



**DIRETTA
STREAMING
15 / 16
DICEMBRE
2021**



MID TERM CONFERENCE

LIFE AGRESTIC

Reduction of Agricultural Greenhouse gases
Emissions Through Innovative Cropping systems



Il progetto LIFE AGRESTIC
ha ricevuto finanziamenti
dal Programma LIFE
dell'Unione Europea

Il consorzio

Coordinatore:

HORT@
— From research to field —

Partner:



UNIVERSITÀ
CATTOLICA
del Sacro Cuore



Sant'Anna
Group of Advanced Studies - Pisa





The “4 per 1000 - Soils for Food Security and Climate” Initiative

&

The Twin Regions Action

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“4 per 1000” Initiative

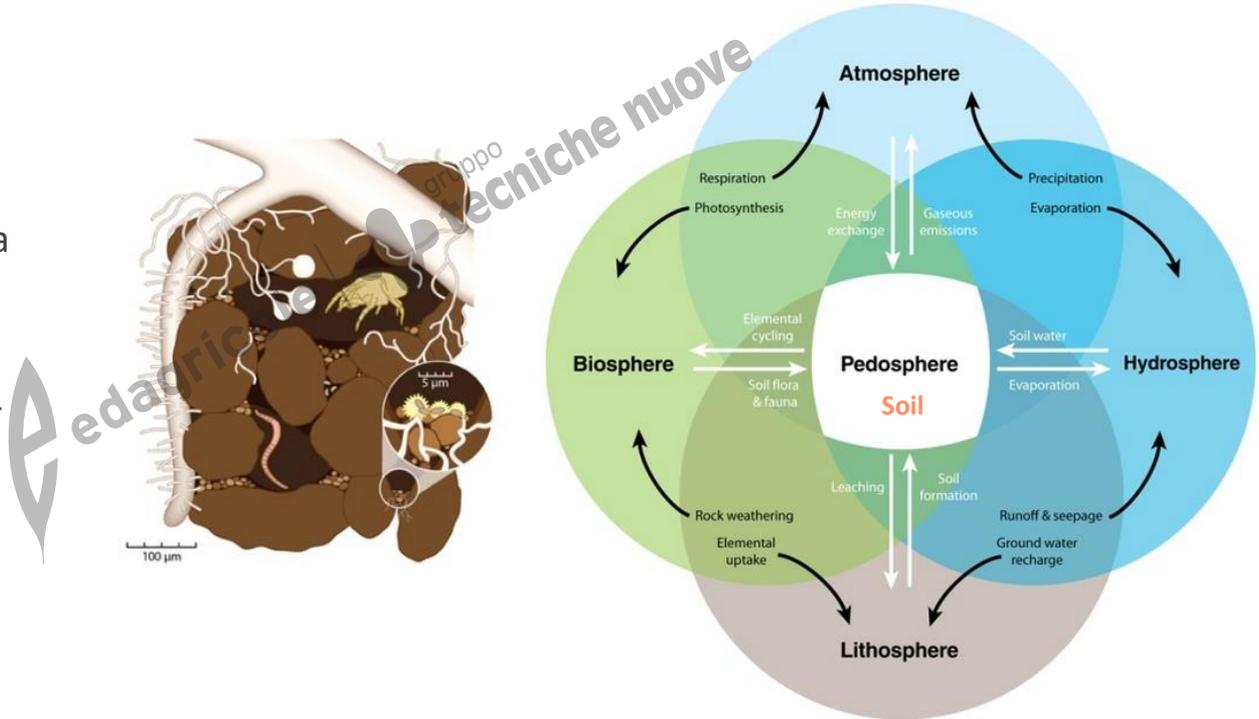


Soils – Functions and Processes

Interactive processes linking the pedosphere with the atmosphere, biosphere, hydrosphere, and lithosphere.

Soil, the Foundation of life

A 'biological universe' exists in a gram of soil. Soil biota within this tiny universe transform energy, create and modify their habitat, influence soil health, and aid in the **regulation of greenhouse gases**.



Source: The Soil Biota

<https://www.nature.com/scitable/knowledge/library/the-soil-biota-84078125/>



“4 per 1000” is a global multi-stakeholder platform

Initiated by France at COP21 - Paris 2015

666 member organizations (incl. 40 countries).

It is a pool of 2000 professionals with different skills and backgrounds.

Vision: "Worldwide healthy and carbon-rich soils to combat climate change and end hunger."

