

InBestSoil

Monetary valuation of soil ecosystem services and creation of initiatives to invest in soil health: setting a framework for the inclusion of soil health in business and in the

D6.3 TOOLBOX OF INCENTIVE SCHEMES

Toolbox of Incentive Schemes Report – D6.3

Summary			
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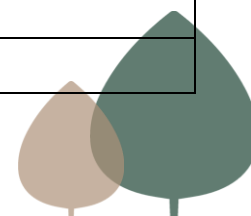
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List of Acronyms

ANLB	Agricultural Nature and Landscape Management
ADIF	Administrador de Infraestructuras Ferroviarias (Spanish Railway Infrastructure Manager)
CAP	Common Agricultural Policy
CMEF	Common Monitoring and Evaluation Framework
CS	Case Study
DG AGRI	Directorate-General for Agriculture and Rural Development
DG ENV	Directorate-General for Environment
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agricultural Guarantee Fund
EC	European Commission
EESC	European Economic and Social Committee
ENESA	Entidad Estatal de Seguros Agrarios (Spanish Agricultural Insurance System)
ENUSA	Empresa Nacional del Uranio S.A.
ERDF	European Regional Development Fund
EU	European Union
EU ETS	European Union Emission Trading System
FAO	Food and Agriculture Organisation of the United Nations
FOEN	(Swiss) Federal Office for the Environment
GAEC	Good Agricultural and Environmental Conditions
LAGs	Local Action Groups
LEADER	Liaison Entre Actions de Développement de l'Économie Rurale (EU rural development program)
LULUCF	Land Use, Land Use Change and Forestry
MEPRD	Ministry of Environmental Protection and Regional Development (Latvia)
MITECO	Ministerio para la Transición Ecológica y el Reto Demográfico
MS	Member State
NGO	Non-Governmental Organisation
PES	Payments for Ecosystem Services



RAADs	Regional Environmental Protection Departments
SFDR	Sustainable Finance Disclosure Regulation
UNFCCC	United Nations Framework Convention on Climate Change
POCTEP	Programa de Cooperación Transfronteriza España-Portugal (Cross-Border Cooperation Programme)
RDP	Rural Development Programme
RSS	Rural Support Service
WDF	Water Framework Directive
WP	Work Package
WPA	Waters Protection Act (Switzerland)
WWA	Federal Law on the Arrangement of Waterways (Waterways Act, Switzerland)



1 Executive Summary

This report presents an analysis of European and national regulatory frameworks and policies that provide regulatory or financial instruments for ecosystem services provided by healthy soils in various sectors with a particular focus on farming, forestry, mining, and restoration.

This report is primarily intended for policymakers, practitioners, professionals, and researchers involved in sustainable land-use planning, environmental monitoring, and soil health policy development. Specifically, it aims to support national and European stakeholders in implementing sustainable strategies by offering a clear overview of existing policies that promote sustainable land use practices or disincentivize harmful activities. It also provides practical guidance for those seeking opportunities for direct support in generating economic benefits by outlining the implementation and application conditions of current policies.

For the identified economic instruments in the Milestone MS6.1, a comprehensive analysis of the relevant national and European policy frameworks was conducted. This desk research was complemented by a qualitative analysis of the perceptions and knowledge of local stakeholders, gathered within the selected case study communities.

The methodology for the policy framework analysis involved applying an analytical matrix that examined the objectives, content, formulation, and implementation of each policy. During the local validation phase, tailored analysis sheets and guiding questions were developed to support stakeholder dialogue and collect informed feedback.

The report includes the following main results:

- Analysis of Economic Instruments

This section details the economic instruments applicable to the Case Studies (CS) involved in the project. These instruments were identified through a combination of literature review (D6.1) and co-design activities with stakeholder communities within each CS (MS6.1).

- Multilevel Policy Framework Analysis

This involves an analysis of European and national policy frameworks that promote healthy soil through the application of economic instruments for diverse land uses.

