

# Restoring Landscapes in South Africa (ReLISA): Nature-based solutions for climate, biodiversity and people

**WP2:**

**Measurement, Reporting and Verification (MRV) and Impact Monitoring**



science & innovation

Department:  
Science and Innovation  
REPUBLIC OF SOUTH AFRICA

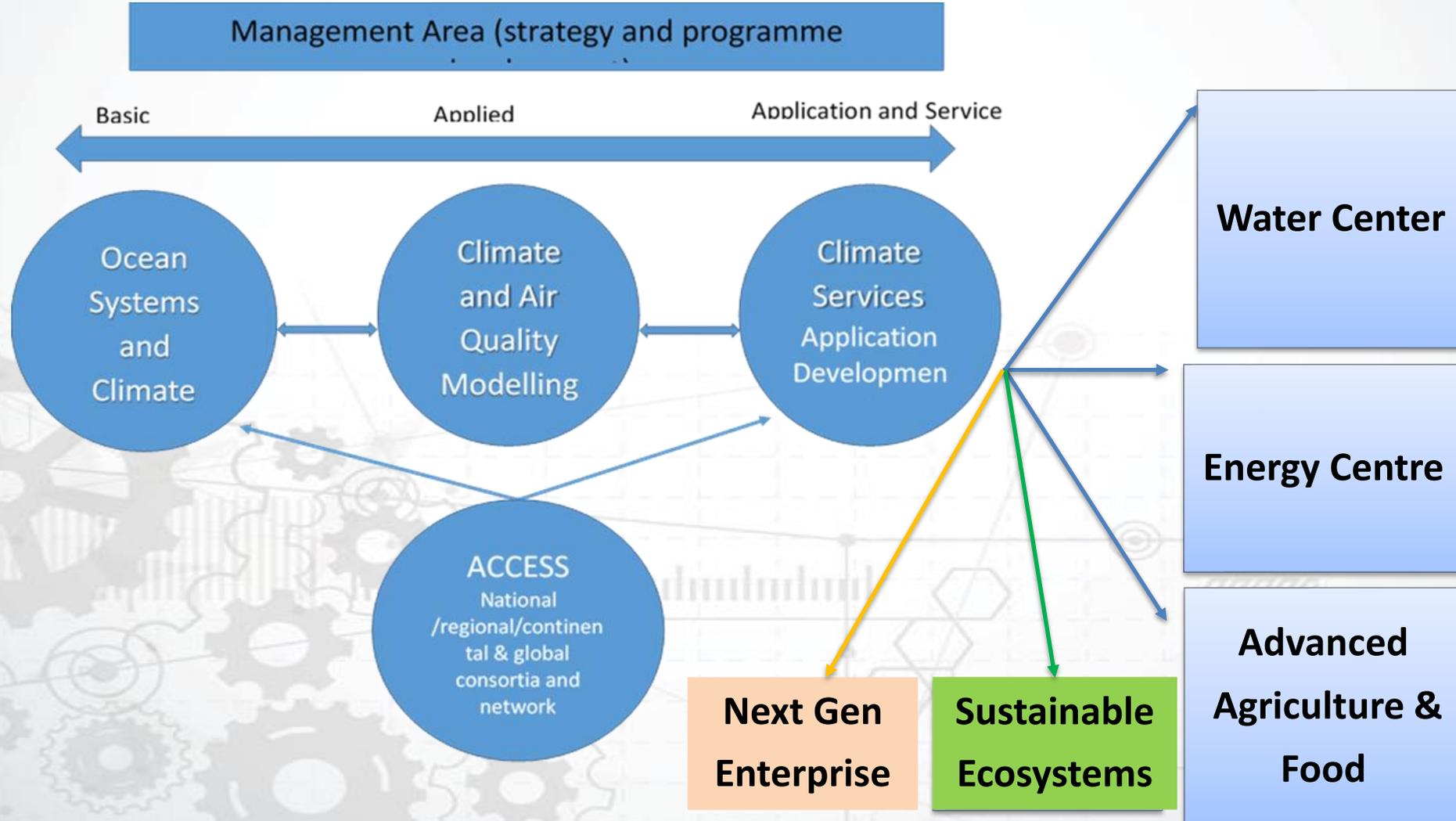


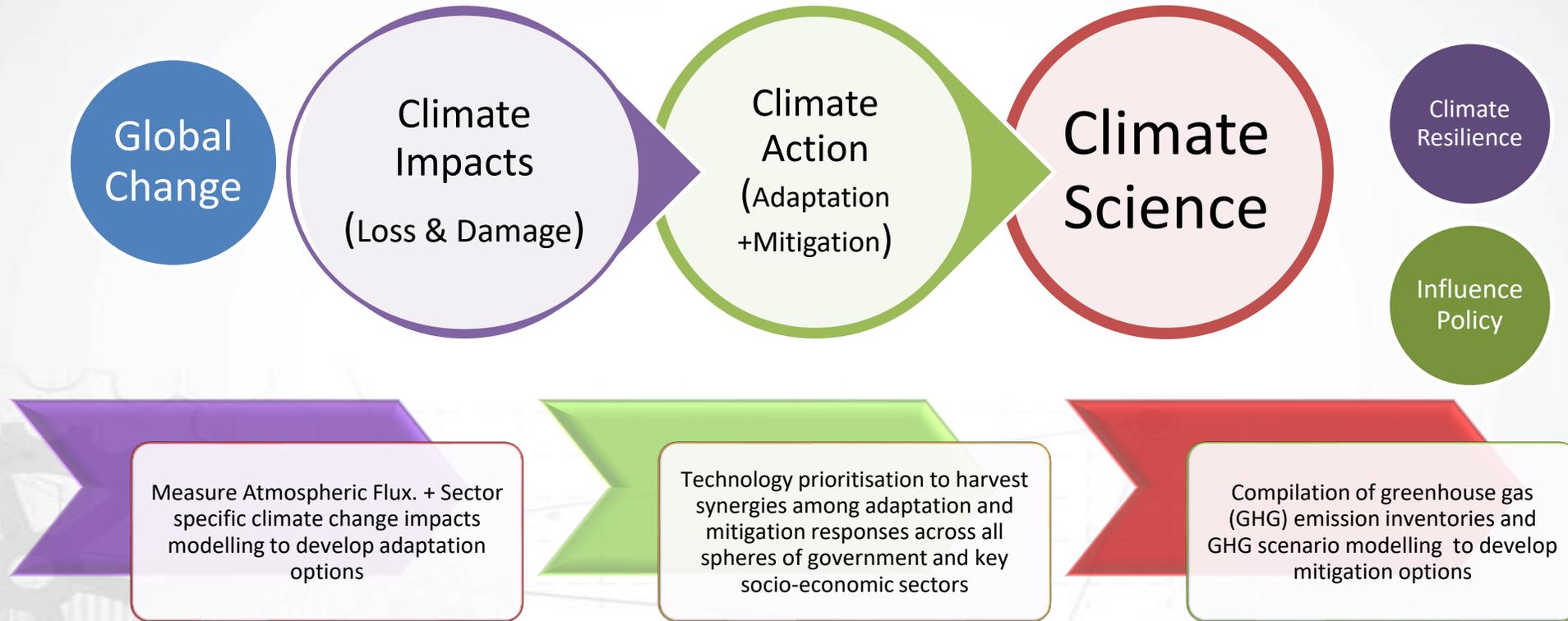
**CSIR**  
Touching lives through innovation

# Position in the CSIR



## Strategic Partner Entities





- Development and application of tools and methodologies for MRV

- Support climate change policy objectives for transparent reporting in the region in terms of mitigation and adaptation responses towards meeting international climate change reporting obligations.

# MRV-IMPACT MONITORING-GENESIS



Paris Agreement: UNFCCC-Conference of the Parties (COP) commitments.

