



SOUTH AFRICAN LOCAL
GOVERNMENT ASSOCIATION

SALGA

Inspiring service delivery

Local government Comments on Draft IRP2018

PORTFOLIO COMMITTEE ON ENERGY(PCE)

**Hearings on the draft Integrated Resource Plan 2018 (IRP) on
Friday, 26 October 2018 @10:00 in committee room Goodhope
Chambers, Parliament**

Introduction



SALGA

- Welcomes the opportunity to present its comments and position to the IRP 2018 to the Portfolio Committee on Energy
- Appreciates and applauds the Minister and the Department for the substantial amount of work done between the IRP2016 and IRP 2018 with a few positive inputs
- Recognizes some progressiveness in the latest plan
- Endeavour to make positive and constructive inputs in the presentation to support the department in ensuring the orderly development of the Electricity Supply Industry

- 1. BACKGROUND** to Municipal Electricity Business
- 2. RELEVANT ANALYSIS**, which highlights some concerns with the IRP 2018
- 3. PROPOSALS**, that can contribute to the IRP 2018
- 4. SUGGESTIONS ON HOW LOCAL GOVERNMENT and SALGA CAN CONTRIBUTE TO AN ONGOING PROCESS OF ENGAGEMENT** including for the next IRPs

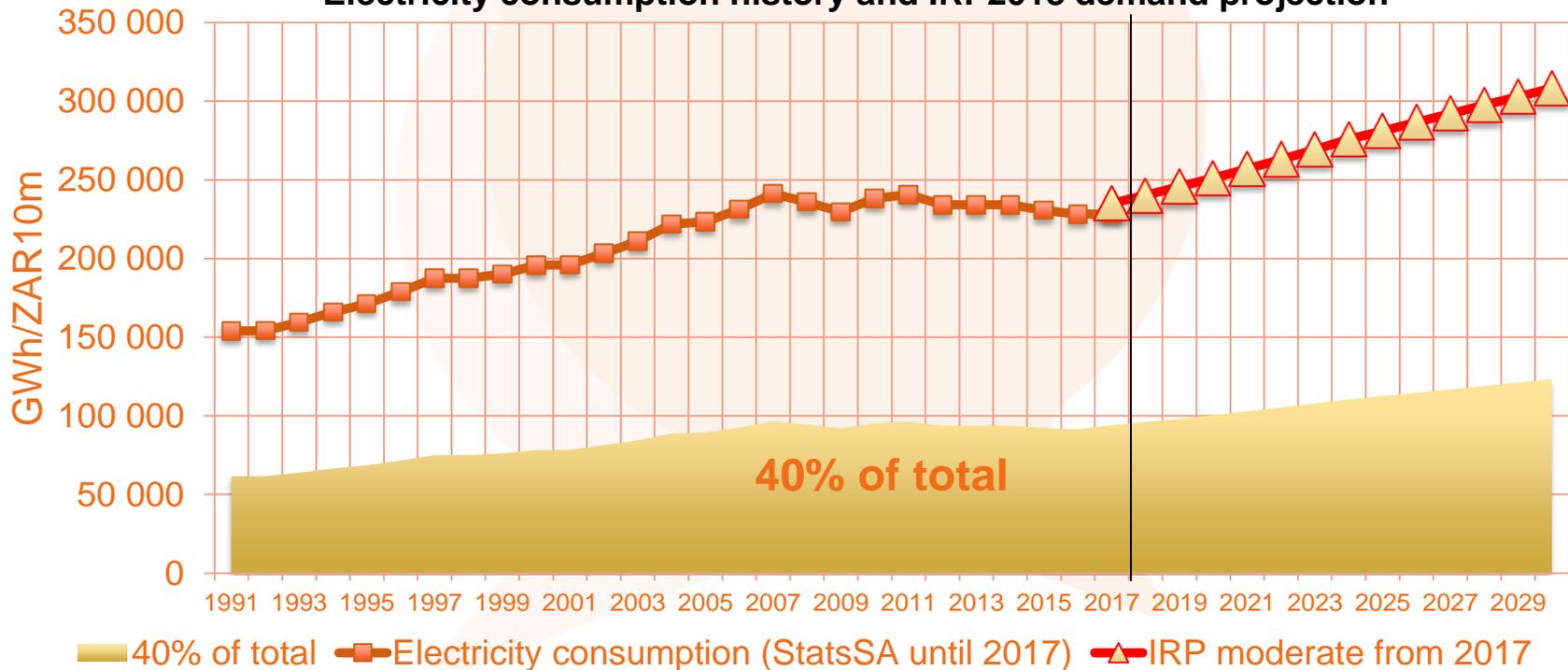
❑ What is relevance of IRP to local government?