Mission: Promote soil health and carbon sequestration and facilitate transformative action

Approach: Decentralized, networking, dare and learn with stakeholders on the ground

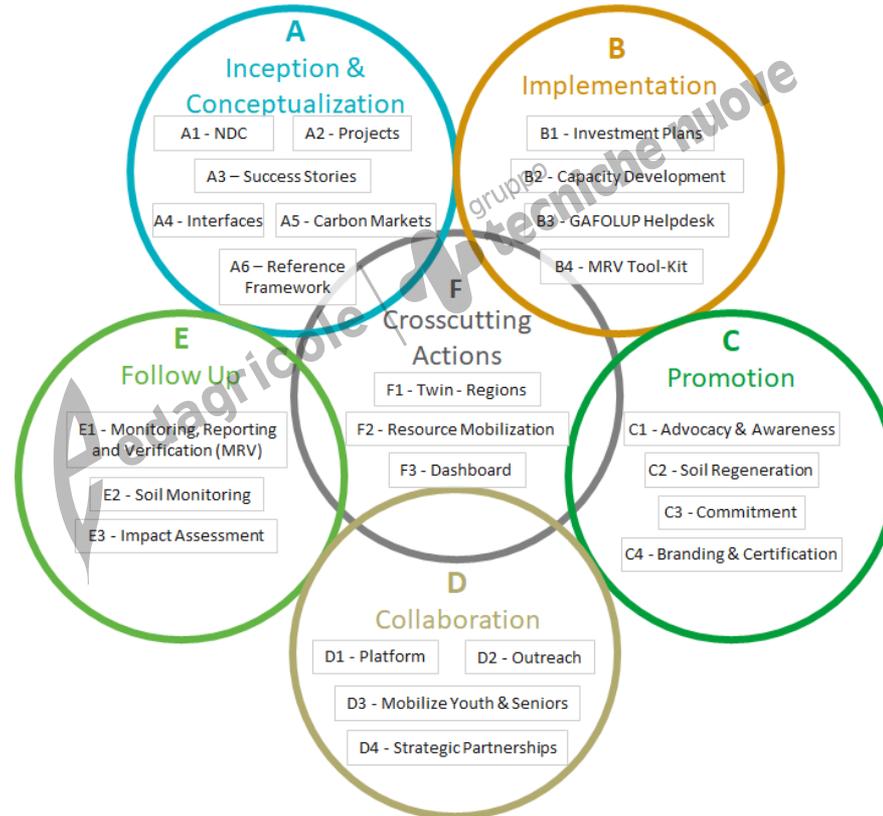
Primary beneficiaries: Producers, Citizens and Facilitators





2020 Strategy Development

Strategic Plan
6 Goals & 24 Objectives





2021 Delphi Study for the development of the Implementation Strategy

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2021 Delphi Study for the development of the Implementation Strategy

Develop a comprehensive implementation strategy that is:

- objective / representative,
- owned by partners, and
- serves as a reference document for:
 - planning projects and programs,
 - coordinating and targeting activities,
 - building investor confidence,
 - and evaluating progress.

For each objective, reach consensus on:

- Problem
- Causes
- Critical Success Factors
- Barriers
- Activities



Process and Status

1. **Round 1** : Collect elements of response from Task Force members
2. **Study team**: Analysis of feedback and elaboration of summary reports
3. **Round 2** : Share summary reports to reach consensus on content
4. **Study team**: Elaborate the DRAFT implementation strategy



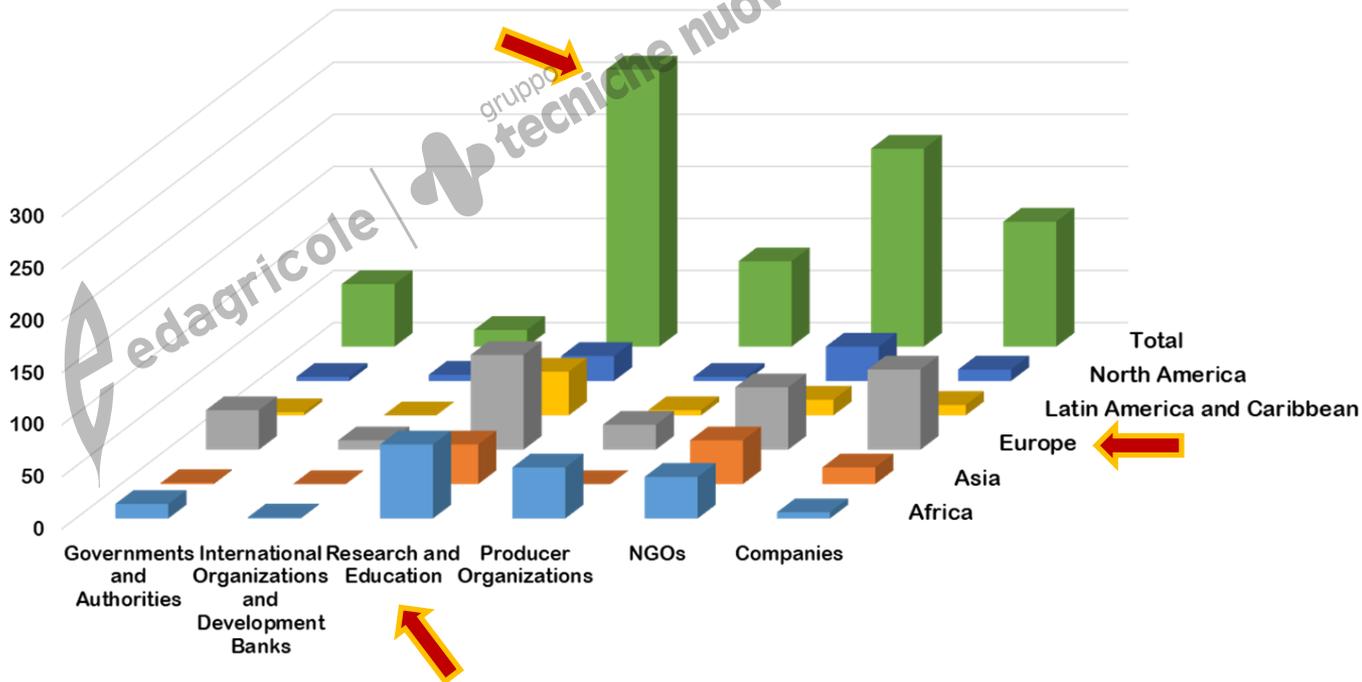
Participation of Stakeholder Groups & Regions

