**4. Report of the Portfolio Committee on Higher Education, Science and Technology on Budget Vote 30: Science and Technology (2019/20), dated 5 July 2019.**

The Portfolio Committee on Higher Education, Science and Technology, having considered Budget Vote 30: Science and Technology and the 2019/20 Annual Performance Plan (APP) of the Department of Science and Technology, reports as follows:

1. **Introduction**

The Constitution of the Republic of South Africa, 1996 and the Rules of Parliament mandates the Portfolio Committee on Higher Education, Science and Technology (hereafter, the Committee) to oversee the activities and performance of the Department of Higher Education, Science and Technology. Following the 2019 national election, the Cabinet was reconfigured and the Departments of Higher Education and Training, and Science and Technology were merged to form the Department of Higher Education, Science and Technology. However, the 2019/20 budget allocation represents the final year of the current 2014 – 2019 Medium Term Strategic Framework (MTSF) and Vote 30: Science and Technology pertains to the Department of Science and Technology (hereafter, the Department) as constituted before the Cabinet was reconfigured.

The Department briefed the Committee on 3 July 2019, providing an overview of the strategic context within which it functions, discussed priority performance indicators and their concomitant targets and the 2019/20 budget allocation.

1. **Strategic Overview of the Department of Science and Technology**
   1. **Policy mandate**

The Department derives its mandate from the 1996 White Paper on Science and Technology, which introduced the concept of the National System of Innovation (NSI). The NSI is defined as a network of institutions, organisations and policies that work together to achieve a common set of social and economic goals and objectives. A coherent and well-co-ordinated NSI would help South Africa achieve its development priorities; hence, the Department supports the NSI by:

* Co-ordinating the development of policies and strategies, which identify specific priority areas for the country where science, technology and innovation (STI)-related support is required.
* Creating systems and structures to co-ordinate the STI-related work of Government and agencies.
* Developing measurement systems and undertaking analyses to create an evidence base for improving the performance of the NSI.
* Optimising the governance of publicly-funded STI institutions to support Government’s priority outcomes.
* Funding research, development and innovation (RDI) infrastructure.
* Funding human capital development at postgraduate level.
* Unlocking STI resources through partnerships with international, continental and multilateral agencies.
* Supporting the technological competitiveness of firms and industry sectors through focussed research and development (R&D) programmes.

In March 2019, Cabinet approved a new White Paper on Science, Technology and Innovation that sets the current long-term policy direction for the NSI and seeks to ensure an increasing role for STI to accelerate inclusive economic growth, increase the competitiveness of the economy, and improve the livelihoods of South Africa’s citizens.

The development of a new White Paper on STI was informed by two main reasons. Firstly, while significant progress was made through the implementation of the 1996 White Paper, challenges remain and; hence, South Africa has not yet fully benefitted from the potential of STI to advance the economy and improve the livelihoods of its people. Secondly, global developments and rapid technological change require new STI policy approaches to ensure South Africa benefits from the opportunities and mitigates the threats of such change.

The key challenges constraining the performance of the NSI are the inadequate and non-collaborative means of national STI agenda setting, insufficient policy coherence and co-ordination, weak partnerships between NSI actors (particularly the inadequate involvement of business and civil society), inadequate monitoring and evaluation (M&E), inadequate high-level science, engineering and technology (SET) and technical skills for the economy, an undersized research system, a poor environment for innovation, and significant levels of underfunding. Some of the achievements include the expansion of the STI institutional landscape, a significant increase in knowledge production, the increased participation of black people and women in the R&D workforce, and an increase in the doctoral graduation rates.

