

**Towards climate-smart sustainable management of agricultural soils**

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# EJP SOIL call topics

**CA2 - Identifying adaptation options, related to agricultural soil management, to respond to water-related impacts of extreme weather and climate change**

**Rationale:** Soil properties are linked to multiple water functions at field and landscape level, affecting the availability and quality of water resources. In European agriculture, soil physical properties and soil management through mechanical, chemical or biological interventions underpin the sustainable production capacity under climate change. Several issues threaten this capacity of soils for regulating water functions and productive crops: (i) the occurrence and intensity of extreme weather events which affect soil structure, and consequently surface runoff and erosion processes; (ii) soil management regimes which induce soil compaction and degradation of soil structure and can simultaneously affect soil physical properties and the associated water functions.

Soil physical properties, such as bulk density, water retention parameters and aggregate stability are under-documented in soil monitoring systems[[1]](#footnote-2). To adapt agricultural production systems to future extreme events and climate change[[2]](#footnote-3), soil management practices need to evolve and consider both an excess dry-spells and droughts, as well as excess saturation and flood conditions, and finally aim towards higher resilience of soils to these hydro-climatic variations. A range of soil and crop management interventions can improve soil physical properties, structure and associated water functions of soils. These interventions range from soil tillage practises (timing, type of tillage) and other physical soil management options (drainage systems, soil conservation structures) to the use of chemical (e.g. liming) or biological amendments (e.g. green manures) and management options (e.g. sequencing deep root crops)[[3]](#footnote-4).

There is a need to identify synergies in multiple management interventions to enhance soil water functions, crop production potential and cost efficiencies under more extreme weather and climate change. Another challenge is to provide insights in the potential climate change induced shifts in resilience and competitiveness of current farming systems across Europe and in the financial resilience and relative competitiveness of the considered/proposed farming systems.

**Scope:** Projects should focus on agricultural soil management-related adaptation options, with emphasis on soil physical properties that support water functions and improve soil resilience to hydro-climatic variations and trends. A synthesis is expected to evaluate soil – crop management strategies in their capacity to adapt to extreme weather and to climate change-related water scarcity or excess. The focus is on soil physical properties to: 1) manage infiltration and drainage (and thereby indirectly soil surface conditions) and 2) enhance/maintain water holding capacity in the root zone, with physical and-or chemical or crop (crop rotation /root developments) management options. A framework should be developed to evaluate synergies and potential trade-offs of 'best bet' soil-crop management strategies for adapting to water-related impacts of extreme weather and climate change. Proposals should associate biophysical and economic expertise to understand incremental and synergies in soil management strategies. Particularly, they should estimate cost efficiencies and return on investments for short /medium /long term interventions for soil–crop management strategies. The considered strategies could concern one or several of the following items:

* New ways to use organic or chemical amendments to ameliorate soil physical and chemical stresses to crop root systems, limiting rooting depth and crop productivity, and/or to use new cropping systems better adapted to soil constraints;
* Soil and crop management options to increase root zone water availability through management of soil structure;
* Estimating available days for agricultural management, regarding climate projections and agricultural scenarios, over Europe;
* Estimating evapotranspiration and soil water recharge for climate projections and agricultural scenarios and agricultural soil management options over Europe, taking into account soil physical properties;
* Developing/piloting/testing precision agriculture practices and innovations in soil moisture measurements with sensors-model-RS packages, to maximize soil moisture use and water and nutrient efficiency, pending on incidence and prognosis of extreme weather events.

**Expected outcomes:**

* Shared improved understanding on the capacity of soil – crop management strategies to adapt to extreme weather and to climate change-related water scarcity or excess;
* Suggestions on best bets /resilience / 'no regret' interventions based on maximized synergies and potential trade-offs and context-specific advices for soil – crop management strategies.

**Expected impacts**:

* EJP SOIL EI1: Fostering understanding of soil management and its influence on climate mitigation and adaptation, sustainable agricultural production and environment;
* EJP SOIL EI5: Fostering the uptake of soil management practices which are conducive to climate change adaptation and mitigation.

**Project Type**: Medium size research project (up to 1.75 M€).

**Promoting the contribution of soils to climate mitigation and adaptation, sustainable agricultural production, and a sustainable environment**

The agroecological transition can be considered as a highly potential opportunity to respond to changes and challenges posed by climate change across the European continent. Agroecology is a holistic approach that relies on and maximizes the use of ecological processes to support agricultural production. Agroecological systems are characterized by higher biodiversity at all levels (intra- and interspecies, cropping and farming systems, landscapes and non-agricultural elements) than traditional highly intense agricultural systems. Such agroecological systems are potentially better adapted to local environmental conditions and to social and economic requirements. Transition of intensive agricultural systems to agroecological systems leads to more sustainable and climate responsive agricultural production. Such a transition is a relevant contribution to the implementation and success of the EU Green Deal and EU policies on biodiversity, on circular economy and on climate change. A transition towards agroecological systems fits the recommendations from the EU Mission A Soil Deal for Europe and the Farm to Fork Strategy and will contribute to reach the target “25% of agricultural land under organic farming”.

Challenging agroecological systems for such purposes needs to progress in two directions. First, getting and gathering new knowledge on the contribution of soils to the overall systems, hence focusing on biophysical aspects, is required to promote the transition of cropping systems towards a more resilient, sober, sustainable and healthy food production. Second, the adoption of sustainable production systems should be encouraged through a combination of strategies where national and local goals are aligned. This requires tailored public policies at the EU and Member State level, connecting to local conditions and acknowledging farmers' needs. Understanding factors that motivate farmers to adopt more sustainable practices is vital for a robust agricultural system transition. Two topics have therefore been proposed.

**CA4/SP3-1 – Contribution of soils to climate mitigation and adaptation, sustainable agricultural production and environment in agroecological systems**

**Rationale:** Introducing higher biodiversity in agroecosystems can benefit soil health and improve different soil functions. Examples and experiences include better soil exploration by deep rooting in mixed crops or deep rooting crops to enhance water and nutrient availability. The facilitation of symbiosis of roots with microbes may also enhance nutrient uptake. More soil carbon will stimulate soil biodiversity and enhance resilience to climate change and climate variability and the ability of soils to sustain more frequent extreme events (prolonged drought, extreme wet conditions, extended warm periods, and higher risk for diseases to occur). However, the impact of the transition to agroecology on the resilience of agroecosystems to climate change in many European regions is poorly understood and documented, especially for its soil components. Understanding and quantifying this impact is particularly relevant when the climate is changing and forces local and regional agricultural systems to adapt.

