The above changes are to be brought about in the following manner:

-The Department of Energy has committed to building a full nuclear power station fleet to produce a total of 9600 MW.

-Retaining an emissions constraint of 275 million tons of carbon dioxide per year after 2024.

-Promotion of energy efficiency. Although it was highlighted that this mechanism is unreliable as it depends on public participation to be effective.

The Medium Term Risk Mitigation Project is proposed by the IRP 2 to address security of supply in the short term from 2011 – 2016, as the IRP 2 indicates that it is a long term strategy, and contingencies will have to be made to ensure security of supply. The main objectives of this short term project are, as mentioned, to 'ensure security of energy supply; develop a legal framework to promote non-Eskom energy generation; the continued provision of solar water heaters to rural areas; finalise a national Energy Efficiency Strategy and develop implementation plan; develop a national contingency plan in case security of supply is threatened.'[234]

The IRP is recommended for promulgation by cabinet as the final IRP.[235] It represents an important step towards fulfilling South Africa's climate change and carbon and GHG emissions commitments. However the IRP does not give insight into how or what institutional regulatory framework or policy could facilitate its implementation.

In order for government to provide for its commitments to renewable energy it must establish enabling policy, which creates an institutional regulatory framework responsible for implementing and monitoring compliance.[236] Programmes such as the Renewable Energy

[234] Department of Energy *Integrated Resource Plan for Electricity*. Final Report 25 march 2011 http://www.doe-irp.co.za/content/IRP2010_2030_Final_Report_20110325.pdf [accessed on 13 July 2011].
[235] Department of Energy *Integrated Resource Plan for Electricity*. Final Report 25 march 2011 http://www.doe-irp.co.za/content/IRP2010_2030_Final_Report_20110325.pdf [accessed on 13 July 2011].
[236] Winkler H *Renewable energy policy in South Africa: policy options for renewable electricity* (2003). www.erc.uct.ac.za/Research/publications/05Winkler_Renewables_Policy_SA.pdf [accessed on 20 May 2011].

5.1 REFIT Programme

Since the establishment of NERSA in 2004, by the National Energy Regulator Act,[327] NERSA and the DoE have been developing a renewable energy feed-in-tariff (REFIT) framework. The purpose of the framework is to facilitate the implementation of renewable energy projects in order to develop a more sustainable energy sector and meet the targets for renewable energy in 2013.[328]

The REFIT Regulatory Guidelines[329] were published in the Government Gazette in March 2009. Then in March of 2011 just before the requests for project proposals were to be made for generation contracts, NERSA ordered a review of the REFIT tariffs with the intention of reducing them.[330] The REFIT programme was then expressly mentioned in the Minister of Energy's Budget speech in May, where she indicated that the Department intended continuining with the REFIT programme,[331] and that the first 1 000 MW of renewable energy capacity would be procured in December 2011.[332] It was also clear that the Minister was not prepared to make a statement on how the procurement process would take place by referring to REFIT and 'taking into consideration the legal requirements relating to public sector procurement, in terms of which procurement is required to be open, fair, transparent, cost effective and competitive.'[333]

Subsequently in June 2011 the National Treasury, who is an integral player in the development of the renewable energy sector, stated that it considers the REFIT mechanism to be illegal due to its anti-competitive nature. The DoE then recommended that a bidding process to obtain tenders

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[327] Act 40 of 2004.

[328] http://www.sanea.org.za/EnergySectorEvents/2011/Aug_OpenPanelDiscussion/index.asp [accessed on 03 July 2011].

[329] Department of Energy *South Africa Renewable Energy Feed-in Tariff Regulatory Guidelines* Notice 382 of 2009 GG No. 32122.

[330] http://www.sanea.org.za/EnergySectorEvents/2011/Aug_OpenPanelDiscussion/index.asp [accessed on 03 July 2011].

[331] http://www.esi-africa.com/node/13018 [accessed on 03 July 2011].

[332] Creamer T *NERSA set to concur with DoE on renewables bid process but raises questions.* http://www.engineeringnews.co.za/article/nersa-set-to-concur-with-doe-on-renewables-bid-process-but-raises-questions-2011-07-11 [accessed on 08 July 2011].

[333] Creamer T *SA finally sets renewables bidding process in motion* http://www.engineeringnews.co.za/article/nersa-set-to-concur-with-doe-on-renewables-bid-process-but-raises-questions-2011-07-11 [accessed on 03 July 2011].

should be preferred.[334]

The National Treasury expressed their opinion that in terms of the Electricity Regulation Act NERSA does not have the power to 'pre-determine tariffs'.[335] Subsequently a member of NERSA, Mr Thembani Bukula indicated that NERSA was enabled to set tariffs, but also emphasised that NERSA took its instruction from the DoE.[336]

The DoE then indicated that it was considering a 'two-stage procurement evaluation process' wherein tenders would be considered with regard to 'qualifying criteria'. The Department then went further and stated that the 2009 REFIT rates were to be used as an upper limit or 'ceiling' when considering qualification.