*“Common but differentiated responsibilities”*

National Communications

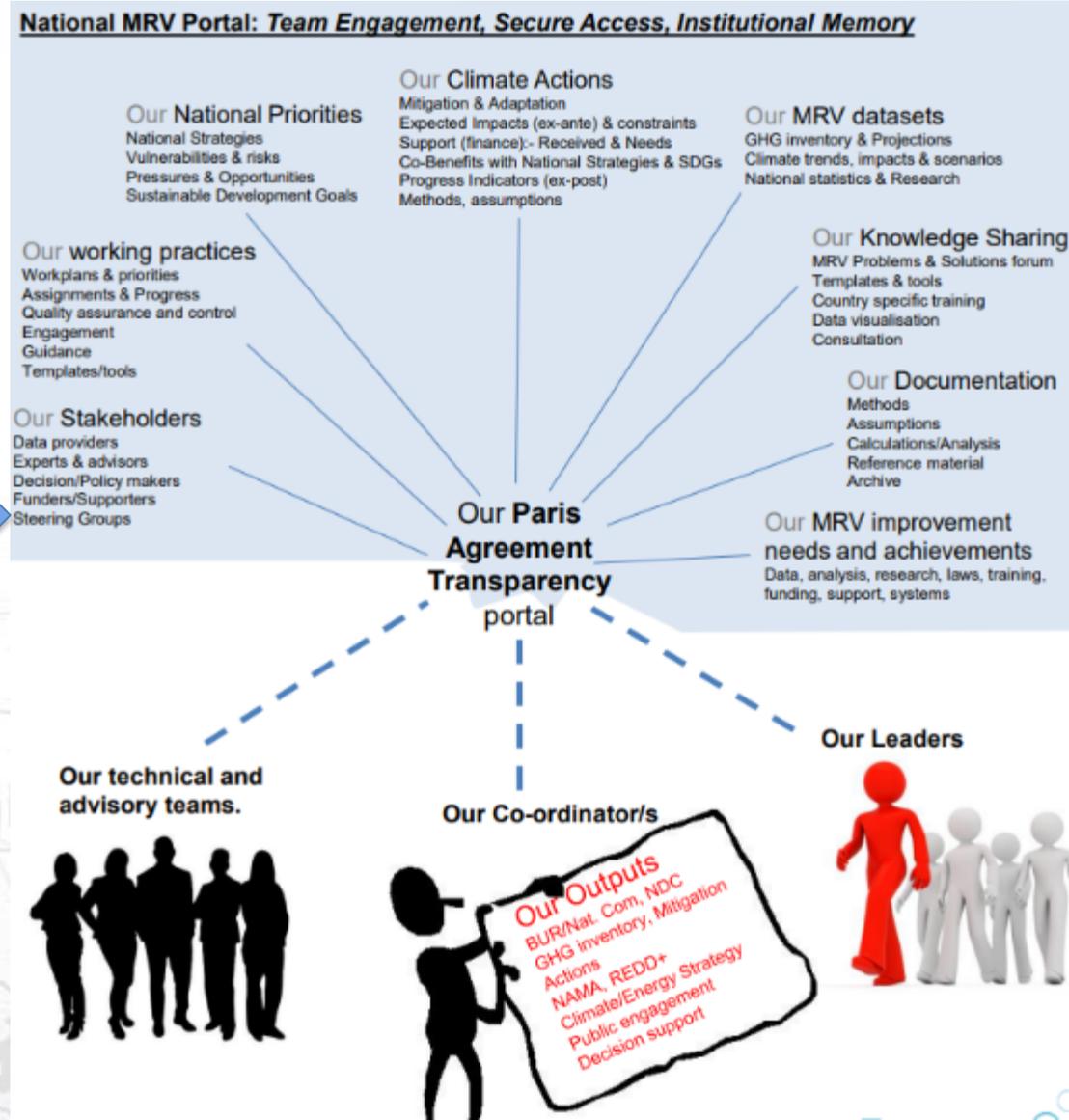
BUR

**Voluntary Commitments**

REDD-plus forest reference emission levels and/or forest reference levels

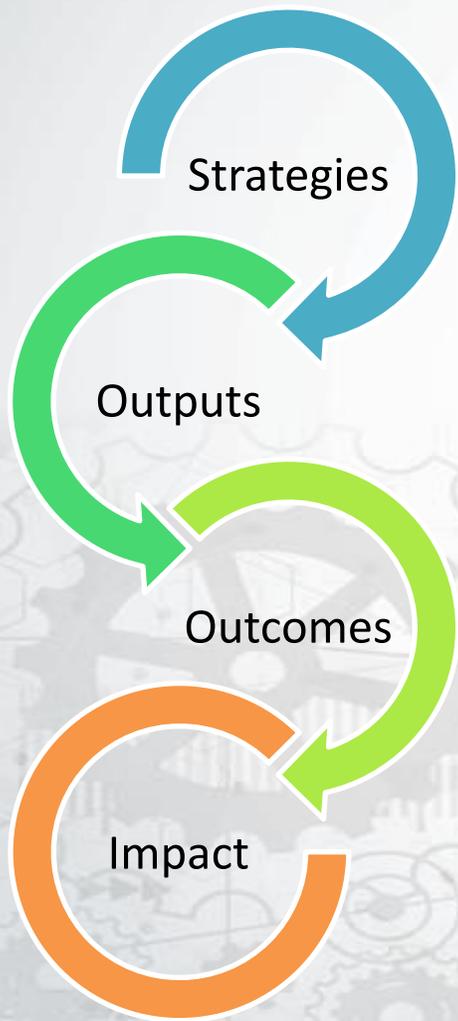
# Measurement Reporting & Verification

CSIR  
championing  
the  
Establishment of  
Integrated MRV  
Systems.



# MRV-THEORY OF CHANGE

Drive transformational change of SA's Landuse sector



## THEORY OF CHANGE

### ASSUMPTIONS

- All communities & voices are equal
- Individuals have the ability to change institutions and systems
- Our team lives by its values

Relationships



Human Capital



Financial Resources



Information



### PRE-CONDITIONS

- Need for accountability exists
- Political/civic space to operate
- Communities willing to participate
- Partnerships to facilitate change

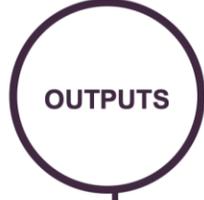
### COALITION BUILDING



ENGAGED PRIVATE SECTOR & RESPONSIBLE LEADERSHIP



- CAMPAIGNS  
COLLABORATION HUBS
- INCUBATORS & TRAINING  
FEEDBACK MECHANISMS
- MULTI-STAKEHOLDER INITIATIVES  
POLICY CHANGE



Adaptive capacity/GHG Emissions, Biodiversity, Resilience

**OUR IMPACT** RESTORED LANDSCAPES, IMPROVED CARBON SINKS, ENHANCED RESILIENCE

SUSTAINED LIVELIHOODS THROUGH LANDSCAPE RESTORATION & RESILIENCE AGAINST CLIMATE CHANGE

# Contextualising the need for MRV

There are existing and emerging financial incentives for land managers to adopt practices that contribute to climate change mitigation

