Open public debate

Should Eskom be restructured, and if so how and when?
Purpose of the debate

• To debate the wide range of options for restructuring of Eskom.
• To listen, discuss and participate openly on a key issue facing SA.
• To air the issues through open discussion and debate of all sides.
• To enable attendees to make up their own minds on the subject.
• Constructive engagement – not an opportunity to attack Eskom.
• Presenters speak in their personal capacities.
• Presenters do not necessarily agree with the generic motions.
• Intellectual stimulation, learning and entertainment.
Motion 1: No restructuring

Although needing renewed financial, operational and maintenance discipline, and the rooting out of maladministration and corruption, the current Eskom structure as a vertically integrated SOE is suitable and appropriate for the socio-economic and developmental needs of South Africa.
Motion 2: Light restructuring

While maintaining the current structure as a vertically integrated utility, increased public participation in the business of Eskom through additional public and/or strategic equity partners is needed to recapitalise the business and introduce enhanced accountability and transparency.
Motion 3: Deep restructuring

The business model of Eskom, and indeed the whole electricity supply industry in South Africa needs to be fundamentally restructured to make it fit-for-purpose to face the challenges of future electricity supply and disruptive technologies, generally along the lines proposed in the Government White Paper on Energy Policy of 1998.
Summary of motions

- **Motion 1: No restructuring**
  Status quo - retain vertically integrated monopoly

- **Motion 2: Shallow restructuring**
  Status quo + increased public participation

- **Motion 3: Deep restructuring**
  Both Eskom and the Electricity Supply Industry
Introduction: Chris Forlee

Chris Forlee is the CEO and full-time regulator member of the National Energy Regulator of South Africa (NERSA).
Introduction: Frans Baleni

Frans Baleni is deputy chairman of the Development Bank of Southern Africa, and former secretary-general at the National Union of Mineworkers (NUM).
Introduction: Nelisiwe Magubane

Nelisiwe Magubane is a non-executive director of Eskom and former director-general at the Department of Energy.
Introduction: Dr. Grové Steyn

Dr. Grové Steyn is a leading infrastructure and regulatory economist, and a director at Meridian Economics.
Motion 1: No restructuring

Presentation by:
Mr. Frans Baleni
No ESKOM Restructuring
Historical Purpose of Eskom

- Established in 1923 as the ELECTRICITY SUPPLY COMMISSION (“ESCOM”)
- “There lies before the ESCOM a great task and a great opportunity. It will be our endeavour to play our part not as those who follow where other lead, but as pioneers, to see the needs of our country fast developing, and by wise anticipation to be ever ready to provide power without profit, wherever it may be required. (Dr van der Bijl)
- Industrialization, economic stimulation and development.
Historic Perspective

- As a vertical integrated SOE, Eskom served South Africa well.
- Assisted in providing electricity at a competitive rate for many years.
- Assisted in growing the economy.
- Contributed to employment and job creation.
- Sought after employer.
- Serve customers well – even in areas where municipalities did not want to do electrification.
Historic Perspective continued...

- Major contributor to electrification
- Solid fleet of generation plants
- Best network footprint
- In general a good performer
- Significant contribution in relation to skills development
Current Perspective

- Eskom still ranks amongst the Top 7 utilities in the world
- There are challenges in relation of:
  - Governance and Leadership
  - Deficit of Investor confidence
  - Employment uncertainty
  - Poor financial performance
  - Non payment and Poor Revenue collection
Restructure or not to Restructure

Restructuring at this stage is not an option because:

- It will be too expensive
- It will take more time than what will be required to address the current challenges
- It is quicker to stabilise the business than to restructure
- It will not work if we only restructure Eskom – you will have to look at the total industry – we do not have money or time
- We will generate more investor confidence
- Customers, investors and staff are now looking for certainty
What should we do

- Deal with Governance issues
- Focus on building investor confidence
- Deal with corruption issues decisively
- Focus on Business Performance
- Play a bigger role in areas where municipalities are not performing
Conclusion

- How quickly do you want results?

- Stabilise management by appointing CEO and other highly competent Executives with strong sense of ethics and integrity

- Introduce transparent and reliable procurement system

- Eliminate corrupted contracts

- Address primary energy supply and tariff increases

- Fixing what is broken is the answer and not restructuring
Motion 2: Light restructuring

Presentation by:
Ms. Nelisiwe Magubane
Introduction

Disclaimer!
Background

Government objectives

- Address energy poverty
- Diversification of ownership
- Affordability
- Sustainability
- Governance of the energy sector
International experience for restructuring objectives

- Colombia: Diversification of energy supply and deregulation
- Finland: Improved efficiency
- Chile: Private sector participation
- Argentina: Inefficient vertical integrated companies
- Brazil: Economic meltdown

Objectives
What needs to be done?