- Local Assessment

Analysis of local perceptions and perspectives on policies presented as relevant to the implementation of economic instruments.

This report serves as a tool for understanding and delving deeper into existing policies that support healthy soil through various economic instruments. Its value is further enhanced by integrating local stakeholders' perceptions and perspectives of these policies.

The identified perceived barriers and bottlenecks are explicitly detailed, with a notable finding being a common lack of knowledge among local stakeholders.



particularly on European-derived policies. This insight is paramount for the successful implementation of policies that promote effective environmental, ecological, and social sustainability.

The knowledge and content within the report are designed to be a valuable resource for drafting the *D6.4 Policy recommendations for transformative soil health protection*. Special emphasis will be placed on incorporating the perceptions and perspectives gleaned from the local stakeholders, including researchers, NGOs, policymakers, farmers and businesses involved in the policy validation phase.

The analyses and local perspectives gathered in this report will inform future projects, particularly for developing recommendations by synthesizing the contributions of other WPs related to the policy issue. Furthermore, the findings will contribute to achieving the objectives of the EU Soil Strategy to 2030¹ and the Soil Mission² and will guide the development of policies and interventions for different land uses, aiming to promote sustainable and scalable practices for soil and ecosystem restoration.



2 Background

WP6's work began with an analysis of existing policies and economic instruments for soil health through horizontal mapping of the European and national policy landscapes, and an ex-post assessment based on the reported performance and semi-structured interviews with 15 knowledgeable experts and representatives of organizations involved in implementation of the schemes (D6.1)³. Based on this extensive work, case study coordinators selected the most relevant economic instruments for each case study (MS6.1)⁴ and conducted a SWOT analysis together with the experts and representatives of organizations. The results of these two activities led to an analysis of the proposed soil health improvement programmes, focusing on their materiality and value proposition. The analysis also examined economic instruments that could motivate social change, along with the enabling factors and political barriers that might affect their implementation (T6.3). Considering the different contexts of the case studies, the case study coordinators pre-selected the following economic instruments reported in catalogue D6.1: financial incentives, payments for ecosystem services, disincentives, risk financing schemes, grants, land conversion fees, and biodiversity offsets. Stakeholders from the case studies explored the strengths, weaknesses, opportunities, and threats (the four elements of a SWOT analysis) for at least two of the possible economic instruments. Selection criteria included familiarity with the instrument's application and its sustainability, taking into account environmental, social, and governance considerations. In terms of strengths and weaknesses, they reflected on the advantages and disadvantages of the selected instrument from an internal aspect, including their applicability, beneficiaries, sources, returns, outcomes, sanctions, and enforcement. In terms of opportunities and threats, stakeholders analysed the instrument's opportunities and obstacles from both internal and external aspects, including trends, product or service changes, technological advancements, debt or cash flow issues, and institutional barriers. Further reflection focused on the reasons why other programmes were excluded from the analysis, including lack of awareness, unsustainability, and poor applicability. At the end of this phase, infographics were created for each case study, including the incentive systems and the SWOT analysis.



3 Toolbox of incentive schemes

The toolbox covers the incentive schemes which were selected as relevant by case studies coordinators and stakeholders as described in the previous Section 2. In addition to this initial selection, it is important to acknowledge that some incentive schemes were further selected due to their recognized value and connection to certain national policy frameworks.

Case study coordinators were able to choose from 1 to 3 stakeholders, including the following different typologies: policymakers, farmers, associations, non-governmental organizations (NGOs), researchers, consultants and businesses. Therefore, each case study has involved a somewhat different type of stakeholder group than the others. For example, while one case study may primarily involve non-governmental organizations (NGOs) as stakeholders, another may centre on farmers and researchers. While this structural difference allows for diverse feedback on the applicability of the respective incentive schemes, it also constitutes a limitation of the results as not all types of stakeholder feedback can be collected for each incentive scheme by each case study.