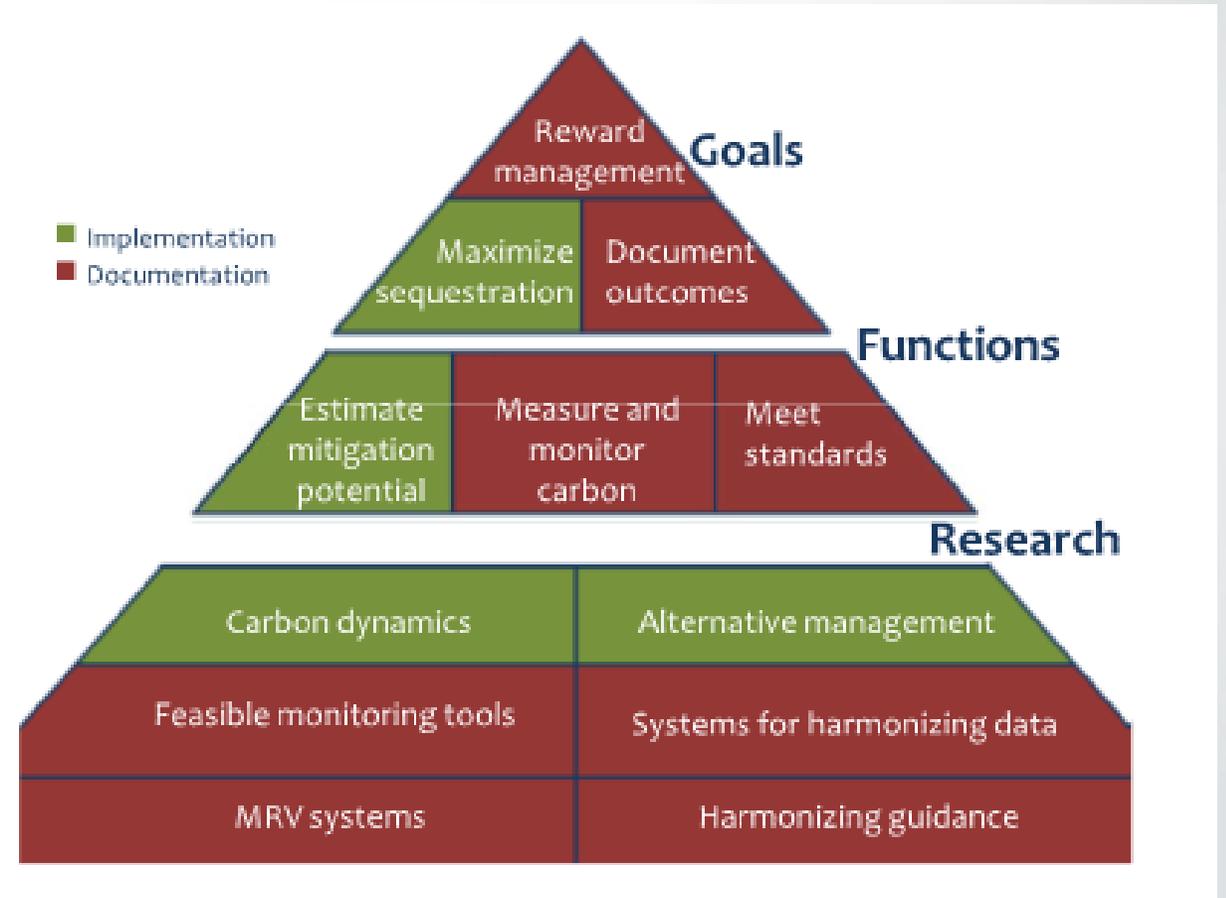
- Maximizing terrestrial carbon sequestration while minimizing greenhouse gas (GHG) emissions
- Contribute to methodological improvements – e.g., SA-based emission factors (land use sector).

Improved terrestrial carbon management not only offers potential for climate change mitigation but also many co-benefits