To date, most long-term experimental studies and meta-analyses on the effects of management on agricultural soils have focused on the impact of a single practice or a specific technology. As a consequence, they have not considered the full context of an agroecological farming system, nor considered the broad range and diversity of agricultural systems that exist in Europe. Future projects under HORIZON-CL6-2021-CLIMATE-01 will consider a wide range of crop and farming agroecological systems, but will not focus on soils.

**Scope:** The project should evaluate the contribution of soils to ecosystem services related to climate mitigation and adaptation, sustainable agricultural production and sustainable environment, in agroecological farming systems. This will include the provisioning services, the ability of the soils to contribute to climate change mitigation (conserve or increase SOC stocks, decrease N2O emissions), and the ability of soils to contribute to climate change adaptation (e.g., soil water infiltration & storage and yield stability).

The agroecological systems and the underlying climate-smart sustainable soil management practices considered should be selected on their a priori positive effects on climate change adaptation and mitigation (e.g., agroforestry, conservation agriculture, organic farming, integrated crop-livestock-forestry systems). The project should select some representative situations accounting for the actual adoption or potential for adoption of agroecological systems by farmers in climate regions and agricultural zones across the EU and related to the projected climate change, as well as accounting for the Green Deal objectives. This will require the sourcing and use of results of completed projects and existing data in the EJP SOIL related to innovative farming systems.

The research will use available tools (existing models and indicators). The project should identify, use, and adapt if needed, a series of long term and highly instrumented case studies in different pedo-climatic conditions. This could be based upon long term experiments (LTE’s) of the EJP SOIL consortium allowing for retrospective analysis of soil conditions, crop yields and climate conditions and change. In complement, the project could also identify pioneer farmers in different EU countries as lighthouse farms to enhance the regional applicability and allow farmers to recognize their local conditions and systems. The research could also be performed by modelling the complex soil – plant interactions in agroecological systems, to evaluate them regarding their resistance and resilience under different climate scenarios (RCPs). These different research approaches could be combined. Project outputs should feed into the future EU Partnership on agroecology.

**Expected outcomes:**

* Knowledge is available and shared on the effect of climate variability across EU pedoclimatic zones on soils and crop in various agroecological systems;
* The impact and contribution of soils and soil management across the range of agroecological systems to climate mitigation and adaptation and relate to future regional climate conditions is evaluated and can support targeted advice.

**Expected impacts:**

* EJP SOIL EI1: Fostering understanding of soil management and its influence on climate mitigation and adaptation, sustainable agricultural production and environment.

 **Project Type:** Medium size research project (up to 1.75 M€).

**CA4/SP3-2 – Fostering the adoption of agroecological systems for climate mitigation and adaptation and sustainable agricultural production**

**Rationale:**

The adoption of agroecological approaches is currently relatively limited to pioneering farmers and farmer associations. One explanation is that, contrary to practices, which are currently being stimulated through the CAP, adoption of sustainable agroecological systems is until now, not promoted by specific policies at the EU level. Furthermore, the measures promoted are often ineffective due to overly complex patterns of targeting measures and instruments, making it difficult for national policies to match local priorities. Improving farmers’s uptake of agroecological practices calls for specific support measures and for the design of specific business cases at the farm and landscape level.

Understanding factors that motivate farmers to adopt more sustainable practices is vital for a robust agricultural system transition and for the implementation of agroecological systems. There is a need to move beyond the biophysical and socio-economic context, and also look at the aspirations and ambitions of the farmer with a focus on soil.

**Scope:** This project will utilize and build upon the knowledge and data provided by ongoing and completed FP7/H2020 projects looking at the adoption of sustainable measures, farmer’s behaviour and risk perception. Focusing on soils, it will be complementary to future projects under HORIZON-CL6-2021-CLIMATE-01 will consider a wide range of crop and farming agroecological systems.

Farmer’s behaviour and risk perception are at the core of this assignment. Farmers do not work in isolation, but are linked in the food system to various institutions and actors. The project should include a stakeholder analysis (powers) and their roles and responsibilities in relation to the adoption of measures and system transition. The project should consider the farmers and their relation with the other actors: policymakers, value chain actors, farmer associations and cooperatives, research and financial institutions as part of the context and adoption process.

Farmers differ in their perception of risk and opportunities related to soil management, even when operating in similar contexts. Triggering behavioural change and reaching out to farmers must account for these perceptions. This should also enable to identify incentives that resonate with farmer groups or types.

The insights should be used to improve extension services which are tailored to farmers, to understand how inter- and intra-farm cooperation and experimentation works for different farmer types and help foster efficient one; to design communication strategies adapted to the type of farmer, region and value chain. Project outputs should feed into the future EU Partnership on agroecology.

**Expected outcomes:**

* Quantitative and qualitative data and information on the drivers and barriers for the adoption of soil management practices that enable climate-smart sustainable soil management.

**Expected impacts:**

* EJP SOIL EI5: Fostering adoption of sustainable and agroecological farming systems conducive to climate change adaptation and mitigation.

**Project Type:** Medium size research project (up to 1.75 M€).

**SE5 – Mitigate and adapt to salinization and restore saline soils: understanding the processes and improving cropping systems under current and future climate**

**Rationale:** Soil salinization is recognised as one of the major threats to soils. It makes it more difficult for plants to extract water, promotes toxic concentrations of Cl- and to a lesser extent Na+, and participates in the deterioration of the soil structure. Irreversible soil alteration may exceptionally result from clay dispersion caused by the irrigation of salty soils with clean water in southern European countries and the Mediterranean basin, while salinization could lead to soil alkalinization-sodification in other parts of the World (e.g. sub-Saharan Africa and the Horn of East Africa). In Southern Europe, the tropicalization of the climate is already observed with drought periods which should extend, followed by unpredictable heavy rains. In addition, competition between different water uses leads to an increased pressure on water. Irrigation is increasingly necessary to meet crop water needs. Irrigation can use underground water and/or reclaimed wastewater that may be rich in salts and/or other pollutants. The risk of irrigation with salt water is more important as the quantities of water used do not allow leaching of salts towards deeper soil horizons and promote their gradual concentration in soil. Moreover, salt extraction by plants is not relevant from a quantitative point of view. There is a need to optimize water management for sustainable cropping practices with regard to salinization risks. The optimization should consider the regional context to encompass also aspects of water use in irrigated systems (harvesting, storing, treating wastewaters with the possibility of desalinizing part of it for example by reverse osmosis). Participatory approaches involving water managers and farmers would improve the outcomes of research in these aspects.