The legal status of the REFIT programme was not called into question for the first two years after the Guidelines were published.[337] Doing so now just before the programme was about to get under way, is indicative of the misalignment between NERSA, the DoE and the National Treasury. Although the National Treasury has stated that there is no confusion over the procurement process, the disparity is clear.[338]

Regardless of its legality REFIT has been set aside and preferred for a two-stage competitive biding process where the refit tariffs may be used as a ceiling.[339] Therefore future procurement

[334] During a presentation on the REFIT procurement process to the Parliamentary Portfolio Committee on Energy, The DoE's Ompi Aphane suggested that the feed-in tariffs announced by NERSA in 2009 cannot be legally binding and suggested a move away from REFIT http://www.esi-africa.com/node/13018 [accessed on 03 July 2011].

[335] Creamer T *Fresh concern that SA is poised to abandon Refit in favour of competitive bidding.* http://www.engineeringnews.co.za/article/fresh-concern-that-SA-poised-to-abandon-Refit-in-favour-of-competetive-bidding-2011-05-23 [accessed on 03 July 2011].

[336] Creamer T *Fresh concern that SA is poised to abandon Refit in favour of competitive bidding.* http://www.engineeringnews.co.za/article/fresh-concern-that-SA-poised-to-abandon-Refit-in-favour-of-competetive-bidding-2011-05-23 [accessed on 04 July 2011].

[337] http://www.esi-africa.com/node/13018 [accessed on 04 July 2011].

[338] Creamer T *SA finally sets renewables bidding process in motion* http://www.engineeringnews.co.za/article/sa-finally-sets-renewables-bidding-process-in-motion-2011-07-31 [accessed on 04 July 2011].

[339] Creamer T *SA finally sets renewables bidding process in motion* http://www.engineeringnews.co.za/article/sa-finally-sets-renewables-bidding-process-in-motion-2011-07-31 [accessed on 04 July 2011].

of renewable energies will take place through a competitive biding process in which criteria other than just price will be considered.

5.2 IPP Bidding Process

The process of procuring renewable energy generation contracts[340] from independent power producers (IPP's) got under way at the end of July 2011, when government advertised a request for qualifications and proposals to the public.[341] The request for proposals (RFP) forms were made available for download on 3 August 2011.[342]

The DoE indicated that it would seek to procure 3725 MW of renewable energy capacity in the first round of procurement, rather than the 1025 MW initially stated and provided for in the IRP 2.[343]The allocation to the various renewables technologies was also released.[344] Government has defended this departure from the IRP 2 by stating that the new 3 725 MW capacity is 'broadly in accordance[345] with the capacity allocated to renewable energy generation in IRP 2010-2030'.[346]

The enlarged procurement programme has been pursued to make it more attractive to investors. The process has been specifically designed so as to contribute towards socioeconomic and environmentally sustainable growth, as well as to 'start and stimulate the renewable industry in

[340] From which ESKOM has been excluded. Creamer T *DoE reports big interest in renewables tender.* http://www.engineeringnews.co.za/article/doe-reports-big-interest-in-renewables-tender-2011-08-31 [accessed on 01 September 2011].

[341] Specifically the DoE has invited potential renewable energy developers to submit proposals for the financing, construction, operation and maintenance of any onshore wind, solar thermal, solar photovoltaic, biomass, biogas, landfill gas, or small hydro technologies.

[342] www.ipp-renewables.co.za [accessed on 04 July 2011].

[343] www.ipp-renewables.co.za [accessed on 04 July 2011].

[344] 1 850 MW for onshore wind; 200 MW for concentrated solar thermal; 1 450 MW for solar photovoltaic solutions; 12.5 MW for biomass and biogas respectively; 25 MW for landfill gas capacity; 75 MW for small hydro; and 100 MW for small-scale IPP projects of less than 5 MW.

[345] In fact, The IRP 2 provides that some 17 800 MW of renewables capacity should be deployed between 2010 and 2030, with wind and solar photovoltaic expected to deliver 8 400 MW of capacity each, and concentrated solar thermal a further 1 000 MW.

[346] Creamer T *Glitches and pleasant surprises as renewables tender gets under way.* http://www.engineeringnews.co.za/article/glitches-and-pleasant-surprises-as-renewables-tender-gets-under-way-2011-08-03 [accessed on 05 August 2011].

South Africa'.[347]

The Programme requires a special exemption from government to depart from its preferential procurement rules,[348] which currently provides for a 90 percent weighting towards price and a 10 percent weighting for other criteria. The new weighting will be 30 percent to other criteria and 70 percent towards price, which will only be considered after the other criteria had been satisfied.[349]

The Procurement process will take place in two stages. The criteria used in the first stage of selection process include the socioeconomic development objectives of the DoE.[350] Tenders that qualify in terms of these criteria will then be subjected to the second stage of selection wherein price competition will be considered.