Task Forces - Representation of Regions and Stakeholder groups

Participation of stakeholder groups				
Stakeholder group (College)	Task Force members	Number of contributing experts	Participation	Share of feedback
Governments	23	6	26%	5%
IO	13	6	46%	5%
Research	113	43	38%	35%
Producers	26	7	27%	6%
NGOs	91	36	40%	29%
Companies	66	26	39%	21%
Total	332	124	37%	100%



Number of contributing Experts





Implementation Strategy

<https://wiki.afris.org/display/4D21/DRAFT+Implementation+Strategy>



2022

Build Partnerships and Alliances
supporting and assisting transformative
action

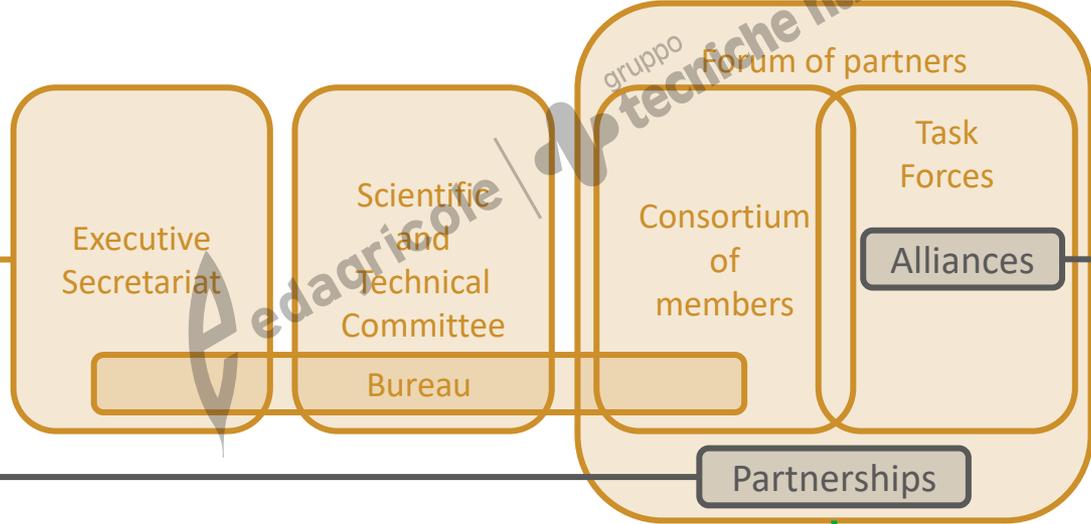
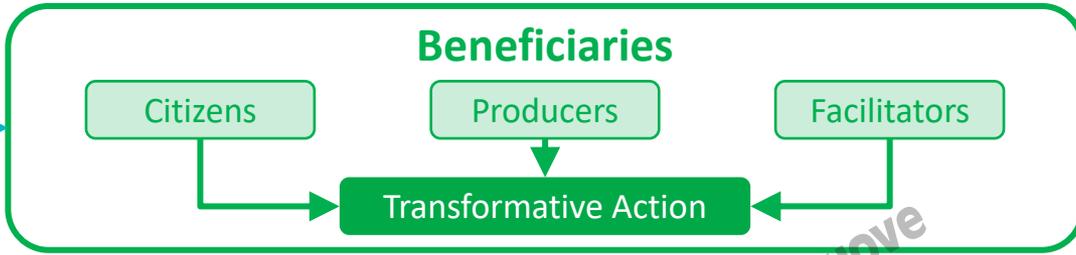
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The "4 per 1000" Operational Framework

