and Sasol Gas) considered annually by the PGS by 31 March, after one year following the approval of the transmission tariff
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)



Indicator title	Number of reports on the implementation of the RRM for the preceding financial year considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of monitoring reports per licensee on the implementation of Maximum Prices considered annually by the relevant committee or the Energy Regulator within the stated timeframe after one year following the approval of the maximum price
Definition	These are the number of reports on the implementation of the RRM, aimed at achieving uniformity and consistent reporting of information required for tariff setting/approval and performance monitoring, considered by the relevant subcommittee	These are reports on the implementation of maximum prices considered by the relevant Subcommittee, aimed at evaluating compliance.
Source of data	Analysis on the implementation of the RRM	Analysis on the implementation of Maximum Prices
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submission to PGS/REC; Minutes of PGS/REC	Submission to PGS/REC; Minutes of PGS/REC
Assumptions	Analysis of the implementation of the RRM completed	Analysis of the implementation of the Maximum Prices completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	Four reports (one for each licensee) on the implementation of the RRM in 2019/20 considered annually by the PGS/REC by 31 March	One monitoring report on the implementation of Maximum Prices per licensee after one year following the approval of the maximum price considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR) and HOD (GLC)	EM (GAR) and HOD (GLC)





2.2.4. Programme 4: Dispute resolution, including mediation, arbitration and handling of complaints

Indicator title	% of complaint investigations completed and a report on findings considered by the relevant committee or the Energy Regulator within the stated timeframe	% of initiated investigations completed and a report on findings considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of investigations into complaints and disputes received, completed within a stated timeframes and a report on the findings considered by the relevant Subcommittee	This is the percentage of initiated investigations within a stated timeframes and a report on the findings considered by the relevant Subcommittee
Source of data	Records of complaints received	Records of complaints initiated, RFD, minutes of relevant Subcommittee
Method of calculation / assessment	$(\text{Number of complaints received completed within 12 months after receipt}) / (\text{total number of applications received}) * 100$	$(\text{Number of initiated investigations completed within 12 months after receipt}) / (\text{total number of initiated investigations}) * 100$
Means of verification	RFD, minutes of PGS	RFD, minutes of PGS
Assumptions	Complete information received from complainant	Initiated investigations completed
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Annual	Annual
Desired performance	50% of complaint investigations completed within 12 months and a report on findings considered by the PGS	50% of initiated investigations completed within 12 months and a report on findings considered by the PGS
Indicator Responsibility	EM (GAR) and (HOD (GPT) or HOD (GLC))	EM (GAR) and (HOD (GPT) or HOD (GLC))



2.2.5. Programme 5: Setting of rules, guidelines and codes for the regulation of the piped-gas industry

Indicator title	Number of reports on the review of guidelines, methodologies, codes or rules for the regulation of the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on gas regulatory advocacy considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	The is the number of reports relating to specific issues relating to either rules, guidelines or codes for the regulation of the piped-gas industry, should a need be identified	This is the number of reports on gas regulatory advocacy engagements with decision-makers on identified legislative and policy matters
Source of data	Reports considered, minutes of relevant Subcommittee	Reports on each engagement indicating the reason for and outcome of the engagement
Method of calculation / assessment	Number of reports considered per annum	Number of reports considered per annum
Means of verification	Submissions to PGS; Minutes of PCG	Submissions to PGS; Minutes of PCG
Assumptions	Need for the review either rules, guidelines or codes identified	Reports on each engagement compiled
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	One report on the review of the framework for conducting adequacy of competition in the gas industry considered annually by the PGS by 31 March	One report on gas regulatory advocacy considered annually by the PGS by 31 March
Indicator Responsibility	EM (GAR), HOD (GLC) and HOD (GPT)	EM (GAR), HOD (GLC) and HOD (GPT)





2.2.6. Programme 6: Administration (Establishing NERSA as an efficient and effective regulator)

Indicator title	Number of reports on stakeholder workshops / meetings considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on new developments in the gas industry considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on stakeholder workshops and meetings regarding pricing and tariffs as well as licensing and compliance monitoring	This is the number of reports on new developments in the gas industry considered by the relevant Subcommittee
Source of data	Reports on each workshop, indicating the reason for and outcome of the workshop	Information gathered on relevant developments
Method of calculation / assessment	Number of reports considered per annum	Number of reports considered per annum
Means of verification	Submissions to PGS; Minutes of PCG	Submissions to PGS; Minutes of PCG
Assumptions	Reports on each engagement compiled	Analysis of new developments concluded
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Bi-annual
Desired performance	One report on stakeholder workshops / meetings considered annually by the PGS by 31 March	Two reports on new developments in the gas industry considered annually by the PGS by 30 September and 31 March
Indicator Responsibility	EM (GAR), HOD (GLC) and HOD (GPT)	EM (GAR), HOD (GLC) and HOD (GPT)