South African municipalities play a vital role in the electricity sector as the constitution assigns the function to reticulate electricity to local government.

LOCAL GOVERNMENT accounts for plus **40% of demand** and supplies to **60% of customers**

Electricity consumption history and IRP2018 demand projection



Electricity revenue in municipalities

- *“The centrality of electricity revenue and expenditure within a municipality’s finances is unquestionable.*
- *Revenue earned from electricity goes a long way towards enabling municipalities to meet their developmental role as envisaged in the Constitution.*

“However,

- *the pressure of increasing electricity costs places at risk the very sustainability of a municipality. **All local government, except metros, have moved from a surplus in electricity sales to a loss, and metro surpluses are under threat**”. (FFC**, 2016:274).*

Financial and Fiscal Commission (FFC). 2015. CHAPTER 10 - The Impact of Electricity Price Increases on Municipalities Technical Report: Submission for the Division of Revenue 2015/2016 For an Equitable Sharing of National Revenue. 30 May 2014.

Electricity revenue in municipalities

Impact – negative cash flow

Figure 93: Electricity net surplus, by category of municipality (2006/07–2012/13) (R'million)



The Energy Sector Transformation



The electricity generation and **distribution landscape in South Africa is changing at a rapid pace** compared to the period before 2010.

BRIEFING TO THE
PORTFOLIO COMMITTEE
ON ENERGY **DRAFT**
INTEGRATED
RESOURCE PLAN 2018

BY JEFF RADEBE, MP, MINISTER OF ENERGY

4 SEPTEMBER 2018

“The electricity supply and distribution industry in its current form is no longer viable for local government, national government, state-owned institutions and society as a whole”

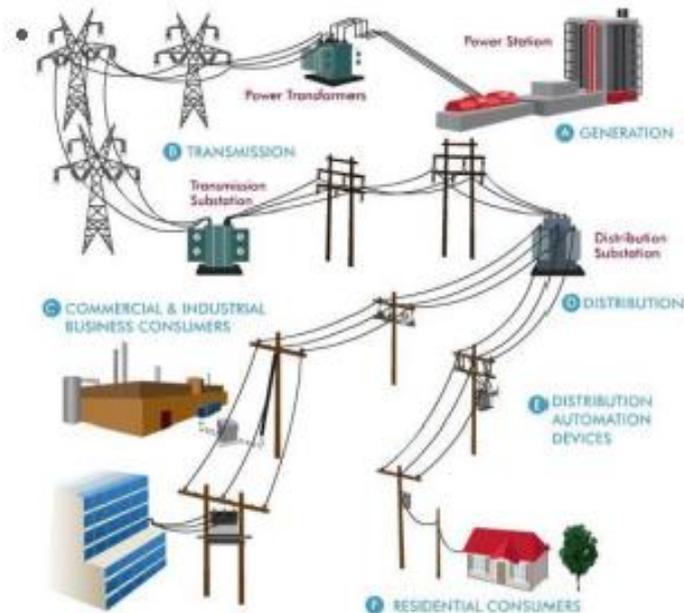
“Embracing the transition is no longer a choice but a necessity if our energy sector is to survive”

-SALGA ENERGY SUMMIT DECLARATION

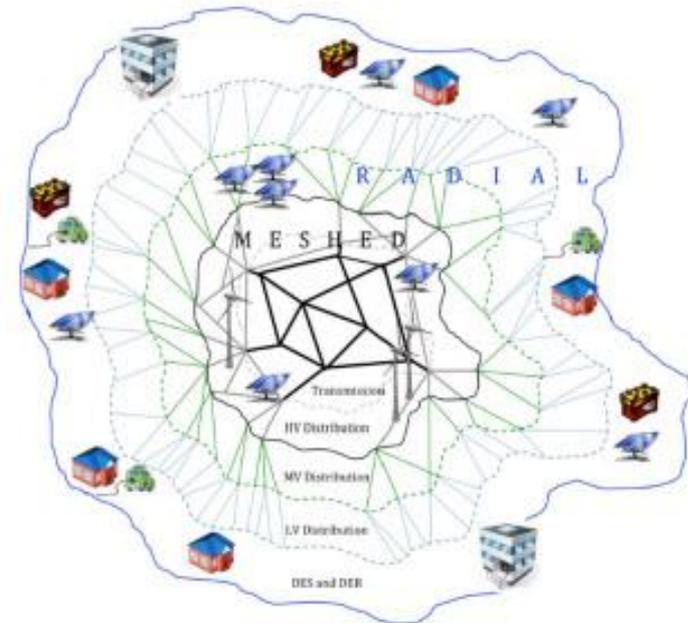
Changing Energy Landscape

As consumers start becoming producers, electricity networks will start to look very different!!