Legal & Financial Support

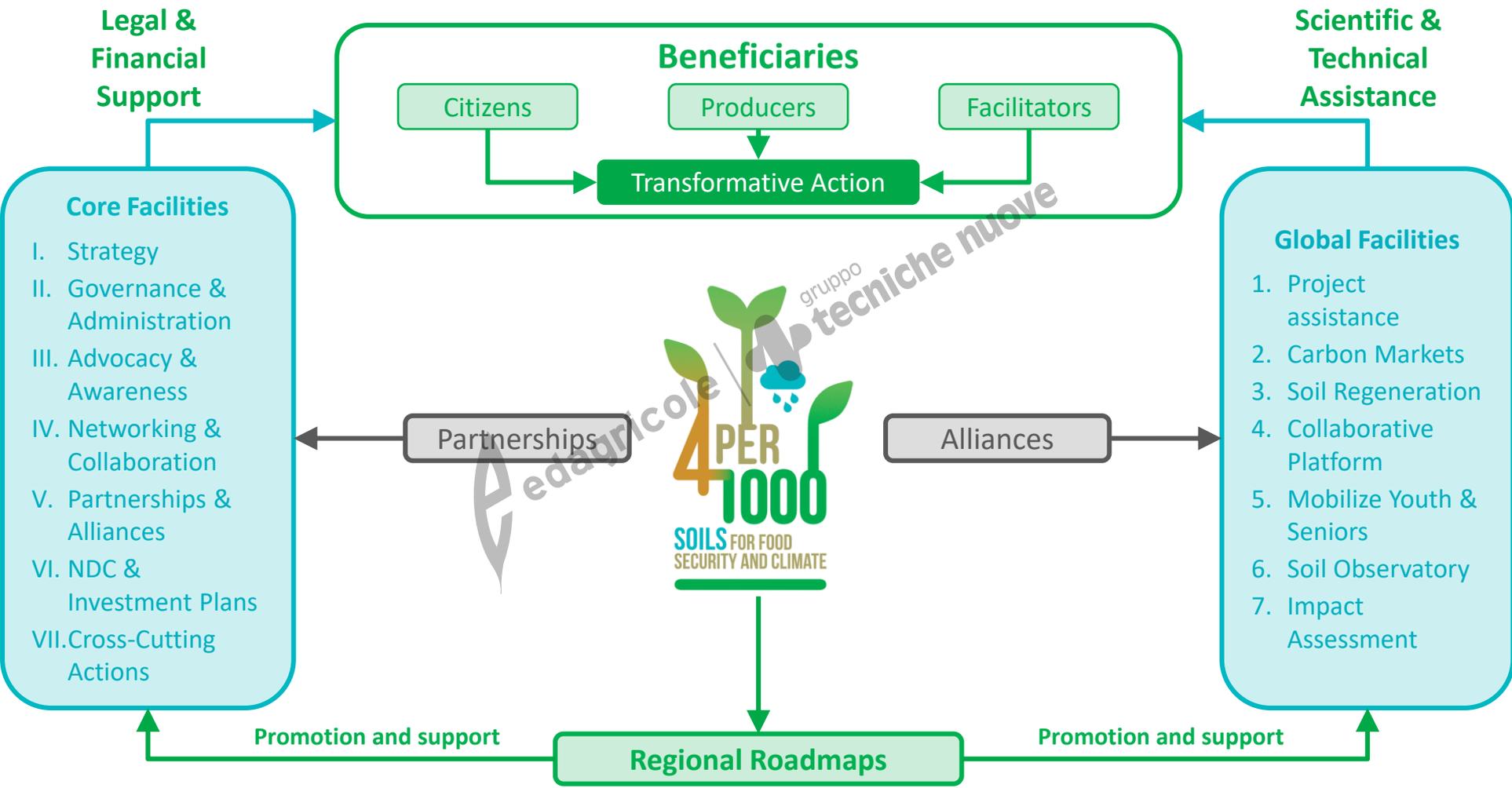
Scientific & Technical Assistance



Promotion and support

Promotion and support

The "4 per 1000" Operational Framework





What do we want to achieve ? (1 of 2)

Alliances and partnerships that:

1. implement projects on activities defined in the Implementation Strategy
2. improve the enabling environment for the transformation of land use in line with the vision of the "4 per 1000" Initiative, and
3. are aligned with other alliances and partnerships and relevant ongoing policies and programs for optimal impact.

By the end of 2022

1. "4 per 1000" has facilitated the formation of partnerships and alliances and the elaboration of project concept notes.
2. The partners submitted corresponding project proposals to funding organizations according to their specifications.



What do we want to achieve ? (2 of 2)

Project - Concept note template

Created by Marc Bernard, last modified just a moment ago

Project title							
Justification							
Purpose							
Project Key							
Strategic Objective							
Activity n°							
Activities supported							
Other strategic objectives supported							
Owner / Coordinator							
Start Date		End Date					
Work packages							
#	<u>Work package</u>	Expected Result	Lead Partner	Collaborating Partner	Start date	End dates	Resources
1							
2							
3							
...							

A simple tabular concept note to be shared with potential investors





2022 - From Strategy to Action

How do we get there ? (1 of 2)

Step 1: Getting organized

Step 2: Assess needs, competences and funds

Step 3: Identify Priority Topics

Step 4: Build Partnerships and Alliances

My region - Your region

Let's come together and solve the climate crisis, RIGHT NOW!

