Food and Agriculture Organization of the United Nations

GLOBAL SOIL PARTNERSHIP

12th Plenary Assembly

03-05 June 2024

Inventory of MRV systems related to Soil Health

Maëlys Paquette - DELOITTE

Soil Partners' Day

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Needs for MRV tools

COMMITMENTS

Committing and setting targets is the first building block

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More and more organisations are committing to **decarbonization targets**.

Companies with approved targets (well below 2°C)

Companies with approved targets (1,5°C)

OPERATIONAL CHALLENGES

The struggle comes when organisations attempt to roll out the decarbonization strategies.

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How to **measure, monitor, verify and report on the environmental impact of low carbon practices** anywhere and over long-time frames ?

TOOLING AS A MUST

Organisations equip themselves with **a MRV tool** to deploy at scale low carbon triggers such as agroecological practices with **adapted financial and human resources**

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How to **select the right tool** ? What are the key questions and **characteristics** of each tool to decide which one corresponds to the organisation's context ?

Farm Carbon Toolkit, Rize, GENESIS, trinity AGTECH, COMET Farm, FAO, boomitra, MyEasy Carbon, regrow, Agro-Transfert, ALDO

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The proposed inventory

What the inventory is :

- A way to **simplify decision-making** by identifying criteria that **differentiate tools**.
- A collection of **information shared by tool developers but not verified by Deloitte nor "4per1000"*.**
- An **initial building block** of a larger process where the company will develop its **decarbonization strategy**, focusing on **agricultural levers** and the tools needed to support it.
- An **open-data** tool.

What the inventory is not :

- A **comparison of MRV solutions**.
- A set of **recommendations on the MRV solution** that should be prioritized in your usage context.
- A guide for determining **the relevance of using an MRV solution**, as each organization must evaluate its specific context need independently.

* The information was retranscribed as given by the vendors and was not verified by Deloitte or "4 per 1000"

A 4-step methodology

1

Interviews with experts to gather recommendations on definitions and key criteria


Pete Smith


Eric Ceschia


Martial Bernoux


Suzanne Reynders


Natalia Rodriguez Eugenio


Jean-François Soussana

2

State of the art of existing initiatives to ensure the uniqueness of our work

WORLD BANK GROUP

MARVIC
MRV for carbon farming

CLIMATE

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ORCaSa
Because soil carbon matters

3

Interviews with tool providers to challenge our criteria and consolidate feedbacks

