



NATIONAL ECONOMIC DEVELOPMENT AND LABOUR COUNCIL (NEDLAC) REPORT ON INTEGRATED RESOURCE PLAN 2010 (INCLUDING THE MEDIUM TERM RISK MITIGATION PLAN)

1. BACKGROUND

1.1. Government released the draft Integrated Resource Plan (IRP 2010), a standalone executive summary and a Medium Term Risk Mitigation Plan (MTRMP) on 11 October 2010 for public comment. At the same time the documents were tabled in Nedlac and a process to consider them and prepare a Nedlac report was agreed.

2. PROCESS AT NEDLAC

2.1. The Nedlac Energy Task Team, constituted by Business, Labour, Government and the Community Constituency considered the IRP 2010 and MTRMP as presented by Government.

2.2. The Constituencies were represented as follows:

Government:	F Adams, N Magubane, R Masoga, S Rathai, G Munyai, M Bantsijang, O Aphane, T Mchunu, TS Ngqungwana, S Makhathini, C Forlee
Business:	L Lotter, S Siwisa, F Xaba, F Dowie, T Skenjana, G Harris, A Fine, B Mokgatle, R Berold
Community:	L Nare, S Naicker, MI Nkoli, S Gwebu, S Manyama, LJ Kganyago, O Besnaar, M Lekoma
Labour:	B Ntshalintshali, J Mosia, S Mimi, D Devilliers, M Samela, D George, G Macatha, W Van Heerden, D Forbes, T Tengela

2.3. The Task Team meetings to consider the IRP2010 and the MTRMP were held as follows:

- 2.3.1. 11 October 2010
- 2.3.2. 21 October 2010
- 2.3.3. 8 November 2010
- 2.3.4. 6 December 2010
- 2.3.5. 8 December 2010
- 2.3.6. 15 December 2010

2.4. In addition, a technical session on the modelling and other questions raised by Constituencies was held on 18 November 2010 and the following key issues were considered:

- 2.4.1. Detailed outline of the Modelling Process
- 2.4.2. Economic Figures stated in the Report (including growth, inflation, discount rate and exchange rate assumptions)
- 2.4.3. Indicative Price Path (how it was arrived at)
- 2.4.4. Dispatch priority schedule and energy availability assumption ranges for different Technologies
- 2.4.5. Price assumptions of various technologies what these prices were; which were not included, and how these were fed into the modelling process
- 2.4.6. Learning Curves (how they were dealt with in the modelling)
- 2.4.7. Fuel costs (how these were dealt with in the modelling)
- 2.4.8. Work on price sensitivity that was considered in the modelling process
- 2.4.9. Methodologies for the Reserve Margin Calculations
- 2.4.10. Decision Points for IRP 2010 Projects and Programmes stipulated in the Report (explanation thereof)
- 2.4.11. Methodology for rating and scoring of Scenarios
- 2.4.12. Full set of Indicators for all Scenarios provided

- 2.5. On 15 December 2010, Constituencies held a focus session on the socio economic impact assessment of the IRP 2010. (Refer annexure 2)
- 2.6. Constituencies recognised the risks posed by the current Electricity Supply/Demand imbalances and that the Integrated Resource Plan (IRP 2010) is a long term plan that does not provide sufficient detail to assess short term supply shortages.
- 2.7. Constituencies noted that the MTRMP deals with the anticipated electricity supply shortfall in the immediate medium term; 2011 to 2016 and welcomed the tabling of the MTRMP as lack of security of supply, particularly in the short to medium term, was an ongoing challenge.
- 2.8. Constituencies agreed that the revised MTRMP is an integral part of the IRP 2010 and agreed that the two would be dealt with under separate headings in this Report. However, Constituencies agreed that the MTRMP would be incorporated in the revised IRP 2010 as a separate section; that the technology options reflected in the MTRMP would be reflected in the IRP 2010 report on the revised balanced scenario so that a total package of potential supply options is gazetted to ensure clarity for licensing; and that an executive summary reflecting the revised MTRMP/ IRP 2010 must form part of the single IRP 2010 document.
- 2.9. Constituencies agreed that the final version of the MTRMP would contain a table in the same format as that of the IRP 2010, which included the technologies and amounts anticipated from each.
- 2.10. Constituencies agreed that government would make a presentation on the socio economic impact assessment of the IRP 2010 and the Constituencies to engage the assessment prior to the completion of IRP 2010 as well as after it had been completed.
- 2.11. Constituencies agreed that there will be an IRP 2010 implementation plan and further agreed that this plan will be submitted to Constituencies for engagement.