When these two stages are cleared the successful applicant will enter an implementation contract with the DoE as well as a power purchase agreement (PPA) with a 'buyer',[351] who is likely to be Eskom's REPA[352] until the promulgation of the ISMO Bill.[353] Eskom has been expressly excluded from tendering any renewable energy generation projects and its role is restricted to that of buyer.[354]

[347] http://www.ipp-renewables.co.za./ [accessed on 04 July 2011].
[348] Preferential Procurement Policy Framework Act 5 of 2000.
[349] Creamer T *DoE reports big interest in renewables tender* http://www.engineeringnews.co.za/article/doe-reports-big-interest-in-renewables-tender-2011-08-31 [accessed on 01 September 2011].
[350] These may include 'the technical feasibility and grid connectivity, as well as environmental acceptability, black economic empowerment, community development and local economic and manufacturing propositions'. Creamer T *SA finally sets renewables bidding process in motion* http://www.engineeringnews.co.za/article/sa-finally-sets-renewables-bidding-process-in-motion-2011-07-31 [accessed on 04 July 2011].
[351] Currently not specified.
[352] Creamer T *Glitches and pleasant surprises as renewables tender gets under way.* http://www.engineeringnews.co.za/article/glitches-and-pleasant-surprises-as-renewables-tender-gets-under-way-2011-08-03 [accessed on 05 August 2011].
[353] Independant System and Market Operator Bill *(still to be introduced in the National Assembly)* Notice 290 of 2011 GG N0. 34280 13/05/11.
[354] Creamer T *DoE reports big interest in renewables tender* http://www.engineeringnews.co.za/article/doe-reports-big-interest-in-renewables-tender-2011-08-31 [accessed on 01 September 2011].

5.3 DoE Strategic Plan

The objective of the Strategic Plan[355] is to 'Ensure secure and sustainable provision of energy for socio-economic development' and to 'regulate and transform the sector for the provision of secure, sustainable and affordable energy.'[356]

The 'Vision' of the Strategic Plan is to achieve 'A transformed and sustainable energy sector with universal access to modern energy carriers for all by 2014' and 'Improving our energy mix by having 30% of clean energy by 2025.'[357]

This is to be achieved through the implementation of ISMO Bill which will hopefully be introduced to Parliament early in 2012. The ISMO will be empowered and mandated through an amendment to the Electricity Regulation Act. The ISMO will provide a framework to facilitate the development of a competitive market that IPP's can participate in

6. Conclusion

The lack of clear and concise direction from government as to the manner in which the renewable energy industry is going to be regulated is the reason why renewable energy projects are yet to get off the ground. These delays will continue to jeopardise the achievement of targets contemplated in the White Paper on Energy Policy[358] and the Integrated Energy Plan.[359]

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[355] Department of Energy *Strategic plan* 2011/12 - 2015/16 http://www.energy.gov.za/files/aboutus/DoE%20Strategic%20plan%202011_12%20-%202015_16.pdf [accessed on 07 July 2011].

[356] Department of Energy *Strategic plan* 2011/12 - 2015/16. http://www.energy.gov.za/files/aboutus/DoE%20Strategic%20plan%202011_12%20-%202015_16.pdf [accessed on 07 July 2011].

[357] Department of Energy *Strategic plan* 2011/12 - 2015/16 http://www.energy.gov.za/files/aboutus/DoE%20Strategic%20plan%202011_12%20-%202015_16.pdf [accessed on 07 July 2011].

[358] Department of Minerals and Energy *White Paper on the Energy Policy of the Republic of South Africa* N 3007/1998 GG 19606 17/12/98 See s 5.

[359] Department of Minerals and Energy *Integrated Energy Plan for the Rebulic of South Africa* 19/03/03.

CHAPTER 5

Conclusions and Recommendations for Implementing Sustainable Energy in South Africa

1. Introduction

The focus of this paper is to highlight the international and national responsibilities South Africa has to develop sustainable energy practices, what is being done in terms of legislation and policy to address these obligations, and how renewable energy can contribute to achieving these goals.

Implementing renewable energy technologies, which could eventually replace coal- based energy, is key to reducing carbon and GHG emissions as well as providing clean energy for sustainable development. The development of new renewable energy capacity in South Africa however is lagging.[360] This coupled with the well documented capacity shortfall in recent times indicates that the achievement of targets set out in the IRP 2[361] are rather 'ambitious'.[362]

[360] file:///F:/chapter%204/Energy%20Sector%20Events%20-%20SANEA%20-%20The%20South%20African%20National%20Energy%20Association.htm [accessed on 23/Sept/11].

[361] which set more ambitious targets of 21,5 GW of new installed renewable energy generation capacity by 2030, comprising 9200 MW of wind capacity, 8400 MW of solar PV capacity, 1200 MW of solar CSP capacity and 2600 MW imported hydro capacity by 2030. Integrated Resource Plan for Electricity Final Report 25 march 2011.

[362] file:///F:/chapter%204/Energy%20Sector%20Events%20-%20SANEA%20-%20The%20South%20African%20National%20Energy%20Association.htm [accessed on 23/Sept/11].