To build on the progress achieved through the 1996 White Paper and to realise the full potential of STI to South Africa’s development, the vision of the new 2019 White Paper is, “Science, technology and innovation enabling inclusive and sustainable South African development in a changing world”. The 2019 White Paper hinges on three high-level goals; namely:

* + To take advantage of opportunities presented by megatrends and technological change;
  + To expand policy approaches that have worked and propose new approaches, where necessary; and
  + To promote a more inclusive economy at all levels.
  1. **Policy context**

The National Development Plan (NDP) characterises STI as crucial for development since countries that have effectively alleviated poverty by growing their economies, have done so by investing in and developing strong STI environments and capabilities. Hence, the NDP states that South Africa’s NSI needs to be expanded as well as be more effective. This requires that South Africa invest more in R&D, that the STI institutional arrangement must improve the link between innovation and the productive needs of industry, and that Government should collaborate with the private sector to raise the level of R&D in companies.

The 2014-2019 MTSF represents the first phase of implementation of the NDP and commits Government to 14 key outcomes. The Department contributes to Outcomes 3 (safety), 4 (economy), 5 (skills), 6 (economic infrastructure) and 10 (environment); as well as the Nine-Point Plan that seeks to stimulate and diversify South Africa’s economy.

The President, in his June 2019 State of the Nation Address, indicated that unless “extraordinary measures” are implemented, South Africa will not realise the NDP targets. Hence, South Africa needs to focus on those actions that will have the greatest impact. Therefore, all programmes and policies across all departments and agencies will be directed at the following seven priorities:

* + Economic transformation and job creation;
  + Education, skills and health;
  + Consolidating the social wage through reliable and quality basic services;
  + Spatial integration, human settlements and local government;
  + Social cohesion and safe communities;
  + A capable, ethical and developmental state; and
  + A better Africa and World.

While specific reference is not made to STI within the planned initiatives and challenges mentioned by the President; STI by its very nature, offers crucial support to achieving the objectives set for these initiatives. These are:

* + Unemployment (especially the youth) – The Department has initiatives that seek to create new industries and develop specific industrial capability through research and development (R&D); initiatives that increase the productivity and competitiveness of existing industries; and programmes that provide skills and experience to STI-graduate job seekers within industry-supported programmes. New industries create employment and expand economic infrastructure. Revitalising existing industries expands its employment base and allows it to be competitive in the current industrial climate. The provision of work experience affords graduates the opportunity to hone and match their skills with what is needed within industry.
  + Attracting foreign and private sector investment – Government continues to work towards the target of spending 1.5% of Gross Domestic Product (GDP) on STI. The Department is working on, or has finalised a number of strategies that seek to derive greater economic impact and value from the investment in STI. Including initiatives that encourage increased spending on R&D, hosting international projects that attract foreign funding and skills; and using existing investments to leverage external funds in support of national priorities.
  + Infrastructure investment – The Department, through its STI Infrastructure Roadmap, is year-on-year growing the investment into developing/acquiring new (for example, the Square Kilometre Array (SKA) Telescope), and upgrading and maintaining existing STI infrastructure. This infrastructure is crucial for skills development and ensuring that individuals attracted to careers in the STI sectors can work at the cutting-edge of research and knowledge production in their respective fields.
  + Revitalise the mining sector – Mining is an industry where South Africa possesses both historical and comparative advantage. Research and development within the mining sector focusses on methods of mining, mine and mining safety, mitigating environmental impacts and adding value to South Africa’s mineral wealth though beneficiation, as well as developing mining methods that can extend the operational life of mines.
  + Small and medium enterprises (SMEs) – Here, the Department’s initiatives focus on enhancing the competitiveness of SME’s by providing support through industry development centres, and driving a technology localisation programme where certain goods are targeted to be produced locally; hence, enhancing manufacturing ability and capacity and expanding employment. In addition, specific funding initiatives to help start-ups bring new innovations and inventions to market are also contributed to and managed by the Department. Here the focus is on technological innovation as well as social innovation.
  + Agriculture – Research and development focusses on better farming practice and methods, ensuring food security, enhanced crop yield and new crops, and improving and preserving the quality of crops, among others.
  + Fourth Industrial Revolution (4IR) – The Department implements key initiatives and provides funding to support and advance STI so that South Africa will have the necessary skills, infrastructure, and capability to participate in a global economy driven by knowledge production and the ability of nations to use knowledge to build new industries and enhance and sustain development.
  + Regional and international matters – The Department is South Africa’s custodian of its regional and international co-operation on STI. South Africa actively works, with its regional partners, to enhance the global value and standing of Africa’s STI sector.
  + Health (with specific reference to eliminating HIV) – The Department supports various research platforms looking to develop an HIV vaccine, rapid-test kits, and improved anti-retroviral treatments, among others.
  + Service delivery – The Department develops various decision-support tools to help local government improve service delivery and the deployment of resources.
  1. **2015-2020 Strategic goals**