Farm Carbon Toolkit

COMET Farm

Cool Farm

FARMEYE

GENESIS

regrow

MyEasy Carbon

indigo

agrecalc

Agro-Transfert

Carbon Benefits Project

4

Questionaires sent to additional tool providers to fill in our inventory

Rize

Carbon Harvesters

boomitra

ADEME

agrosolutions

trinity

eagasc

ALDO

Agreena

agoro

Identification of relevant differentiation criteria

Creation and completion of our tool

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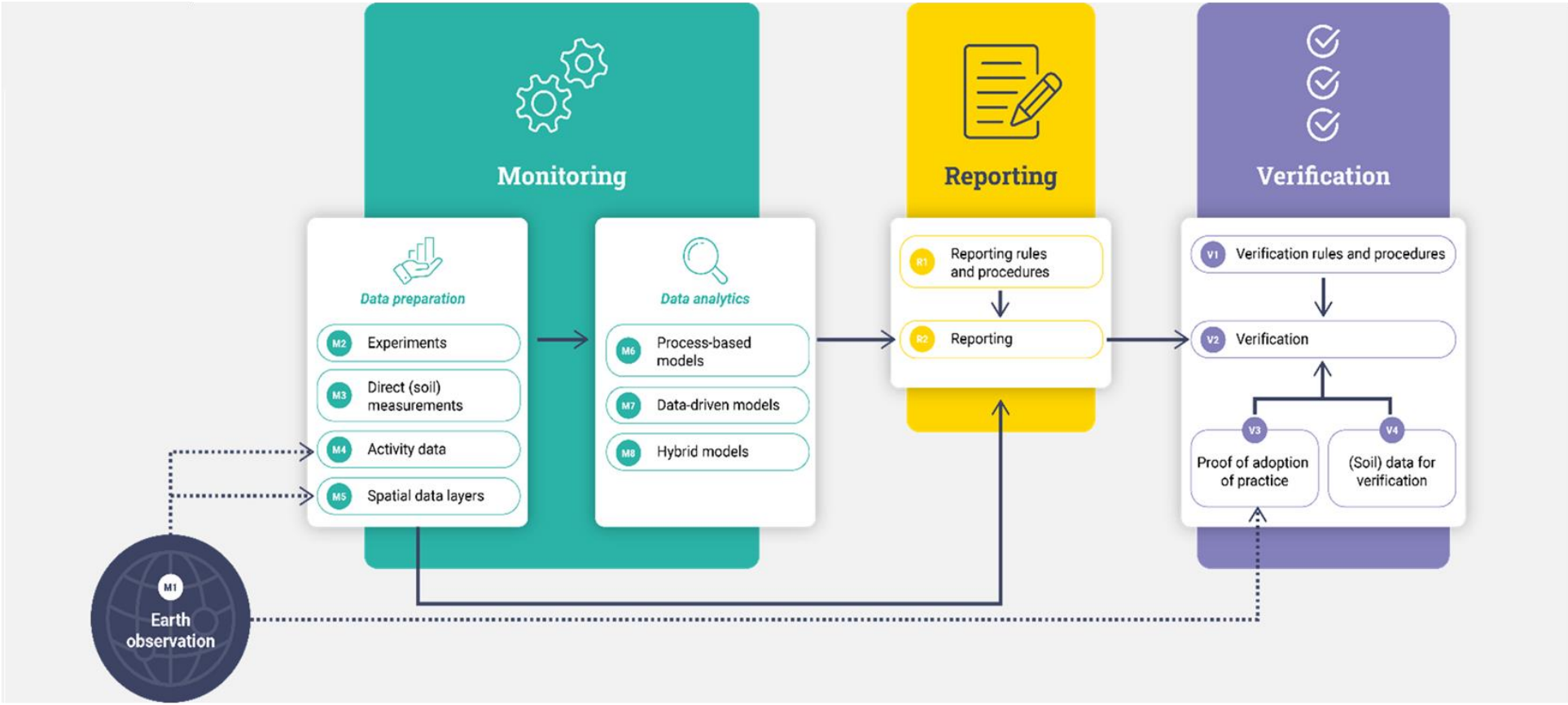
1. The agreed definition of MRV



ORCaSa deliverable 4: Schematic representation of components, building blocks and information flow for an adaptable and scalable MRV system.

2. The criteria grid – Key questions

Topic	Key Questions	Key criteria
Scale	○ Which geography is the tool calibrated for?	Geographical scale
	○ For which agricultural commodities/practices is the tool adapted to?	Precise AFOLU sector
Monitoring – Input	○ What are the data inputs required by the tool ?	Data input type
Monitoring - Process data	○ What is the precision of the data output by the tool? **The quality of the data depends on the input data - in a model, there can be various data qualities depending on what is being examined*	IPCC Tier
Reporting	○ Does your tool calculate the amount of carbon stored in the soil?	Main indicators - tCO2e stored
	○ Does your tool propose a scenario analysis?	Proposed action plan
	○ Can the MRV tool be used to meet requirement for carbon credit certification schemes?	Carbon credit
Verification	○ Does the verification phase/step rely on adoption of practices (earth observation) or through soil sampling verification?	Verification
Business model and other	○ Does the use of the tool include a cost?	Business model
	○ Does the tool allow interoperability with other database/Application Program Interface /Farm System Management systems to ease the data collection phase ?	Interoperability

Choosing a tool is the best combination of these key criteria

2. The criteria grid – Overview

General information

- ❑ **Owner / Company**
- ❑ **Tool name**
- ❑ **Website**
- ❑ **Creation date of the tool**
- ❑ **Latest release of the tool**
- ❑ **Number of releases**
- ❑ **Main users**
- ❑ **Short description of the tool**

Scope

- ❑ **Geographical scale**
- ❑ **Sector (AFOLU, agriculture, forestry)**
- ❑ **Precise agricultural sector**

Monitoring – Input

- ❑ **Experiments**
- ❑ **Direct (soil) measurements**
- ❑ **Activity data**
- ❑ **Spatial data layers**

Monitoring - Process data

- ❑ **Modelling**
- ❑ **Calculation methodology**
- ❑ **Transparency**
- ❑ **IPCC Tier**

Reporting

- ❑ **Lag time**
- ❑ **Main indicators:** $tCO2_{eq}$ emissions/reduction , $tCO2_{éq}$ stored, OM amount
- ❑ **Other indicators:** Spatial resolution, frequency, temporality; GHG included
- ❑ **Uncertainty measurement**
- ❑ **Scenario analysis:** + reference scenario type
- ❑ **On-field advisory**
- ❑ **Carbon credit:** standard and methodology

Verification

- ❑ **Verification rules and procedures**
- ❑ **Proof of adoption practice**– Earth observation
- ❑ **Direct (soil) measurement for verification**

Business model of the tool

- ❑ **Fees/Free**
- ❑ **Business model (if fees)**

Other

- ❑ **Interoperability**
- ❑ **Device accessibility and availability**
- ❑ **Support and easiness of use**

Key

Criteria related to the monitoring pillar

Criteria related to the reporting pillar

Criteria related to the verification pillar

Criteria related to general elements

2. The criteria grid – Tool demonstration

MRV Tools

Deloitte.