Twin Regions

Frame for self-determined global collaboration for:

- mitigating climate change
- restoring ecosystems and livelihoods

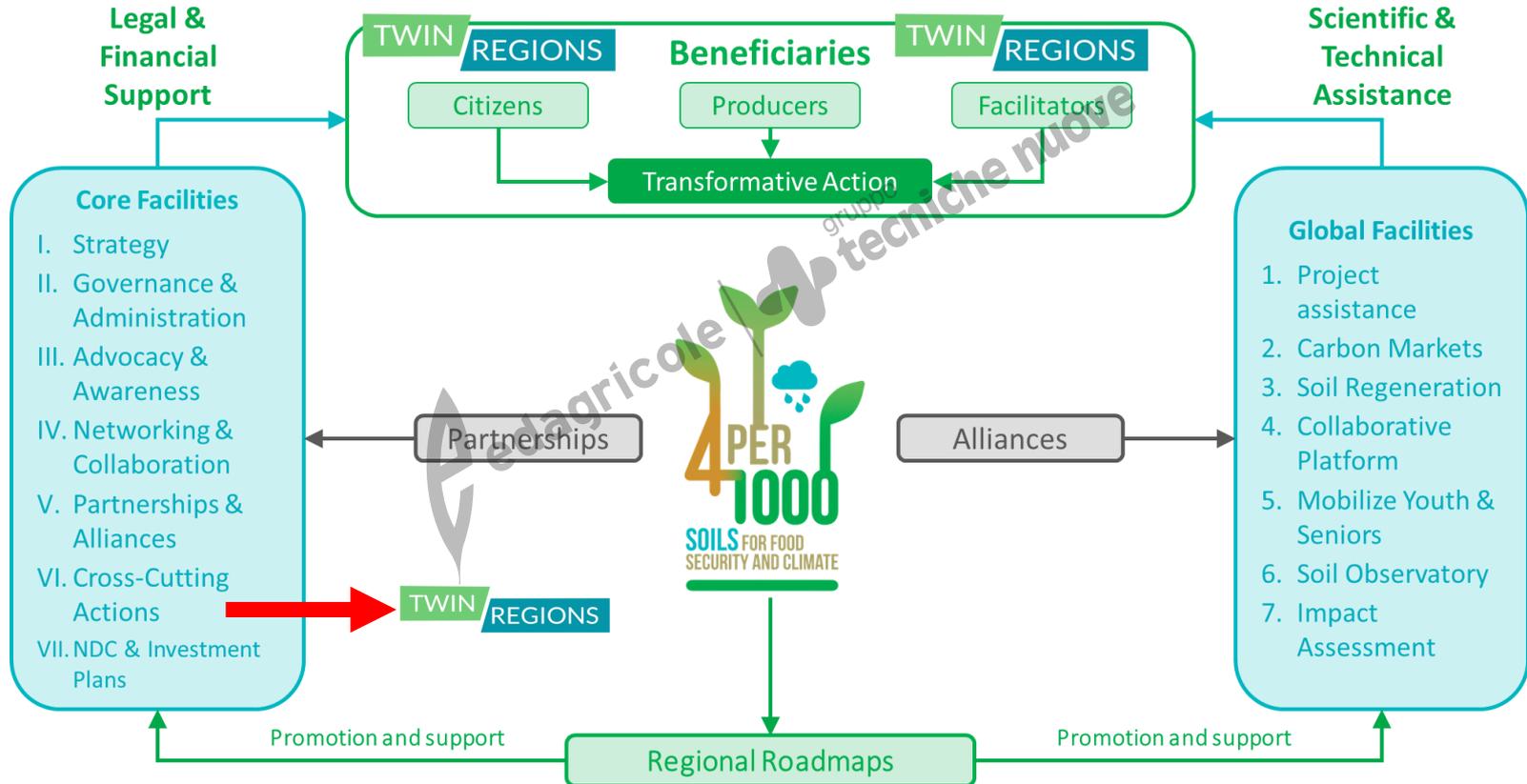
What is the objective of the Twin Regions Action?

The Twin Regions concept seeks a framework for decentralized international action and solidarity that enables self-determined and self-reliant citizen engagement in climate change mitigation and ecosystem restoration that addresses the three challenges of the climate crisis:

1. **Innovation:** Development and widespread adoption of appropriate solutions to reduce emissions and remove carbon from the atmosphere to rebalance its composition.
2. **Global cooperation:** Unlike waste and wastewater disposal, which can be solved locally or regionally, the removal of excess CO₂ and other greenhouse gases requires global cooperation.
3. **Conflict management:** Both the consequences of climate change and the necessary profound transformation of our way of life harbor an enormous potential for conflict that must be managed in order to turn it into an opportunity.

Twin Regions & „4 per 1000“

The “4 per 1000” Operational Framework



Twin Regions & „4 per 1000“

From the “ 4 per 1000” Implementation strategy

Objective: Twin Regions

The concept of "Twin Regions" to unleash the synergistic potential of cooperation between contrasting regions to combat climate change, restore ecosystems, and improve livelihoods, is being adopted worldwide.

Target 2030: Adoption of Twin Regions concept in municipalities of **20 countries**.

Target 2050: Adoption of Twin Regions concept in municipalities in **all countries**.

Twin Regions & „The Others“

The Twin Regions action takes a **holistic, integrated** and **inclusive** approach and is open to partner with organizations, networks, initiatives and programs in other thematic areas and in all regions of the world.