The Department’s 2015-2020 Strategic Plan states that the Department will direct its efforts and resources toward the following five strategic outcome-orientated goals:

* Goal 1: Responsive, co-ordinated and efficient NSI – build on previous gains to create a responsive, co-ordinated and efficient NSI.
* Goal 2: Increased knowledge generation – maintain and increase the relative contribution of South African researchers to global scientific output.
* Goal 3: Human capital development – increase the number of high-level graduates and improve their representivity.
* Goal 4: Using knowledge for economic development – derive a greater share of economic growth from R&D-based opportunities and partnerships.
* Goal 5: Knowledge utilisation for inclusive development – accelerate inclusive development through scientific knowledge, evidence and appropriate technology.

1. **Vote 30: Science and Technology (2019/20)**

The 2019 Budget, tabled amid a weak economic outlook, is built around six prescripts; namely, achieving higher economic growth, increasing tax collection, restraining expenditure, stabilising and reducing debt, reconfiguring state-owned enterprises, and managing the public sector wage bill.

The 2019/20 consolidated government expenditure for the innovation, science and technology function is R16.5 billion (R15.4 billion in 2018/19), which represents 1% of the total Medium Term Expenditure Framework (MTEF) and 7.7% of the consolidated economic development expenditure.

Over the medium-term and in line with the NDP, the Department will use its budget allocation to produce new knowledge, use this knowledge to stimulate economic and social growth and development, develop human capacity, fund research and innovation, and fund the acquisition and provision of infrastructure. The Department’s budget allocation increases by R192.6 million from R7.8 billion in the 2018/19 financial year to ***R8.1 billion in the 2019/20*** financial year. This denotes, when adjusted for inflation, a real decrease of 2.6%, a trend that has persisted since 2016/17. The effects of these below inflation increases is intensified due to the fact that science related inflation is higher than standard inflation due to, amongst others, the high cost and maintenance of R&D equipment/facilities, which are mostly imported and where costs hinge on the prevailing exchange rate. Therefore, allocations that grow in line with standard inflation only marginally assist the STI objectives. Allocation increases below standard inflation further exacerbate the sub-optimal funding environment that prevails. The Department’s budget allocation is projected to increase to R8.6 billion in 2020/21 and R8.9 billion in 2021/22. However, over the medium-term, Cabinet has approved further budget reductions of R322.8 million (R186.1 million in 2018/19) to the Department’s baseline budget.

In terms of economic classification, the apportionment of the Department’s 2019/20 budget allocation of R8.1 billion remains the same as in previous years and comprises Current payments of R635.3 million (7.8%), Transfers and subsidies of R7.5 billion (92.2%) and Payments for capital assets of R2.7 million (0.03%). The Department’s 2019/20 APP states the vacancy rate at 28 February 2019 was 16.7%. The 2019/20 APP also states that the compensation budget for employees is inadequate; hence, the Department will have to consider how to mitigate the impact of its human resource challenges on service delivery. The 2019 White Paper on Science, Technology and Innovation will also require the Department to assess whether its current organisational structure is sufficient to implement the new White Paper. In 2019/20, compensation of employees is expected to be R380.5 million, increasing to R435 million by 2021/22, with only two additional posts being added to the establishment (444 to 446). Notable changes to allocations include; property payments increasing from R24 million in 2018/19 to R71.5 million in 2019/20, then decreasing to approximately R14 million for the remainder of the medium-term; external audit fees decreasing from R20.4 million in 2018/19 to R4.5 million in 2019/20, where the lower amount correlates to expenditure in previous years; and space science research – economic competitiveness and support package increasing from R9.2 million in 2018/19 to R30 million in 2019/20 (R45 million in 2017/18). The latter allocation being the next tranche of funding for the further development of South Africa’s next earth observation satellite, EO-Sat1.

