Department of Mineral Resources and Energy

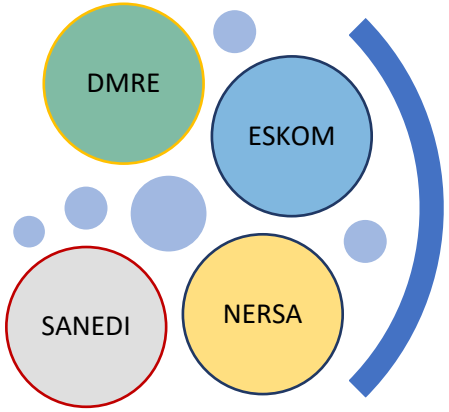
PUBLIC CONSULTATION FEEDBACK

November 2024

mineral resources & energy
Department:
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

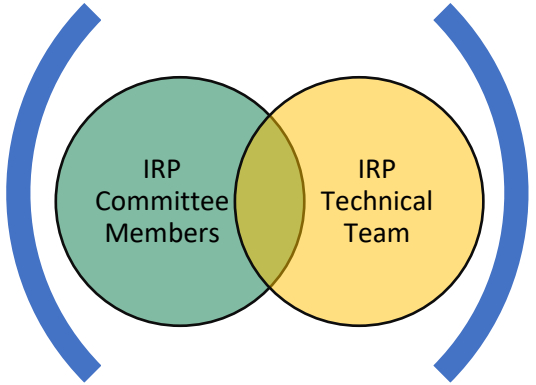
INTERGRATED RESOURCE PLAN WORKING COMMITTEE

IRP Working Committee



- Established by DMRE DG
- Comprised of 4 organizations
- Grouped into Committee Members & Technical Team
- Chaired by SANEDI

IRP Working Committee Mandate



- Committee Members to review & assess assumptions, methodology & scenarios proposed by the IRP Technical Team
- Committee Members to provide support to the IRP Technical Team

IRP Working Committee Outcomes

- Reviewed Comments Document
- Reviewed assumptions, methodology & scenarios
- Facilitate & support stakeholder engagements
- Facilitate modelling peer review of the modelling

IRP Technical Team

Mr. Sonwabo Damba – DMRE
Ms. Prudence Rambau – NTCSA
Mr. Caswell Ndhlovu – NTCSA
Mr. Bruce Siavhe – NTCSA
Ms. Awelani Phaswa – Eskom
Ms. Mvumikazi Vimbani – DMRE

IRP Committee Members

Dr. Titus Mathe – SANEDI
Mr. Mthokozisi Mpofu – DMRE
Mr. Thabang Audat – DMRE
Ms. Noma Qase – DMRE
Mr. Zukile Zibi – DMRE
Ms. Vuyiswa Magubane - NERSA
Prof. Prathaban Moodley –SANEDI
Ms. Nelisiwe Nhlapo - SANEDI

SUMMARY: PUBLIC COMMENTS

Consultation Period

Gazette date:
04 January 2024
Initial closing date:
23 February 2024
Extended closing date:
23 March 2024

Publications

Draft IRP 2023
(English/Setswana/Xitsonga/ Zulu)
Electricity Demand Projection Model
EPRI Supply Side Cost & Performance Data
New Technology Cost Assumptions
SEIAS Final Assessment

Submission of comments

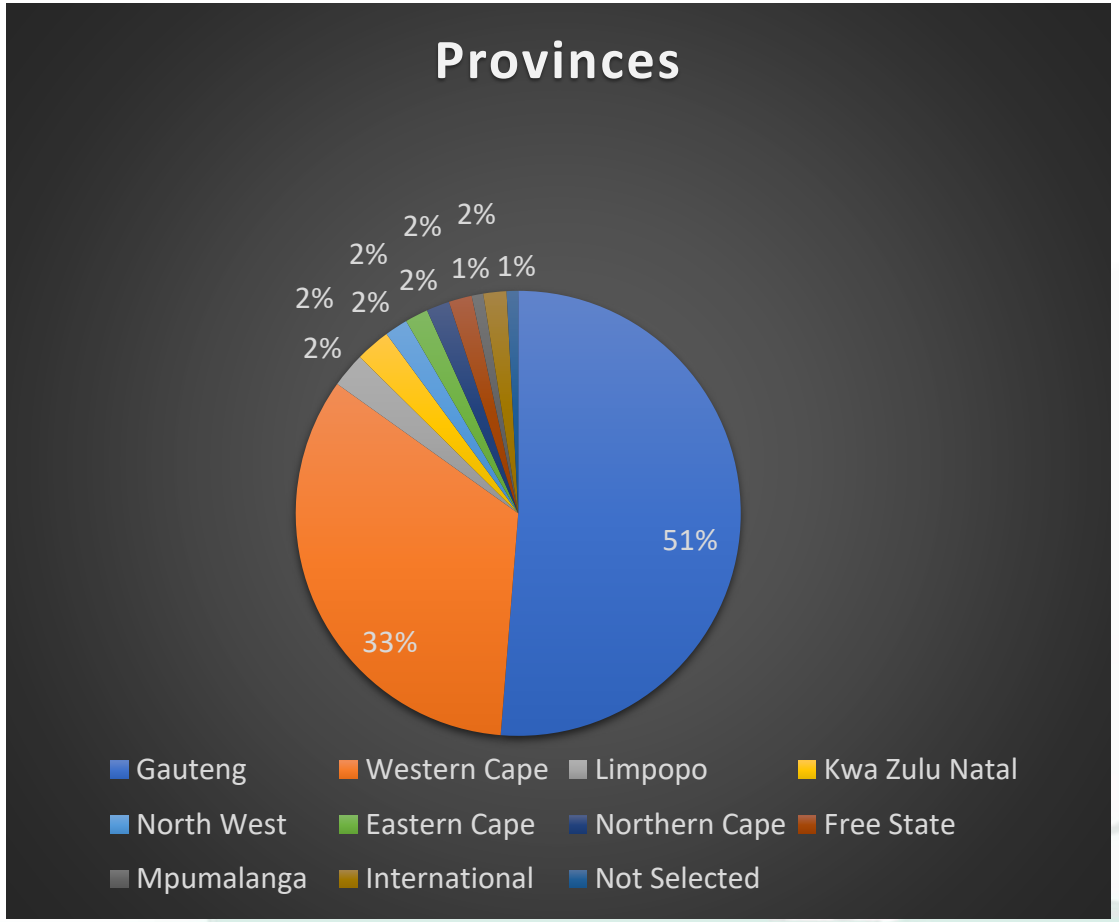
Method
- Email
- Online form
- Post
- Hand

