CLIMATE CHANGE RESPONSE dialogue 2014
JOHANNESBURG, SOUTH AFRICA

National GHG Inventory and tracking GHG emissions

Session 21: Using data effectively to track the transition to a low carbon South Africa

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

ipcc intergovernmental panel on climate change

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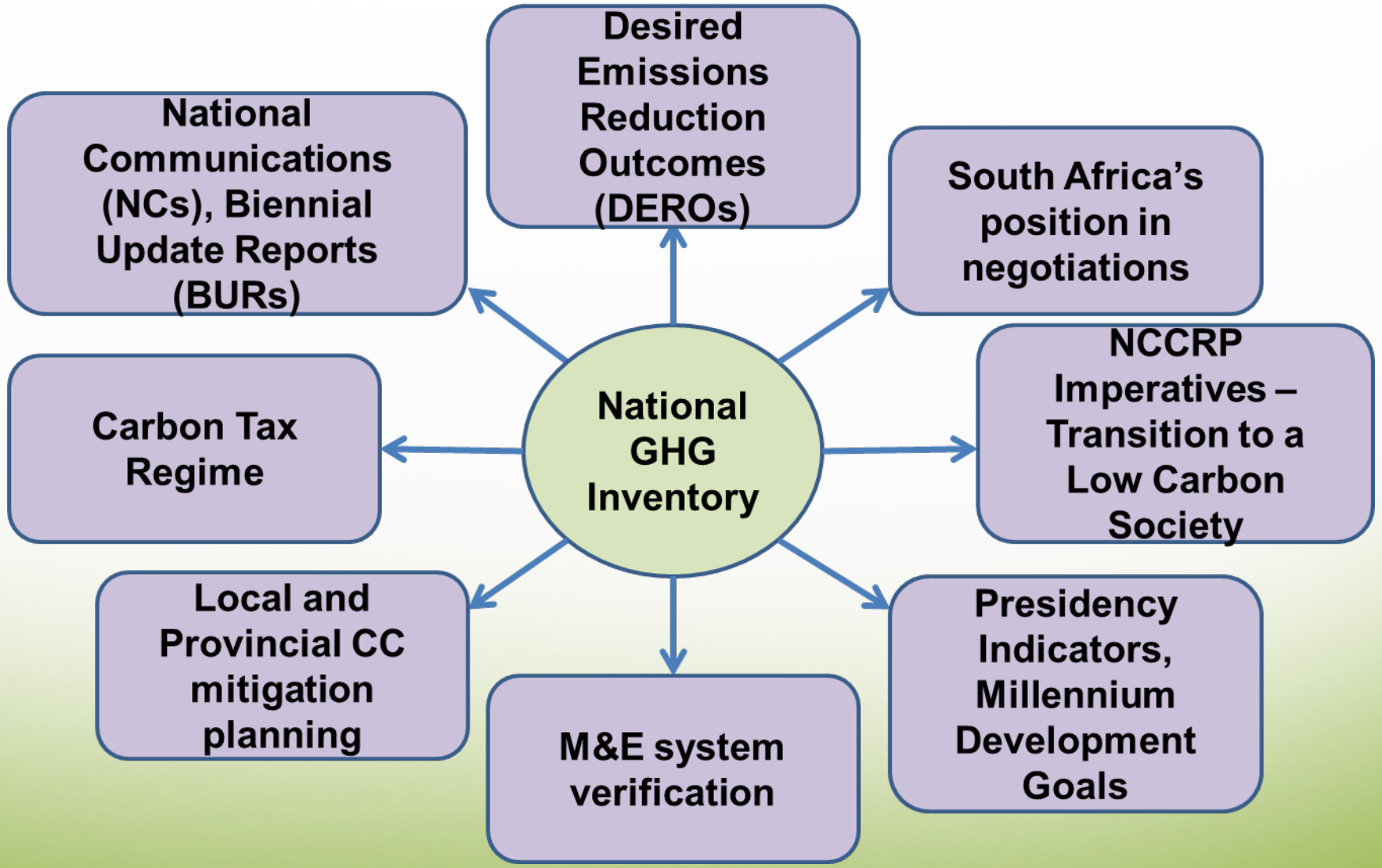
Overview