2.3. PETROLEUM PIPELINES INDUSTRY REGULATION

2.3.1. Programme 1: Setting and/or approval of tariffs and prices

Indicator title	% of complete pipeline, storage and loading facility tariff applications considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the percentage of all the pipeline, storage and loading facility tariff applications considered by the relevant Subcommittee within 8 months of receipt of complete application
Source of data	Applications for tariffs
Method of calculation / assessment	$((\text{Number of tariff applications considered by the relevant Subcommittee within 8 months of receipt of complete application}) / (\text{Total number of tariff applications received})) * 100$
Means of verification	Reasons for Decision; and Minutes of PPS
Assumptions	Complete applications received
Calculation Type	Non-cumulative
Reporting cycle	Annually
Desired performance	75% of complete pipeline, storage and loading facility tariff applications considered by the PPS/ER within 6 months from receipt of complete application
Indicator Responsibility	EM (PPR) and HOD (PPT)





2.3.2. Programme 2: Licensing and Registration

Indicator title	% licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	% applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe under the conditions as prescribed in Sections 23 or 24 of the Petroleum Pipelines Act
Definition	This is the percentage of licence applications that will be decided upon within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act	This is the percentage of applications for licence amendments that will be decided upon within the timelines as prescribed in Section 19(1) of the Petroleum Pipelines Act
Source of data	Licence applications	Licence amendment applications
Method of calculation / assessment	(number of applications decided upon within statutory deadlines / number of received licence applications)*100	(number of applications decided upon within statutory deadlines / number of received licence applications)*100
Means of verification	Reasons for decision (RFD) and Minutes of PPS/REC/ER	Reasons for decision (RFD) and Minutes of PPS/REC/ER
Assumptions	Complete applications	Complete applications



Indicator title	% licence applications considered by the relevant committee or the Energy Regulator within the stated timeframe under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	% applications for licence amendments / revocations considered by the relevant committee or the Energy Regulator within the stated timeframe under the conditions as prescribed in Sections 23 or 24 of the Petroleum Pipelines Act
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	100% of complete licence applications considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Section 19(1) of the Petroleum Pipelines Act	100% of complete applications for licence amendments / revocations considered by the PPS/REC/ER within 60 working days under the conditions as prescribed in Sections 23 or 24 of the Petroleum Pipelines Act
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)

Indicator title	Number of reports on investigations done into suspected unlicensed activities considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on investigations done into suspected unlicensed activities considered by the relevant Subcommittee
Source of data	Data based on suspected unlicensed activities
Method of calculation / assessment	Number of reports
Means of verification	Submissions to REC, minutes of REC
Assumptions	Investigations completed
Calculation Type	Cumulative
Reporting cycle	Annual
Desired performance	One report on investigations done into suspected unlicensed activities considered annually by the REC by 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)





2.3.3. Programme 3: Compliance monitoring and enforcement

Indicator title	Number of reports on trends regarding utilisation of storage facilities and third-party access, considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the implementation of the methodology to determine uncommitted capacity considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on trends regarding the utilisation of storage facilities and 3 rd party access, considered by the relevant Subcommittee, aimed at promoting competition in the industry	This is the number of reports on the analysis of the implementation of the methodology to determine uncommitted capacity, considered by the relevant Subcommittee, aimed at promoting 3 rd party access
Source of data	Analysis reports	Analysis of the implementation of the methodology to determine uncommitted capacity
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PPS; Minutes of PPS	Submissions to PPS; Minutes of PPS
Assumptions	Analysis of trends completed	Analysis of completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Bi-annual	Annual
Desired performance	Two reports on trends regarding utilisation of storage facilities and third-party access considered annually by the PPS by the 30 September and 31 March	One report on the implementation of the methodology to determine uncommitted capacity considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (GAR), HOD (GLC) and HOD (GPT)



