



EUROPEAN UNION



# EU MISSIONS

## SOIL DEAL FOR EUROPE

100 living labs and lighthouses to lead the transition  
towards healthy soils by 2030

Greece, National Info Day, Horizon Europe Work Program 2023-2024: Cluster 6 / 22 February 2023

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**#EUmissions #HorizonEU #MissionSoil**



## Horizon Europe R&I Missions

Linking EU's research and innovation to major societal needs;  
with strong visibility and impact

A mission is a portfolio of actions across disciplines intended to achieve a **bold and inspirational and measurable goal** within a set timeframe, with **impact** for society and policy making as well as relevance for a significant part of the European population and wide range of European citizens.

Horizon Europe defines **5 missions areas**:

Adaptation to  
Climate Change



Cancer



Climate-neutral  
and Smart Cities



Restore our  
Ocean and Waters



Soil Deal for Europe





# Why a mission on soil?



- Soils **support ecosystem services and provide vital functions:**
  - producing nutritious and safe food
  - hosting biodiversity
  - purifying and regulating water, thus providing protection from droughts and floods
  - cycling nutrients
  - storing and cycling carbon, supporting climate mitigation and adaptation
  - supporting human activities, landscapes and cultural heritage
- Soil is a finite resource, meaning its loss and degradation is not recoverable within a human timespan.
- Soils are threatened: **60-70% of soils in Europe are considered to be unhealthy** due to current management practices, pollution, urbanisation and the effects of climate change.

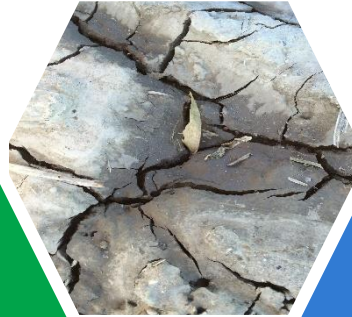


# We need to act now!

Soils need our attention!



Cropland soils **losing carbon** at a rate of 0.5% per year; 50% of peatlands drained and losing carbon – this is contributing to the climate crisis



24% of land with **unsustainable water erosion rates**

25% of land at High or Very High risk to **desertification** in Southern, Central and Eastern Europe in 2017



2.8 million potentially **contaminated sites** posing major health risks

65-75% of agricultural soils with nutrient inputs at levels risking **eutrophication of soils and water** and affecting biodiversity



The **costs** associated with **soil degradation** in the EU exceed **50 billion €** per year



The effects of climate change put further pressure on soils and accelerate land degradation!





# The Soil Deal Mission supports the Green Deal

## The Mission is part of

- Farm to Fork Strategy
- EU Biodiversity Strategy for 2030
- Climate Adaptation Strategy
- Forest Strategy
- Zero Pollution Action Plan for air, water and soil
- Organic Action Plan
- Long term vision for rural areas
- EU Soil Strategy for 2030 and upcoming Soil health Law
- Communication on sustainable carbon cycles
- Communication “Safeguarding food security and reinforcing the resilience of food systems”
- Communication “Ensuring availability and affordability of fertilisers”