**Scope:** Soil salinization and the positive or negative impacts of different irrigation scenarios as well as water desalination (sea water, brackish water, and wastewater) have been extensively studied and are already available at low cost. Proposals should focus on one of the following three objectives:

* Development of a decision support system for water management at regional and local scales, including irrigation management, in order to ensure sustainable water management avoiding any accumulation of salts in the soil horizons explored by the roots;
* Development of sustainable solutions to improve soil structure of salt enriched soils. Solutions could include organic fertilization, bio-amendments, or the use of some plants well known to positively affect soil structure ;
* Analysis of the processes underlying the tolerance of certain plants to soil salinity, including 'plant-endorhiza' interactions, which would allow better use of salty soils.

For the first item, participatory approaches (e.g. through living labs as recommended the EU Mission A Soil Deal for Europe) is desirable whenever possible.

**Expected outcomes:**

* Depending on the chosen objective, outcomes concerning the sustainable soil management strategies of salt-affected soils could be:
	+ Designing and advising optimized irrigation practices (objective 1);
	+ Recommendations on the proper use of organic fertilizers taken up for farmers advice and assessing bio-amendment strategies are developed by soil stakeholders (objective 2);
	+ Propositions of strategies for reclamation and restoration developed by soil stakeholders (objective 3);
* Improved understanding and modelling of salinization process in present and future risk areas in the climate change scenario (collaboration with WP6 of EJP-SOIL).

**Expected Impacts:**

* EJP SOIL EI1: Fostering understanding of soil management and its influence on climate mitigation and adaptation, sustainable agricultural production and environment;
* EJP SOIL EI5: Fostering the uptake of soil management practices which are conducive to climate change adaptation and mitigation.

**Project Type**: Medium size research project (up to 1.75 M€).

**SE6** **– Soil futures: scenario modelling for assessing the potential of climate-smart sustainable soil management to provide multiple ecosystem services.**

**Rationale:** Biophysical models have been and are being developed to predict the ecosystem services provided by soils, including soil organic carbon sequestration and GHG mitigation. These models can be coupled with models of economic agricultural production decision, market supply and demand, and policy impact evaluation to carry qualitative or quantitative foresight approaches. Developing such analyses for several soil functions and ecosystem services will provide new insights and knowledge to support effective soil policy and selection of more cross-cutting measures to be included in eco-schemes and incentive-based policies. Moreover, market-based strategies for service valuation are increasingly considered and even implemented by private operators, based on similar insights and knowledge.

Biophysical and to a lesser extent, economic models are most often used in current climate conditions, under predefined land-use and agricultural practices, while the current climate, socio-economic conditions, trends in consumption and policies are changing.

Scenario modelling is a powerful approach in this respect, as scenarios are used to describe plausible futures for drivers of change and options for altering these drivers through management strategies and policy interventions. Models then enable these scenarios to be translated into consequences on the modelled functions and services of ecosystems and of soils (IPBES, 2016). So far, policy scenario modelling has been only applied in limited occasions to agricultural soils (e.g., SoilCare H2020 project), requiring a significant effort in building both scenario and modelling frameworks.

**Scope:** Projects should develop new scenarios integrating socio-economic scenarios (e.g., Shared SocioEconomic Pathways, O'Neill et al., 2014[[4]](#footnote-5)), climate scenarios (e.g., Representative Concentration Pathways RCPs, van Vuuren et al. 2014[[5]](#footnote-6)) and EU policy changes (e.g., a scenario for development of organic agriculture, to comply with the Farm to Fork Strategy, or the development of biodiversity-favourable landscape features as promoted in the Biodiversity Strategy). The potential of these new scenarios to differentiate among various levels of achievement of the European Green Deal and the Mission “A Soil Deal for Europe” objectives (e.g., reduce land degradation and pollution, prevent erosion, improve soil structure, reduce the EU global footprint on soils) is essential. Projects should establish contact with MACSUR/SciPol working group to foster complementarities and synergies.

In parallel, projects should design a modelling framework built around a coupling (interlinking) architecture of biophysical soil models and integrated models of agriculture, climate, soil and the economy. Integrated interdisciplinary models allow coupling existing models to address the synergies, antagonisms and cost/benefit ratios among different soil management strategies relevant for the EJP SOIL challenges. In particular, economic models of agricultural markets and supply, and land use changes at a higher scale than farm-level, can be used to test for such scenarios, if available from previous EJP SOIL projects or from their partners. A possibility is to build the scenario-based modelling framework along two dimensions: changes in agriculture practices and systems on the one hand, identification of changes in soil health and services provided on the other. The modelling framework should be defined and documented with detailed argumentation, then set up and if possible, be preliminarily used depending on available models and limited duration of the project.

To build such framework, models utilised or developed by other EJP SOIL projects (1st internal call) should be given high priority, to predict the provision of ecosystem services by agricultural soils, including agricultural production and climate change mitigation, under climate-smart sustainable soil management options. This priority extends to data already collected and managed by EJP SOIL projects. Examples of models and data include EJP SOIL projects: Carboseq (feasible Soil Organic Carbon sequestration potential data), SOMMIT (simulation outputs of long-term agro-ecological system responses to contrasting management options), TRACE-Soil (soil abiotic and biotic predictors of trade-off magnitudes involving carbon sequestration, biodiversity, GHG emissions), STEROPES (satellite information to predict cropland soil organic carbon content), SCALES (harmonisation of data and modelling approaches for the management of sediment connectivity) and SIREN (inventory of indicator systems).

Alternative methods can also be considered for implementing scenarios at national scale (method of transfer, use of scientific external references) in case of lack of specific data for some countries from EJP SOIL projects. The modelling framework, associated with the scenario design, should clearly target the assessment of the performance of soil management strategies in addressing the quantitative targets proposed by the Mission Board on Healthy Soil and Food (e.g., current C losses in farmlands should be reversed to an increase by 0.1-0.4% per year). Intrinsic framework properties can also be checked for consistency with the Green Deal objectives, when considering the impact of changes in agricultural practices and systems on soil functions and services.

**Expected outcomes:**

* Supporting effective policy and selection of eco-schemes in different European countries with a better vision of how soils and their services may respond to different pathways of future human development in Europe.
* Identifying potential impediments and bottlenecks that need to be addressed and overcome to ensure the provision of ecosystem services by agricultural soils.
* Increased consistency in EJP SOIL projects' outcomes, by complementing the outputs of 1st and 2nd internal call projects and integrating and linking them within scenario modelling frameworks.
* Increasing the number and range of modelling frameworks involving interdisciplinary approaches, related to climate smart and sustainable soil management for the provision of multiple ecosystem services.

**Expected impacts**:

* EJP SOIL EI1: Fostering understanding of soil management and its influence on climate mitigation and adaptation, sustainable agricultural production and environment.
* EJP SOIL EI2: Understanding how soil carbon sequestration can contribute to climate change mitigation at regional level including accounting for carbon.
* EJP SOIL EI5: Fostering the uptake of soil management practices which are conducive to climate change adaptation and mitigation.

