MoMs
A
Mix
of
measures

- *Brief 10 minute input for National Climate Change Response Dialogue*
    - *Where do MOMs fit in*
    - *Survey of measures*
    - *Kinds of measures: the framework*
    - *Assessment of Measures and Proposed Measures*
    - *Project aims and process*

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MoMs in the context of DEROS/NCCRWP

- PPD
- DEROs
- C-budgets (A Measure !)
- C-tax (A Measure)
- **(working) definition of Measures:**
- ➔ **actions of government to implement Mitigation Policy as specified in the NCCRWP**
- ➔ **direct abatement action or direct impact on abatement actions**

- **Once DEROs have been defined a MoMs toolbox will be proposed[1]**

[1]DEROs project Explanatory note on MoMs

Current documents/tools

- Explanatory Note on MoMs (v2)
  - Definitions, purposes, relationship with other components of NCCRWP implementation
  - Framework: classification of kinds of Measure

- 'Survey'
  - Identification and description of existing measures

- Matrix of Measures
  - Assessment of measures
    - Metrics under development
  - Proposed new measures

Survey of Measures

- Detailed 80pp document of existing relevant measures that could be identified and assessed in desktop research

  - \>25** existing cross-sectoral measures for industry

  - \>30 for industry sub-sectors

  - Waste: 10; AFOLU 20

  - Energy sector (e.g. IRP, New Gen regs, REI4P) regs are often complex too

  - Ditto for transport/spatial planning

**many are complex, are not a single technology or industry and can have supply and demand side impacts… and affect scope 1 and 2 emissions, involve multiple government depts/agencies, rely on volatile context (e.g. EEDSM funding in MYPD).

Often mitigation is not primary intention, e.g. Manufacturing Competitiveness Enhancement Programme

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Survey of measures e.g. (12L)

- internal work documents

Policy Measure:	National Energy Act: Regulations on the Allowance for Energy Efficiency Savings (GNR 729), DoE 2011
Policy Measure Type (Legislation; Government led procurement; Government led direct investment; or Command and control (incentives etc.))	Regulation under the National Energy Act, DME 2008
Relevant Sectors (List)	Energy
Relevant Sub-Sectors (List)	N/a.
Overview of Measure	This regulation has been promulgated under the National Energy Act, DME 2008. The purpose of this regulation is to provide for the process and procedural requirements necessary for a taxpayer to claim an allowance for energy efficiency in accordance with section 12L of the Income Tax Act, 1962. Also sets out the process and procedural requirements in respect of the measurement and verification of energy efficiency savings that will allow a taxpayer to claim an allowance for energy efficiency from SARS. Assumes that section 12L of the Income Tax Act, 1962, is in force
Measure Objectives	As set out in the National Energy Act, DME 2008
Current Application (Nationally)	Current Status: In force since 2011 Leading Implementing Agency: Department of Energy (DoE) Other Implementing Agencies: • National Treasury • dti • SANEDI • South African National Accreditation System (SANAS) • SABS Geographical coverage: National
Specific Link to Climate Change Mitigation and Emissions Reductions	Tax incentives are recognised as a key measure that can assist in the scaling-up investment in energy efficiency behaviour and technology by incentivising the market through policy certainty and funding. Therefore, the potential positive impact of this regulation is significant. However, the following concerns exist: • the level of effectiveness of this regulation cannot be assessed at this stage given that section 12L of the

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Survey of measures e.g. (12L

- internal work documents cont'd)

Policy Measure:	National Energy Act: Regulations on the Allowance for Energy Efficiency Savings (GNR 729), DoE 2011
Policy Measure Type (Legislation; Government led procurement; Government led direct investment; or Command and control (incentives etc.))	Regulation under the National Energy Act, DME 2008
	Income Tax Act which it is intended to support, is not in effect; • • the provisions of the regulations themselves are very broad and in some cases unclear. In order for them to be effectively implemented and "taken up", and for taxpayers to benefit – comprehensive guidelines are required. We understand that it is SANEDI's intention to prepare such guidelines; • the regulations place a significant burden on SANEDI and SANAS –they will need to be provided with the financial backing and capacity building required for the effective implementation and administration of this regulation
Impact on Emissions (Qualitative and Quantitative)	The tax incentives outlined in the regulations serve to scale up investment in energy efficient technologies nationwide and shift the carbon intensive economy to that of a low carbon and energy conserving one, thus encouraging a reduction of emissions.
Impact on Emissions ()	N/a.
Socio-economic Impacts (both positive and negative)	N/a.
Any other information or comments	N/a.