3. AREAS OF AGREEMENT ON THE MEDIUM TERM RISK MITIGATION PLAN

3.1. Constituencies agreed that the Task Team would develop an exhaustive list of medium term risk mitigation options/ solutions, including those submitted already and consequently the current MTRMP would be amended.

3.2. Constituencies agreed to consider the MTRMP on the following basis:

3.2.1. First phase: confirm the accuracy of the assessment of the risk in the shortfall of electricity supply, including alignment with IRP 2010.

3.2.2. Second phase: review the available risk mitigation solutions and identify constraints and potential remedies for each one.

3.2.3. This was done and the result is attached as Annexure 1.

3.3. **PHASE ONE: ASSESSMENT OF THE RISK IN SHORTFALL OF ELECTRICITY SUPPLIES**

3.3.1. **General**

a) Constituencies agreed that tracked changes would be made to the first part of a Word version of the MTRMP document tabled by Government.

b) Constituencies agreed that the MTRMP should be amended as reflected in Annexure 1.

3.3.2. **Executive Summary**

a) Constituencies agreed that the assessment of the risk in shortfall of electricity supply should be looked at on a worst case scenario basis. For example, the Eskom Energy Availability Factor (EAF) would be assumed to be 82.5% as noted in the MTRMP report instead of the 84.5% used in Scenario 3.

b) Constituencies agreed that the identification of demand solutions and more efficient use of electricity should be inclusive of all customer segments.

- c) Constituencies agreed that to sustain the current generator fleet, the maintenance schedule should be strictly adhered to and monitored henceforth. Compliance to NRS 048 (Parts 1-8) should be maintained if not enhanced.

3.3.3. **Assessment of the risk in shortfall of electricity supply**

- a) Constituencies noted that the root causes of the co-incident outages are being investigated and the findings will be used to improve the situation wherever possible.
- b) Constituencies agreed that the MTRMP should include recognition of the fact that the poor do not necessarily have access to energy efficiency opportunities.
- c) Constituencies agreed that the implementation of the MTRMP should be given urgent attention.
- d) Constituencies also agreed that the MTRMP should be published as part of the revised IRP 2010 to ensure that the status of these interventions are recognised as part of the IRP 2010.

3.4. **PHASE TWO: ASSESSMENT OF AVAILABLE RISK MITIGATION SOLUTIONS**

3.4.1. Constituencies considered available supply and demand side options, and agreed on the options, constraints and potential remedies to implementing the options as per Table 1 in Annexure 1.

3.4.2. Constituencies noted that the National Energy Efficiency Strategy is an important instrument that is currently under review and is expected to be completed by March 2011. Constituencies agreed that ultimately all energy efficiency measures that would be introduced would be reflected in this strategy.

3.4.3. **Promotion of Energy Efficient Domestic Appliances**

Constituencies noted that a research project on the energy efficiency of domestic appliances has already been initiated and that the issue of non-domestic appliances is being dealt with in industrial energy efficiency (refer to Table 1).

3.4.4. Energy Conservation Scheme (ECS)

Constituencies noted the efforts that have been made in the last 5 - 6 years on energy efficiency but agreed that more had to be done. Constituencies further agreed that an energy conservation scheme must be an integral part of the MTRMP and noted that the stepped block tariff is one measure to promote energy efficiency at household level and that an alternative measure in the form of ECS is required for Business.

3.4.5. Promotion of Energy Efficiency in Buildings

Constituencies noted that mandatory requirements in this regard are expected by March 2011 and that draft documentation in this regard is currently being amended to accommodate public comment.