Centralised



Decentralised



SOURCE: Meridian
Economics (2018)

OUTLINE

1. **BACKGROUND** to Municipal Electricity Business
2. **RELEVANT ANALYSIS**, which highlights some concerns with the IRP 2018
3. **PROPOSALS**, that can contribute to the IRP 2018
4. **SUGGESTIONS ON HOW LOCAL GOVERNMENT and SALGA CAN CONTRIBUTE TO AN ONGOING PROCESS OF ENGAGEMENT** including for the next IRPs

SALGA IRP Consultation Workshops and Submission to IRP2018



- 1. Urban Energy Network in Johannesburg:**
Initial engagements and Discussion - **27th of September.**
- 2. SALGA Workshop in Cape Town:**
Further engagements and Discussion - **4th of October.**
- 3. SALGA Workshop in Pretoria:**
A detailed presentation from experts (ERC, CSIR) and working session with all municipalities - **12th of October.**
- 4. Formal submission**
On basis of the above workshops, consultations with municipality representatives, written submissions received from municipalities, and analysis of the IRP and relevant documents SALGA

IRP MODELLING PROCESS



- The IRP 2018 modelling solves for the lowest cost of power to Eskom meter's terminals, rather than the lowest cost to the end users of the country. This modelling DOES NOT ENSURE LEAST COST TO CONSUMERS.
- The model used determines WHAT generation source and WHEN it is needed. The current modelling does not account for WHERE the generation should be placed. In accounting for where generation could be placed, the cost of electricity could be reduced.
- The model does not optimize distribution utility costs (distribution network maintenance, metering and billing services etc), but rather assumes constant for these.
- “It is recognized that the IRP is not intended to govern the structure of the electricity industry (e.g. who can generate, who can purchase from IPP's etc.) However it MUST take industry developments into account. **The worldwide trend** is towards decentralization of generation and other energy services as local renewable energy (RE) becomes cheaper than utility electricity. **This trend cannot be capped by legislation**

IRP MODELLING PROCESS



By including these points outlined, the IRP could:

- 1) More accurately reflect the changing landscape of the energy sector
- 2) Potentially reduce the cost of electricity supplied to the end user
- 3) Include generation options that could reduce Eskom Notified Maximum Demand penalties paid by Municipalities
- 4) Include generation options that could reduce distribution infrastructure costs
- 5) Improve of security of supply to customers (especially for storage options)

The IRP2018 modelling does not consider the potential value of both generation and demand side management systems on the municipal distributor's side of the Eskom meter.