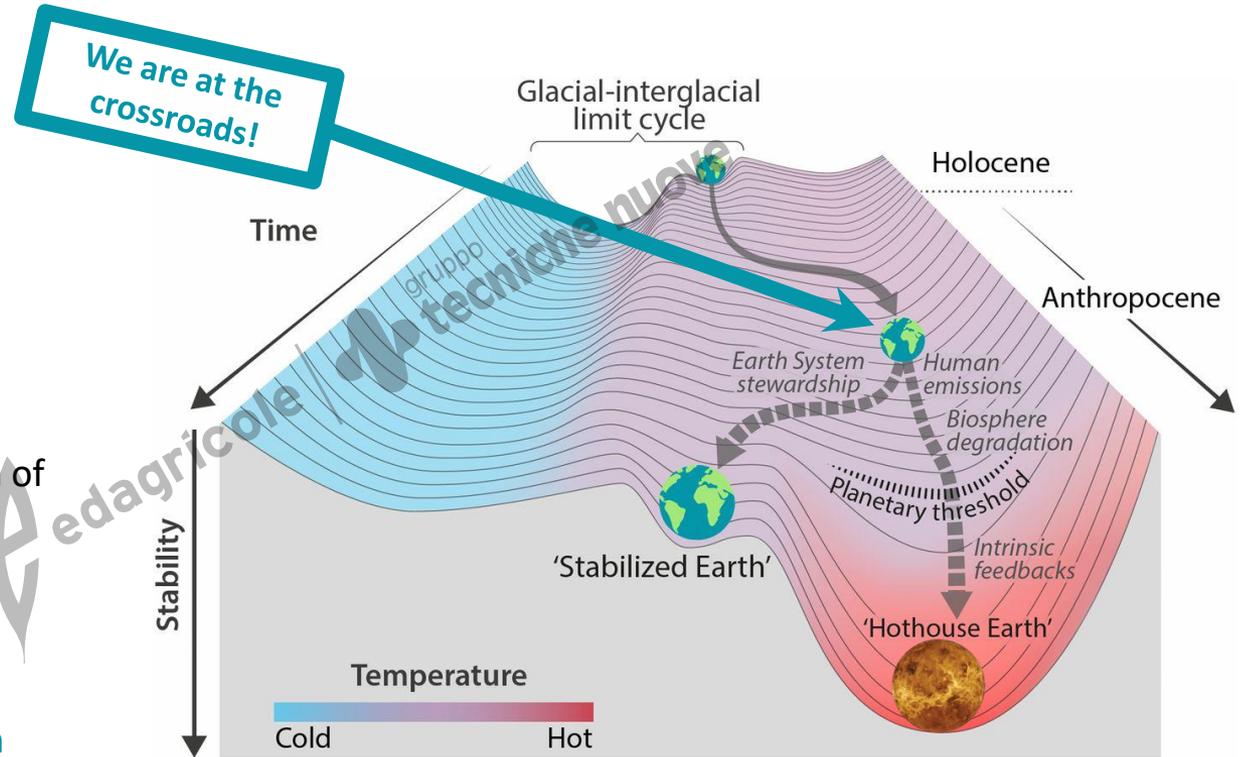
[Go to: https://twinregions.org](https://twinregions.org)

Background & Problem



Trajectories of the Earth System in the Anthropocene

- The situation is critical.
- If we want to survive, we must drastically change our behavior and lifestyle.
- We must move **NOW** from the debt and interest driven system of exploitation and destruction of the planet to a system of Earth stewardship.
- **The action of the Twin Regions aims to facilitate this transition and make it a life-enriching experience.**