- GHG Inventory and the National Climate Change Response Policy
- Achieving a National GHG Inventory System
- Approach to develop standardized top-down and bottom-up emissions accounting methodologies and quality control
- Institutional arrangements: example for Land Use and Land Use Change & Forestry (LULUCF)
- Quality assurance (QA) process
- Tracking GHG emissions: Analysis of some indicators
- Concluding remarks

GHG Inventory and the NCCRP

- What does the National Climate Change Response Policy (NCCRP) say about the GHG Inventory:
  - **Executive Summary** (key elements in the overall approach to mitigation) and section 6.1.7 – "Establish a national system of data collection to provide detailed, complete, accurate and up-to-date emissions data in the form of a Greenhouse Gas Inventory and a Monitoring and Evaluation System to support the analysis of the impact of mitigation measures.
  - **Introduction and in relation to international obligations (UNFCCC)** – "Monitor and periodically report to the international community the country's GHG inventory; steps taken and envisaged to implement the UNFCCC; and any other information relevant to the achievement of the objective of the UNFCCC, including information relevant for the calculation of global emission trends"
  - **Section 6.7** – "The DEA in partnership with the South African Weather Service, the host of the SAAQIS, will prepare a GHG Emissions Inventory annually. The inventory will conform to the IPCC's 2006 or later guidelines, and will be periodically reviewed by an international team of experts. The inventory will also undertake and report analyses of emissions trends, including detailed reporting on changes in emissions intensity in the economy and a comparison of actual GHG emissions against the benchmark national GHG emission trajectory range described in section 6.4"
  - Section 6.7 – "The emissions inventory will be a web-based GHG Emission Reporting System and will form part of the National Atmospheric Emission Inventory component of the SAAQIS. It will be developed, tested and commissioned within two years of the publication of this policy"