DEMAND FORECASTS

Previous IRP demand forecasts have been very optimistic

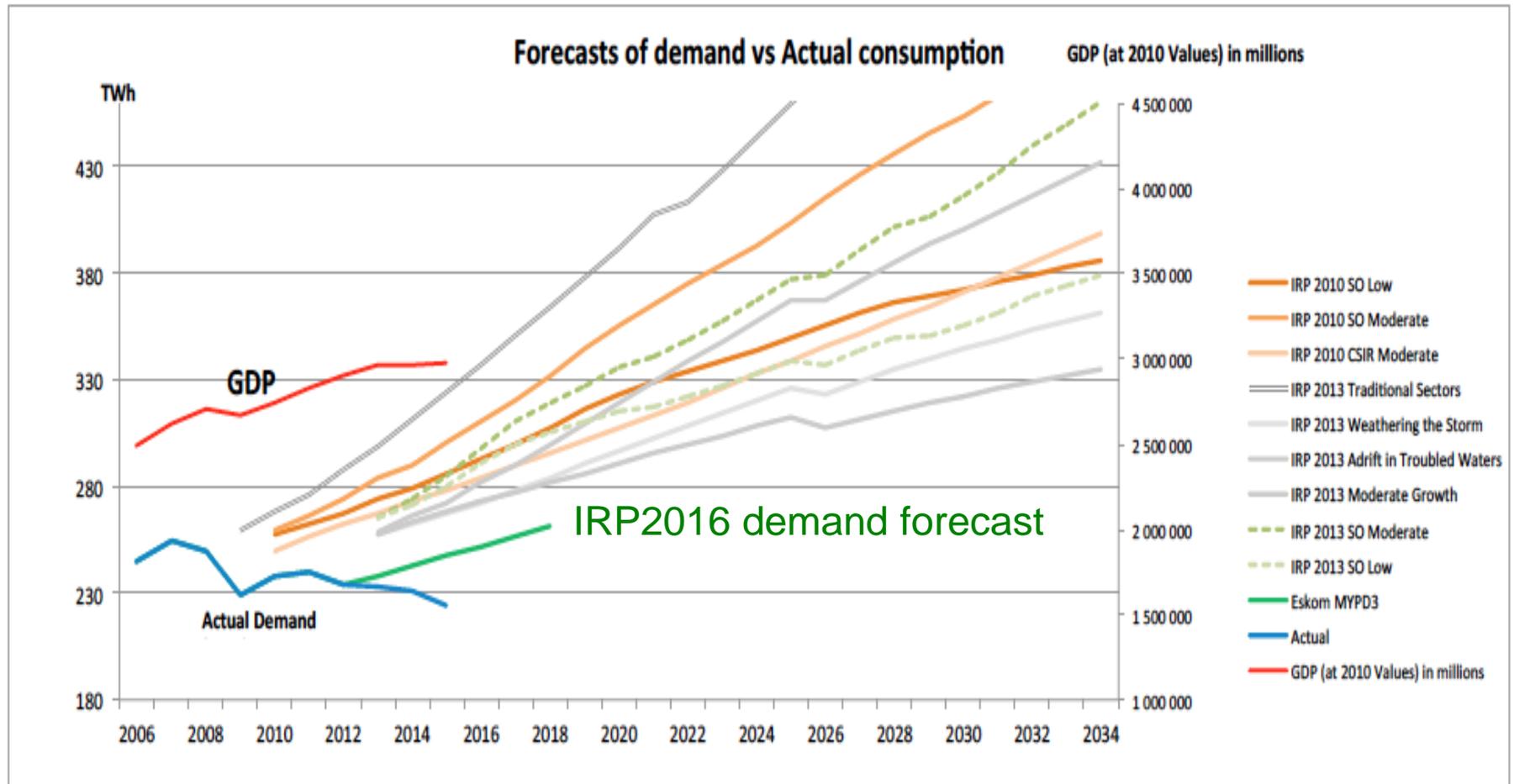
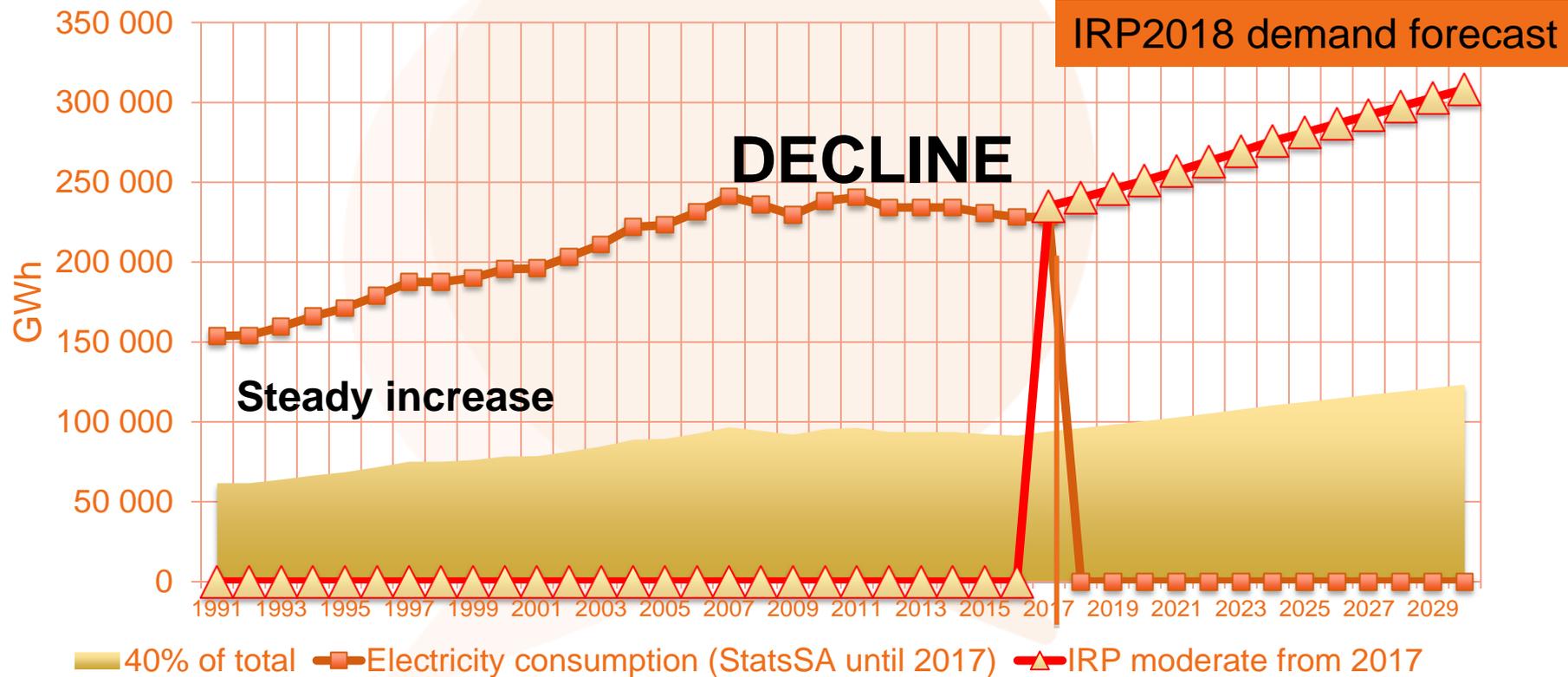


