



# Department of Energy

## SOUTH AFRICAN PERSPECTIVE ON NEW AND RENEWABLE ENERGY

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# Presenting the RSA Perspective on New & Renewable energy

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# DEPARTMENT OF ENERGY'S MANDATE

- Ensure secure and sustainable provision of energy for socio-economic development:
  - The provision of an enabling platform for other sectors to speed up economic growth and transformation, create decent jobs and sustainable livelihoods,
  - The unlocking of infrastructure investment through policy and regulatory framework,
  - Contribution to the massive programme to built economic and social infrastructure,



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## DEPARTMENT OF ENERGY'S MANDATE CONT'

- implementation of various interventions to encourage sustainable energy resource management and use, through flagship interventions such as solar water, (Wind, PV, CSP, etc); and
- Improve our efforts to meet the energy efficiency and renewable energy projects



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# The Department of Energy's Mission & Vision

## MISSION

- To regulate and transform the sector for the provision of secure, sustainable and affordable energy

## VISION 2014

- A transformation and sustainable energy sector with universal access to modern energy carriers for all by 2014

## VISION 2025

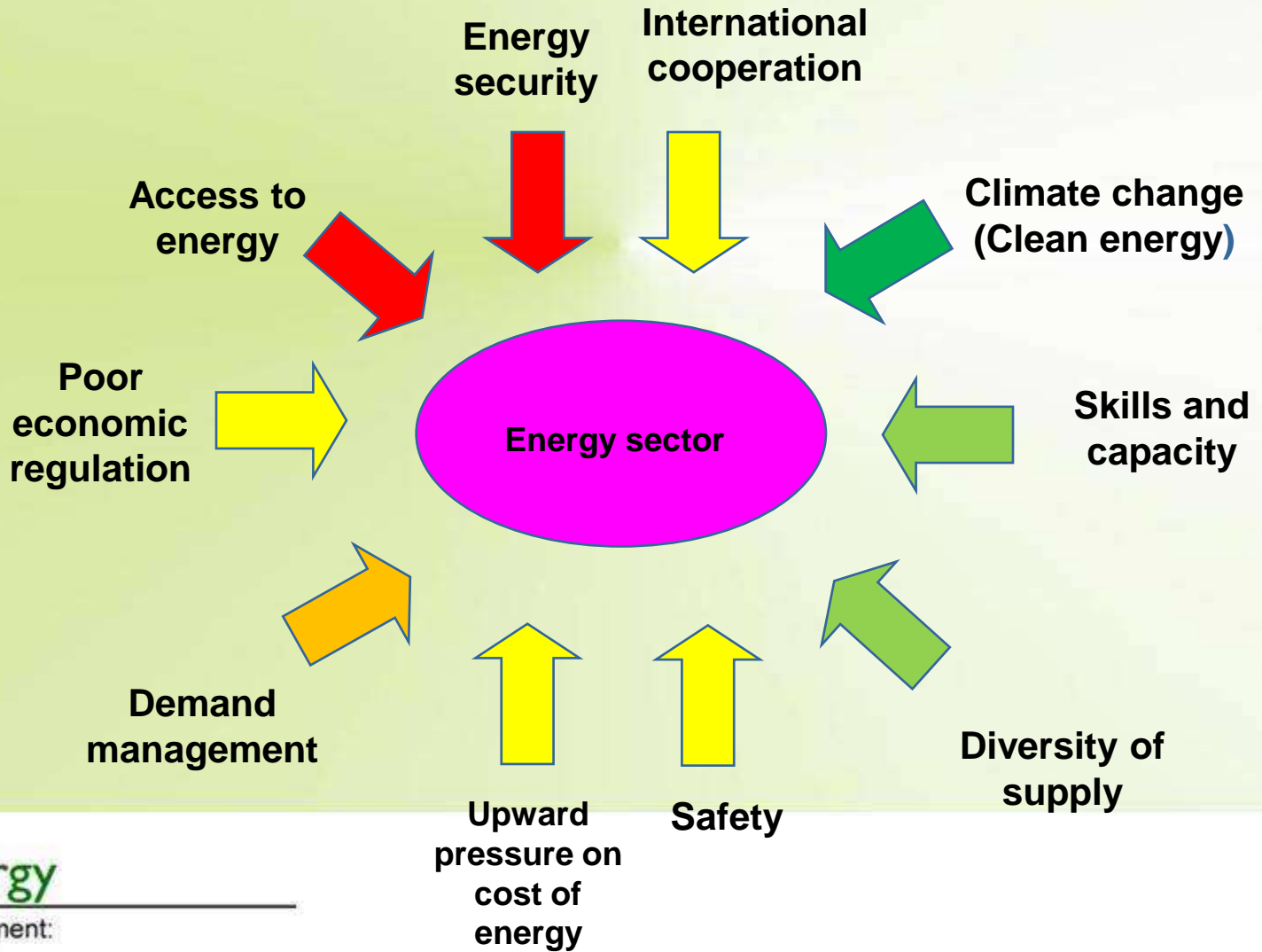
- Improving our energy mix by having 30% of clean energy by 2025