Importance of a National GHG



How South Africa is achieving a GHG Inventory System

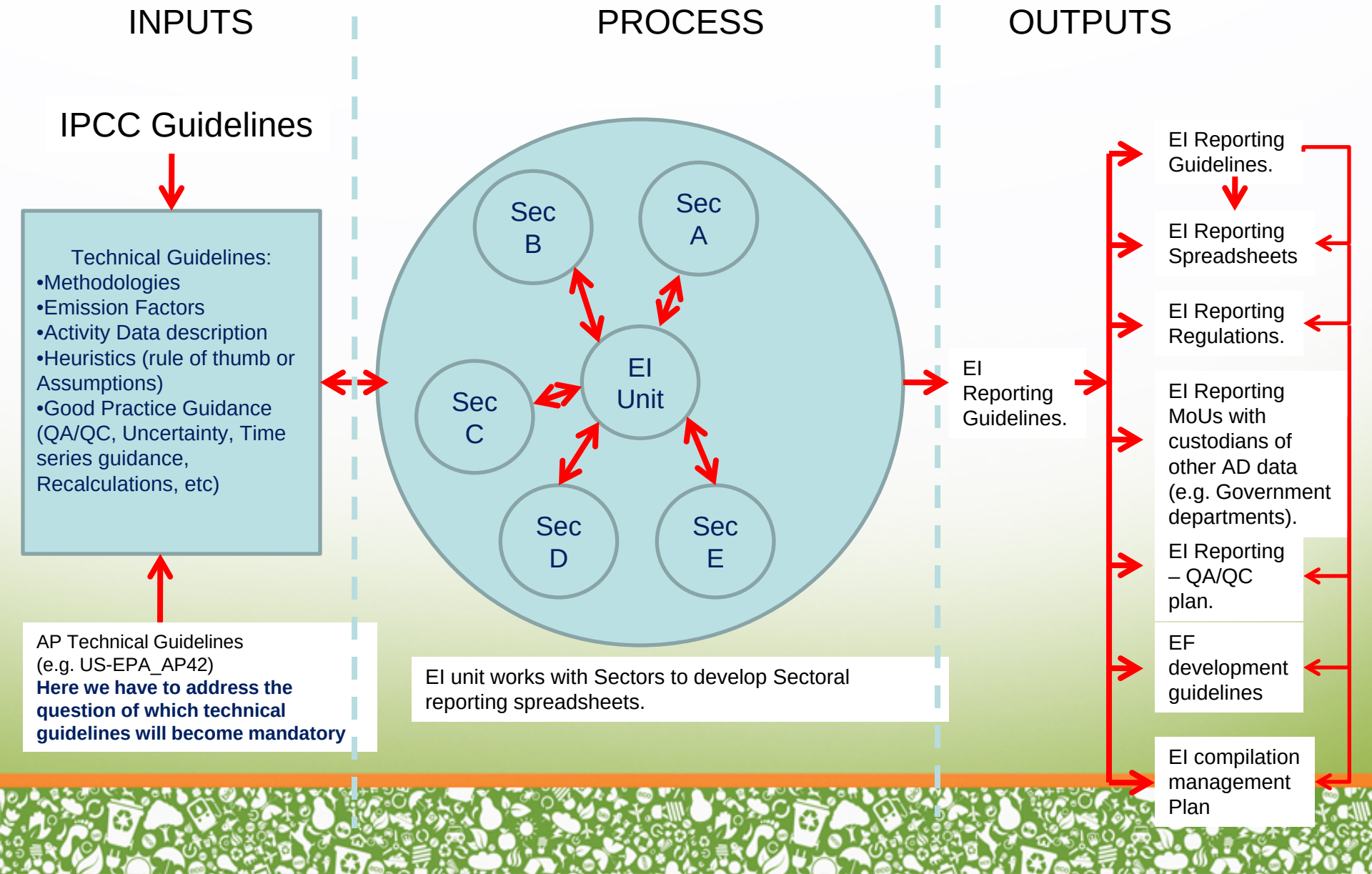
- Approach to designing the national system
  - An assessment of national circumstances (to identify strengths and weaknesses)
  - **Institutional mapping and mandate analysis – reduces the cost of generating data particularly when government research and information institutions are involved**
  - Motivate internally for establishment of a national Inventory Unit (NIU) – very important to build on existing capacity
- Emission Inventory tools
  - Use of existing tools (e.g. air quality management tools - this helps to reduce costs and reporting burden for industry)
  - In the South African case, more than 60% of industry reporting for air quality account for more than 65% of greenhouse gas emissions

How South Africa is achieving a GHG Inventory System (cont.)