Figure 12: South Africa's forecast and actual demand versus GDP

DEMAND FORECASTS

IRP 2018 is also unrealistic demand forecast.

Electricity consumption history and IRP2018 demand projection



DEMAND FORECASTS

Electricity sales in metros are decreasing

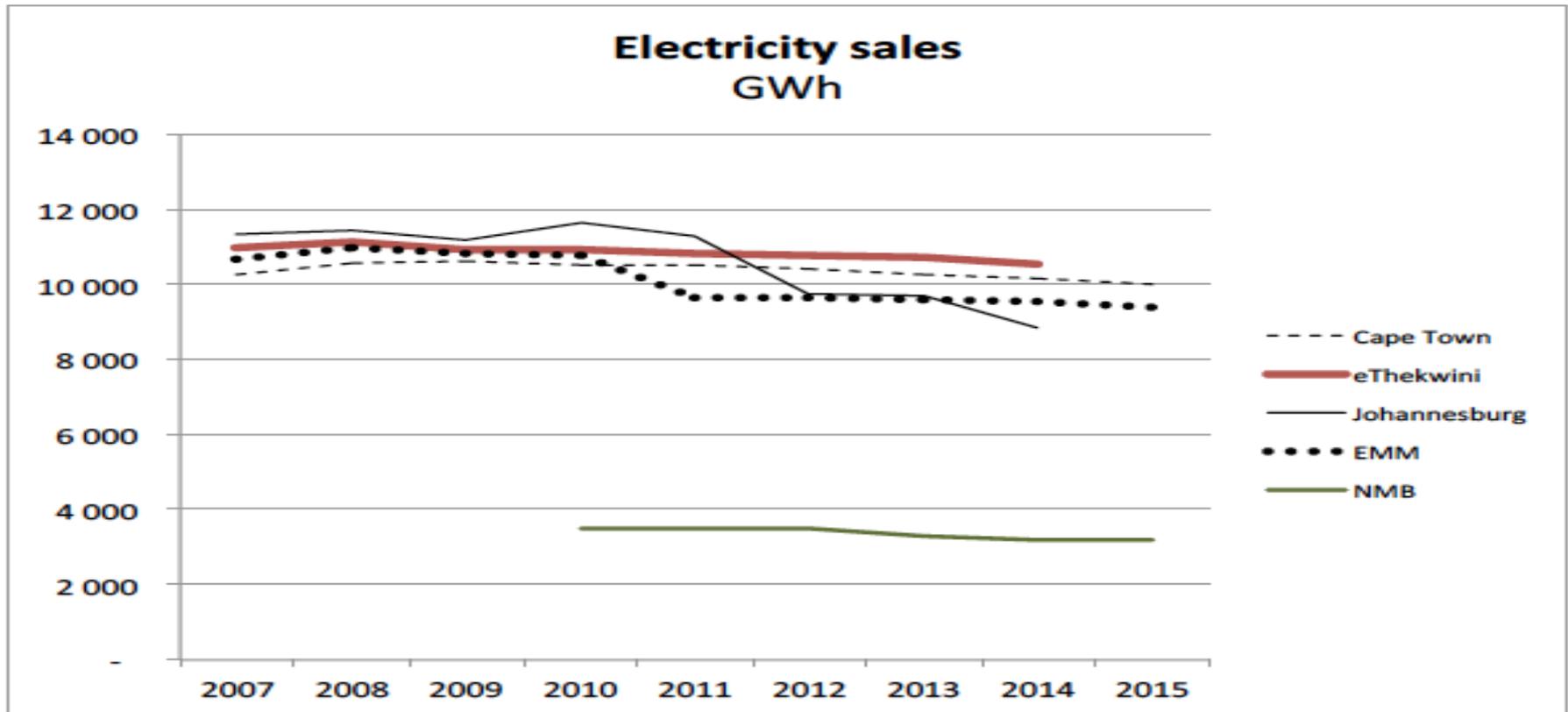


Figure 14: Metropolitan electricity sales

Source http://cityenergy.org.za/uploads/resource_363.pdf Briefing Paper 1 Understanding Electricity Demand Patterns in South Africa's cities

