

## National Climate Change Response Data-Base: Tracking Mitigation Actions

PEER-TO-PEER LEARNING EXCHANGES AS PART OF IMPLEMENTING THE CAPACITY BUILDING INITIATIVE FOR TRANSPARENCY PROJECT OF SOUTH AFRICA.





#### **Climate Change Air Quality Branch**



**D** : Climate Change Mitigation Research and Analysis

To conduct research and analysis in order to inform climate change mitigation decision making and responses, and coordination of carbon sinks measure as well as tracking South Africa's transition to a lower carbon economy

### Sub-D: Research & Analysis

Develop, review and refine SA's national GHG emissions trajectory or goal

Develop methodologies to inform entities and sectoral emission reduction targets

Develop and manage analytical tools

#### Sub- D: Carbon Sinks

Facilitate and coordinate carbon sinks research and climate change mitigation responses related to land and ocean

Facilitation of the development, review and alignment of existing and new sector policies, legislation and regulation that have an impact on national carbon sinks

Facilitate implementation of the AFOLU sector intervention to enhance sinks

#### Sub-D: M&E

Monitor and verify national climate change mitigation responses

Review historical trends and analyse projected trends on national climate change mitigation actions

Contribution to the BUR and National Communications

Track Progress of the implementation of the NDC





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### Purpose

 The purpose of this presentation is to share on how South Africa had developed the online National Climate Change Response Database (NCCRD) as part of its monitoring and evaluation system.







### Background



South Africa has committed to a low-carbon trajectory that includes both its contribution to the international effort to reduce global Greenhouse Gas (GHG) emissions and eradicate poverty.



The National Climate Change Response Database (NCCRD) is intended to be a resource for anyone working on climate change (adaptation and mitigation) in South Africa regarding past, current, and future climate change response efforts.







### **NCCRD Background**

NCCRD is implemented and coordinated by DFFE as part of the national efforts to implement the NDP (Vision 2030) to facilitate South Africa's overall efforts and transition towards a lower carbon and climate resilient society and economy.

The climate change response efforts in the NCCRD are broken down into several key areas including a general project overview, a description of the funding provided and the details of specific adaptation and mitigation efforts.

The submission of data to the database is entirely voluntary. Project managers are in charge of adding and updating information about their projects.



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To monitor the success of responses to climate change and replicate the projects that have worked well.

To support the government with tracking the extent of the transition of South Africa to a lower-carbon and climate-resilient society.

To assist the government in meeting its international reporting requirements to the United Nations Framework Convention on Climate Change.

For collection and storage of climate change responses conducted in South Africa.

- To measure climate change response cost, outcome and impacts.







### **NCCRD DEVELOPMENT**





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### **Total Projects Uploaded**









### National Climate Change Response Database (NCCRD)



#### https://nccrd.environment.gov.za/





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### **Total Projects Uploaded**





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### Analysis of Mitigation Projects Uploaded

- The energy sector is leading in terms of the number of projects that are uploaded in the NCCRD accounting for 61% of the total climate change mitigation projects, followed by IPPU and waste projects.
- Projects for AFOLU accounts only 3%, this indicates more work is required in terms of collecting projects in the sector of AFOLU and waste.









### **Example of Provincial Information System**

Home P

Project Database

Climate Services 🗸

Atlas Data

Carbon Sinks Resources 🗸

Contact Q



#### Mpumalanga Climate Change Information System



About

The Mpumalanga Climate Change Information System offers a series of decision support tools to inform policy and decision-making including a database of adaptation and mitigation actions undertaken by stakeholders across the province.



#### Climate Change Response Database

This is an online database of climate change adaptation and mitigation interventions. Please add information on past, current, and future climate change response efforts in Mpumalanga province.



#### Climate Change Services and Data

Understand the implications of climate change in the province, explore climate data and climate change projections, and recent changes in land cover and carbon sinks.

**Explore Climate Services** 



Mpumamalanga Policy and Legislation

Search and view a collection of documents relevant to planning and climate change response in Mpumalanga including Spatial Development Framework and Integrated Development Plans.

**Coming Soon** 

View Projects





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## **Challenges and Solutions**

### Challenges

Phase

- Information was extremely difficult to find;
- Some data providers were suspicious of the department's intentions;
- The maintenance of the database was extremely time and labour intensive;
- No specialised IT personnel.
- The database was very limited and seldom up to date; and
- The department was sometimes accused of misrepresenting projects.

### Solutions

- Recruit data collectors and IT system administrator to maintain and update NCCRD.
- Conduct provincial roadshow.
- Encouraging project managers to be the one that upload their projects on NCCRD.
- Provide continuous training to data providers as requested.



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## **Challenges and Solutions**

### Challenges

Phase

- •No response from other Provinces due to capacity constraints
- •Institutional personnel constraints due to high professional staff turnover.
- •Reporting fatigue, data collection template not allowing multiple projects.
- Information received on NCCRD includes the implementing agency, program description, and the budget, but information on emission reductions is incomplete for most of the projects.
- •Good mitigation initiative being implemented but implementing agencies have no monitoring system in place incorporating climate change indicators.
- •Hosting Infrastructure and system maintenance.
- •Verification of the projects is tedious and cumbersome.
- Project managers change jobs, it is not easy to get updates on project status.