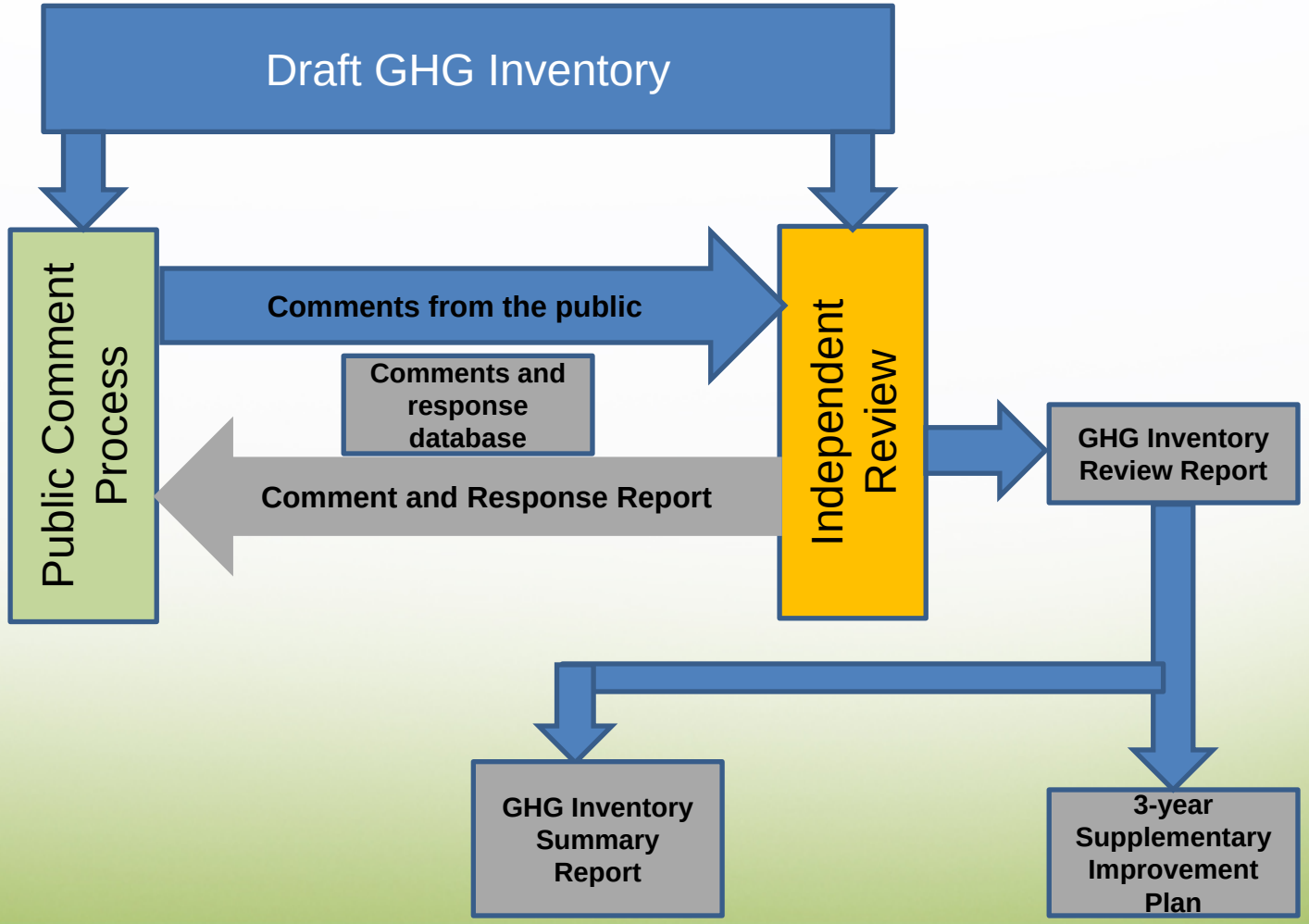
- Data collection processes
  - We built data collection processes based on our previous ad-hoc inventory compilation;
  - Signing of MoUs with data providers, reporting guidelines for industry and establishment of quality assurance/quality control (QA/QC) procedures
  - For the past three years, we held 1-week long free training courses on the use of IPCC guidelines so that data providers and relevant government officials understand the data we need and how it can assist with their planning
  - Working with emitting sectors to define reporting guidelines that will be followed over time and documented
- Inventory management process
  - Defined job descriptions for members of the National Inventory Unit (sectoral – experts are key to the functioning of the national inventory system)
  - Developing an Electronic Document Management System (EDMS) to document sources of data, inventory compilation, and facilitation of the QA/QC process for all IPCC sectors)
  - The EDMS is going to be used as an inventory planning and archiving tool as well.