DEMAND FORECASTS

Since 2007, the electricity supplied from grid (Eskom) to municipalities has not been increasing (flat at best)

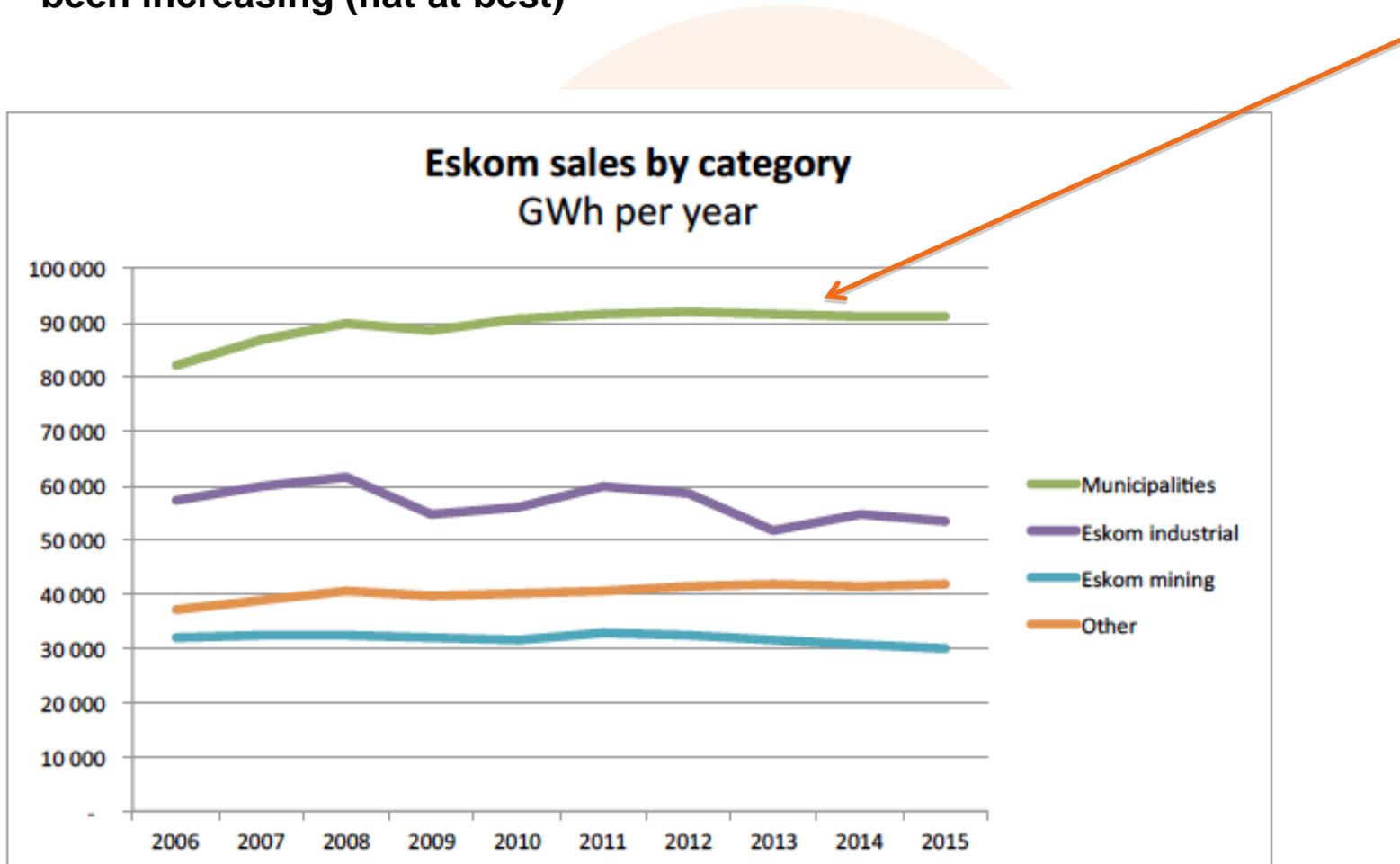


Figure 8: Eskom's sales by main customer category

DEMAND FORECASTS

- The high demand forecasts have the potential to create stranded assets which will drastically increase the price of electricity.
- This will further exacerbate the financial difficulty of municipalities and Eskom. The costs of stranded assets will be passed down to consumers or be paid for by the fiscus
- Current IRP forecasts do not reflect the current situation experienced on the ground by municipalities.
- Municipalities are not predict an increase in demand from grid supplied electricity in the future, because customers are becoming more energy efficient and making use of other energy sources (solar PV, solar geysers etc)

The IRP2018 should include demand forecasts that more accurately what is experienced by municipalities. Municipal data could be used to compliment these forecasts.