Total: 4338 Comments

Substantive:136 out of 4338

- Online public engagements: x 3
- Bilateral engagements: x 9 (Industry associations, Unions, NGOs & SoEs)
- Industry hosted engagements x 3 (SANEA, PCC, Thabo Mbeki Foundation)
- Technical & Data gathering engagements x 7 (Govt, SoEs & Industry associations)

136 SUBSTANTIVE COMMENTS: STAKEHOLDER REPRESENTATION



EMERGING THEMES FROM THE COMMENTS

Process, Reporting & Implementation 44	**Alignment with Overall National Policy & Other Sector Related Initiatives** 36	**Progress on Climate Change Commitments Balance between Carbon Emissions & Security of Supply** 65
Methodology, Costs & Modelling Assumptions 122	**Energy Technologies** 122	**Horizon 1 & 2** Horizon 1 - 94 Horizon 2 - 106
Proposesd Scenarios & Pathways 56	**Transmission & Distribution Grid Constraints** 55	**Clarity Seeking Questions** 6

- Methodology: Thematic Analysis
- Comments summarised and grouped into themes.
- The number indicated below each theme is indicative of the number of stakeholders that have commented on the theme.
- Comments expressing similar sentiments from different stakeholders were consolidated to a single view
- Comments on the various themes were not unanimous, differing perspectives.
- Response document: Efforts to provide responses were pulled from the IRP Technical team, officials from relevant DMRE directorates, relevant state-owned entities namely the Council for Geoscience, Eskom, SANEDI and UCT.

Process, Reporting & Implementation

- **Concern:**
  - Inadequate public participation and transparency in the IRP process, particularly for marginalized communities and youth, hindered understanding and limited public input.
- **Recommendations:**
  - Improve public participation through diverse communication channels, enhance transparency through detailed documentation and clear explanations, and ensure regular IRP reviews.
  - Comprehensive reporting of the methodology

Alignment with Overall National Policy & Other Sector Related Initiatives

- **Concern:**
  - The draft IRP 2023 seemed not to align with the following:
    - Just Energy Transition Framework.
    - Green Hydrogen Commercialization Strategy
    - Integrated Energy Plan
    - Eskom's Plans: The IRP's lower generation capacity forecast compared to Eskom's projections creates inconsistencies.
    - Electricity Regulation Amendment Bill.
    - Alignment with Other Initiatives
    - Climate Goals
- **Recommendations:**
  - Ensure alignment with all national policy impacting the electricity sector

Progress on Climate Change Commitments Balance between Carbon Emissions & Security of Supply

- **Concern:**
  - Balancing the need for energy security and economic growth with the urgent need to reduce carbon emissions.
- **Perspective 1:**
  - Balancing of the energy mix, including renewables, gas, and coal, is crucial but requires careful consideration of its impact on climate goals.
- **Perspective 2:**
  - Criticizes the draft IRP 2023 for potentially hindering climate progress due to its inclusion of gas and coal.

Methodology, Costs & Modelling Assumptions

- **Costs:**
  - Technology costs for renewable technologies and energy storage were deemed to be too high.
- **Recommendations:**
  - Costs: The latest REIPPPP bid window costs to be used and learning rates be applied.
- **Demand forecast:**
  - **Perspective 1** - argued for lower growth projections, deeming the 3.8% used to be excessively high given the country's recent economic performance.
  - **Recommendations:**
    - IDC projections - 3.2% for the short term
    - National Treasury projections - 1.6%
    - Investec projections - 2%
  - **Perspective 2** - advocates for a higher growth target emphasizing on its potential benefits such as higher GDP, job creation, and improved living standards.
  - **Recommendation:**
    - NDP and ASGISA projections – 5%

- **Energy Availability Factor:**
  - **Perspective 1 -** The IRP 2023's assumptions regarding Energy Availability Factor (EAF) were said to be overly optimistic and lacked concrete evidence.
  - **Perspective 2 -** The value was seen in an improving EAF.
  - **Recommendations:**
    - Potential extension of the lifespan of certain power stations balancing with a transition to cleaner technologies.