• Begin with the end in mind
  ▪ What is the most appropriate model for South Africa to meet the stated objectives?
  ▪ What are the priorities for socio economic success?
  ▪ What is the role of the electricity sector that will ensure that socio economic success as outlined in our long term plans materialises?

• Where are we?

• How do we get the end state?
A transformed electricity sector that meets socio economic objectives of South Africa

Vertically integrated, fiscally challenged, vulnerable
Just energy transition for South Africa
Eskom and Municipalities: efficiencies
Collaboration and legislative environment
Energy sector evolution
Participation & innovation
Enabling environment
Skills Drive Financial astuteness
Inequalities Economic equity affordability
Transformed electricity sector
Strong and decisive leadership
Begin with the end in mind

- Constitutional and legislative clarity
- Industry structure and market review/unbundling
- Redesigned policy framework
- Appropriate financial structure
- Sustainability
What are the key issues to be addressed?

• Eskom and municipal collaboration
• Efficiencies in the distribution sector
  ▪ Smart grids/cities
• Capital structure of the utilities
  • Loan covenants
• Legislative impediments and how should they be addressed
  • Constitutional mandates of various spheres of government
  • Concurrent functions
• Impact on various communities
  • Coal transportation
  • Resource based towns
• Diversification of energy mix
  • Local electricity plans
  • Integrated Resource Plan
Conclusion

1. Just energy transition
2. Constructive discussions
3. Develop comprehensive action plan
4. End state
Motion 3: Deep restructuring

Presentation by:
Dr. Grové Steyn
Should Eskom be restructured, and if so how and when?

Motion 3:
The business model of Eskom, and indeed the whole electricity supply industry in South Africa needs to be fundamentally restructured to make it fit-for-purpose to face the challenges of future electricity supply, generally along the lines proposed in the Government White Paper on Energy Policy of 1998.

Grové Steyn
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10 May 2018
Introduction

- Motion 3 argues for the undoing of an institutional framework with roots going back 95 years (ESCOM was established in 1923)
- However, I will show that:
  - this institutional model has long since outlived its usefulness;
  - it has now become critical for South Africa to embrace the technological disruption and address the environmental imperatives in the power sector; and
  - to achieve this, institutional reforms are required, including the restructuring of Eskom and opening of the market.
The historic rationale for establishing Eskom as a vertically integrated monopoly SOE

- The pioneers of the 1920s (Charles Merz, Hendrik van der Bijl, Robert Kotzé) understood that:
  - The techno-economic paradigm of coal-fired power relied on exploiting economies of scale.
  - Power stations were therefore always increasing in size; higher steam temperatures and pressures; and therefore also greater complexity.
  - An institutional framework was required to enable funding the enormous capital requirements of the ever scaling coal-power projects.
    - Preferably without burdening the state
  - Establishing a state owned monopoly and a high level of centralised control was considered important to:
    - Enable and de-risk the financing of power projects; and
    - coordinate power sector development on a national scale.
The need for change: Diseconomies of scale

- By the late 1970s The Eskom model became increasingly dysfunctional.
- Typically by then the model was leading to inexorable boom and bust cycles:
  - A large inflexible mega project build program is initiated
    - based on unrealistic demand forecasts
    - Bespoke designs; and
    - at times only partly proven technologies.
  - Enormous time and cost overruns
  - Load shedding and tariff spikes
  - Surplus capacity and stranded assets
  - Repeat 15 years later to greater effect.
- 1970s crisis led to the De Villiers Commission of Enquiry and superficial reforms.
- Eskom was destined to repeat the cycle.
Eskom tariff increase

Source: Eskom Annual Financial Statements, Statistical

Average real Eskom price 2017 c/kWh
Average Eskom selling price c/kWh
The need for change: Monopoly and abuse of dominance

- The absence of competition
  - Encourages large inefficiencies
    - Capital expenditure
      - Project and technology selection
      - Procurement and project execution;
    - Fuel and operating costs
  - Results in extensive information asymmetries and managerial moral hazard problems
  - Allows rent seeking and large scale corruption
  - These costs are simply passed on to the consumer
- Constrains access to the transmission grid for competitors
- Suppression of energy sector entrepreneurship and innovation
- Only a privileged few have access to opportunities in the power sector
- The opportunity cost in terms of lost economic growth, development and jobs is enormous, but not visible.
Increases in Medupi and Kusile’s capital budgets reflect cost overruns

Sources: Various

Medupi: Current budget is R145bn (R83bn more than in 2007)
Kusile: Current budget is R161.4bn (R80bn more than in 2007)
Medupi and Kusile costs per kWh

Source: Meridian Economics, 2017
The need for change: The unsustainable human and environmental impacts of coal power

- Numerous studies now confirm that the human cost of coal power is enormous especially in the Mpumalanga Highveld and Vaal Triangle.
- For instance, based on the latest scientific methodologies a recent study found that:
  - air pollution from coal-fired power stations causes more than 2,200 premature deaths of South Africans every year;
  - causes many thousands more cases of bronchitis and asthma in adults and children; and
  - this costs the country more than R30 billion annually, through hospital admissions and lost working days.