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Measures can be complex

- There are many measures
  - The sectors differ widely
    - Some measures are sector specific
    - Some are multi-sectoral
    - Many interact

Measures can be complex

– Emitters have knowledge/information that is necessary to formulate AND implement effective Measures

- Emitters will take the actions: often private sector companies, long term: multi-factoral
- There are many options and the optimum mix to achieve the required emissions level for SA while optimizing socio-economic outcomes will require substantial cooperation between policy makers, government departments, agencies, finance, …

➔**Emitters can facilitate progress in formulating the Measures**

  ➔**Corollary ?**

Measures can be complex

- EXAMPLE <u>a transport modal shift</u> requires a number of complimentary Measures, poor performance in any could jeopardize the scheme
  - Huge long term investment in public transport
    - Most likely coordinated between multiple modes
  - Measures to dis-incentivise high emitting road vehicles
    - Requires national government, provincial government, local government, transport companies, …

➔**There are many options, some exclude others**

➔**Emitters need to agree on which options and support**

➔**(government can realistically often only assist emitters in this, not force it)**

Explanatory note

- Element of consultative process
  - …which is still being set up (see process later)
- September version circulated to Busa
  - Consultation ongoing (see process later)

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Explanatory Note ➜ Framework

Classification of existing government measures		
Category	**Definition**	**Examples**
Regulatory measures	These measures have a direct impact on emissions by setting quantitative or technical limits, or standards.	A company carbon budget or an energy efficiency standard for a specific technology or process.
Economic measures	These measures provide economic incentives or disincentives on emissions by imposing taxes, allowing tax rebates or providing subsidies.	Carbon tax; the L12 tax rebate; REIPPPP; EEDSM funding in the MYPD.
Direct government action	Government takes direct action to effect abatement through procurement of a low(er) emissions option or altering government department operations to a lower emissions mode through for example process improvements.	procurement and investment in the transport sector (e.g. freight modal shift and mass public transit)
Support measures	Refers to a wide range of actions related to education, research development and deployment, or support for voluntary action (for example).	Support by government personnel; funding related to capacity building and energy/emissions audits; primary education which has a long term indirect effect.

Matrix of Measures

- To assess Measures and "MAP" them to (many) sectors and apply metrics

- To identify potential new Measures and assess these

- Currently
  - ~30 existing Measures for industry
  - >100 proposed Measures
  - …once again, will develop along with specific data and information

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Matrix of measures

Impact on Emissions (qualitative)	Total ERs to date (MtCO2e in 2014)	Average ERs/yr	Efficiency (ZAR/tCO2)	Social Impact	Impact on GDP	Barriers	Enabling factor	Enforcement	Comments

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ExampleProposed measures for I&S - not meant to be legible