* 1. **2019/20 Budget allocation per Programme**

The Department’s budget funds five major programmes, namely:

* + Programme 1 – Administration
  + Programme 2 – Technology Innovation
  + Programme 3 – International Co-operation and Resources
  + Programme 4 – Research, Development and Support
  + Programme 5 – Socio-economic Innovation Partnerships

These programmes fulfil the Department’s mandate of realising the full potential of science and technology in social and economic development through the development of human resources, research and innovation. The percentage budget allocation to the Programmes (Table 1) and sub-programmes remains virtually the same as in previous financial years.

**Table 1: Budget summary of the Department of Science and Technology**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Programme**  **R’ million** | **2018/19**  **Adjusted appropriation** | **2019/20**  **Expenditure estimate** | **Percent of total budget** | **Nominal percentage change in 2019/20** | **Real percentage change in 2019/20 (inflation-adjusted)** |
| 1. Administration | 379.5 | 380.3 | 4.7 | 0.21 | -4.74 |
| 2. Technology Innovation | 1 131.7 | 1 224.3 | 15.0 | 8.18 | 2.83 |
| 3. International Co-operation and Resources | 137.9 | 149.0 | 1.8 | 8.05 | 2.71 |
| 4. Research, Development and Support | 4 531.0 | 4 573.0 | 56.1 | 0.93 | -4.06 |
| 5. Socio-economic Innovation Partnerships | 1 778.3 | 1 824.4 | 22.4 | 2.59 | -2.48 |
| **Total** | **7 958.4** | **8 151.0** | **100** | **2.4** | **-2.64** |

The budget allocation is aligned to the priorities of strengthening and expanding STI human capital development and ensuring that innovation and knowledge underpin the government’s growth strategy. Hence, Programmes 2, 4 and 5, receives 93.5% of the Department’s total budget allocation. In terms of allocations to programmes, only Programmes 2 and 3 receive a real (inflation-adjusted) increase in their funding. Over the medium-term, Programme 2 will allocate approximately R3.9 billion towards the production of new knowledge and the development and commercialisation of technology. Programme 4 will, over the medium-term, allocate R8.2 billion towards postgraduate bursaries, support for researchers, and to strategic human capital development instruments. Programme 4 will also allocate R2.2 billion over the medium-term to ensure the provision of R&D infrastructure to the NSI. Programme 4 will allocate R749 million over the medium-term to support the Science Missions; namely research areas defined by South Africa’s geographic advantage. The Science Missions include astronomy, palaeosciences, climate change, indigenous knowledge, and marine and polar sciences. Of the amount allocated to the Science Missions, R258 million will be used to fund activities that seek to advance the public understanding of science. This allocation supports the newly legislated science engagement mandate prescribed by the National Research Foundation Amendment Act (Act 19 of 2018). Programme 5 will, over the medium-term, allocate R3.3 billion to initiatives that seek to enhance South Africa’s economic competitiveness, and R124 million to the technologies that characterise the Fourth Industrial Revolution (4IR).

For the 2019/20 financial year, the Department has 23 strategic objectives that have been translated into 46 performance indicators.