Process Orientated Institutional Arrangements - LULUCF

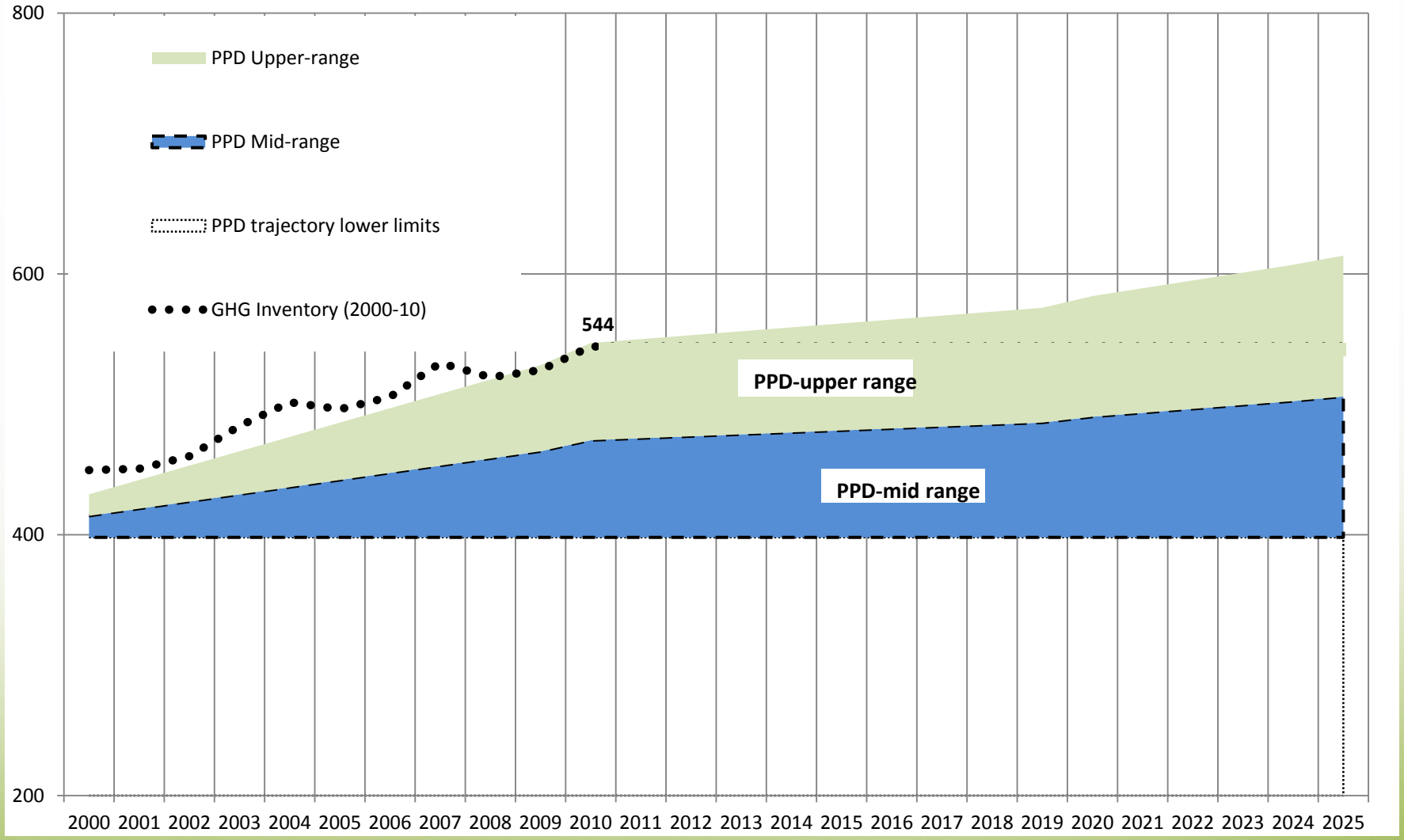
Approach to develop standardized top-down and bottom-up emissions accounting methodologies and quality control