The toolbox includes the policies which regulate and support those identified incentive schemes at EU level. In addition, the toolbox explores the policies relevant to the specific case studies at national and regional levels (Table 1).

CS-1	LH1 - Case Study 1 Spain
	<u>Location:</u> Spain – Dehesa El Baldio de Talaván (El Baldio)
	<u>Land use:</u> Mediterranean Forestry Soil
	<u>Incentive schemes:</u> Payments for Ecosystem Services Biodiversity Offsets
CS-2	LH2 - Case Study 2 Spain
	<u>Location:</u> Spain – Mining District of Cartagena – La Union
	<u>Land use:</u> Mediterranean Industrial Soil
	<u>Incentive schemes¹:</u> Subsidies Disincentives Biodiversity Offsets
CS-3	LH3 - Case Study 3 Spain

¹ Incentive schemes, which were originally selected in MS6.1, included: Payment for Ecosystem Services and Biodiversity Offset.



	<u>Location:</u> Spain – Old Touro Copper Mine
	<u>Land use:</u> Atlantic Industrial Soil
	<u>Incentive schemes²:</u> Subsidies Disincentives Biodiversity Offsets Grants Risk Financing Schemes
CS-4	LH4 - Case Study 4 Croatia
	<u>Location:</u> Croatia - Peri-urban soils, Zagreb
	<u>Land use:</u> Continental Urban Soil
	<u>Incentive schemes:</u> Subsidies Disincentives Land Conversion Fees
CS-5	LH5 - Case Study 5 Lithuania
	<u>Location:</u> Lithuania – Baltupiai Urban Gardens
	<u>Land use:</u> Boreal Urban Soil
	<u>Incentive schemes:</u> Subsidies Disincentives
CS-6	LH6 - Case Study 6 Latvia
	<u>Location:</u> Latvia - Mežole
	<u>Land use:</u> Boreal Forestry Soil
	<u>Incentive schemes³:</u> Payments for Ecosystem Services Subsidies Grants
CS-7	LH7 - Case Study 7 Netherlands
	<u>Location:</u> Netherlands - Betuwe

² Incentive schemes, which were originally selected in MS6.1, included: Disincentives and Risk Financing Schemes.

³ Incentive schemes, which were originally selected in MS6.1, included: Payment for Ecosystem Services and Grants. Moreover, Subsidies is considered at EU level and not national level.



	<u>Land use:</u> Atlantic Agricultural Soil
	<u>Incentive schemes:</u> Payments for Ecosystem Services Subsidies
CS-8	LL1 - Case Study 8 Italy
	<u>Location:</u> Italy - Campidano Plain and other agricultural areas of Sardinia
	<u>Land use:</u> Mediterranean Agricultural Soil
	<u>Incentive schemes:</u> Payments for Ecosystem Services Subsidies Disincentives
CS-9	LL2 - Case Study 9 Switzerland
	<u>Location:</u> Switzerland - Cantons of Basel
	<u>Land use:</u> Continental Agricultural Soil
	<u>Incentive schemes⁴:</u> Payments for Ecosystem Services Subsidies Grants*

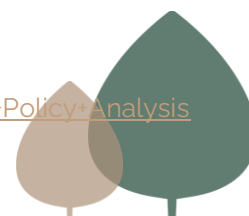
Table 1 Case Study: locations, land uses and incentive schemes.

Policies were retrieved from two sources, namely InforMEA and FAOLEX.⁵ InforMEA is the United Nations Information Portal on Multilateral Environmental Agreements. It is a one-stop portal for information on Multilateral Environmental Agreements (MEA) searchable by key terms across treaty texts, COP decisions, national plans and reports, laws, court decisions and more. Policies were primarily browsed by "Land and Agriculture" as Environmental Topic and by "Party". FAOLEX is a comprehensive and up-to-date legislative and policy database, one of the world's largest online repositories of national laws, regulations and policies on food, agriculture and natural resources management. Users of FAOLEX have direct access to the abstracts and indexing information about each text, as well as to the full text of the legislation and policies contained in the database. Policies were primarily browsed by: "Land & soil" as domain and primary subject and by "Country/Territory". The work of T6.3 focused on analysing the policies regulating and/or supporting these incentive schemes for the protection and restoration of soil health. The main components of the analysis of policies regulating and/or supporting the incentive schemes⁶ are:

⁴ Originally selected in MS6.1: Payment for Ecosystem Services and Subsidies.