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# Factors that guide and drive the Energy Sector in SA



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# Regulatory Framework

- **The Constitution of the Republic of South Africa, 1996** (Act No. 108 of 1996), as the supreme law in the land, requires government to establish a national energy policy to ensure that national energy resources are adequately tapped & delivered to cater for the needs of the nation.
- As enshrined in the Constitution, energy in SA is currently a national competency except in the case of electricity reticulation which is a function performed by local government.
- Local government does so by virtue of its regulation by national legislation whilst the provincial government has no formal mandate in this regard.



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# Regulatory Framework

- **White Paper on the Energy Policy of the Republic of South Africa of December 1998 – “EWP”**
  - ensuring that economically feasible technologies and applications are implemented;
  - ensuring that an equitable level of national resources is invested in renewable technologies, given their potential and compared to investments in other energy supply options; and
  - addressing constraints on the development of the renewable industry.
- **White Paper on Renewable Energy Policy of the Republic of South Africa of November 2003 – “REWP”**
  - In this policy, government’s goal is to achieve a target of 10,000 GWh renewable energy contribution to final energy consumption by 2013, to be produced mainly from biomass, wind, solar and small-scale hydro.
  - This policy document is being reviewed to assess progress after the first 5yrs of policy implementation and also propose medium to long terms RE targets.



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# Regulatory Framework Cont'

- **Energy Act of 2008:**

- This is the primary legislative instrument that governs the evolution and transformation of the South African energy economy. It seeks to ensure that diverse energy resources are available in sustainable quantities and at affordable prices to the South African economy in support of economic growth and poverty alleviation.