* + 1. **Programme 1: Administration**

Programme 1 provides strategic leadership, management and support services to the Department and has four sub-programmes. These are Ministry, Institutional Planning and Support, Corporate Services, and Office Accommodation. The work of this Programme focuses on administration, and policy and planning.

In terms of economic classification, Programme 1’s R380.3 million will mainly be spent on salaries (R174 million) and on Goods and services (R188.5 million), where Property payments increases from R23 million to R70.6 million. Transfers and subsidies to non-profit institutions amounts to R15.1 million.

In terms of sub-programmes, the most notable increase occurs in the allocation to Office Accommodation, which increases from R5 million to R63.3 million for a feasibility study on the design and construction of a new building and for the refurbishment of the existing headquarters of the Department. In addition, Programme 1 also administers and funds the operations of the National Advisory Council on Innovation (NACI).

Key initiatives that will continue in 2019/20 is the modernisation of the Information Technologies (IT) unit, processes to mitigate the effects imposed by the constraints on the salaries budget, and efforts to reconfigure the Directorate: Strategy and Planning to better serve the Department and the NSI.

To date, the administrative mechanisms implemented by Programme 1 have ensured unqualified or clean audits for the Department and its entities, as well as recognition from the Presidency as being one of the best managed national departments. The intention to reposition and redefine the administrative function so that it improves on the support provided to the Department and its entities has resulted in the creation of the Institutional Planning and Support sub-programme.

* + 1. **Programme 2: Technology Innovation**

Programme 2 enables R&D in space science and technology, energy security, the bioeconomy, and in the areas of nanotechnology, robotics, photonics and indigenous knowledge systems (IKS), and promotes the realisation of commercial products, processes and services from these R&D initiatives. In addition, through the implementation of enabling policies and interventions along the entire innovation value chain, promotes the protection and utilisation of intellectual property (IP), technology transfer and technology commercialisation. Programme 2 has four sub-programmes and one specialised service delivery unit (SSDU). These are Space Science, Hydrogen and Energy, Bio-innovation, Innovation Priorities and Instruments (IPI) and the SSDU: National Intellectual Property Management Office (NIPMO).

Programme 2 receives R1.2 billion (R1.1 billion in 2018/19) of the Department’s total allocation, which is a real increase of 2.8% when adjusted for inflation. Approximately 92% (R1.1 billion) is allocated to Transfers and subsidies, where the entities, the Technology Innovation Agency (TIA) and the South African National Space Agency (SANSA) receive the largest allocations, receiving R440.9 million and R143.5 million, respectively. The IPI sub-programme continues to receive the largest share of Programme 2’s budget, that is 50% (R605.4 million). The IPI sub-programme supports and strengthens the policy initiatives that aim to create and sustain an enabling environment for innovation, technology development and the commercialisation of products from publicly funded R&D. The lowest allocation, approximately 4.4% (R53.6 million), goes to NIPMO. The remaining funds are relatively equally distributed between the Space Science (R189.4 million), Hydrogen and Energy (R178.5 million), and Bio-innovation (R193.3 million) sub-programmes. All the sub-programmes receive above-inflation allocation increases. However, the Space Science sub-programme, due to the funding allocated for the further development of EO-Sat1, receives the largest real increase in its allocation; that is 11%.

Strategic initiatives that will receive specific attention in 2019/20 include continuing the work to establish the SME Innovation Fund, presenting the economic case for the National Space Programme to Cabinet, and continuing support to the Offices of Technology Transfer and the IP Fund.

* + 1. **Programme 3: International Co-operation and Resources**

Programme 3 supports South Africa’s foreign policy through science diplomacy. Hence, it develops, promotes and manages international relationships, opportunities and science and technology agreements that both strengthen the NSI and enable an exchange of knowledge, capacity and resources between South Africa and its international partners, with a focus on supporting STI capacity building in Africa. Programme 3 has three sub-programmes; namely, Multilateral Co-operation and Africa, International Resources and Overseas Bilateral Co-operation.