- Increased productivity
- Climate resilience
- Ecosystem Services
- Air Quality

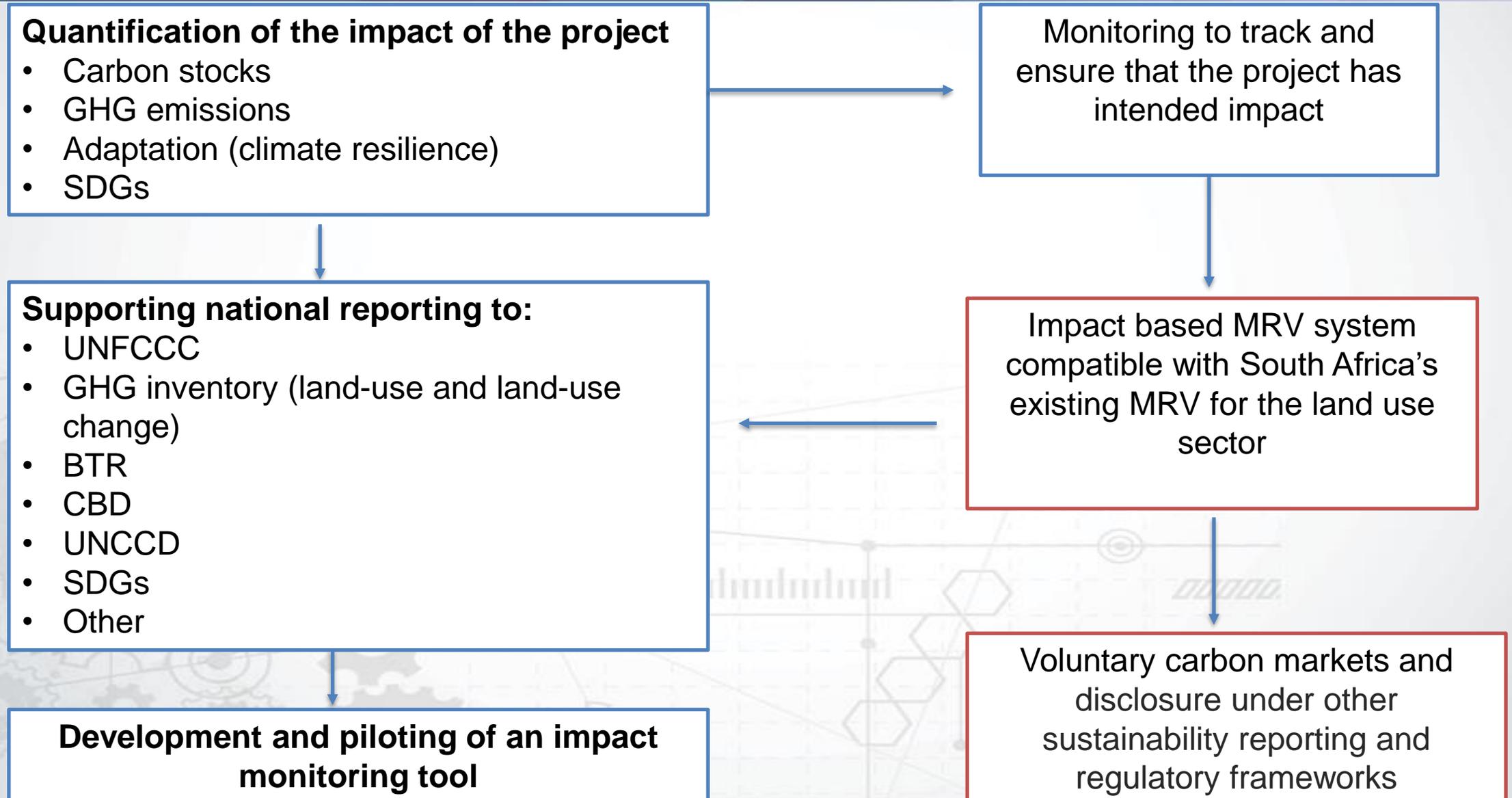
# Contextualising the need for MRV

- **Goals:** the most effective and efficient net climate change benefits (adaptation, mitigation, sustainable development)
- **Need:** a coherent, integrated information base for documenting effective land management practices
- **Outcomes:** produce real results, and in a way that is transparent, consistent and comparable across space and time - MRV



Brogniez et al (2011).

# Contextualising the need for MRV



# MRV-IMPACT MONITORING: Key activities



Assessment of SA MRV system for the Land Sector

Review existing MRV systems for AFOLU Sector



Needs Assessment

Identify the system needs and gaps; stakeholder needs  
Policy and regulatory environment requirements



Development of Methods and Tools for MRV and Capability Building

Aligning domestic MRV approaches with international best practice for MRV of the Land Use sector and with GHG Emissions Inventory  
Training on MRV tool



Reporting (GHG Emissions & Restoration)

Enhancement to national reporting platform for MRV

## What exists

## What are the gaps

## Benefits of closing these gaps

What is routinely monitored, by whom, why and how and where

Data and information

Enhance monitoring, evaluation and reporting on the implementation of interventions in the land sector

What is reported on, how often is it reported on, why, and by whom

Tools and methods

Improved awareness of mitigation potential and impacts

What are the procedures for verification

Capacity to use existing tools and adopt new ones

Innovation in mitigation and building resilience (e.g., urban heat, flooding and reducing air pollution impacts)

How is the data and information captured, managed and used

Guidelines and systems

Adoption of guideline and principles into policies and plans

Strengthened capacity to implement interventions and track progress through enhanced knowledge of stakeholders