Indicator title	Number of reports on the construction of new facilities considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on licensees' compliance with statutory reporting requirements considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports detailing the compliance of construction licences to licence conditions is developed and considered by the relevant Subcommittee on a quarterly basis	This is a report on the compliance of the licensees on all the statutory reporting requirements considered by the relevant Subcommittee on a quarterly basis
Source of data	Database of identified construction of new facilities	Database on licensees' compliance with statutory reporting requirements
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PPS; Minutes of PPS	Submissions to PPS; Minutes of PPS
Assumptions	Analysis of construction of new facilities completed	Analysis of licensees' compliance with statutory reporting requirements completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Quarterly
Desired performance	Four reports on the construction of new facilities considered quarterly by the PPS	Four reports on licensees' compliance with statutory reporting requirements considered quarterly by the PPS
Indicator Responsibility	EM (PPR) and HOD (PLC)	EM (PPR) and HOD (PLC)





2.3.4. Programme 4: Dispute resolution, including mediation, arbitration and handling of complaints

Indicator title	% of complaints investigated and report considered by the relevant committee or the Energy Regulator within the stated timeframe of receipt of complete information form relevant parties
Definition	This is the percentage of the complaints investigated and considered by the relevant subcommittee within 60 days of receipt of complete information form relevant parties
Source of data	Records of complaints received
Method of calculation / assessment	$(\text{number of finalised complaints within 60 days of receipt} / \text{number of received complaints}) * 100$
Means of verification	Submissions for PPS; Minutes of PPS
Assumptions	Investigations completed
Calculation Type	Non-cumulative
Reporting cycle	Annually
Desired performance	100% of complaints investigated and report considered by the PPS within 6 months of receipt of complete information form relevant parties
Indicator Responsibility	EM (PPR) and HOD (PLC)



2.3.5. Programme 5: Setting of rules, guidelines and codes for the regulation of the petroleum pipelines industry

Indicator title	Number of reports on the monitoring of the implementation of the tariff methodology considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on contributions towards alignment between relevant Petroleum legislation and regulations and government policies considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports the monitoring of the implementation of the tariff methodology considered by the relevant committee annually	This is the number of reports annually on NERSA's contributions towards the alignment between relevant Petroleum legislation and regulations and government policies
Source of data	Analysis of the implementation of the tariff methodology by licensees	Contribution reports
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to PPS; Minutes of PPS	Submissions to PPS; Minutes of PPS
Assumptions	Analysis completed	Analysis completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	One report on the monitoring of the implementation of the revised methodology considered annually by the ER by 31 March	One report on contributions towards alignment between relevant Petroleum legislation and regulations and government policies considered annually by the PPS by 31 March
Indicator Responsibility	EM (PPR) and HOD (PPT)	EM (PPR) and HOD (PPT)





2.3.6. Programme 6: Administration (Establishing NERSA as an efficient and effective regulator)

Indicator title	Number of reports on the inland security of supply considered by relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of reports on the inland supply forecast considered by the relevant subcommittee, in order to determine if there will be enough supply for the inland market, utilising NERSA's forecast model
Source of data	Analysis of inland supply forecast
Method of calculation / assessment	Number of reports
Means of verification	Submissions to PPS; Minutes of PPS
Assumptions	Analysis completed
Calculation Type	Cumulative
Reporting cycle	Bi-Annually
Desired performance	Two reports on the inland security of supply considered annually by the PPS by 30 September and 31 March
Indicator Responsibility	EM (PPR)



2.4. TRANSVERSAL REGULATORY

2.4.1. Programme 6: Administration (Establishing NERSA as an efficient and effective regulator)

Indicator title	Number of progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the impact of global, regional and local energy trends on NERSA's business considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of progress reports on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered by the relevant subcommittee	This is the number of reports on the impact of global, regional and local energy trends on NERSA's business considered by the relevant subcommittee
Source of data	Analysis of the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities	International reports; research report
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to REC; Minutes of REC	Submissions to REC; Minutes of REC
Assumptions	Analysis completed	Analysis completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Annual	Annual
Desired performance	One progress report on the implementation of the Regulatory Reporting Manuals regarding the Standard Chart of Accounts (SCOA) for the municipalities considered annually by the REC by 31 March	One report on the impact of global, regional and local energy trends on NERSA's business considered annually by the REC by 31 May 2020
Indicator Responsibility	SM (RAR)	SM (RAR) and SM (SPM)