Quality assurance process



Tracking a transition to a Low Carbon South Africa



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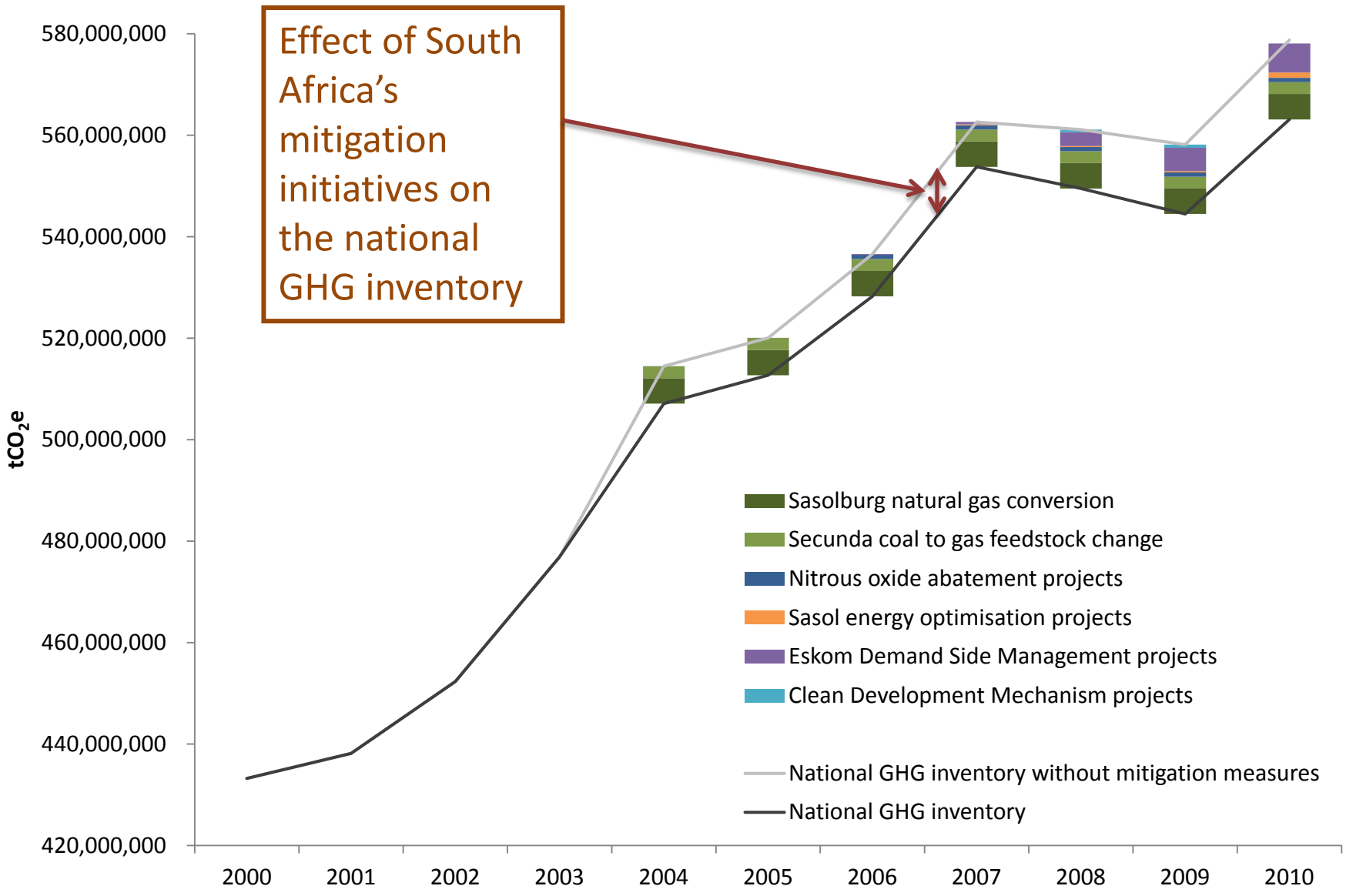
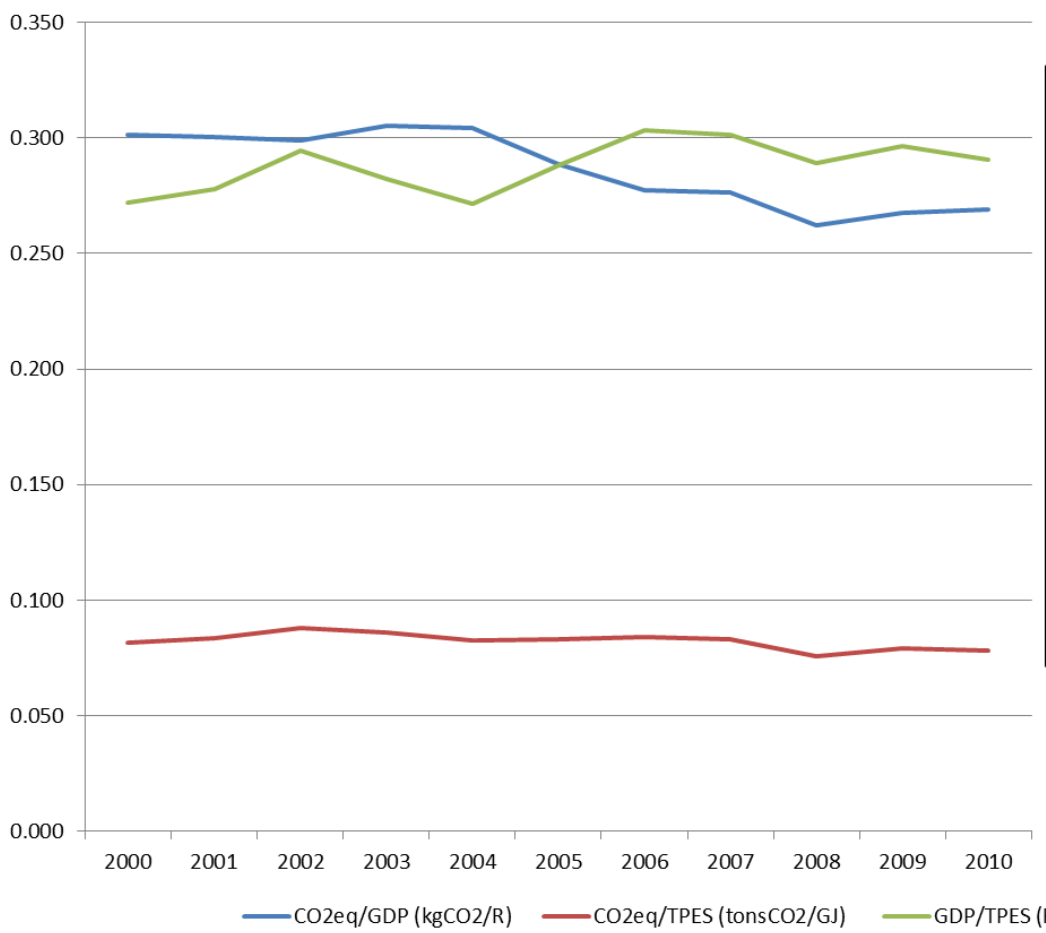