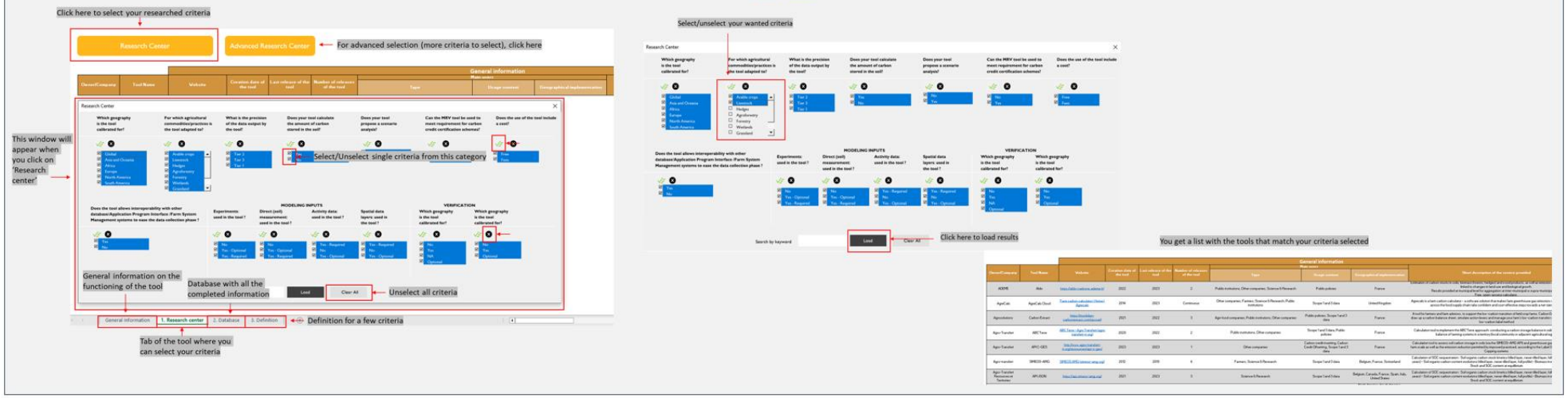
Purpose of this tool

This inventory had been developed by Deloitte Sustainability France at the request of the "4 per 1000" Initiative and in a context of an agreement signed as of june 2023 between Deloitte and the "4 per 1000" Initiative. The aim for the "4 per 1000" Initiative is to propose an inventory tool of existing MRV solutions on an international scale, to help project leaders or other organizations (private and public) find solutions that can meet their needs.

The work focus on MRV tools for soil health and aligns with the strategic plan of the international Initiative as of 2021. Indeed, two out of six of their goals concentrates on the need to provide a catalogue of MRV systems that provide information on soil health. This repository aims to be open-source in order to serve as many people as possible. The criteria for identifying the tools available have been defined by the Initiative and are based on expert's interviews and litterature reviews.

Note: This repository does not aim to compare the tools between each other but to give an overview of the tools existing and highlight the different factual criteria each one has.
Date the repository was set up : January 2024

User's Guide



Update of the tool

For new tools: a. Download the empty version of the tool. b. Fill in the grid. c. Send the grid to 4p1000 at beatrice.breton-askar@4p1000.org d. Every 3 to 4 months, the new MRV tools identified by the Initiative will be added to the file.

General Information | 1. Research center | 2. Database | 3. Definition

3. The governance

The MRV solution inventory will be updated every quarter.

Three methods are available to editors to proceed to this update:

1

For new MRV tools:

- Editors will have the option to download the blank version of the tool, fill in the grid, and then submit it to 4per1000
- New MRV tools will be added every 3 to 4 months

2

For already referenced MRV tools:

- Editors will have the possibility to update information by downloading the blank version of the tool, adjusting the previously provided information, and submitting it to 4per1000
- Updated information will be incorporated every 3 to 4 months

3

For MRV tools to be removed from the inventory:

- Contact 4per1000 to request their deletion

- To the interviewees for sharing their knowledge
- To the tool providers for providing information and making it accessible to all
- To “4 per 1000” for the opportunity to develop this inventory
- To Deloitte Sustainability France for their pro bono work
- To Deloitte Foundation for funding the work
- To every other contributor for your participation

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Food and Agriculture Organization of the United Nations

THANK YOU

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