- South Africa is a disproportionate contributor to climate change.
  - Eskom stations release approx. 215 Mt of CO₂ pa. or 0.99 kgs CO₂/kWh

- The environmental impact of coal mining activities.
- In the past we accepted these human and environmental impacts because we had no alternatives.
- But, now we do!
- Human health and environmental impacts should be placed back on the agenda of the mainstream conversation about the future of our power system.
Disruptive technological changes provides new opportunities

- Clean and low cost renewables
  - Countries such as Mexico, Saudi Arabia, etc. are already realising prices below 30 ZARc/kWh
  - Embedded generation has become cost competitive against retail tariffs.
- Digitisation of the power system
  - Smart meters
  - Prosumers
  - Community based owned peer-to-peer power trading - block chain technology, etc.
    - e.g Bangladesh
- Energy storage
  - Storage costs are rapidly declining
  - Embedded and grid-scale levels
  - Electric Vehicles
    - SA: 2018 Nissan Leaf claims a range of 378 km!
    - At 10kWh/100km and falling prices EVs are rapidly becoming competitive against ICE vehicles.
- Etc.
These changes result in a new power sector techno-economic paradigm

- **Economies of scale have almost disappeared**
  - A large turbine is now 7.5MW (wind) not 800MW (steam)
  - A large power project is now 140MW not 4800MW

- **The cheapest sources of generation (renewables) will produce variable output**
  - Complementary dispatchable mid-merit resources will be valuable;
  - Inflexible base load resources will lose value

- **Decentralisation**
  - Hundreds of utility scale projects will now be spread throughout the network
  - Embedded demand side resources (demand or generation based) will proliferate

- **System balancing**
  - Digitally based market and pricing based mechanisms will play a much bigger role in order to effectively coordinate a multitude of resources;
  - The role of centralised command-and-control will reduce (but not disappear)

- **In general the action will move from the centre to the periphery**
  - Greater energy democracy and choice
These changes result in a new power sector techno-economic paradigm.
New institutional models are required

- The monopoly SOE model is a machine designed to produce mega projects and that is what it will continue doing (coal and nuclear).
- The new techno-economic paradigm will require an appropriately matched institutional framework to ensure that South Africa realises the enormous benefits available to us.
- It is now globally recognised that electricity generation is best organised as a competitive sector.
  - The investment, socio-economic benefits and price reductions achieved by South Africa’s auction-based IPP programme provides incontrovertible evidence of the superior benefits of this approach.
- It is equally recognised that Transmission and Distribution networks and associated system operations functions, remain natural monopolies that will not benefit from attempts to establish competitive markets in these areas.
- It is widely agreed that structural separation of the potentially competitive activities (power generation, customer service, etc.) from natural monopoly activities (networks) is required (OECD, 2016).
- As a first step in the reform process South Africa urgently needs an Independent Transmission, System and Market Operator (ITSMO).
The benefits of structural separation and an ITSMO

• It will resolve the inherent conflict of interest arising from Eskom as a generator also controlling the platform on which it has to compete with other players.
  – This will enable greater choice for buyers of power and improve competition

• It will significantly reduce the information asymmetries in the industry by establishing an independent centre of system expertise without vested interests in the generation sector.
  – This will greatly enhance policy making; the IRP; and sector efficiencies

• It will contribute to the solution of Eskom’s current financial crisis.
  – Will isolate the problem areas (Generation) in order to focus managerial effort on these problems.
  – protect the financial integrity of the foundation of the system – the network.
  – Stand alone network business can carry a larger debt ratio.
Establishing the ITSMO and increasing competition

- The first interim step is to set up the Transmission Group as a subsidiary of Eskom.
  - Board independently appointed
- Within two years establish the Transmission Group as a directly held, state owned ITSMO with the appropriate NERSA licence.
- Pass legislation to clarify the powers and functions of the ITSMO.
- We need to come to terms with the extent of Eskom financial crisis and put in place financially sustainable solutions that do not impede but support South Africa’s energy transition.
- We should encourage more competition in the sector
  - Municipalities and large customers should be unambiguously free to procure their power from where they wish
  - Projects of 10MW and below should be deregulated (exempt from licencing - see the SALGA declaration)
  - The IRP should be established as a regularly updated non-binding policy guidance
If the politics of restructuring is to work we will need to address the social impacts of the Energy Transition head-on