Programme 3 is allocated R149 million (R137.9 million in 2018/19), with R77 million allocated to Current payments and R72 million allocated to Transfers and subsidies. The Transfers and subsidies allocation is further broken down into R16 million allocated to the National Research Foundation (NRF) who manages bilateral co-operation agreements on behalf of the Department, R46 million for International multilateral agreements and R10 million for African multilateral agreements. The International Resources sub-programme receives R66.9 million (45%), the largest share of this Programme’s allocation, followed by Overseas Bilateral Co-operation receiving R44 million (29%) and Multilateral Co-operation and Africa receiving R32.7 million (22%). Overall, the increase in allocation to Programme 3 represents a real increase of 2.7%, despite the Multilateral and Overseas Co-operation sub-programmes allocations decreasing in real terms. The overall real increase in allocation is attributable to a R5.6 million allocation to the Office of the Deputy Director-General for Programme 3.

Key outputs for Programme 3 include securing international investment for STI research and human capital development, securing access to international training programmes and STI infrastructure for South African students, facilitating funding for and supporting regional and continental STI initiatives, and occupying leadership positions and influencing decisions at intergovernmental STI fora.

Programme 3 needs a budget that will allow for strategic co-investment with international partners. The Department has previously shown that for every R1 it invests, it can secure up to R10 from an international partner. Bilateral and multilateral co-operation initiatives also require South Africa to fund its own costs under bilateral agreements and cover its membership in multilateral organisations.

* + 1. **Programme 4: Research, Development and Support**

Programme 4 seeks to provide an enabling environment for research and knowledge production that promotes the strategic development of basic sciences and priority science areas through science promotion, human capital development and the provision of research infrastructure and relevant research support, in pursuit of South Africa’s transition to a knowledge economy. Programme 4 has four sub-programmes; namely, Human Capital and Science Promotions, Science Missions, Basic Science and Infrastructure, and Astronomy.

Programme 4 is allocated R4.6 billion (R4.5 billion in 2018/19) of the Department’s total allocation. The marginal increase in Programme 4’s budget, once adjusted for inflation, represents a real decrease of 4% (real decrease of 5% in 2018/19), with the Basic Science and Infrastructure sub-programme, which receives 22% of the Programme’s total allocation, being subjected to a R102 million decrease (R49 million decrease in 2018/19) in its allocation. The allocation to the Human Capital and Science Promotions sub-programme, which receives 57% of the Programme’s total allocation, increases from R2.5 billion to R2.6 billion, and is the only sub-programme to receive a real increase in its allocation. Budget cuts within Programme 4 have meant that the upper limit in terms of the number of students who receive bursaries, the number of students who receive work preparation (interns), the number of researchers who are supported, and the number of infrastructure grants awarded have all had to remain stagnant.

Programme 4’s allocation is largely for Transfers and subsidies (R4.5 billion). The NRF and the Academy of Science of South Africa (ASSAf) receive their baseline allocations from Programme 4, that is R943.4 million and R26.9 million, respectively.

Strategic initiatives that will receive specific attention in 2019/20 include implementing the recommendations of various studies pertaining to the enhancement of human capital development initiatives, tabling the Natural Scientific Professions Amendment Bill in Parliament, launching the Cofimvaba Science Centre, continued implementation of the South African Research Infrastructures Roadmap (SARIR), continuing with the installation of 64 ultra-high frequency science mode receivers on the Karoo Array Telescope (MeerKAT), and finalising the regulations for the Protection, Promotion, Development and Management of Indigenous Knowledge Bill once it is enacted.

* + 1. **Programme 5: Socio-Economic Innovation Partnerships**

Programme 5 seeks to enhance the growth and development priorities of government through targeted STI interventions and the development of strategic partnerships with all levels of government, industry, research institutions and communities. Programme 5 has four sub-programmes; namely, Sector Innovation and Green Economy, Innovation for Inclusive Development, Science and Technology Investment, and Technology Localisation, Beneficiation and Advanced Manufacturing.