Main category	Description	Measure to Action mapping	Impact on Emissions (qualitative)	Estimated Average ERs/yr	Efficiency (ZAR/tCO2)	Social Impact	Impact on GDP	Barriers	Enabling factor	Enforcement	Comments
			Assessment						Improvement		
Planning and Regulations	Direct collaboration with the automotive industry and other manufacturing plants that produce metal as a waste product, providing an uncontaminated waste stream to establish a less emission and energy intensive recycling process.	emission reductions achieved through recycling of scrap metal	Medium to high (decrease) impact on emissions	To be determined by interested associations and companies willing to collaborate	Increase efficiency pending collaboration between associations and companies	Increased number of jobs created by including another element to function within manufacturing industry	Increases GDP, as efficiency within the iron and steel sector increases	Automotive or other manufacturing industries not willing to collaborate	reduces the energy intensity per product produced, reducing costs during production and presenting a price competitive product on the market	Negotiations and contracts to be drawn up between automobile manufacturing plants and iron and steel industry	
	Labelling on all electric arc furnaces to illustrate life cycle costs as well as verified energy savings within short-, medium- and long-term periods.	improved energy efficiency of EAFs	Low to Medium emission reductions	Still to be calculated	Encourages efficiency improvement as R&D progresses	Additional aspect to standards and labelling for industrial equipment, create expertise and capacity		Uptake of labelled technology, large CAPEX, as well as no real need to replace current technology based on label	Coupled with incentive program to ensure replacement of older technology with more energy efficient technology, through funding available from Section 12L of the Income Tax		
Economic Measures	Long-term strategy for implementation of state of the art power plant. Some Iron and Steel Manufacturers (Arcelor Mittal) have already implemented the power plant. Transition of power plant to include carbon capture and storage is uncertain, based on the status of research and development into technology.	reduce emissions through providing low-carbon, on-site power	Medium to High emission reductions	208,371 ktCO2e based on the MACC	R 130 per tCO2e mitigated, based on MACC	Create jobs based on the need for construction and operation of the new power plant.	Will increase efficiencies within the iron and steel industry, increasing the GDP to an extent	Large investment required to construct and ensure optimisation within industry, which is not available from within the sector, but possibly through public finance mechanisms (12L and other proposed financial aids from cross sectors)	Subsidy funded from Support Programme for Industrial Innovation (SPII) available from the dti and possibly from 'Key Project Identification' programme	With the incentive of reduced costs associated with energy and contributions towards a possible 'cap and trade' system	
	Government to support the retrofit of existing electric arc furnaces with more energy efficient technology by providing a subsidy on a proportion of the new technology CAPEX.	improved energy efficiency of EAFs through direct govt. support	Low to Medium emission reductions	To form part of the emissions calculated for electric arc furnaces	To form part of the emissions calculated for electric arc furnaces	Skill development in already established workforce in the operation of new EE technology	Will increase efficiencies within the iron and steel industry, increasing the GDP to an extent	Budget constraints from Government	Funds to be provided via development banks and or the South African Iron and Steel Institute	Reduced costs associated with energy and an increased investor profile	
Support Measures	Capacity building around the new developments in technology within the Iron and Steel Industry should be sought after by the South African Iron and Steel Institute (SAISI), whose members are among the top emitters in South Africa. Further capacity building to be exhibited by the Industrial division within the National Centre for Innovation, supported by the DST, SANEDI and SAISI.	Improved capacity building to broaden understanding of the need for EE and emission reductions	Medium emission reductions if uptake evident from Industry	Medium emission reductions if uptake evident from Industry	Increased efficiencies within operations	Provide skill development	Increases GDP, providing international expertise and presents best case scenarios by improving national knowledge base.	workshops are not well organised or operated, resulting in knowledge development that has no impact.	Lacking knowledge base	required professional points (like CPD points in engineering) to ensure that experts are aware of recent developments within sector	
	Collaborate with the SANEDI and the Department of Science and Technology EEDSM hub (soon to be the National Centre for Innovation, with divisions in each specific sector and sub-sector), the automotive industry and Metal Recyclers Association of South Africa on the following:	emission reductions are achieved with direct support from govt. (and external climate finance)	Medium to High emission reductions	Medium to high emission reductions if R&D successful	Increased efficiencies within operations	Development of skills and establishment of local manufacturing market of R&D technology	Increased GDP, possibly to encourage local manufacture of new technology on a larger scale	lack of financial resources to achieve R&D technology development	Growth and more efficient process for extraction and production of iron and steel products. Funding possibly sourced from proposed 'Key Project Identification' from cross sectoral Programme	reporting requirements within funding mechanism applied for or taken advantage of	
	*development of optimising the recycled metal process to that of a low emission process;	emission reductions achieved through development/adoption of BAT	Medium to High emission reductions	Still to be calculated	Still to be calculated				Provision of feed stock to supply the recycled metal industry		
	*investigating and optimising the direct-reduced iron technology (DRI) to be applied within the South African context;	emission reductions achieved through development/adoption of BAT	Medium to High emission reductions	Combined DRI (Midrex, URL and ULCORED) = 167 111 ktCO2e	To form part of the emissions calculated for DRI research and development, R 107 per tCO2e mitigated	Total job creation is 6165			Funding not sourced for R&D	Funding to be sourced from Support Program for Industrial Innovation (SPII)		
	*investigate top gas recycling blast furnace technology which facilitates carbon capture and storage (CCS). Potential lies in the development of the market for this technology in collaboration with the European Commission;	emission reductions achieved through development/adoption of BAT	Medium to High emission reductions	75109 ktCO2e	R14 per tCO2e mitigated	Total job creation is 1166			Funding not sourced for R&D	Funding to be sourced from Support Program for Industrial Innovation (SPII)		
	*investigate in collaboration with the European Commission on the development of the ULCORED process, involving the direct reduction of iron ore by a reducing gas produced from natural gas as well as electrolysis processes, known as ULCOWIN and ULCOSYS	emission reductions achieved through development/adoption of BAT	Medium to High emission reductions	54969 ktCO2e	To form part of the emissions calculated for DRI research and development, R 107 per tCO2e mitigated	Total job creation is 1291			Funding not sourced for R&D	Funding to be sourced from Support Program for Industrial Innovation (SPII)		
	A recycled metal incentive to be funded through the fund established by the South African Iron and Steel Institute. The incentive would aim to integrate more recycled metal usage incorporated into the iron and steel production process by funding the technology required to transform coal into process gases which can be captured to produce heat and electricity. As the process stands, recycled metal is process intensive. Once developed, additional pre-treatment facilities are to be built to the Metal Recyclers Association to ensure scrap metal is cleaned, pyrometallurgically and hydrometallurgically cleaned before it is recycled back into industry, reducing amount of energy required to produce new material.	incentivise further uptake of recycling of scrap metal	20 - 25% savings in CO2 emissions due to the transformation of additional coal to process gases.	Still to be calculated	Still to be calculated	Job creation will increase	Increased GDP due to removing waste streams and incorporation into the production of iron and steel	Funding available from the SAISI not sufficient to provide for incentive, alternative funding mechanisms to be sourced.	Investigations into associated costs with inflicted by producing 'new' iron and steel products versus incorporating waste metal demonstrates that it is a less expensive process	Contractual obligations between automobile and metal waste companies with iron and steel sector	

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Process

- In parallel with consultations on PPD, DEROs, C-Budgets, C-Tax, …

- Consultations ongoing
  - IT IS NECESSARY and POSSIBLE, before a formal methodology is formulated
    - To get active and collaborative/cooperative participation in identifying, assessing, formulating, refining, implementing
      - Existing measures
      - Proposed measures

It is more complicated than win-win…

Project aims/steps
(our role)

- We look forward to discussions with industry and other stakeholders on the Measures

  - …not to negotiate WHAT, but to get good technical information on HOW

- There are many Measures

- They are very different for industries/sectors

- Formulation of effective Measures will rely on accurate information, high quality analysis and effective communications and interactions

Thank you