- **Electricity Regulation Act as Amended:**

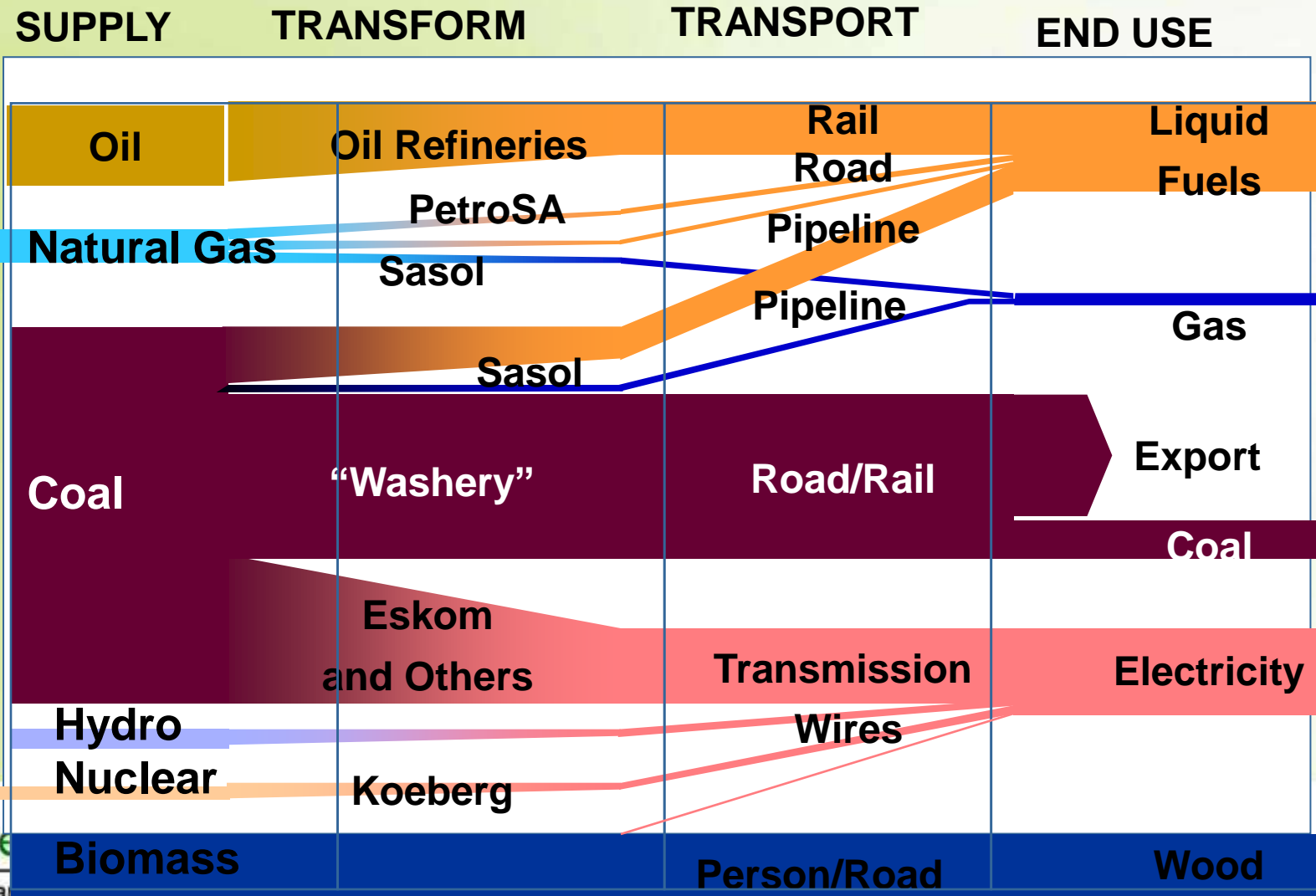
- One of the objectives of this Act is to “promote the use of diverse energy sources and energy efficiency”.
- The Act has a provision for new generation capacity. In this provision, “The Minister may, in consultation with the Regulator determine that new generation capacity is needed to ensure the continued uninterrupted supply of electricity and determine the types of energy sources from which electricity must be generated, and the percentages of electricity that must be generated from such sources.”



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# Energy Flows Informing Strategic Objectives



# New and Renewable Energy Programmes Overview

- Notwithstanding the above, the government has done a lot of work in injecting the much-needed thrust into this fledging industry.
- This includes, among others:
  - Approval of Biofuels Industrial Strategy in 2007;
  - Approval of Integrated Resource Plan in 2010,
  - Creation of a legal and regulatory frameworks for RE i.e. New Generation Capacity Regulations; and
  - Introduction of financial support to realize the government's RE policy goals i.e. Eskom rebate for solar water heating.
  - Currently tabled the Integrated Systems Market Operator Bill for Cabinet consideration.

*“Government is committed to diversifying its energy mix and this include the introduction of renewable energy at a large scale”*

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# New and Renewable Energy Allocation IRP 2010 – 2030

- Primary objective of the plan is to determine long term electricity demand and detail how this should be met in terms of generating, type of sources, timing and cost.
- Accuracy of this plan is improved by regular reviews and update as and when things or new information becomes available.
- IRP 2010-2030 was promulgated on 6 May 2011.
- Renewable energy will contribute a total of 18.2 GW by 2030 (about 42% of the new build).
  - Wind – 8.4 GW
  - Solar PV – 8.4 GW
  - CSP – 1 GW
  - Other – 0.4 GW



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# Integrated Resource Plan 2010

Is a “**living**” plan, which will be updated on an ongoing basis to reflect the changing needs of South Africa and to learn from the inevitable changes in our economical, social and technological environment.

This is the first IRP that government directed and must seek to **find a balance** between competing government objectives:

- Affordability**
- Reducing carbon emissions (*Towards a Green Economy*)**
- Water conservation**
- Localization and,**
- Regional development**

Change brings new opportunities  
but too much change is high risk!



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# New and Renewable Energy Procurement Programme

- The Department through the Minister made a determination to procure 3, 725 MW from RE sources to ensure the continued uninterrupted supply of electricity.
- The Department issued a Request for Proposal on 31 July 2011.
- About 53 proposals representing potential capacity of 2, 127 MW were received by the first closing date (4 November 2011).
- Evaluation is completed and the process of adjudicating at an advanced stage.
- The Department plans to announce the preferred bidder(s) before the end of the of COP 17.