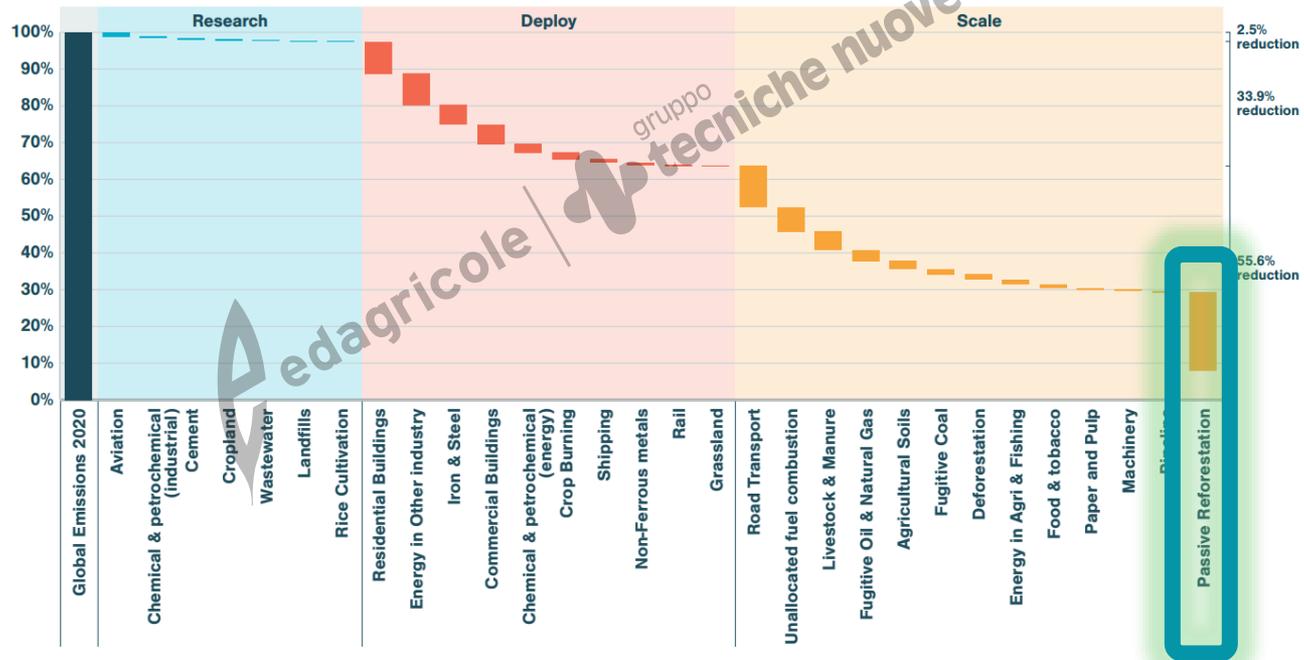


Source: <https://www.pnas.org/content/115/33/8252>

Can we achieve it?

The technologies to reduce global emissions by 90 % by 2035 are available (2). However, they are underutilized. 55.6% can be achieved by scaling up proven technologies. These include the potential of reforestation, improved agricultural practices and changing dietary habits. **Passive reforestation alone accounts for 20% of the total reduction potential.**

Figure 11: Emissions Reductions by 2035 by Decarbonization Readiness Stage in the 'Be Sensible' Scenario



Source: RethinkX.

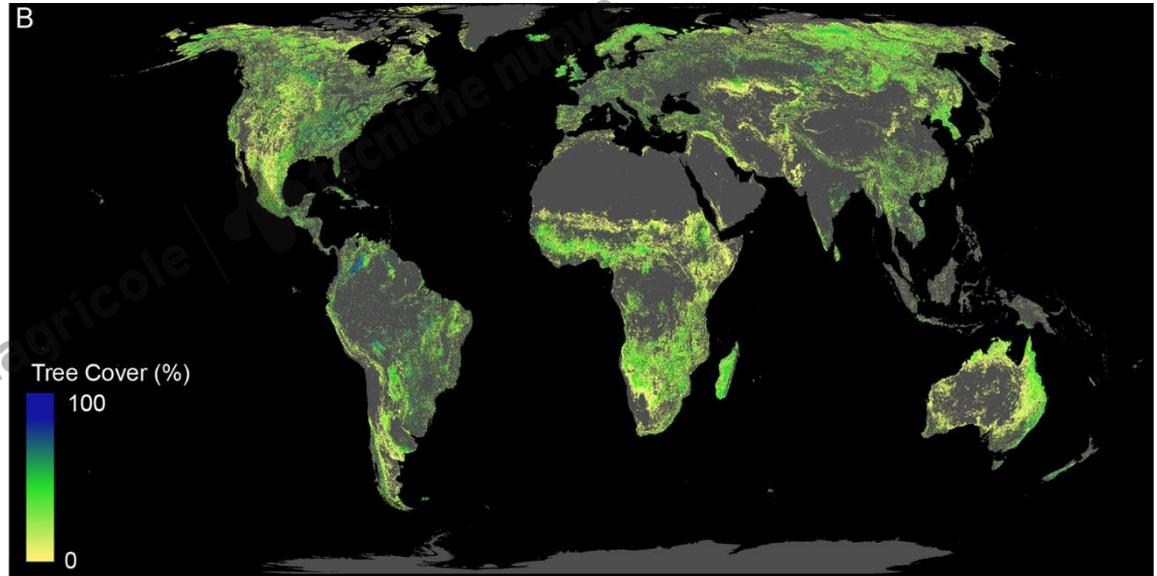
Report
RethinkX
August 2021

Where is the potential for CO₂ capture?

Potential: we could capture +/- 205 gigatons of carbon, equivalent to **100 ppm** of atmospheric CO₂ by forest regrowth on 0.9 billion hectares, if we act NOW (3).

Trend: with increasing temperatures, we risk losing 0.2 billion ha by 2050.

The colored areas show where additional tree cover can be achieved



Source: ETH Zurich 'How trees could help to save the climate' (04 Jul 2019)

<https://ethz.ch/en/news-and-events/eth-news/news/2019/07/how-trees-could-save-the-climate.html>

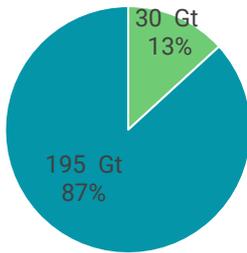
The Problem

The Twin Regions Action is trying to solve the problem of unequal distribution of resources.

Many areas with great ecological potential to capture CO2 do not have the financial resources, and areas that emit a lot of CO2 and have the resources do not have the ecological potential to capture CO2.