## Examples of soil relevant Green Deal targets

### By 2030

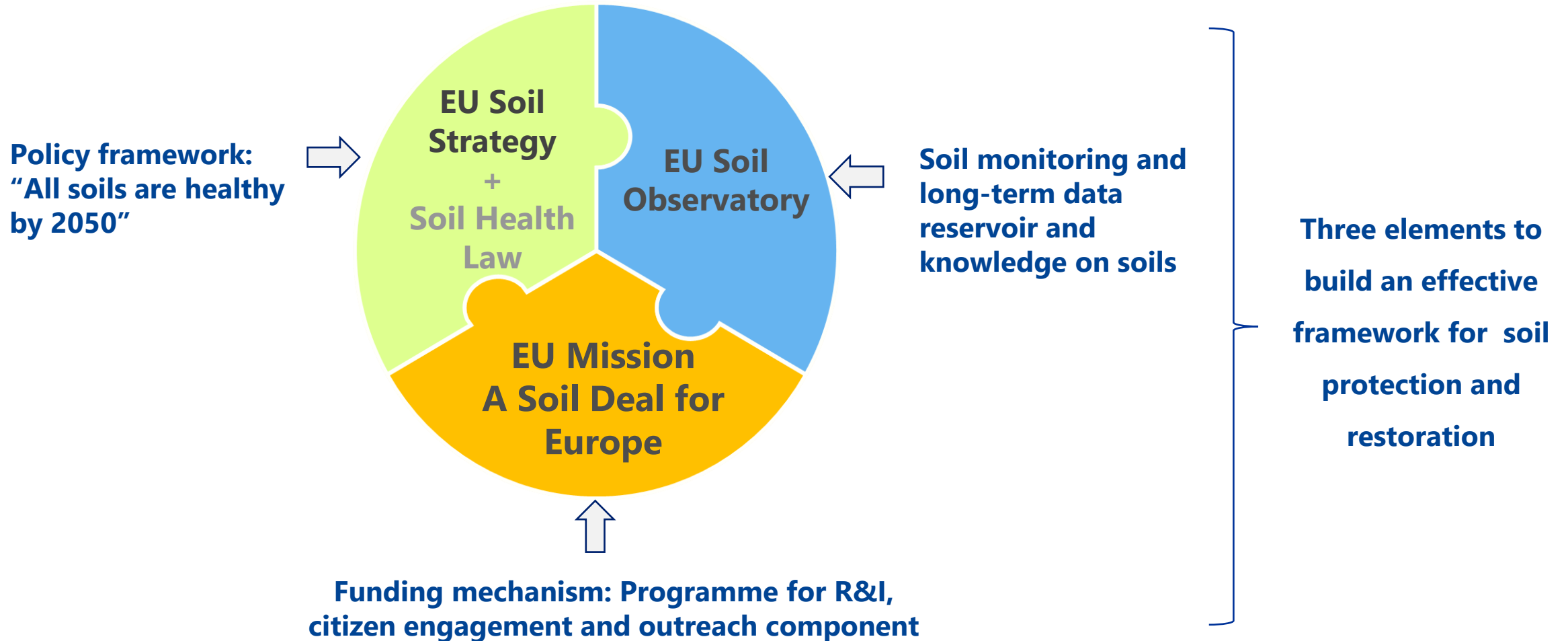
- 25% of land under organic farming
- Reduce the overall use and risk of chemical pesticides by 50% and the use of more hazardous pesticides by 50%
- Reduce fertilizer use by at least 20%
- Reduce nutrient losses by at least 50%
- Reduce by 30% microplastics released into the environment
- Reduce net greenhouse gas (GHG) emissions by at least 55% compared to 1990 levels.

### By 2035

- the EU should aim to reach climate neutrality in the land use, forestry & agriculture sectors.



# European pathway to healthy soils





Goal of the Mission :

# 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

Specific objectives:

1. Reduce **desertification**

5. Prevent **erosion**

2. Conserve **soil organic carbon stocks**

6. Improve soil structure to enhance **soil biodiversity**

3. Stop **soil sealing** and increase re-use of **urban soils**

7. Reduce the **EU global footprint on soils**

4. Reduce **soil pollution** and enhance **restoration**

8. Improve **soil literacy** in society

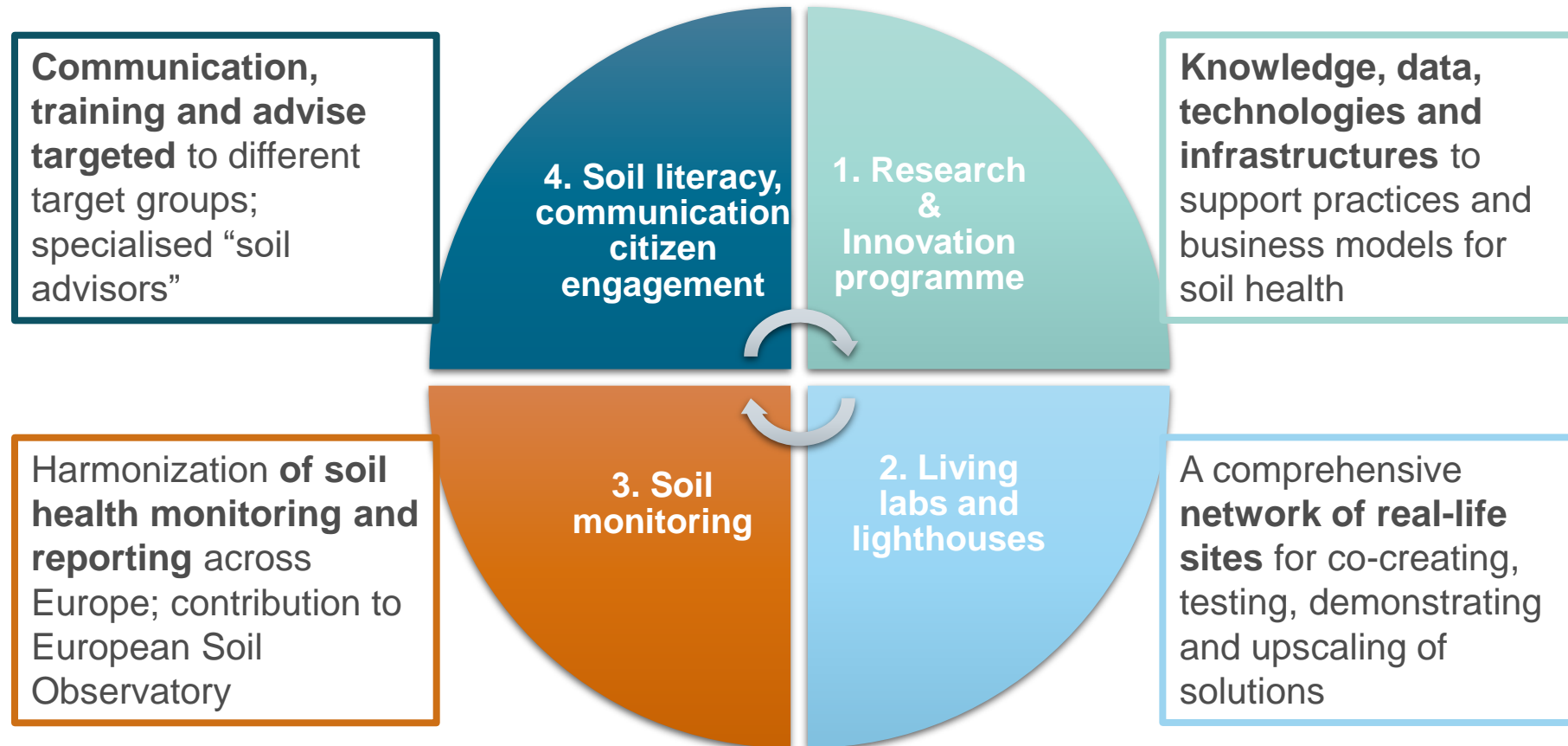


Each specific objective is backed by **one or more quantified targets** and **measurable indicators**.  
Objectives apply to **all types of land use**.



# How will the Mission be implemented?

Activities under the **four building blocks** to address **soil health** and the **drivers of soil health**



**Co-implementation of mission by:**  
researchers, land managers, regions, businesses, policy makers, citizens and international partners







# The Soil Mission living labs and lighthouses

## Living labs are a core element of the mission

- They are **real-life sites** in **rural or urban** areas in which people from **various sectors and backgrounds** experiment and test solutions in a **co-creative** manner.
- Each living lab contains a **group of sites and partners** working together at **regional or sub-regional level**.
- Specific **criteria** for LL have been developed under the mission (*section D of implementation plan\**) to ensure common approach and comparability of data and experiences.

## Lighthouses are individual sites of exemplary performance

- They are places for **showcasing good practices, training** and **communicating**.
- They help with the adoption of sustainable practices by **inspiring land users**

*\*[https://ec.europa.eu/info/sites/default/files/research\\_and\\_innovation/funding/documents/soil\\_mission\\_implementation\\_plan\\_final\\_for\\_publication.pdf](https://ec.europa.eu/info/sites/default/files/research_and_innovation/funding/documents/soil_mission_implementation_plan_final_for_publication.pdf)*

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# Presentation Work Programme 2023 Soil Mission calls