Energy Technologies

- **Renewable Energy:**
  - **Perspective 1** - emphasizes the cost-effectiveness of renewable energy, particularly solar PV, and also advocates for local manufacturing to reduce costs and ensure supply chain stability
  - **Perspective 2 -** acknowledges the potential cost-effectiveness of renewable energy but highlights challenges such as intermittency, logistics, and the impact of SSEG on consumers. It warns that ignoring these factors could lead to higher electricity prices.
  - **Perspective 3 -** raises concerns about the environmental impact of renewable energy during the raw material extraction phase and the limited job creation potential.
  - **Consensus** - Potential benefits of renewable energy, but significant differences in opinion regarding its economic viability, environmental impact, and feasibility.

Energy Technologies

- **Storage:**
  - **Perspective 1 –** To be excluded in the energy mix as it is not an energy source.
  - **Perspective 2 –** To be included in the energy mix to be procured as ancillary services
  - **Perspective 3** – advocates for compressed energy air storage, pumped storage, and hydrogen storage

Energy Technologies

- **Gas:**
  - **Perspective 1 –** it is viewed as a potential for job creation, economic growth, and energy security by providing a stable energy source and supporting the development of gas-based industries
  - **Perspective 2** -reliance on gas could lead to negative economic impacts such as increased import costs due to dollar payments, and the risk of stranded assets as the world transitions to a low-carbon economy. Balancing these factors requires careful consideration of economic, environmental, and energy security implications
  - **Perspective 3** – concerns regarding gas have to do with lack of infrastructure, substantial investment requirements, and the negative impacts on the environment
  - **Perspective 4** - More gas options for South Africa are provided for consideration: natural gas, LNG, CNG, ethane, methane, and LPG. While natural gas and its derivatives offer potential for baseload generation, LPG is said to emerge as a particularly attractive option due to its efficient utilization, existing infrastructure, and safety standards.

Energy Technologies

- **Nuclear:**
  - **Perspective 1 –** argues for its role in providing a stable, clean, and baseload energy source, highlighting South Africa's expertise in nuclear technology and its potential to reduce reliance on coal. Challenges are acknowledged with a belief that they can be managed.
  - **Perspective 2 –** emphasizes the environmental risks associated with uranium mining and waste disposal, questioning the overall cleanliness of nuclear energy. Concerns about safety, cost-effectiveness are raised, and the availability of alternative renewable energy sources recommended

Energy Technologies

- **Coal:**
  - **Perspective 1 –** highlights its significant contribution to environmental degradation, its inconsistency with global trends, and its unsustainable nature
  - **Perspective 2 –** emphasis on the negative health impacts associated with coal combustion
  - **Perspective 3** – champions coal as a strategic resource for energy security and economic growth, emphasizing its role in job creation and industrialization. It acknowledges the environmental challenges but proposes technological solutions like carbon capture and storage (CCS) as a means to mitigate its impact.
  - **Perspective 4** - views CCS to be unrealistic.

Horizon 1 & 2

- **Horizon 1 Scenarios:**
  - **Concerns -** the inadequacy of the system for the first 4 scenarios, the resulting high utilization of peaking stations, and no confidence in Eskom's generation recovery plan which would restore system adequacy as per scenario 5
  - **Criticism** -the exclusion if energy efficiency as a cost-effective intervention for Horizon 1, and the non-consideration of the GCCA 2025 curtailment addendum.
  - **Support –** encouraging the implementation of scenario 5
- **Horizon 2 Pathways:**
  - **Criticism -** using pre-determined technologies for the energy mix and deemed to lead to sub optimal outcomes. The modelling was suspected to be flawed due to resulting inadequate security of supply in some pathways.
  - **Praise -** how each pathway studied an energy mix combination to understand how the power system responds to it.

Transmission & Distribution Grid Constraints

- **Perspective 1 –** recognised that high levels of renewable energy penetration require extensive grid capacity.
  - **Recommendation:** It was emphasized that grid costs be added to the cost of renewable energy to reflect true cost
- **Perspective 2 –** alignment of the TDP to the IRP was encouraged with a focus on prioritizing grid development in the high resource regions of the Capes.

- **Perspective 3** – To mitigate against the grid availability risk, it was proposed that developers should be incentivised to build projects in places where the grid is not constrained, and to invest in microgrids which are closer to the load

.

- **Recommendations**:Inclusion of private sector in the development of the grid was suggested.

CONCLUSION

- Perspectives presented were those of the Stakeholders that had participated in the Draft IRP consultation period
- The Department and IRP Working Committee had to try and balance often differing perspectives
- The following presentation will dwell on how the comments received were incorporated into the modelling work

Thank You