Carbon debt

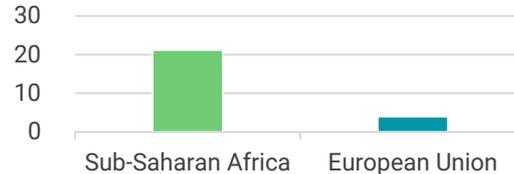
CO2 Emissions since 1960 (Gt)



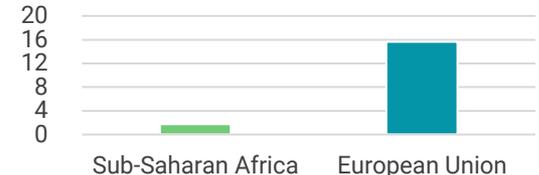
■ Sub-Saharan Africa ■ European Union

Land and wealth distribution

Land area (million sq. km)



Wealth (Current GDP US\$ trillions)



What is a Twin Region?

A **Twin Region** consists of two opposite places that come together to overcome their mutual environmental, economic and social constraints by using their complementary skills and resources.

Typically, a place in a region with low living standards, low emissions, but high ecological potential to sequester carbon, a **CO2-sink region**, teams up with a place in a region with high living standards, high emissions, but low ecological potential to sequester carbon, a **CO2-source region**.

Together, they are pursuing the goal of becoming **carbon neutral by 2035**, paying off their historic carbon debt from then on, and building a system of **environmental stewardship** and **global equality**.

An imaginary Twin Region

Copargo (Benin)



Alfter (Germany)



	Copargo	Alfter
Population	71,000	24,000
Emissions per person (CO2 t/yr)	0.4	12.5
Total emissions (CO2 t/yr)	28,400	300,000
Area (ha)	87,600	3,400
GDP per capita (USD)	1,300	45,000
Rainfall (mm/yr)	1,050	650
Average annual temperature (C°)	26	10

This is an illustrative example. In reality, combining larger or smaller regions might be better.

How are regions merged into a Twin Region?

A **Twin Region Carbon Market** will be established to bring the regions together.

CO2-sink regions need to develop a credible carbon sequestration **offer**. For example, they could specify the areas suitable for active and passive afforestation, describe how they will proceed with carbon sequestration, and what system they will use to demonstrate how much they have achieved.

CO2-source regions need to express their **demand** for carbon sequestration by implementing a carbon accounting system and an equitable cost-sharing mechanism, like what they currently do for waste and wastewater management.

The price is a matter of supply and demand. Currently, it is likely to be between US\$ 50 and US\$ 150 per ton of CO2 (6). Depending on the lifestyle, the average annual cost of securing the future in Alfter is around US\$ 1,250 per person.

Market forces will help ensure that emissions i.e., demand for sequestration decreases, the cost of sequestration remains realistic, and a sustainable equilibrium is achieved.

A Twin Region Market Authority will set the rules and monitors the market to ensure development goals are met.

Why is the idea so attractive? (1 of 2)

Speed and Economy: The complementarity of the regions and the decentralized approach allows to drastically reduces the time and cost needed for solving the climate crisis.

Equality & Fairness: The polluter pay principle will lead to a redistribution of wealth that is expected to set in motion a virtuous cycle of development, that will enable key social and environmental problems such as poverty, migration and biodiversity loss to be addressed.

Free up resources: Solving these fundamental problems will free up resources that are currently invested in mitigating their negative effects and will enable the transition to a system of environmental, social and cultural responsibility for sustainable development that benefits all.

Low transaction costs: Exchanges and transactions between twins take place directly. Thus, there are less costs for intermediary activities, as is the case with interventions that are led by governments and external organizations.

Employment opportunities: Twin Regions offer a variety of employment opportunities in the regenerative sector in which old and young can participate to shape their future.

Why is the idea so attractive? (2 of 2)

Proximity and ownership: Citizens can experience change directly, can closely monitor the impact of their efforts, and adjust their actions, as necessary.

Integration: Self-determination and self-reliance will favor the development of cost-effective solutions that fit the local conditions and have a high degree of co-benefits.

Advanced learning: Systematic and comprehensive documentation of the process and information exchange will accelerate learning of all stakeholders.

Mutual understanding: It is expected that the cooperation will lead to a friendship between places, which will help to resolve conflicts and improve the quality of life.

Public support: Active participation of the population will contribute to better awareness and understanding of climate issues and thus increase public support for mitigation measures.

Aid effectiveness: Linking up with Twin Regions will help partners of development to accelerate and increase their impact.

Proud and happy generation: The success of the movement will produce a generation that can be proud and celebrate its achievements.

How do we kickstart the movement ?

1. The action will begin with a **call for expressions of interest** to join the Twin Regions Action through the "4 per 1000" network of members and friends.
2. This will be followed by a **social media campaign** asking communities, individuals and groups to join and support the movement.
3. After the COP26 AFRIS will organize a series of virtual workshops with committed stakeholders to address critical questions, evaluate opportunities for collaboration and **plan start-up activities**.
4. At present the movement relies on the **voluntary support** of engaged stakeholders.
5. We aim at having Twin Regions start-up activities going in all regions by the end of 2022.

It is time to systematically pay for the disposal of greenhouse gases, as we do for waste and wastewater!

For more information and expression of interest visit

<https://twinregions.org>

Thank You!