3.4.6. Public Education, Information and Behaviour Change

Constituencies agreed that energy efficiency does not only entail replacement of old technologies with new ones, it also includes the promotion of public awareness about the benefits of energy efficiency. At the same time Constituencies noted the lack of awareness amongst stakeholders, of the opportunities and potential savings of energy efficiency. Constituencies agreed that the following should enjoy focussed attention in 2011:

- a) Fast-tracking implementation of a national energy efficiency campaign.
- b) Ensuring that an effective customer education programme is developed and implemented.
- c) All new meters to have a time-keeping capability, to facilitate implementation of time of use tariffs, thereby reducing the motivation for theft. Furthermore, with reference to cushioning the poor against tariff

increases, to investigate and resolve how the technical challenges to implementing the inclining block tariff in prepaid meters. Constituencies agreed further that this investigation be included in the studies recommended in the Nedlac report on cushioning the poor against high prices increases.

- d) The roll out of the NERSA allowance to Eskom of about R5 million for DSM in MYPD2, specifically the mass roll-out of compact fluorescent light bulbs, financial support to consumers to switch from electric water geysers to SWHs, a roll out of electric geyser blankets and efficient shower heads, incentives for consumers to switch from electric stoves to gas stoves and support towards smart metering devices and energy efficient motors.
- e) An awareness campaign around savings including those related to time of use.

3.4.7. **Cogeneration and own generation**

- a) Constituencies agreed that non-Eskom generation which is understood to include cogeneration and own generation, which are mainly for own use, should be supported.
- b) Constituencies recognised that the price paid for non-Eskom generation impacts on electricity tariffs in general and it was agreed that overall tariff setting should take this into account.

3.4.8. **Actions required to implement risk mitigation options**

Constituencies agreed that the following actions are required to implement the risk mitigation options:

- a) **Development and promulgation of legal framework for non-Eskom generation**

- i) Finalise regulatory framework for purchase of non Eskom generated power.
 - ii) Standardised power purchase agreement published and implemented.
 - iii) Gazetting of cut off threshold for exemption of small embedded cogenerators.
- b) **Development and implementation of rules for non-Eskom generation**
- i) Implementation of REFIT rules.
 - ii) Finalisation of rules on standard offer.
 - iii) Development of appropriate wheeling charges.
 - iv) Develop rules for the selection of renewable energy and cogeneration.
 - v) Streamline process for approving access to the grid.
 - vi) Develop rules of access to Municipal distribution systems.
- c) **Development of a fast track process for projects that will alleviate pressure on grid until 2016**
- i) Roll out of solar water heaters.
 - ii) Approval processes for cogeneration of all non-Eskom generation technologies.
 - iii) Finalise the National Energy Efficiency Strategy review and develop an implementation plan.
- d) **Implement procurement process to purchase power identified in the IRP 2010**

i) Finalisation of procurement process for generation technology not included in the MYPD2.

ii) Maximise procurement provided for in MYPD2

e) **Develop and implement comprehensive action plan to introduce energy efficiency instruments**

Establish reporting mechanism to report on progress on energy efficiency interventions.

f) **Develop comprehensive emergency response plan**

i) Develop policy statement on legal platform, scope of application, trigger.

ii) Provide clarity on use of NRS 048.

iii) Identification of most appropriate technology for aggregated demand management.

g) **Development of a comprehensive approach to funding**

i) Fast track finalisation of tax rebate scheme 12L,

ii) Finalise approach to standard offer.

iii) Develop terms of reference for development of policy statement for energy conservation scheme (note funding approved in principle).

iv) Develop a sustainable funding model to support the following interventions; aggregation of demand response at municipal and Eskom level and emergency use of OCGT to prevent load shedding.

h) **Execution and monitoring of actions**

i) Establish a technical team to undertake technical work as directed by this action plan and the multi stakeholder team (Nedlac).

- ii) Establish a reporting template for regular reporting of progress to stakeholders through Nedlac.
- i) **Develop comprehensive energy efficiency awareness campaign**
 - i) Nedlac Energy Task Team to develop a proposal for consideration by NSACE.
 - ii) A mechanism to ensure ongoing monitoring of the “gap” between supply and demand must be developed and the information widely disseminated.