## Key activities:

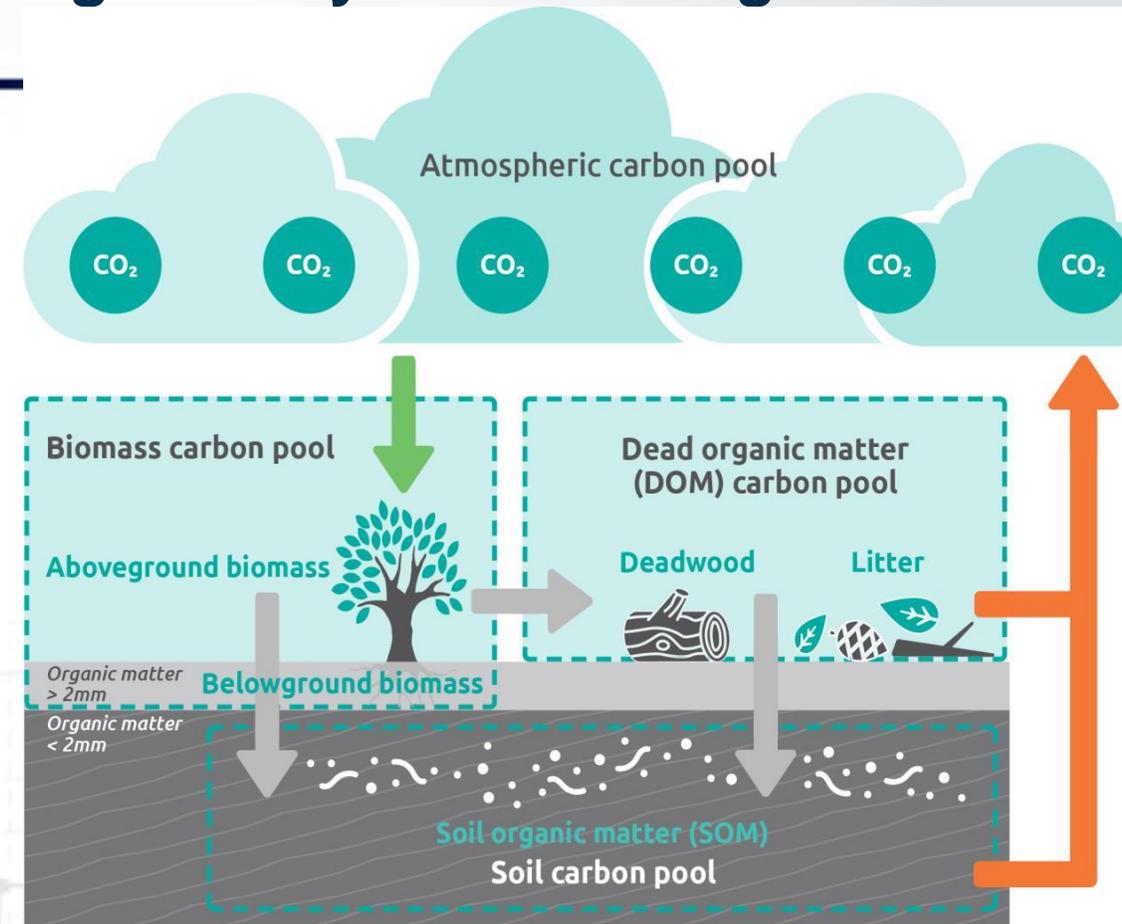
# Enhancements to South Africa's existing MRV system and digital platform

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- Understand and identify areas for enhancement/of improvements
  - Analysis of Existing MRV system for AFOLU sector in South Africa and data sources
- Assess existing MRV tools and products from private companies in South Africa other universities and research organizations
- Needs assessment to prioritise gaps that will be addressed in this project
  - Key primary and supporting policies in the national policy framework
  - Alignment of policies in the land sector (including land restoration policies and measures)
  - Cross-cutting sectors (e.g., biodiversity sector) with national climate change policies, international agendas, and achievement of sustainable development goals

# Key activities: Enhancements to South Africa's existing MRV system and digital platform

- Develop methodological approaches and tools that can be used to track indicators and monitor impact
  - The development of locally-appropriate methodologies that consider specific production systems and biomes
  - Draw on the data and methods that are used in the work packages
- Testing of methodological approach/tools for specific case studies to MRV the GHGs and impacts
  - show how it can be used for different reporting purposes and to track progress on key climate change goals
- Development of the additional reporting system requirements to the existing MRV system/digital platforms
  - gathering all the information in a secure system – confidence in data



- Key:**
- ➔ Gross CO<sub>2</sub> removals
  - ➔ Gross CO<sub>2</sub> emissions
  - ➔ Transfers between carbon pools
  - Pool

Example of Land-based carbon pools and fluxes (WRI, 2022)

# Key activities and outcomes

## Activity II.1

Enhance South Africa's MRV system for the land sector and the existing digital platform managed by SAEON, including by enhancing the exchange of information between different stakeholders, showcasing flagship restoration initiatives, and linking the MRV system with the UN Decade Information hub (the UN Decade on Ecosystem Restoration).