Indicator title	2 progress reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information, considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of progress reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information, considered by the relevant subcommittee	This is the number of reports on partnership creation, which include engagements with other regulators; participation in regulatory associations, events and conferences; and partnerships with other institutions for capacity building purposes – aimed at positioning NERSA as a recognised regulator nationally, regionally and internationally considered by the relevant subcommittee
Source of data	Analysis on the progress made with the implementation of the RRM for financial and non-financial information	Reports on an overview of international engagements and partnerships activities
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to REC; Minutes of REC	Submissions to REC; Minutes of REC
Assumptions	Analysis completed	Analysis completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Bi-Annual	Bi-Annual
Desired performance	Two reports on the implementation of the Regulatory Reporting Manuals for Non-financial and financial information considered annually by the REC by 30 September and 31 March	Two reports on partnership creation to position NERSA as a recognised regulator nationally, regionally and internationally considered annually by the REC by 30 September and 31 March
Indicator Responsibility	SM (RAR)	EM (COS) and HOD (ICP)



2.5. ORGANISATIONAL

2.5.1. Programme 7: Administration (Establishing NERSA as an efficient and effective regulator)

Indicator title	Number of reports on the implementation of the Employment Equity Plan considered by the relevant committee or the Energy Regulator within the stated timeframe	% of women in management positions
Definition	This is the number of progress reports on the implementation of the Employment Equity Plan considered by the relevant subcommittee	Analysis of staff complement to determine percentage of women in management positions.
Source of data	Analysis of the implementation of the Employment Equity Plan	Staff statistical information
Method of calculation / assessment	Number of progress reports	(number of women in management positions / number of management positions) * 100
Means of verification	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC
Assumptions	Analysis completed	Analysis completed
Calculation Type	Cumulative	Non-cumulative
Reporting cycle	Bi-Annually	Annually
Desired performance	Two reports on the implementation of the Employment Equity Plan considered annually by the HRRC by 30 September and 31 March	50% of women in management positions
Indicator Responsibility	CHCO and HOD (HR)	CHCO and HOD (HR)

Indicator title	% of people with disabilities employed	Number of progress reports on the implementation of the Youth Employment Accord considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	Analysis of staff complement to determine percentage of people with disabilities employed.	This is a report on that status of the percentage of people with disabilities employed
Source of data	Staff statistical information	Report on that status of the percentage of people with disabilities employed
Method of calculation / assessment	(number of people with disabilities employed / number of all positions) * 100	Number of progress reports
Means of verification	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC
Assumptions	Analysis completed	Analysis completed





Indicator title	% of people with disabilities employed	Number of progress reports on the implementation of the Youth Employment Accord considered by the relevant committee or the Energy Regulator within the stated timeframe
Calculation Type	Non-cumulative	Cumulative
Reporting cycle	Annually	Quarterly
Desired performance	2% of people with disabilities employed	Four reports on the implementation of the Youth Employment Accord considered quarterly by the HRRC
Indicator Responsibility	CHCO and HOD (HR)	CHCO and HOD (HR)

Indicator title	Number of reports on the implementation of the bursary programme for qualifying external applicants considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the design of a regulatory course at an accredited institution of higher learning considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is a report on monitoring the implementation of the bursary programme for qualifying external applicants	This is a report on monitoring the design of a regulatory course at an accredited institution of higher learning
Source of data	Approved bursary programme	Project plan and progress reports
Method of calculation / assessment	Number of progress reports	Number of progress reports
Means of verification	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC
Assumptions	Analysis completed	Analysis completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Bi-annual
Desired performance	One report on the implementation of the bursary programme for qualifying external applicants considered annually by the HRRC by 31 March	Two reports on the design of a regulatory course at an accredited institution of higher learning considered by the HRRC annually by the HRRC by 30 September and 31 March
Indicator Responsibility	CHCO and HOD (HR)	CHCO and HOD (HR)



Indicator title	Number of reports on leadership development programme considered by the relevant committee or the Energy Regulator within the stated timeframe	Number of reports on the development of a technical regulatory training and development programme considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is a report on monitoring the implementation of the leadership development programme	This is a report on the progress made with the of a technical regulatory training and development programme
Source of data	Approved leadership development programme	Project plan and progress reports
Method of calculation / assessment	Number of reports	Number of reports
Means of verification	Submissions to HRRC; Minutes of HRRC	Submissions to HRRC; Minutes of HRRC
Assumptions	Collaboration of management	Collaboration of management
Calculation Type	Cumulative	Cumulative
Reporting cycle	By 31 March 2023	By 31 March 2021
Desired performance	One report on the leadership development programme considered by the HRRC by 31 March 2023	One report on the development of a technical regulatory training and development programme considered by the HRRC by 31 March 2021
Indicator Responsibility	CHCO and HOD (HR)	CHCO and HOD (HR)