Tracking a transition to a Low Carbon South Africa



Economy Carbon Intensity (CO2eq/GDP):

% Change (2000-2010)= (-) 10.7

Economy becoming greemner thanks to:
(a) Growth in the services and financial sectors
(b) Reduction and stagnation in the manufacturing and Mining respectively

Energy Supply Carbon Intensity (CO2eq/TPES):

% Change (2000-2010)= (-) 4.7

carbon intensity of our energy supply impacted by the economic crisis
general, stagnation elsewhere in the time series is as a result of an unchanged energy supply mix

Energy Intensity of the Economy (GDP/TPES):

% Change (2000-2010)= (+) 6.8

More economic value derived per unit of energy supplied to the economy

Concluding remarks

- We are developing a national system that is founded on:
  - Our previous ad-hoc inventory compilation process
  - National circumstances that makes the national system unique and responsive to our data collection challenges
- In a developing country like ours, it is fundamentally important that we build on existing institutions that are set-up to carry mandates that impact on the compilation of the GHG inventory
- Data collection tools are essential if the intention is to develop a sustainable GHG inventory compilation process
- A well-defined stakeholder/sector engagement process ensures that data collection is informed by sector-specific methodological guidance. This process is also important for the purposes of developing GHG inventory tools
- We have a unique quality assurance process that promotes transparency and continuous improvement

Thank You