**Project Type**: Medium size research project (up to 1.75 M€).

**AD3 – Soil specific guidelines and decision support tools with focus on soil organic matter, water retention and nutrient use efficiency**

**Rationale:** The level of implementation of sustainable soil management practices in Europe varies substantially among farmers and regions. The current status of the most promising management practices was analysed in relation to their level of uptake in research, policy, and farmers’ practice (EJP SOIL Roadmap and report Task 2.4.1[[6]](#footnote-7)). Whether farmers adopt a sustainable management practice, both in environmental, social and financial terms, depends on many factors (Zhang et al., 2018). An important barrier is the uncertainty of the impact from implementing potential practices on soil quality and farm profits (Hvarregaard Thorsøe, 2019; Cerda et al., 2017). The farm level decision-making process is further complicated by trade-offs, for example, between environmental and economic benefits, short- and long-term benefits, and between different soil quality aspects. Barriers are largely dependent on the type of management practices in play and whether practices fit specific and regional farm strategies.

Climate change will (gradually) modify the environmental conditions for farming practices and farm strategies. As such, the agricultural advisory services across Europe are well equipped with flexible, good quality and (scientific) evidence-based assessment and decision support tools to analyse and select options to adopt strategies and cropping and farming systems to sustain soil quality and optimize farm profits and to support farmers in well-timed decisions on adaptation to e.g. climate change and other soil challenges. Across Europe, examples of decision support tools concepts, protocols and (mobile) applications have been developed by H2020 projects, e.g. Landmark, SoilCare, Prisma and iSqaper and also by many national initiatives. In general, the quality of decision support tools would benefit from sharing knowledge, approaches and concepts across regional actions across Europe, rather than from developing and providing a single best solution. At this point, a full stocktake on what tools are available combined with a systematic assessment of the underlying principles and approaches (SWOT analysis) is missing. Such a study will likely reveal what works and what may need to be improved.

In agriculture across Europe, most decision support tools that farmers and advisory services use, are equipped to assess the use of nutrients (fertilisers and organic manures) and focus mainly on crop productivity related to nutrient supply. A better alignment of these recommendations with current and future policy targets relative to climate change mitigation and adaptation, biodiversity, water quality, would allow farmers to be more susceptive and responsive in considering concrete modifications to their farm management strategies. This requires that realistic and comprehensive understanding on the importance of soil -related functions is incorporated in such decision support tools.

Decision support tools may have crucial roles in the lifelong training and education of both (young) farmers and advisory services across EU. These would ultimately improve performance and quality of farming and reduce the environmental impact of food production and land needed for agricultural production. Also, such decision support tools would contribute to a more fair playing field and to bringing opportunities in farmer communities across Europe.

Farmers and advisory services could gain access to practical science-based tools to analyse farming strategies and options to enhance farm performance and identify changes in their day-to-day work and decisions to facilitate water storage, nutrient use efficiencies and soil organic matter management. The application of decision support tools provides an outlook into the expected future farm performance including KPI’s at farm level. Enhancing farmers’ realistic and comprehensive understanding of the importance of soil in adaptation to climate change, nutrient use and greenhouse gases mitigation.

**Scope:** The project should design the specifications for a web-portal that would allow advisory services and farmers to access existing decision-support tools allowing to monitor adaptation to climate change, climate change mitigation. The tool specifications should also consider soil quality, degree of circularity of cropping systems, economic versus environmental performance indicators and more if appropriate. The project will exchange with the future Horizon EU MISS-01-01 project which will design one-stop shop soil portals and with EUSO which will host an EU-scale soil web portal.

The use of (region) specific tools to provide for either qualitative or quantitative information from available tools should be promoted. This would require to be able to define regionally these target objectives (vs guidelines). A mock-up of a soil quality monitoring dashboard could be drafted with the main aim to follow how close/far target results on soil indicators (SOM, water retention, nutrient status/efficiency, GHG emissions and CO2 removal) are from benchmarks or what trends are resulting from changes to farm management at different scales from farm to country. The mock-up should outline what an attractive and user-friendly dashboard could look like if being developed in a future initiative (e.g., promoted by the Mission “A Soil Deal for Europe”). It should account for previous works (e.g., Landmark has an example of a dashboard available) and for ongoing EJP SOIL projects SIREN, SERENA and MINOTAUR). This also requires – where possible – the dashboard to use unified principles at the EU level and to be available under national configuration. This system would benefit if a set of activities were developed based on a Tiered approach (consider tier 1 on qualitative information, tier 2 on look-up tables and tier 3 calculation models).

The project should:

* investigate – and build if possible on available stocktakes and surveys such as the CIRCASA survey - farmers expectations and needs across Europe regarding decision support tools and farmers’ willingness and capability (in terms of being able to supply required data to run the decision support tools) to use them either alone or supported by advisory services;
* perform a systematic stocktake of decision support tools across Europe. Specific attention should be on regional differences and usability across regions and include new initiatives in the process of being launched;
* analyse principles for assessment in different decision support tools and assess their usability across pedoclimatic zones;
* draw from these analyses recommendations, in the form of guidelines and guidance to improve the quality and enhance the use of decision support tools across all MS in EU and climate regions and agricultural systems. The guidelines and guidance could benefit from connecting and testing at initiatives promoted and recommended by the EU Mission A Soil Deal for Europe e.g. lighthouse farms across Europe.

**Expected outcomes:**

* A better use of existing soil-related decision support tools available for agricultural soils in Europe;
* A better understanding of their underlying principles and approaches and their scientific underpinning and on the farmers appreciation and expectations of such tools;
* An improvement of existing or elaboration of new decision support tools to fill the identified gaps;
* A mock up issued from the project is used by stakeholders of the farming sector to co-construct a dashboard to identify and evaluate modifications to farm management in response to policy targets on climate, soil quality and environmental issues in addition to traditional agronomic assessments;

**Expected impacts**:

* EJP SOIL EI5: Fostering the uptake of soil management practices which are conducive to climate change adaptation and mitigation

**Project Type**: Medium size research project (up to 1.75 M€).

**POL3 – Healthy and safe soils in the agro-ecological transitions towards a circular bioeconomy**

**Rationale:** A circular bioeconomy optimizes the usage of all agricultural areas and residual streams from agriculture to food-based industries, which can reduce the wastes and usage of landfill areas. Soils play a crucial role in the realization of the European circular bioeconomy, as soils are the supplier of sustainably produced biomass and food and the solid foundation under Europe’s biodiversity. Apart from providing biomass, soils are increasingly recruited in a range of policies with promises of ecological, climatic and agricultural transitions, without sufficiently taking into account the trade-offs between these soil services. Furthermore, when recycling biomass, it is a prerequisite that waste fluxes preserve agricultural lands safety. Hence, assuring healthy and safe soils supporting a circular bioeconomy requires social-science investigation and scrutiny by considering trade-offs among soil functions, avoiding the accumulation of safety risk.