# Overview of Work Programme 2023 topics

	Topics	ToA; budget
2023-SOIL-01-01	Discovering the <b>subsoil</b>	RIA; 12 m€ (2)
2023-SOIL-01-02	<b>Soil pollution processes</b> – modelling and inclusion in advanced digital decision-support tools	RIA; 14 m€ (2)
2023-SOIL-01-03	<b>Onsite digital technologies to monitor</b> nutrients and chemical or biological stressors in soil and plants with relevance for food safety and nutrition	IA; 12 m€ (2)
2023-SOIL-01-04	Innovations to prevent and combat <b>desertification</b>	IA; 14 m€ (2)
2023-SOIL-01-05	Soil-friendly practices in <b>horticulture</b> , including alternative growing media	IA; 13 m€ (2)
2023-SOIL-01-06	Soils in <b>spatial planning</b>	RIA; 7 m€ (1)
2023-SOIL-01-07	Back to earth: bringing <b>communities and citizens</b> closer to soil	CSA; 6 m€ (1)
2023-SOIL-01-08	<b>Co-creating solutions for soil health in Living Labs</b>	RIA; 36 m€ (3)
2023-SOIL-01-09	<b>Carbon farming</b> in living labs	RIA; 12 m€ (1)
<i>Other Actions</i>	<i>SGA: Specific Grant Agreement for a Living Lab Support Structure</i>	SGA; 3.2 m€ (1)



## Joint topics

	Topic	Instrument	Budget	No of projects	Budget per project
O/C/S	Mission Climate adaptation, Mission Ocean & waters and Mission Soil Deal for Europe – Joint demonstration of an integrated approach to increasing landscape water retention capacity at regional scale	IA	15	1	15
O/S	Mission Ocean and Waters and Mission A Soil Deal for Europe – Joint demonstration of approaches and solutions to address nutrient pollution in the landscape-river-sea system in the Mediterranean sea basin	IA	16	2	8

- **17 Jan 2023 : Opening WP 2023 calls**
- **20 Sep 2023 : Application deadline**

# Details WP2023 Soil Mission topics (Living Labs & Joint Topics)







# Living Labs - Selection Criteria

- Specific criteria for living labs have been developed under the Soil Mission.
- Process for selecting lighthouses will be clarified as work on living labs develops and will be further defined by the Support Structure

Type of Criteria	Description
AIMS	<ul style="list-style-type: none"> <li>• Innovation and co-creation.</li> <li>• Contributing to societal challenges, sustainability, and resilience.</li> <li>• Improving soil health and related ecosystem services, thereby achieving the Soil Mission's objectives.</li> </ul>
ACTIVITIES	<ul style="list-style-type: none"> <li>• Co-design/co-development/co-creation of innovations improving soil health.</li> <li>• Measurement/monitoring/evaluation of impact of innovative practices/approaches on soil health and related ecosystem services</li> <li>• Evaluation of socio-economic impacts and behavioral drivers and lock-ins related to the adoption of the innovations by soil managers.</li> <li>• Networking and knowledge exchange.</li> <li>• Demonstration (in particular for lighthouses).</li> </ul>
PARTICIPANTS	<ul style="list-style-type: none"> <li>• Public-private-people partnership involving if possible 4 groups: science, policy, practice, citizens.</li> <li>• Real soil managers (farmers, advisors, foresters, city greens managers, allotment holder, etc.) to be at the center of the innovation process.</li> <li>• Other stakeholders: associations and organizations with an interest in soil health, local or regional government, scientists from a variety of fields outside soils (natural sciences, social and behavioral sciences). The list of users may depend on the specificities of the places and challenges.</li> </ul>
CONTEXT	<ul style="list-style-type: none"> <li>• Transdisciplinary (incl. Social Sciences and Humanities) and participatory approach.</li> <li>• Multi-method and multi dimensions (technical, economic, social) approach.</li> <li>• Place-based approach and real-life context = real farms/forest or urban/industrial sites.</li> <li>• Long-term set-up.</li> <li>• Robust scientific set-up for ecosystem assessment.</li> <li>• Openness, communication and dissemination and connection with networks.</li> </ul>

\*Link: [Soil Mission Implementation Plan](#)

# HORIZON-MISS-2023-SOIL-01-08:

## Co-creating solutions for soil health in Living Labs



### POLICY CONTEXT

- **European Green Deal and several strategies**, such as those related to soil, food and nutrition security, climate, biodiversity, environment and rural areas:
  - Soil strategy
  - Farm to Fork strategy
  - EU Biodiversity Strategy for 2030
  - Climate Adaptation Strategy
  - Zero Pollution Action Plan
  - Long-term Vision for Rural Areas
  - Forest Strategy
  - Organic Action Plan
- **Soil Deal Mission goal** of setting up 100 living labs to lead the transition to healthy soils by 2030.
- **Soil Deal Mission objectives**, except number 2
- **Sustainable Development Goals**



### EXPECTED OUTCOMES

- **Living labs** (LL) across Europe are **fully operational** and have established themselves as **places for co-creation and testing of solutions for soil health in rural and urban areas**;
- Increased capacities for **participatory, interdisciplinary and transdisciplinary** R&I approaches;
- Practice oriented **knowledge and tools** are **more easily available** to land managers and **contribute to an enhanced uptake of solutions** for soil health and related ecosystem services.
- **Strengthened collaborations** between actors across territories and sectors;
- **Policy makers** in the EU and Associated Countries are more **aware** of local needs with regard to soil health and can use this knowledge to design more effective policies.