LEAST COST



- SALGA welcomes the major improvement in ‘least cost’ technology choices in the IRP 2018, in comparison the previous iterations.
- The IRP is an infrastructure development plan that should be based on **least-cost supply**. However the IRP 2018 is not least cost. Balancing different priorities will result in price hikes.
- It is important to note that any deviation from least cost has major repercussions to municipalities and exacerbates theft, grid defection, consumer and municipal debt.
- Municipalities acknowledge the importance of job protection and retention related to coal-fired power, however higher costs will have serious ramifications for consumers and the country as a whole.

Detailed studies must be done to analyse the employment implications of various options before committing to significant investments . Both local (construction and operating) and economy-wide impacts need to be factored in.

COST OF STORAGE TECHNOLOGIES

- The constant technology price of battery storage was used in the IRP. This does not reflect recent trends and future predictions, where costs are expected to decrease by more than 70% by 2030 (CSIR).
- Accurate pricing would reduce the amount of gas power needed, reducing the South Africa's dependency on global commodity prices.
- The inclusion of battery storage has many external benefits to municipalities and could reduce infrastructure maintenance backlogs.

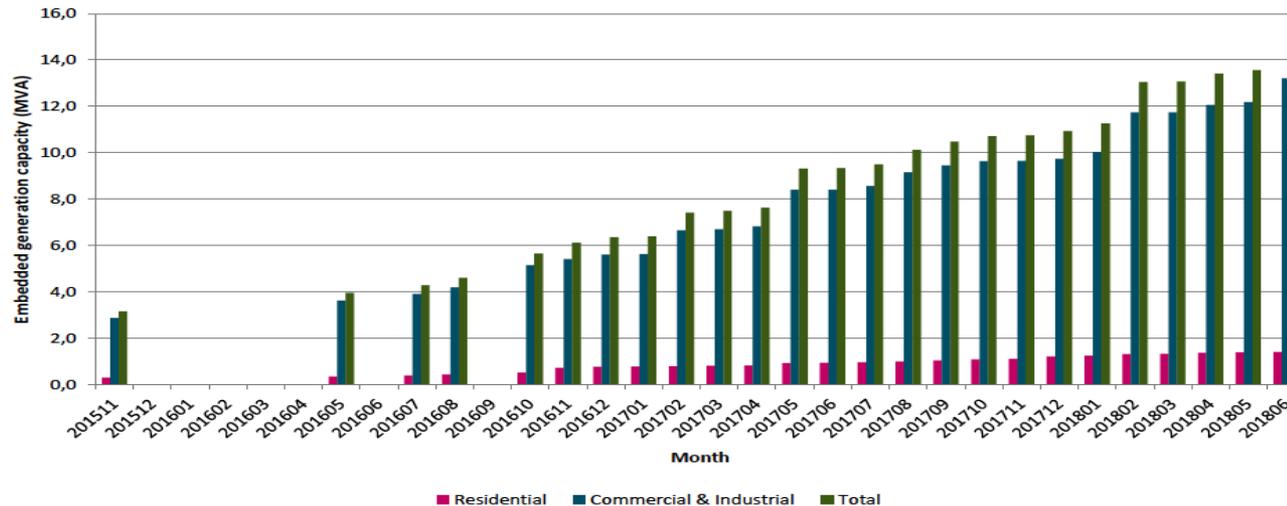
IRP 2018 must use more accurate price forecasts for battery storage and considers the additional savings by placing them on distribution networks.

EMBEDDED GENERATION

Technology advancements and the decline in cost make it possible for end users to now generate their own electricity. Increasing electricity prices have also made substitutes such LP Gas a viable alternative for cooking and heating. **Electricity demand is therefore no longer captive to the national grid (Eskom or municipalities)** which impacts on current and projected electricity supply and demand planning.

SSEG Status Report as at June 2018

Approved, commissioned, grid-tied, embedded generation | Capacity



BRIEFING TO THE
PORTFOLIO COMMITTEE
ON ENERGY DRAFT
INTEGRATED
RESOURCE PLAN 2018

BY JEFF RADEBE, MP, MINISTER OF ENERGY

4 SEPTEMBER 2018

EMBEDDED GENERATION

- SALGA welcomes the inclusion of Embedded Generation in the IRP 2018. However there is no substantial evidence of how the allocation of 200 MW is arrived at.
- The allocation of 200MW per year, for both private and public installations, is insufficient. Individual municipalities say they can account for from 200-300MW alone. There is currently 1500MW awaiting generation licenses already.
- Municipal owned or contracted renewable embedded generation will assist municipalities in reducing debt to Eskom and support achievement of climate change commitments
- With no renewable energy limits being applied, the least cost is not affected. Why then should there be limits on embedded generation if municipalities can source the electricity at a cheaper cost?