**Scope:** Research should examine the contemporary reinvestments in soils in a context of social and ecological transitions. It should produce critical knowledge that supports shifts towards knowing and managing soil resources more holistically in innovative agri-food and biomass chains, thereby supporting the agro-ecological transition towards a circular bioeconomy. New, safe land managing systems aiming for biodiverse, healthy soils and landscapes are needed, and will be key to sustain a transition towards the circular bioeconomy.

Initiatives aiming at biodiverse, healthy soils and landscapes are currently being developed in territories (farmer communities, regions) and in agro-food and biomass chains (labels). These initiatives should be analysed for the way soils are, or could be taken into account for their impact on biodiversity restoration, and agro-ecological production of food and biomass for the circular bioeconomy. Challenges, specifically addressing safety issues that withhold accomplishing these initiatives should be identified and appropriate context-specific solutions should be designed, in relation with public policies.

Research should integrate knowledge developed in H2020 projects like RELACS, SOILCARE, PANACEA, CELEBIO, LANDMARK and MINDSTEP, and projects out of EJP SOIL topics CM8, ES1/ES2, FS2/MT4, POL2/ES7 and analyse several existing initiatives. The final objective should be to design EU region-specific systems integrating healthy and safe soils and landscapes for the agro-ecological transition towards a circular bioeconomy. To achieve this goal, the project should:

* Synthesise past and current (EJP SOIL) circular bioeconomy projects and initiatives dealing with the safety, agronomic and environmental impacts in relation to the potential policy opportunities and challenges; give attention to the question on how resource management can be optimized by safely closing nutrient, energy and biomass cycles;
* Develop a typology describing properties of sustainable agroecosystems at different scales (from farm to small regions) and in different pedo-climatic zones;
* Design long-term safe, sustainable and economically viable and socially acceptable circular agro-ecological production systems (farm scale) that fit in multipurpose land management systems (based at the landscape scale) and that address EU strategies and ambitions in relation to biodiversity, food production, climate and circular economy;
* Discuss existing and, when needed, design new policy instruments that foster and accompany the development of production and land management systems;
* Develop an evaluation protocol for the production systems and designed relevant policies.

**Expected outcomes:**

* An integration of soils as major components of agroecosystems in EU in the Biodiversity strategy 2030, the Farm to Fork strategy and the EU Circular Economy Action Plan
* A better knowledge on the farming systems contributing to the transition towards a safe, sustainable and economically viable and socially acceptable circular agro-ecological production;
* A better consideration of soils in future public policies to support the agro-ecological transition towards circular bioeconomy.

**Expected impacts**:

* EJP SOIL EI5: Fostering the uptake of soil management practices which are conducive to climate change adaptation and mitigation
* EJP SOIL EI1: Fostering understanding of soil management and its influence on climate mitigation and adaptation, sustainable agricultural production and environment

**Project Type**: Medium size research project (up to 1.75 M€).

# Annex 3. Proposal template

**Acronym**

**Title**

Coordinator: XXX

Proposal for EJP SOIL 3rd Internal Call topic: XXX

[Date of submission]

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[7. Data management strategy 11](#_Toc54715644)

[8. References 11](#_Toc54715645)

# Project information

Title and acronym:

Keywords:

Duration in months:

Topic:

Project leader: *Organization name and affiliation*

Publishable summary: *in max 800 characters incl. spaces*

# Information of participating beneficiaries and linked third parties

*Filled by each beneficiary, third linked part and the project coordinator.*

## Beneficiary and/or Linked Third Party no. 1

Organization:

Responsible person at the organization:

Role of beneficiary/linked third parties in the project

*Max. 1000 characters; including fields of expertise and related to topic ongoing projects (including project name, funder, amount, overlaps and links with current proposal)*

Tasks of the beneficiary and linked third parties in the project:

*Max. 1500 characters*

## Beneficiary and/or Linked Third Party no. x

Organization:

Responsible person at the organization:

Role of beneficiary/linked third parties in the project

*Max. 1000 characters; including fields of expertise and related to topic ongoing projects (including project name, funder, amount, overlaps and links with current proposal)*

Tasks of the beneficiary and linked third parties in the project:

*Max. 1500 characters*

# Summarized project budget

*In k€ total budget; Please use XLS template for planning; see Annex 4. Short narrative explanation for each budget item listed in table 1 (max 800 characters incl. spaces plus Table 1).* ***Avoid outstanding “other costs”; costs that exceed 15% of the personnel costs*** *(please contact the Call Office [EJPCO@maapera.fi] in case outstanding costs are expected****).***

Table 1: Summarized project budget

|  |  |
| --- | --- |
|  | Amount in k*€* |
| **Personnel costs** |  |
| **Consumables** |  |
| **Durable equipment** |  |
| **Travel and subsistence** |  |
| **Other costs#** |  |
| **Sub-contracting** |  |
| **Indirect costs\*** |  |
| **Total budget** |  |

*# Includes budget for communication, dissemination and exploitation activities; see for more information in the proposal template, section 6 “Communication strategy”.*

*\* Indirect costs: 25% of the total direct costs (personnel costs, consumables, durable equipment, travel and subsistence and other costs) minus subcontracting costs.*

# Description of the work

*Max 18.000 characters with spaces; in addition the work package descriptions and work plan that are part of section 4.2.*

## Relevance of the research proposal

*Objectives and main hypotheses*

*Relevance to the topic*

## Research Approach

*General approach and methodology*

*Brief description of the work plan*

*(including provisional project structure, work packages, work plan and collaboration among beneficiaries and/or linked third parties)*

Table 2:Work packages (WPs), start and end months (i.e. EJP SOIL months), and number of person months.

| Work package | Lead participant\* | Person-months | Start month\* | End month\* |
| --- | --- | --- | --- | --- |
| **WP1:**  |  |  | MXX | MXX |
| **WP2:**  |  |  | MXX | MXX |
| **WP3:**  |  |  | MXX | MXX |
| **WP4:**  |  |  | MXX | MXX |
| **WP5:**  |  |  | MXX | MXX |
| **WP6:**  |  |  | MXX | MXX |
| **WP7:**  |  |  | MXX | MXX |
|  | **Total person months:** |  |  |

*\* EJP SOIL months; M1 equals February 2020*

Table 3:Descriptions of the work packages (WPs). The following pages contain tables detailing the participants (i.e. beneficiaries and linked third parties [LTP]), start and end months (i.e. EJP SOIL months; M1 equals February 2020), number of person months, objectives (OB), tasks (T) & deliverables (D) of each WP.