Indicator title	Number of reports on the certification with an appropriate international standard on quality management, considered by the relevant committee or the Energy Regulator within the stated timeframe	Reviewed NERSA Enterprise Development Plan considered by the relevant committee or the Energy Regulator within the stated timeframe and new target group identified
Definition	This is the number of reports on the progress made regarding obtaining certification in respect of an appropriate international standard on quality management to ensure that NERSA has a defined quality management philosophy, which is institutionalised, and levels of excellence to be achieved are defined.	The NERSA Enterprise Development Plan is reviewed and a new target group identified
Source of data	Progress Reports	Project plan and progress reports
Method of calculation / assessment	Number of progress reports	Reviewed plan
Means of verification	Submissions to REC; Minutes of REC	Submissions to REC; Minutes of REC
Assumptions	Collaboration of management	Collaboration of management
Calculation Type	Cumulative	Non-cumulative
Reporting cycle	Quarterly	By 31 March 2021
Desired performance	Four reports on the progress made regarding certification with an appropriate international standard on quality management considered quarterly by the REC	Reviewed NERSA Enterprise Development Plan considered by the ER by 31 March 2021 and new target group identified
Indicator Responsibility	SM (SPM)	CFO and HOD (SCM)



Indicator title	% of implementation of Preferential Procurement Policy Framework, with ≥84% procurement over R30 000 awarded to suppliers with a -BBEE status level of 4 or better	Number of reports on the implementation of the stakeholder management plan considered by the relevant committee or the Energy Regulator within the stated timeframe
Definition	The determination of spend on procurements from suppliers with a -BBEE status level of 4 or better	This is a report on monitoring the of the stakeholder management plan
Source of data	Data base on all procurement and B-BBEE status level of all suppliers	Project plan and progress reports
Method of calculation / assessment	(number of suppliers with a B-BBEE status level of 4 or better with procurement value of more than R30 000 / number of all procurement above R30 000)* 100	Number of progress reports
Means of verification	Submissions to REC; Minutes of REC	Submissions to REC; Minutes of REC
Assumptions	Analysis completed	Analysis completed
Calculation Type	Cumulative	Cumulative
Reporting cycle	Quarterly	Annual
Desired performance	100% of implementation of Preferential Procurement Policy Framework, with ≥84% procurement over R30 000 awarded to suppliers with a B-BBEE status level of 4 or better	One report on the implementation of the stakeholder management plan considered annually by the REC by 31 March
Indicator Responsibility	CFO and HOD (SCM)	EM: COS and HOD (CSM)





Indicator title	Unqualified audit	% of creditors paid within 30 days after all relevant documentation have been received
Definition	This is the outcome of NERSA's audit on an annual basis by the Auditor-General	In line with Government's direction, NERSA aims to pay all its creditors within 30 days of receipt of all relevant documentation
Source of data	Final Management Report from the AG	Payment transaction reports and invoices
Method of calculation / assessment	Unqualified audit – yes / no	(number of creditors paid within 30 days of receipt of all relevant documentation / total number of creditors)* 100
Means of verification	Audit report	Analysis report
Assumptions	Collaboration of Management	Analysis completed
Calculation Type	Non-cumulative	Non-cumulative
Reporting cycle	Annually	Quarterly
Desired performance	Unqualified audit	100% of creditors paid within 30 days after all relevant documentation have been received
Indicator Responsibility	CFO and HOD (FAD)	CFO and HOD (FAD)

Indicator title	Number of reports on legislative and policy developments impacting on the Regulator, considered quarterly by the relevant committee or the Energy Regulator within the stated timeframe
Definition	This is the number of report on NERSA's engagements in regulatory and policy advocacy with its stakeholders considered by the relevant Subcommittee
Source of data	Progress Report and minutes of the relevant Subcommittee
Method of calculation / assessment	Number of progress reports
Means of verification	Submissions to REC; Minutes of REC
Assumptions	Analysis completed
Calculation Type	Cumulative
Reporting cycle	Quarterly
Desired performance	Four reports on legislative and policy developments impacting on the Regulator considered quarterly by the REC
Indicator Responsibility	EM (COS) and HOD (LAS)



ANNEXURE A

Amendments to the Strategic Plan

A new Strategic Plan was developed for the new electoral period. The format of the Strategic Plan for the period 2020/21 – 2024/25 are aligned with the requirements as prescribed in the *Revised Framework for Strategic and Annual Performance Plans* issued by the Department of Planning, Monitoring and Evaluation in November 2019.





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