Constituencies agreed that timeframes and allocation of responsibilities for the above actions should be finalised urgently.

4. AREAS OF AGREEMENT ON IRP 2010

4.1. General

- 4.1.1. Constituencies welcome the release of the IRP 2010 and recognised that this is the first time that such a comprehensive stakeholder engagement on energy planning has been attempted.
- 4.1.2. Constituencies noted that the language in the IRP 2010 is not consistently a statement of what Government will do rather that numerous uses of language suggest recommendations instead of actions Government will perform. Constituencies agreed that the IRP 2010 Report should be edited to reflect what Government will do since it is essentially a legal document.
- 4.1.3. Constituencies agreed that a description of the complete methodology followed in arriving at the final IRP 2010 should be incorporated into the final version of the IRP 2010 Report.
- 4.1.4. Constituencies noted that the IRP 2010 is not intended to provide a list of projects but rather a series of technologies that will be included in a mix of generation options.

- 4.1.5. Constituencies agreed that the relationship between IRP 1 and IRP 2010 needs to be set out in the gazetting of the IRP 2010. Constituencies agreed that the gazette should clearly state that the IRP 1 is incorporated into the IRP 2010.
- 4.1.6. Constituencies noted that NERSA published a set of questions on the implementation of the IRP 2010 and that the implementation plan will deal with the procurement processes for electricity as identified in the IRP 2010.
- 4.1.7. Constituencies agreed that potential regional options for electricity supply should be explored.
- 4.1.8. Constituencies recognise the importance of the broader public consultation process outside Nedlac and agreed that a revised version of the document will be submitted to Nedlac in the event that this broader consultation results in a substantial deviation from the Nedlac agreements.
- 4.1.9. Constituencies noted that Government had indicated that it intended to revisit the following:
- a) Additional modelling, including modelling of a scenario that excludes nuclear but includes a concentrated renewable energy portfolio;
 - b) Coal power generation and its sterilisation;
 - c) Detail of the impact of Demand Side Management and Energy Efficiency;
- 4.1.10. Constituencies agreed that the affordability of electricity (including quality of service) for the poor should be considered in the socio economic impact assessment parameters in addition to linking actions in this regard to the actions flowing from the Nedlac Report on “Cushioning the Poor against High Tariff Increases”.

4.2. Introduction

Constituencies agreed that the introduction does not correctly reflect the fact that stakeholders were not included in the debate on the scenarios and agreed that the language should be changed to reflect this.

4.3. Planning Objectives and Scope of Work

- 4.3.1. The IRP 2010 is silent on funding for investments; however, Constituencies noted that an investment plan is still to be developed. Constituencies agreed that a statement to that effect must be made in the revised IRP 2010. Constituencies further agreed that the investment plan will be tabled at Nedlac.
- 4.3.2. Constituencies noted that the review of the White Paper on Renewable Energy which has not been completed will impact on and would therefore subsequently require a revision of the IRP 2010. Furthermore, constituencies agreed that the White Paper on Renewable Energy will be tabled at Nedlac.
- 4.3.3. Constituencies noted that energy efficiency was taken into account in the IRP 2010. But constituencies agreed that the IRP 2010 should reflect on the current situation around the National Energy Efficiency Strategy.
- 4.3.4. Constituencies recognised that the IRP 2010 is purely about generation; however, Constituencies agreed that investment in transmission and distribution is an integral part of the electricity chain and that it should be dealt with in the investment plan and implementation plan of the IRP 2010.

4.4. Governance

- 4.4.1. Constituencies agreed that the IRP 2010 should be reviewed periodically and further agreed that the IRP 2010 should be reviewed annually as necessity dictates.
- 4.4.2. Constituencies raised concerns about the composition of the technical committee in that it excluded stakeholders; however, Constituencies noted that in line with its prerogative to use external resources, Government used a technical team / experts (as opposed to stakeholders) to help prepare the draft IRP.