|  |  |
| --- | --- |
| Work package | WP1:  |
| **Lead beneficiary or LTP** | *full name (acronym)* |
| **Deputy leader** | *full name (acronym)* |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Beneficiary no.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| **Abbreviation** | INRAE | WR | BIOS | EV-ILVO | CRAW | CZU | AU | EMU | LUKE | Thuenen | Julich | ATK | Teagasc |
| **Person-months** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Beneficiary no.** | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| **Abbreviation** | CREA | UL | LAMMC | NIBIO | IUNG | INIAV | NPPC | ULBF | CSIC | SLU | AGS | TAGEM | AFBI |
| **Person-months** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **LTP no.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| **Abbreviation** | AgroParisTech | Institut Agro | -/- | EAA | BOKU | AGES | BAW | BFW | EV INBO | VPO | ARC | CNR | ISPRA |
| **Person-months** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **LTPno.** | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| **Abbreviation** | UNIPA | ENEA | AGRIS | ERSAF | AIS | UM-FKBV | -/- | -/- | -/- | -/- | -/- | -/- | -/- |
| **Person-months** |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Start month** | MXX |  | **End month** | MXX |  | **Total person-months** | **XX** |

|  |
| --- |
| Objectives |
| * *Describe the overall objective of the WP (max. 7 lines).*
* *List the specific objectives of the WP, including a descriptive but concise title, followed by a description.*
* *A commonly used approach, which helps to boost clarity, is link objectives directly to tasks, i.e. OB1.1 is dealt with by T1.1.*

The specific objectives are to:* **OB1.1:** **TITLE:** DESCRIPTION
* **OB1.2: TITLE:** DESCRIPTION
* **OB1.3: TITLE:** DESCRIPTION
* **OB1.4: TITLE:** DESCRIPTION
* **OB1.5: TITLE:** DESCRIPTION
 |
| Description of work |

|  |
| --- |
| * *Background: Describe the state-of-the-art in the field(s) relating to the WP, in particular the starting basis for the work, and gaps that the WP will bridge (max. 8 lines, as it has already been outlined in* ***Section 4.1****).*
* *Approach: Describe the overall approach adopted by the WP, in order for it to achieve its objectives (max. 8 lines).*
* *Tasks: List the tasks (and subtasks), including a descriptive but concise title, followed by the task leader(s) and participants, and description, which should also clarify the roles of each participant.*
* **T1.1:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T1.2:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T1.3:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T1.4:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T1.5:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T1.6:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T1.7:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T1.8: TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
 |
| **Deliverables** (see Table 4) |
| **Milestones** (see Table 5) |

|  |  |
| --- | --- |
| Work package | WPX:  |
| **Lead beneficiary or LTP** | *full name (acronym)* |
| **Deputy leader** | *full name (acronym)* |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Beneficiary no.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| **Abbreviation** | INRAE | WR | BIOS | EV-ILVO | CRAW | CZU | AU | EMU | LUKE | Thuenen | Julich | ATK | Teagasc |
| **Person-months** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Beneficiary no.** | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| **Abbreviation** | CREA | UL | LAMMC | NIBIO | IUNG | INIAV | NPPC | ULBF | CSIC | SLU | AGS | TAGEM | AFBI |
| **Person-months** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **LTP no.** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| **Abbreviation** | AgroParisTech | Institut Agro | -/- | EAA | BOKU | AGES | BAW | BFW | EV INBO | VPO | ARC | CNR | ISPRA |
| **Person-months** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **LTPno.** | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| **Abbreviation** | UNIPA | ENEA | AGRIS | ERSAF | AIS | UM-FKBV | -/- | -/- | -/- | -/- | -/- | -/- | -/- |
| **Person-months** |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Start month** | MXX |  | **End month** | MXX |  | **Total person-months** | **XX** |

|  |
| --- |
| Objectives |
| * *Describe the overall objective of the WP (max. 7 lines).*
* *List the specific objectives of the WP, including a descriptive but concise title, followed by a description.*
* *A commonly used approach, which helps to boost clarity, is link objectives directly to tasks, i.e. OB2.1 is dealt with by T2.1.*

The specific objectives are to:* **OB2.1:** **TITLE:** DESCRIPTION
* **OB2.2: TITLE:** DESCRIPTION
* **OB2.3: TITLE:** DESCRIPTION
* **OB2.4: TITLE:** DESCRIPTION
* **OB2.5: TITLE:** DESCRIPTION
 |
| Description of work |

|  |
| --- |
| * *Background: Describe the state-of-the-art in the field(s) relating to the WP, in particular the starting basis for the work, and gaps that the WP will bridge (max. 8 lines, as it has already been outlined in* ***Section 4.1****).*
* *Approach: Describe the overall approach adopted by the WP, in order for it to achieve its objectives (max. 8 lines).*
* *Tasks: List the tasks (and subtasks), including a descriptive but concise title, followed by the task leader(s) and participants, and description, which should also clarify the roles of each participant.*

The work will be conducted via the following tasks:* **T2.1:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T2.2:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T2.3:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T2.4:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T2.5:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T2.6:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T2.7:TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
* **T2.8: TITLE** (***leader***, ***co-leader***, *participants*): DESCRIPTION
 |
| **Deliverables** (see Table 4) |
| **Milestones** (see Table 5) |

Table 4: List the deliverables, including a descriptive but concise deliverable title, responsible participant, month of delivery, and description

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Deliverable** | **WP** | **Month of delivery** | **Responsible participant** | **Title** | **Description** |
| **D1.1** | 1 | MX |  |  |  |
| **D1.2** | 1 | MX |  |  |  |
| **D1.X** | 1 | MX |  |  |  |
| **D2.1** | 2 | MX |  |  |  |
| **DX.X** | X | MX |  |  |  |

Table 5: List the milestones, including a descriptive but concise milestone title, responsible participant, month of achieving milestone, and description.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Milestone** | **WP** | **Due month** | **Responsible participant** | **Title** | **Description** |
| **M1.1** | 1 | MX |  |  |  |
| **M1.2** | 1 | MX |  |  |  |
| **M1.X** | 1 | MX |  |  |  |
| **M2.1** | 2 | MX |  |  |  |
| **MX.X** | X | MX |  |  |  |

Table 6: *Example of a Gantt chart illustrating the timing of project`s tasks (T), deliverables (D) and milestones (M). The EJP SOIL annual work plans are based on a* ***monthly resolution****, which also applies to EJP SOIL internal call funded research project.*

|  |  |  |
| --- | --- | --- |
|  | 1st Annual period first work plan |  |
| Months\* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| WP1 |  |  |  |  |  |  |  |  |  |  |  |  |
| T1.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| D |  |  |  | X |  |  |  |  |  |  |  |  |
| M |  |  |  | X |  |  |  |  |  |  |  |  |
| T1.2 |  |  |  |  |  |  |  |  |  |  |  |  |
| T1.3 |  |  |  |  |  |  |  |  |  |  |  |  |