Programme 5 receives R1.8 billion (R1.78 billion in 2018/19) of the Department’s total allocation. The marginal increase in Programme 5’s allocation once adjusted for inflation, represents a real decrease of 2.5%. Approximately 97% (R1.77 billion) is allocated to Transfers and subsidies. The entities, the Council for Scientific and Industrial Research (CSIR) and the Human Sciences Research Council (HSRC) receive their baseline allocations from Programme 5, that is R965.8 million and R313.9 million, respectively.

The Sector Innovation and Green Economy sub-programme receives 57% (R1 billion) of the total allocation to establish high impact science research that would support the growth of environmental technologies and services in South Africa. The Technology Localisation, Beneficiation and Advanced Manufacturing sub-programme receives 20% of the total allocation to identify and grow STI capabilities that will improve the competitiveness of existing industries and facilitate the development of new R&D-led industries. R367.8 million is allocated to the Innovation for Inclusive Development sub-programme to support the use of science and technology-based innovations to address the triple challenge of poverty, unemployment and inequality by creating sustainable jobs, building sustainable human settlements and enhancing service delivery.

Strategic initiatives that will receive specific attention in 2019/20 include evaluating the economic impact of the R&D Tax Incentive, ensuring greater synergies and alignment between various initiatives supported by the Department and by other economic sector departments, developing a Converging Technologies Platform around the technologies that drive the 4IR, and the identification and development of performance indicators in line with the new White Paper on STI, which will inform future investments.

The 2019 Estimates of National Expenditure, under the sub-programme’s list, now includes a designation for the Offices of the Deputy Director-Generals for Programmes 2 to 5, where Programme 2 is allocated R4.2 million, Programme 3 is allocated R5.6 million, Programme 4 is allocated R3.4 million and Programme 5 is allocated R3.5 million. The total allocation for these Offices is R16.7 million.

* 1. **Entities of the Department of Science and Technology**

The entities are funded through a Parliamentary grant, specific project and/or contract funds, or from income generated from research and commissioned projects, or from income generated from royalty, publishing, membership, registration and/or facility fees. The Parliamentary grant (also called the baseline allocation) is the guaranteed, annual allocation from the Department to its entities.

**Table 2: The 2019/20 budget transfer to entities from the Department of Science and Technology (excludes external income).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Entity** | **2019/20 Parliamentary grant**  **(R’million)** | **2019/20 Total allocation from Department#**  **(R’million)** | **2017/18 Total revenue**  **(R’million)** | **Parliamentary grant as a % of 2017/18 total revenue** |
| Academy of Science of South Africa | 26,9 | 26,9 | 48,9 | 52 |
| Council for Scientific and Industrial Research | 965,8 | 1 277,5 | 2 498,5 | 29 |
| Human Sciences Research Council | 313,9 | 326,3 | 556,7 | 48 |
| National Research Foundation | 943,4 | 3 198,8 | 4 725,9 | 20 |
| South African National Space Agency | 143,5 | 143,5 | 319,8 | 41 |
| Technology Innovation Agency | 440,9 | 440,9 | 489,0 | 81 |
| **Total** | **2 834,4** | **5 413,9** | **8 638,8** | **Average = 45%** |

**#** Parliamentary grant plus project and/or contract funds.

In total, six of the eight entities that report to the Department are allocated R5.4 billion (52%) of the Department’s R8.1 billion 2019/20 allocation, with the NRF and CSIR receiving the bulk of this allocation (Table 2). The Department’s allocation to the entities comprises the Parliamentary grant and specific project funds.

1. **Committee Deliberations**

The below inflation increases and the further reduction to the Department’s baseline budget is concerning given the required need to produce new knowledge to stimulate the country’s economic and social growth and development.