- We need to honour the coal mining and power station communities whose labour has been the foundation on which South Africa's industrial development has been built.
- Unions and other stakeholders are of course right to point out their concerns about the plight of these communities as older stations are closed and displaced by new capacity in different locations.
- Economic opportunities for these communities at our older power stations;
  - are currently being displaced by Eskom’s Medupi and Kusile power stations; and
  - will in future also be displaced by new power projects (renewables, gas, etc.)
- If we want stakeholders to align on the need for institutional reforms to enable South Africa’s energy transition we must NOW map out the practicalities for a Just Transition for these communities.
- South Africa needs more than an IRP, we need a broader holistic energy strategy to align stakeholders with the Energy Transition.
Conclusions

• **Motion 1: No restructuring**
  – As argued above, the status quo has become structurally dysfunctional and will not deliver the benefits of the energy transition.

• **Motion 2: Shallow restructuring**
  – The criticisms of Motion 1 applies
  – Partially privatising Eskom will further exacerbate the monopoly problems (e.g. the history of Telkom)
  – Increased equity injections into Eskom will not be viable before clarity is obtained about:
    - the valuation of the Generation business; and
    - whether Eskom might have stranded debt.

• **Motion 3: Deep restructuring**
  – The establishment of an ITSMO, deregulation of smaller projects and (larger) customer choice are the first important steps to reforms that will realise the benefits of the Energy Transition.
House rules for open discussion

- State your name and affiliation before your question or comment.
- Questions, comments and responses must be short and focused.
- Only one question or comment per person from the floor.
- No grandstanding from persons in the audience.
- The chairman may cut longwinded questions, comments or responses.
- Keep discussions cordial and professional.
- No personal, ad hominem or organisational attacks allowed.
- The chairman’s rulings are final.
Open discussion
Motion 1: No restructuring

Summary and wrap-up by: Mr. Frans Baleni
Summary / Wrap-Up

- It makes sense not to break-up Eskom at this stage
- Fix what is broken
- Have in place long term tariff system (10 – 20 years)
- Efficient and effective management of primary energy
- Restore Eskom to top performer utility, technically
- Management of Generation, Transmission and Distribution in an era of IPPS and innovation in the ESI and its eco-system (Energy Transition)
- Red card all corrupt officials
Motion 2: Light restructuring

Summary and wrap-up by:
Ms. Nelisiwe Magubane
Summary / Wrap-up

• Is the end state going to meet the needs of Industrial 4.0
• ICT infrastructure
• Smart cities
• Electro-mobility
Motion 3: Deep restructuring

Summary and wrap-up:
Dr. Grové Steyn
Final Conclusions

• We should learn from the farsighted pioneers of the 1920s
  – They were not blinded by the status quo around them, but
  – could see the promise of the emerging power technologies of the day, and
  – understood the institutional and financial arrangements that were necessary for its realisation.

• Today, we should do the same
  – This debate is not about whether the Eskom status quo should be surviving for another 95 years.
  – It is about what is best for the people of South Africa.
  – We should not be constrained by legacy solutions.
  – We should work out the best arrangements for our time with its unique opportunities and challenges.
Final Conclusions (2)

• The Eskom Board aims to finalise its turn-around strategy by September
• My message to them is as follows:
  – Your moral obligation and loyalty should be towards the people of South Africa, not towards preserving a monopoly business model that has now become dysfunctional.
  – Do not rely solely on internal views and analysis but also engage with external expertise and stakeholders
• Ultimately Eskom cannot drive its own restructuring, this is Government’s role.
• Our social and economic development literally depends on whether we are able to recognise that:
  – the world has completely changed since the legacy status quo model was established, and
  – we risk being left behind and not participating in enormous benefits for our people if we do not grasp this opportunity.
Summary of motions and vote

• Motion 1: Status quo:
  Retain a vertically integrated monopoly

• Motion 2: Shallow restructuring:
  Status quo + increased public participation

• Motion 3: Deep restructuring:
  Both Eskom and the Electricity Supply Industry
Outcome of vote

- **Motion 1: Status quo:**
  14% of the audience voted in favour of Motion 1

- **Motion 2: Shallow restructuring:**
  16% of the audience voted in favour of Motion 2

- **Motion 3: Deep restructuring:**
  70% of the audience voted in favour of Motion 3
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• Some words on the debate
• Thanks and closure
• Invitation to cocktail party