\* EJP SOIL months; M1 equals February 2020

WP: Work package

## Impact

*Expected impact (considering cross-cutting issues: multi-actor/ multi-disciplinary and system approach)*

*Innovation potential (ambition and novelty in relation to the state of the art)*

*Added value of the transnational collaboration and geographical relevance*

# Ethical issues

*Indication that the research project is carried out in accordance with the European Union, the respective national (Chapter 5 and Annex 5 “Self-assessment”), and the EJP SOIL`s requirements. Proposals that do not include all the compulsory information or do not meet the formal requirements of the Call announcement will not be considered for funding.*

*Address any of the ethical issues listed in Annex 5 that are expected to arise during the proposed project. In max. 6000 characters with spaces.*

# Communication and dissemination strategy

*On the basis of an internal EJP SOIL communication and dissemination services and tools (see section “Communication and dissemination”) the applicants should consider the following communication and dissemination options during communication plan preparation (in max 6000 characters with spaces):*

* *Describe how the funded research is relevant for particular stakeholders;*
* *Specify how the project will engage and interact with these on both national and European level;*
* *Specify communication, dissemination and knowledge exchange activities such scientific papers, articles, posters, course or training material, web-based tools, as workshops or field days;*
* *Specify activities including (co)organizing national workshops in member states funding the project;*
* *Specify how they will draw upon relevant professional assistance from WP9 and National Communication Representatives to secure communication, dissemination and exploitation activities;*
* *Appoint a Project Communication Representative who will be responsible for communication, dissemination and exploitation activities in the project;*
* *Include summarized budget lines for communication, dissemination and exploitation activities.*

# Data management strategy

*Describe how the research data in this project will be findable, accessible, interoperable and re-usable (FAIR) (in max 6000 characters with spaces):*

*- Describe the handling of research data during and after the end of the project;*

*- Specify what data will be collected, processed and/or generated and/or reused;*

*- Specify which methodology and standards will be applied;*

*- Specify whether data will be shared/made open access;*

*- Specify how data will be curated and preserved (including after the end of the project).*

# References

*Please us citation style of the European Journal of Soil Science (*[*https://onlinelibrary.wiley.com/journal/13652389*](https://onlinelibrary.wiley.com/journal/13652389)*)*

The closing date for complete and timely submission of proposals is 31st May 2022 in M28 – 23:59 CET. Applications should be submitted via the EJP SOIL`s proposal submission system ([Link](https://www.lyyti.fi/reg/EJPSOIL_3rd_internal_call)).

# Annex 4: Template for proposal budget

Please, visit the EJP Website (www.ejpsoil.org) to retrieve the budget sheet template in Excel format. **Please submit Annex 4 as an Excel document, NOT as a PDF**.

Important notices regarding budget plan

* The template file is composed of several spreadsheets, one summary budget spreadsheet and as many other spreadsheets as cost items.
* Where necessary complete the yellow cells in each relevant spreadsheet
* For each cost budgeted, describe it and refer to the corresponding task(s) of the project (See Annex 3, section 3)
* Complete one file consisting of annual budget plans to be summarized in an overall data sheet.
* Name each file as:
	+ Project acronym
	+ Institute name
	+ Project year (Y)
	+ E.g.: xxxxx\_Y1
* Contact the Call Office for any further clarification needed (EJPCO@maapera.fi)

# Annex 5. Ethics self-assessment

Please see the EJP SOIL Website (www. EJPSOIL.eu), to retrieve the excel sheet for Ethics Self-Assessment.

|  |
| --- |
| **EJPSOIL Ethics Self-Assessment** |
|  |  |  |  |  |
|  |  | Instructions: |  |  |
|  |  | Each candidate EJP SOIL leader must complete this questionnaire. |  |  |
|  |  | For guidance, please use the guidance document. |  |  |
|  |  | Send the completed form to EJPfirstcall@luke.fi together with your full proposal. |  |  |
|  |  |  |  |  |
| **1** | **HUMANS** |   |
|   | Does your research involve human participants? | Yes | No |
|   |   | Are they providing sensitive or personal information? | Yes | No |
|   |   | Are they volunteers for social or human sciences research? | Yes | No |
|   |   | Are they persons unable to give informed consent? | Yes | No |
|   |   | Are they vulnerable individuals or groups? | Yes | No |
|   |   | Are they children/minors? | Yes | No |
|   |   | Are they patients? | Yes | No |
|   |   | Are they healthy volunteers for medical studies? | Yes | No |
|   |   | Are they residents in a non-EU country? | Yes | No |
|   | Does your research involve physical interventions on the study participants? | Yes | No |
|   |   | Does it involve invasive techniques? | Yes | No |
|   |   | Does it involve collection of biological samples? | Yes | No |
|   | *If your research involves processing of genetic information or collecting personal data, see also section 4* |
| **2** | **PERSONAL DATA** |   |
|   | Does your research involve personal data collection and/or processing? | Yes | No |
|   |   | Does it involve the collection and/or processing of sensitive personal data (e.g.: health, sexual lifestyle, ethnicity, political opinion, religious or philosophical) | Yes | No |
|   |   | Does it involve processing of genetic information? | Yes | No |
|   |   | Does it involve tracking or observation of participants? | Yes | No |
|   | Does your research involve further processing of previously collected personal data (secondary use)? | Yes | No |
| **3** | **ANIMALS** |   |
|   | Does your research involve animals? | Yes | No |
|   |   | Are they legally protected animals? | Yes | No |
|   |   | Are they vertebrates? | Yes | No |
|   |   | Are they non-human primates? | Yes | No |
|   |   | Are they genetically modified? | Yes | No |
|   |   | Are they cloned farm animals? | Yes | No |
|   |   | Are they endangered? | Yes | No |
|   | *Please indicate the species involved (Maximum number of characters allowed: 1000)* |
|   |
|   |
| **4** | **THIRD COUNTRIES\*** |   |
|   | In case non-EU countries are involved, do the research related activities undertaken in these countries | Yes | No |
|   |   | Specify the countries involved:(Maximum number of characters allowed: 1000) |
|   |   |
|   |   |
|   |   | Do you plan to use local resources (e.g. animal and/or human tissue samples, genetic material, live animals, human remains, materials of historical value, endangered fauna or flora samples, etc.)? | Yes | No |
|   |   | Do you plan to import any material - including personal data - from non-EU countries into the EU? | Yes | No |
|   |   | Specify material, countries and legal permissions involved: (Maximum number of characters allowed: 1000) |
|   |   |
|   |   |
|   |   | Do you plan to export any material - including personal data - from the EU to non-EU countries? | Yes | No |
|   |   | Specify material, countries and legal permissions involved: (Maximum number of characters allowed: 1000) |
|   |   |
|   |   |
|   |   | If your research involves low and/or lower middle income countries, are benefits-sharing actions planned? | Yes | No |
|   |   | Do you plan to use biological resources that are subject to Access and Benefit Sharing (Nagoya Protocol) Regulations (Regulation (EU) No.511/2014; Implementing Regulation (EU) 2015/1866) | Yes | No |
|   |   | Specify material and countries: (Maximum number of characters allowed: 1000) |
|   |   |
|   |   |
|   |   | Could the situation in the country put the individuals taking part in the research at risk? | Yes | No |
| **5** | **ENVIRONMENT & HEALTH and SAFETY** |
|   |   | Does your research involve the use of elements that may cause harm to the environment, to animals or plants? | Yes | No |
|   |   | Does your research deal with endangered fauna and/or flora and/or protected areas? | Yes | No |
|   |   | Does your research involve the use of elements that may cause harm to humans, including research stuff? | Yes | No |
| **6** | **DUAL USE** |
|   |   | Does your research involve dual-use items in the sense of Regulations 428/2009, or other items for which an authorization is required? | Yes | No |
| **7** | **EXCLUSIVE FOCUS ON CIVIL APPLICATIONS** |
|   |   | Could your research raise concerns regarding the exclusive focus on civil applications? | Yes | No |
| **8** | **MISUSE** |
|   |   | Does your research have the potential for misuse of research results? | Yes | No |
| **9** | **OTHER ETHICS ISSUES** |
|   |   | Are there any other ethics issues that should be taken into consideration?  | Yes | No |
|   |   | Please specify (maximum number of characters allowed: 1000) |
|   |   |
|   |   |
|   |   |   |   |   |
| I confirm that I have taken into account all ethics issues described above and that I will comply with the regulation as set out in the Grant Agreement (i.e. Art 34) before the start of any activity in which ethics issues apply | I confirm: yes or no |
|
| Document completed by |   |   |
| Date |   |   |   |
| Signature |   |   |   |