# HORIZON-MISS-2023-SOIL-01-08



## SCOPE

- Set up **four to five LL** to work together on thematically **related soil health challenges**, addressing **the same or several land use types**;
- Establish a detailed **work plan** with the activities to be undertaken ensuring the **co-design, co-development, and co-implementation of solutions**;
- Carry out **participatory and transdisciplinary R&I** in LL, taking into account the relevant **drivers and pressures** as well as the **scaling up** and the **transferability of solutions**;
- **Establish** for each LL **a baseline** for the selected soil health challenge(s), in order to allow **for an accurate assessment and monitoring** of progress towards the objectives of the LL and the objectives of the project overall;
- **Monitor** and carry out an **assessment** of the **effects** of the innovative solutions **on soil health and related ecosystem services**. This should include a **demonstration of the viability** of the proposed solutions.
- Propose **strategies to ensure long-term sustainability** and continuity of the living labs beyond the Horizon Europe (e.g. possible business models);
- **Document** in an easy and accessible way the **developed solutions** in order to facilitate their uptake and transfer to relevant actors



## KEEP IN MIND

- Multi-actor approach
- Beneficiaries may provide financial support to third parties (max. to each third party is EUR 200 000)
- Capitalize from projects such as PREPSOIL, NATI00NS, NBSSOIL and the future Support Structure under the SGA
- Interact with networks active at local level, such as EIP-AGRI OG
- Close collaboration with EUSO
- Agricultural activities should benefit both conventional and organic farming



# Soil literacy, communication and engagement

- **Foster soil education** across society to bring soils closer to citizens' values.
- **Engage and activate regions and municipalities** to design their own strategies and actions for the protection of soil
- **Engage with the private sector and consumers** to embed soil health in business practices
- Strengthen soil health advice and **improve access to training for practitioners** in line with AKIS Agricultural Knowledge Innovation Systems
- Create **citizen-led soil stewardship** and **citizen science**

## Examples:



200+ co-creation and engagement events since September 2019



Social media campaigns, 2 campaigns #EIPAgriSoil, new one launched in 2022



Several articles, press releases, newsletters, 4 videos, 2 factsheets



2 Podcast episodes



1 Soil health results pack



Interactive games for kids and adults, including composting training



Survey sent to **7000+** contacts across Europe and 2500+ contributions received



[Mission Soil Panorama](#) - European Research and Innovation Exhibition 2022

#MissionSoil: best practices to keep our soils healthy

→ [composting](#) & [desertification](#)



## Useful links

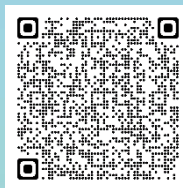
- **Official webpage** Mission A Soil Deal for Europe - <http://ec.europa.eu/mission-soil>
- **Implementation Plan** Mission A Soil Deal for Europe - [EU Mission Soil Deal for Europe Implementation Plan \(europa.eu\)](#)
- **Factsheet** Mission A Soil Deal for Europe - [EU missions - Publications Office of the EU \(europa.eu\)](#)
- **Factsheet** Mission A Soil Deal for Europe - Living Labs - [EU mission, soil deal for Europe - Publications Office of the EU \(europa.eu\)](#)
- **Webpage** EU Missions - [EU Missions in Horizon Europe | European Commission \(europa.eu\)](#)
- **Video** EU Mission “A Soil Deal for Europe” - <https://youtu.be/3hPIZqwwhhM>
- **Podcast episode** Food for Europe - Ep. 15 Soils in danger: Europe fights back - [The Food for Europe podcast | \(europa.eu\)](#)
- **Podcast episode** Behind the Scenes - [S02/E05: A blossoming career as a soil keeper | Behind the Scenes on Acast](#)
- **News article** On a mission to save our soils - the EU's plan to rebuild the land - [Futuris episode Euronews](#)





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SOIL DEAL FOR EUROPE



# Thank you!

For further information and questions please contact the Mission Secretariat:

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