### Solutions

- Developing Provincial Climate Change Database and linking it to the National database to reduce reporting fatigue.
- Migration of the NCCRD to DFFE server.
- Developed data collection template that allowed users to enter multiple projects.
- Train interns to be data collectors.
- Secure funding to develop and link other provincial databases.
- Review the information before publishing online.
- Provide continuous training to data providers as requested.





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# **THANK YOU!**

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Quantification of Prioritized Policies and Measures Implemented in South Africa.

### PEER-TO-PEER LEARNING EXCHANGES AS PART OF IMPLEMENTING THE CAPACITY BUILDING INITIATIVE FOR TRANSPARENCY PROJECT OF SOUTH AFRICA.





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### Introduction

 South Africa has various key mitigation policies, measures, strategies and plans, which have been developed to facilitate the country's transition to a lower carbon economy.

 The aim of this presentation is to present the assessment approach taken in quantifying emission reductions from mitigation policies and measures implemented by South Africa.







### NDC: Mitigation

- On September 2021, South Africa submitted an updated National Determined Contribution (NDC) which included new, more ambitious mitigation targets for 2025 and 2030.
- These updated targets represent a significant progression from the first NDC submitted in 2015 and meeting them will require the development and implementation of a range of policies and measures.









## Approach









### Identification of Policies and Measures

• The identification of climate change mitigation policies and related actions was informed by:

Policies and Measures that cover the IPCC categories of emissions sources and sinks.

National and sub-national policies that are most likely to have a significant impact on South Africa's current and expected greenhouse gas emissions.

> Policies for which mitigation techniques and technologies have been Prioritised, piloted or implemented

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### Prioritization of the Actions





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### **Prioritised Mitigation Actions**

IPCC sector	Mitigation actions	
ENERGY	- Section 12L.	
1A1 Energy Industries	- Energy Efficiency Standards and Appliance Labelling Programme.	
	- Eskom Integrated Demand-side Management (IDM).	
	- Municipal Energy Efficiency and Demand Side Management Programme.	
	- Municipal landfill gas electricity generation.	
	- Private Sector: Embedded Solar PV.	
	<ul> <li>National Cleaner Production Centre (NCPC) Industrial Energy Efficiency Programme.</li> </ul>	
	- Private Sector Industrial Energy Efficiency (PSEE) Programme.	
	- Renewable Energy Independent Power Producer Procurement Programme.	
ENERGY	- Fuel switch – from emission intensive fossil fuels to natural gas.	
1A2 Manufacturing Industries and Construction		
ENERGY	- Bus Rapid Transport (BRT) System.	
1A3 Transport	- Electric vehicles.	
	- Transnet Road-to-Rail Programme.	
IPPU	- Carbon Budgets (only process emissions).	
	- Nitrous oxide projects.	
AFOLU	- Department of Environmental, Forestry and Fisheries Afforestation	
<u>3B Land</u>	Programmes, including the Working for Land and Working for Ecosystems	
	Programmes.	
	- Grassland rehabilitation programme.	
WASTE	Biogas, composting and material recovery projects implemented under the Waste	
	Management Flagship Programme.	





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V 2030 NDP

## Mitigation Quantification Tool

- The assessment of greenhouse gas impacts is facilitated by the Mitigation Quantification Tool.
- The Mitigation Quantification Tool has been designed so that multiple sources of data may be used to report on specific mitigation actions.







### **Data Collection**

### Data sets

- Data sets were collected by different means.
- Some data sets were available in the public domain and some data sets were requested and collected via email.
- No formal arrangement exist between DFFE and data providers.

### Data format

• Most data sets were provided as activity data relating to the underlying emission activity (for example kWh saved by energy efficiency measures) however some data sets were provided as tCO2e saved by the mitigation action in question.

### Assessment

- The evaluation of the selected climate mitigation actions focused on quantitative assessments, where data sets were available, and also included high-level qualitative assessments of the associated co-benefits (non-greenhouse gas impacts).
- •IPCCC methods were used to estimate emissions.





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NDP

### **Tracking of Policies and Measures**







### Impact of PAMs on GHG Emissions







## Assessment of non-greenhouse gas impacts

 The non-greenhouse gas (co-benefits) of the different actions were qualitatively assessed and categorized as follows:

Environment: Reduced air pollution due to the mitigation of fossil fuel combustion for energy generation purposes.



Social :Increase in jobs due to uptake of energy efficient technologies.



Economic : Increase in green economy due to uptake of energy efficiency technologies.







## Challenges

Capacity and Resource	Data Quality and Availability
Constraints	Issues
<ul> <li>Some data providers requires DFFE to pay membership fee to get access to the data.</li> <li>Institutional personnel constraints due to high professional staff turnover.</li> <li>Capacity building constraints in preparation for reporting under the ETF</li> </ul>	For some mitigation actions, there is a delay in approval of reports which then affect timing and availability of the data.







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