4.4.3. Constituencies agreed that it is not sufficient to simply note in the IRP 2010 that “a long term governance and decision-making structure, including industry, civil society and trade unions will be established’. Constituencies further agreed that Nedlac is the appropriate stakeholder forum to act as the "long term (permanent) governance and decision-making framework" and that no new framework/ decision making structure should be established. At the same time Constituencies noted that this did not in any way prevent Government from also pursuing open / public consultations.

4.4.4. Constituencies agreed that the language in the document be tightened to delete any open ended references to delays in building generation capacity as opposed to stating Government's commitment to curtail delays.

4.5. **Scope**

4.5.1. Constituencies confirmed that the IRP 2010 is a subset of the to be published Integrated Energy Plan and that all references to the latter should use the correct terminology. Constituencies agreed that editorial changes should be made throughout the IRP 2010 Report to ensure consistency and clarity, including the avoidance of unsubstantiated / unexplained statements.

4.5.2. Constituencies recognised the reciprocal relationship between the IRP 2010 and the impending Integrated Energy Plan and that the two documents will inform each other.

4.6. **Adequacy Criteria**

4.6.1. Constituencies agreed that one of the purposes of the IRP is to prevent over-production, hence the need for a frequent review of the IRP in order to allow for the necessary adjustments to be made. However, Constituencies noted that the aim in Government is to create an optimal balance between supply and demand.

4.6.2. Constituencies agreed that lack of operational efficiency can have a negative impact on the consumer, both in terms of quality of supply and in terms of the cost, hence the need to ensure operational efficiency.

4.6.3. Constituencies noted that penalties relating to the breach of licence conditions fell outside the scope of the IRP 2010.

4.7. Technical Assumptions

4.7.1. Constituencies agreed that the National Energy Efficiency Strategy and the IRP 2010 should be aligned. Constituencies noted that work is being done as part of the National Energy Efficiency Strategy to ensure that set targets on energy efficiency are achieved.

4.7.2. Constituencies agreed that the impact of Power Purchase Agreements must be dealt with in the socio economic impact assessment.

4.8. Modelling

4.8.1. Constituencies agreed that a full set of indicators should be provided for scenarios modelled, including emissions and water usage.

4.8.2. Constituencies agreed that a scenario which included less nuclear and more concentrated renewable energy should be modelled and reported on to Constituencies.

4.9. Balanced Scenario

4.9.1. Constituencies agreed that the jobs impact of the IRP 2010 must be considered in the socio economic impact assessment.

4.9.2. Constituencies agreed that there must be a consistent approach to renewable energy throughout the period.

4.9.3. Constituencies noted that the revised balanced scenario does not include a carbon tax.

4.10. Emissions

Constituencies agreed that the impact of a carbon tax on the price of electricity must be dealt with in the socio economic impact assessment.

4.11. Costs

4.11.1. Constituencies agreed on the need to move to a lower carbon dispensation and further agreed that the IRP 2010 must refer to the Copenhagen commitment with a view to reflecting alignment with the commitment based on the following:

- a) Peak of national emissions between 2010 and 2025, plateau until 2035 and thereafter decline.
- b) Conditionalities of achievement of the lower carbon trajectory as alluded to at Copenhagen.

4.11.2. Constituencies also agreed that carbon funding will be sought as part of the investment plan.

4.11.3. Constituencies agreed that the issue of emissions space for all sectors of the economy will be discussed holistically during consideration of the Climate Change Green Paper.

4.12. Sensitivity Studies

Constituencies agreed that sensitivity studies should be dealt with in the socio economic impact assessment.

4.13. IRP 2010 Projects

Constituencies agreed to have a proper and focused national stakeholder debate on nuclear in 2011, prior to a decision being taken to include nuclear in the energy mix.

5. CONCLUSION

- 5.1. This report therefore concludes consideration at Nedlac of the Integrated Resource Plan 2010 and the Medium Term Risk Mitigation Plan. The report is submitted to the Minister of Energy in terms of Section 8 of the NEDLAC Act. No. 35 of 1994.
- 5.2. It is acknowledged that the Nedlac parties may continue to advocate their views in the public consultation and other structured processes.

Report ends