### Sub-activity II.1.a

Analysis of the existing national MRV system and private sector tools to identify gaps, and opportunities to enhance the existing systems and platforms.

### Sub-activity II.1.b

Needs assessment based on existing policies and measures, scientific and technical gaps to MRV sector, and stakeholder capacity needs.

### Sub-activity II.1.c

Development and testing of methods, tools, and indicators to inform refinements to current MRV system for the sector to close existing gaps identified in the needs assessment.

### Sub-activity II.1d

Development of the additional reporting system requirements to enhance the existing MRV system/digital platforms and link to the UN Decade Information Hub

## Key activities:

# Publication of guidelines, development of training materials and capacity building reports

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- Develop guidance materials to showcase the tools, methods, data and outputs
- Identify the needs of key beneficiaries
  - using the information generated from the project
  - capacity needs
- Develop capacity on the use of the tools and information in reporting purposes, decision-making and tracking progress towards climate change goals
  - Training on the use of the tools
  - Ensure that the outcomes of project restoration activities are included in the GHG inventory and other UNFCCC reports

# Key activity and outcomes

## Activity II.2

Ensure outcomes of project restoration activities are compiled into the national GHG inventory and other UNFCCC reports, including the BTR and the NDC, CBD reports and UNCCD reports.

### Sub-activity II.2.a

Development of training materials on the new indicators and guidelines on the methodologies and tools of the enhanced MRV system.

### Sub-activity II.2.b

Capacity building and training on the use of the new MRV tools developed and its utility in GHG inventories and international reporting.

### Sub-activity II.2.c

Dissemination of results from the case study analyses of the enhanced MRV system.

## Key activities:

### Develop and pilot an innovative impact monitoring tool

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- The information generated through the MRV system, in its more aggregated form supports national reporting and improved governance
- Information will also to be of value to other stakeholders such as land managers
  - encourage, motivate, track and reward continuous improvement
  - use for decision support
  - the results can be certified, and carbon credits could be issued
- Information flow to national MRV system
  - Supports effectiveness and continuity in data provision

# Key activities:

## Develop and pilot an innovative impact monitoring tool

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### How to we best package MRV data inputs and outputs?

- Understand opportunities for carbon sequestration and the implications for:
  - carbon tax
  - carbon assets
  - voluntary carbon markets

### Dissemination via a tool

- Existing products
- Types of data products
- Ease of use by key stakeholders
- Technical platforms, hosting of the tool

### Development of impact monitoring tool

- Conceptualization and design
- Piloting the tool using the data and information from this project

# Key activities and outcome

Activity II.3	Develop and pilot an impact monitoring tool to inform investors, financial intermediaries and government agencies on key impacts (GHG emission reductions, water benefits, employment etc.)
Sub-activity II.3.a	Co-development of the concept for the monitoring tool with stakeholders, users and other interested parties
Sub-activity II.3.b	Identification and establishment of protocols to disseminate data products, information and research
Sub-activity II.3.c	Development of the systems architecture for the tool
Sub-activity II.3.d	Piloting the tool – beta version

# Long-term outcomes

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- The MRV methods and tools developed through this project will help to enhance the country's MRV system
  - Support improving reliability of data for reporting to both national and international stakeholders
- MRV in this sector is also important to promote innovative policies
- MRV over time will also allow generating long-term assessments
  - track change and emission reductions associated to current and improved management practices
  - reduce uncertainty associated with emission factors and to generate robust and cost-effective activity data

# Discussion

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- Who are the key role-players (private and government) that are currently working on MRV in the land sector?
- What are the on-going MRV initiatives for the land sector that should be leveraged or built on?
- What are the imperatives for MRV in the land sector in South Africa that this project can help to address?