Some of the key cost drivers for STI include funding for: attracting and retaining the necessary skills, skills development and transformation, STI entities to fulfil mandates, infrastructure acquisition and maintenance, and funding for new responsibilities. One can thus deduce that the implementation of the STI mandate will be constrained by the current levels of funding.

The Minister is encouraged to convince the National Treasury against the reduction of funds for this key portfolio.

In concluding its deliberations on Budget Vote 30: Science and Technology, the Committee noted the following:

* + The Committee commended the Department for the work they do and for formulating coherent strategies and performance plans.
  + Transformation of the STI sector in terms of human capacity, organisational composition, and the R&D focus areas; requires deliberate, well considered, and adequately resourced interventions. Hence, the Committee welcomes the new STI White Paper and the plans to develop the next STI Decadal Plan.

The Committee is keen to receive briefings by the Department on these important policy interventions, which aim to chart a new trajectory for the future development and enhancement of South African STI.

* + Crucial to the transformation of the human capacity in the STI sector, is the creation and continued growth of a pipeline of students pursuing careers in science, mathematics and engineering.

Discussion around curricula involving the Departments of Basic Education, Higher Education and Training as well as Science and Technology, is necessary to assess and input on how this contributes to what is required for the science, technology and innovation system.

* + Intergovernmental co-ordination and partnerships are instrumental in ensuring that the work done by the Department and the entities is used and implemented. These relationships are crucial to ensuring that crosscutting activities are better co-ordinated, resources are optimally utilised and solutions that improve the quality of life of the people are implemented.
  + Enhanced co-ordination is also necessary at Parliamentary level among the various Portfolio and Select Committees in instances where science and technology issues are transversal.
  + The Department has a mandate to deliver on Government’s national priorities. In this regard, the Committee raised its concern about the evident financial sustainability challenges and highlighted the example of the Research Chairs funding which necessitated forming partnerships to source external support funding. The challenge posed is that this may deflect the research and innovation focus away from national interest to that of the funder.
  + The Fourth Industrial Revolution (4IR) became topical in the context of how the Department’s new plans will accommodate this in relation to the threats and opportunities it poses. The Committee noted the establishment of the Department of Higher Education, Science and Technology (DHEST) Inter-Ministerial Task Team on the 4IR in Post School Education and Training, as well as the World Economic Forum’s (WEF) 4IR Affiliate Centre hosted at the CSIR. Specific attention should be toward the rural poor.
  + The Committee proposed hosting a colloquium on the subject of the 4IR, preceded by a briefing by the DHEST that would highlight the work it is undertaking in this regard.
  + The Committee is concerned about the work alignment around the merger of the two departments, stressing that given the enormity in size and the nature of the issues that the education portfolio has to deal with, the science portfolio agenda not be reduced.
  + The Committee advised that when considering an APP, its focus is on programmes, targets and allocations. Going forward, the Department is requested to submit more financial detail when they report on the budgetary aspects of their plans.
  + The current total investment in R&D is inadequate to drive the economic transformation agenda of South Africa and would need to be increased to effectively meet the goals of NDP Vision 2030.

1. **Committee Recommendations**

The Portfolio Committee on Higher Education, Science and Technology, having considered the proposed Budget Vote 30: Science and Technology, recommends that:

* The Minister of Higher Education, Science and Technology engages with the National Treasury to advocate for additional funding for the science and technology portfolio and advises against all proposed future funding reductions
* The Department brief the Committee on the work and plans of the DHEST Inter-Ministerial Task Team on the 4IR in the 2nd Parliamentary term
* The Department ensures that when it enters into agreements to secure contract funding for research and development, these agreements do not compromise the intentions of the research agenda to address national priorities.
* The Department provide the Committee with a detailed briefing on its financial position, which should also include the effects of the budget reductions on its programmes, initiatives and entities.
* The House adopts Budget Vote 30: Science and Technology.

The Democratic Alliance has reserved their right to an opinion on the Vote.

**Report to be considered.**