\* Norway, Switzerland and UK (i.e. changes will be communicated via WPs 1 and 3) are within the European Economic Area (EEA); therefore covered by the GDPR and its provisions. The only non-EU country is Turkey, which requires additional consultation of Turkish colleagues to manage personal data protections issues.

# Annex 6. Certificate of co-financing

**To be submitted after selection**.

This template should be used for participants of selected research projects in order to provide evidence of their commitment. Grey-marked fields must be duly completed. This document must be signed by an authorized representative of the organisation. A template for each participant organization is required.

In case of failure in proving such commitment, a participant could be regarded as ineligible, jeopardizing the whole research consortium.

|  |  |
| --- | --- |
| EJP SOIL Call OfficeOrganisationNameStreetTownCountry | Address of organisationName of contact person |
| EJP SOIL – 3rd Internal Call for research proposals 2022Certificate of co-financingProject title: …  |
|  Place, date |
| We hereby confirm that **organisation** has sufficient resources and is committed to participate to the **project title**, in accordance to the proposal which is submitted by coordinator in the frame of the EJP SOIL – 3rd Internal Call 2022 and in case the proposal is validated for funding by the Board of Programme Managers. *In addition, in case of separate source of funding:* Please find attached to this letter a commitment from **funding organisation** for our contribution to this project. |
|  |  |
| Signature of **Name and affiliation** |  |
|  |  |

# Annex 7. Letter of commitment by the project coordinator

**To be submitted after selection**.

This template may be signed by project coordinators of selected research projects in order to provide evidence of their commitment. Grey-marked fields must be duly completed.

In case of failure in proving such commitment, a project could be regarded as ineligible.

|  |  |
| --- | --- |
| EJP SOIL Call OfficeOrganisationNameStreetTownCountry | Address of organisationName of Project Coordinator |
| EJP SOIL – 3rd Internal Call for research proposals 2022Letter of commitment by Project CoordinatorProject full title: … Project acronym: … |
|  Place, date |
| I hereby confirm that in my capacity of the **project title** Project Coordinator, that **project title** will be implemented in accordance to the proposal submitted to the EJP SOIL Call Office and validated by the Board of Programme Managers in the frame of the EJP SOIL – 3rd Internal Call 2022. I hereby acknowledge that **project title** will be included in the relevant EJP SOIL’s Annual Work Plans that cover the complete duration of the project. As such, the  **project title** will follow the rules of H2020, and the EJP SOIL Grant Agreement and Consortium Agreement with respect to scientific and financial management, data management, personal data protection, financial and technical reporting, and legal aspects such as access rights, dispute resolution and Intellectual property rights.The relationship among the Parties, in particular concerning the organisation of the work between the Parties, the management of the Project and the responsibilities and obligations of the Parties are defined in the full project proposals provided as attachment to this letter. |
|  |  |
| Signature of **Project Coordinator Name and affiliation** |  |
|  |  |

1. Orgiazzi et al 2016 LUCAS Soil, the largest expandable soil dataset for Europe: a review European Journal of Soil Science, January 2018, 69, 140–153 doi: 10.1111/ejss.12499 [↑](#footnote-ref-2)
2. <https://easac.eu/publications/details/extreme-weather-events-in-europe/>, FAO. 2020. The State of Food and Agriculture 2020. Overcoming water challenges in agriculture. Rome. <https://doi.org/10.4060/cb1447en> [↑](#footnote-ref-3)
3. Eden et al , 2017 Organic waste recycling in agriculture and related effects on soil water retention and plant available water: a review Agron. Sustain. Dev.37: 11 DOI 10.1007/s13593-017-0419-9 [↑](#footnote-ref-4)
4. O’Neill, B.C., Kriegler, E., Riahi, K., Ebi, K.L., Hallegatte, S., Carter, T.R., Mathur, R., van Vuuren, D.P., 2014. A new scenario framework for climate change research: the concept of shared socioeconomic pathways. Clim. Change 122, 387e400. [↑](#footnote-ref-5)
5. Van Vuuren, D.P., Kriegler, E., O’Neill, B.C., Ebi, K.L., Riahi, K., Carter, T.R., Edmonds, J., Hallegatte, S., Kram, T., Mathur, R., 2014. A new scenario framework for climate change research: scenario matrix architecture. Clim. Change 122, 373e386. [↑](#footnote-ref-6)
6. Synthesis of impacts of sustainable soil management practices, Report Task 2.4.1; Roadmap for the European Joint Programme SOIL, Report Task 2.4 [↑](#footnote-ref-7)