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# Establishment of Solar Parks across SA

- DoE took a decision to explore the potential of establishing the solar parks in South Africa in October 2009.
- The results of a prefeasibility study were positive with Northern Cape, in particular Upington being the most preferred area based on the solar irradiation data. The first Solar Park initiative is in Upington, Northern Cape which aimed at producing 5000 MW in a period of ten years.
- This could result in the creation of approximately 12,300 average annual direct construction jobs, indirect from manufacturing on solar components and during operation & maintenance and permanent jobs from once the park is operational.
- An Indicative Master Plan (i.e. economic and technical fatal flaw study) was completed in April 2011 with positive results to continue with the project leading to a comprehensive feasibility study.



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# ESTABLISHMENT OF SOLAR PARKS ACROSS THE COUNTRY

- These 5000 MW is planned to be realised within period of ten years.
- Currently undertaking technical studies: Comprehensive Feasibility Study for the corridor, Geotechnical Investigation and Environmental Impact Assessment.
- The first phase of the project will focus on 1000 MW by 2016 and the rest of the MW to be realised later.



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# Solar Water Heaters Programme

- SWH programme, was launched in November 2007 with only 9 suppliers at the time.
- The industry was unregulated and there were no minimum product standards or installations standards being adhered to.
- Only two suppliers were accredited to offer a rebate on installed systems.
- After some revamping to the model and the industry, the number of manufactures and/or suppliers increased to over 400.
- The National Target is install 1 million solar systems by 2014.
- Over 175, 000 systems have been installed since 01 April 2011 mainly through the rebate and fiscus programmes.
- The Department is working on the Standard Offer Model (a performance based incentive scheme) that will be used to accelerate installation solar water heating.



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# Biofuels Programme

- SA set a target of achieving 2% penetration of biofuels (about 400 million litres) into the national liquid fuels pool by 2013.
- The aim is to stimulate agricultural production in the under-utilised agricultural areas of the country.
- Recommended feedstock to be used for bioethanol: Sugar cane, sugar beet, sorghum.
- Recommended feedstock to be used for biodiesel: Soya beans, sunflower, canola (rape seed).
- ***Non-permissible feedstocks:*** Jatropha & Maize.
- Biodiesel manufactures receive a rebate of 50% on the fuel tax.
- Bioethanol currently does not qualify for fuel tax rebates because it is outside the fuel tax net (100% fuel tax exempt).



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# Biofuels Programme (cont'd)

- Two crucial studies are being finalised as part of developing the country's biofuels pricing framework, namely:
  - 1) the determination of the break-even price for biofuels, and
  - 2) the determination of the blending-value for bioethanol.
- Draft regulations on mandatory blending of biofuels (*currently proposing 5% biodiesel & 2% bioethanol blends*) with conventional fuels were released on 16 September 2011 for public comments and the closing date for comments was 18 November 2011
- Financial support/subsidy principles for biofuels manufacturing plants are also under development. The principles will spell out the requirements for assessing the support



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# Other Renewable Energy Programmes

- Renewable Energy Market Transformation (REMT) Programme housed at DBSA offers financial support for prefeasibility and feasibility studies of RE power generation and solar water heating projects. Call for Proposals is currently opened until 30 January 2012. For more information visit [www.remtproject.org](http://www.remtproject.org)
- Energy and Environment Partnership Programme also housed at DBSA offers financial support for prefeasibility, feasibility and demonstration of both off grid and grid connected projects. For more information visit [www.eepafrica.org](http://www.eepafrica.org)
- Working for Energy programme which the department is implementing through SANEDI focuses on projects that can increase energy access in rural areas whilst creating jobs in the process. For more information visit [www.wfe.org.za](http://www.wfe.org.za)



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# Summary

- The energy landscape is changing in South Africa, and this presents a significant opportunity.
- Renewable energy will contribute significantly to the energy mix of the country – 42% (18.2 GW) of new electricity build programme by 2030, 2% (400 millions litres ) biofuels in the liquid fuels by 2013 & 1 million solar water heaters by 2014/15 financial year.
- This targets does not only provide opportunities at the installation but at the manufacturing stage as well (i.e. looking the whole RE Value chain).
- **the dti** is leading the process of developing Green Industries strategies that will ensure that the country does not only rely on imports to meet its targets but manufactures most of the components domestically.
- Government together with Business and Labour has just signed a Green Economy Accord in the last two weeks affirming the partnership to scale up renewables, create decent jobs thereby improving the quality of life.



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# THANK YOU



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