SALGA suggests the outstanding 1500 MW awaiting ministerial determination be tackled as a starting point to the embedded generation. Future studies should investigate if a limit on embedded generation is necessary, if it can provide a benefit to municipalities and in turn their customers.

CLIMATE CHANGE

- It was noted that the current IRP 2018 meets the Electricity Sector's climate change commitments.
- However, it is widely known that the Nationally Determined Contributions are very conservative and more drastic actions are needed to maintain global warming below 1.5 degrees Celsius

- SALGA suggests to develop an IRP scenario with more ambitious greenhouse gases reduction targets (in line with the 1.5 degree target) and study its electricity price impact.

1. **BACKGROUND** to Municipal Electricity Business
2. **RELEVANT ANALYSIS**, which highlights some concerns with the IRP 2018
3. **PROPOSALS**, that can contribute to the IRP 2018
4. **SUGGESTIONS ON HOW LOCAL GOVERNMENT and SALGA CAN CONTRIBUTE TO AN ONGOING PROCESS OF ENGAGEMENT** including for the next IRPs

PROPOSALS FOR IRP 2018

1. The IRP2018 should include a reduced demand forecast, more accurately what is experienced by municipalities. Energy efficiency needs to be better accounted for in the electricity demand forecast (there should be data available through the post 2015 National Energy Efficiency Strategy).
2. IRP 2018 uses more accurate price forecasts for battery storage and considers the additional savings by placing them on distribution networks.
3. Detailed studies to analyse the employment implications of various options need to be undertaken before committing to significant investments. Both local (construction and operating) and economy-wide impacts need to be factored in.
4. SALGA suggests the outstanding 1500 MW awaiting ministerial determination be tackled as a starting point to the embedded generation allocation. Future studies should investigate if the limit on embedded generation is necessary, if it can provide a benefit to municipalities and in turn their customers.
5. Develop an IRP scenario with more ambitious greenhouse gases reduction targets, in line with the global 1.5 degree Celsius target.

1. **BACKGROUND** to Municipal Electricity Business
2. **RELEVANT ANALYSIS**, which highlights some concerns with the IRP 2018
3. **PROPOSALS**, that can contribute to the IRP 2018
4. **SUGGESTIONS ON HOW LOCAL GOVERNMENT and SALGA CAN CONTRIBUTE TO AN ONGOING PROCESS OF ENGAGEMENT** including for the next IRPs

Active Collaboration between National and Local Government in IRP Process

- Include local government in the IRP planning process including implementation thereof.
- There are already a number of innovative municipal energy plans, with vast knowledge and expertise that can improve the IRP planning process.
- Furthermore, investment in local government can offer options for generation and energy service resources as solutions.

RECOMMENDATIONS FOR FUTURE IRPs

Modelling Process

- The modelling process used should optimize the least cost to the point of the consumer and consider all costs in the value chain.
- By allowing the model to better reflect the changes in the landscape, it could lead to better and lower cost customer services instead of an intensifying crisis
- Demand forecasts should include the different uptake rates of distributed technologies such as EE, DSM, load shifting, gas, SSEG and other disruptive technologies (e.g. storage or electric vehicles) and their impact on the demand curves.
- Studies should inform the most beneficial location for the plants (distribution level or transmission level).
- Regular Updates of the IRP need to take place

RECOMMENDATIONS FOR FUTURE IRPs

Future Research

- Tariff impact studies and wholesale price path development for the different IRP scenarios (including a increased GHG emission scenario) and further spiral effects on demand. This is crucial to assess the most suitable options as tariffs can be a driver for demand.
- Given that SSEG (0-1MW) is accounted for in the demand. There needs to be urgent extensive work done to:
 - Capture the amount of SSEG power capacity that has been installed,
 - Ensure a registration database is in place to adequately record current and future systems.
 - Understand the extent these systems are being used to reduce demand and how much is being fed back on to distribution grids.

RECOMMENDATIONS FOR FUTURE IRPs

Municipalities need support to:

- Better engage with the changes in the energy landscape to ensure sustainable, affordable service provision to their customers. Without the correct implementation by municipalities, the full benefit of the IRP cannot be realised.
- Determine electricity usage and demand forecasts to feed into the IRP.
- In procuring electricity that will ensure the least cost to their customers. This could come on the form of an municipal energy plan.

Municipalities also need a conducive policy environment which allows them in embracing the energy transition that is upon them, e.g procurement energy from other sources and players other than Eskom

Ndi a livhaha
Enkosi
Ke a leboga
Ngiyathokoza
Ndzalhenisa
Ngiyabonga
Ke a leboha
Dankie
Thank you!