⁵ <https://www.informea.org/en> ; <https://www.fao.org/faolex/en/> .

⁶ <https://wikis.ec.europa.eu/spaces/ExactExternalWiki/pages/50108923/Public+Policy+Analysis>



1. **POLICY CONTENT and OBJECTIVE:** definition & scope; coverage period; responsible authorities; policy coherence with other policies; policy objective and alignment with stakeholder needs.
2. **FORMULATION PROCESS:** stakeholder participation in policy development.
3. **IMPLEMENTATION:** application conditions; budget allocation for implementation and future operational costs; revenue system support for current and future costs; performance assessment, monitoring, and evaluation framework; institutional capacity for policy implementation.

In November 2024, a co-creation in-person activity was organized at the Dehesa in CS1 Spain (LH1) in order to test the components of the policy analysis framework. Moreover, the data regarding the implementation of the selected schemes were considered as the basis of the toolbox of incentive schemes (D6.3). Participants had the opportunity to exchange thoughts and reflections based on four guiding questions which focused on the following features:

1. the meaning of the specific policy for the stakeholders;
2. how the policy addressed their needs;
3. challenges to apply the policy;
4. any other relevant policies to take into consideration.

Between February and early September 2025, case study coordinators applied the tested approach to their own case studies and provided their contribution to the policy framework analysis. If requested, a previous training on the contents of the policy framework analysis and on the modalities for undertaking the activity with stakeholders was provided by CMCC. Each case study coordinator applied a different format of the activity tailored to their specific needs and contexts (Table 2).

Case study	Activity format
CS1 Spain (LH1)	In-person workshop
CS2 Spain (LH2)	In-person workshop
CS3 Spain (LH3)	In-person workshop
CS4 Croatia (LH4)	Online workshop
CS5 Lithuania (LH5)	Online workshop and interview with expert
CS6 Latvia (LH6)	Interviewing process
CS7 Netherlands (LH7)	Interviewing process
CS8 Italy (LL1)	Online workshop
CS9 Switzerland (LL2)	Surveys

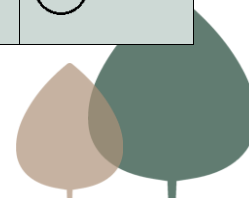
Table 2 Stakeholder activity format by each case studies.

Table 3 provides the opportunity to select the specific incentive schemes and related policies in order to explore the analysis of their main features which are described in the following report sections.

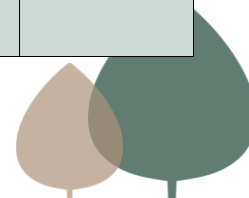


Incentive schemes	Policy Name	Governance level	Case study
PAYMENTS FOR ECOSYSTEM SERVICES (PES)	Regulation (EU) 2021/2115 Regulation (EU) 2021/2116	EU	CS-1 CS-6 CS-7 CS-8 CS-9
	Spain's CAP Strategic Plan	National-Spain	CS-1
	Italy's CAP Strategic Plan	National-Italy	CS-8
	Latvia's CAP Strategic Plan	National-Latvia	CS-6
	Swiss Federal Act of 29 April 1998 on Agriculture (Agriculture Act, AgricA)	National-Switzerland	CS-9
	Swiss Federal Act on the Protection of Waters (Waters Protection Act, WPA)		
	Swiss Federal law on the arrangement of waterways (Waterways Act, W/WA)		
	Swiss Federal Act on Forest (Forest Act, ForA)		
	Swiss Federal Act on the Protection of Nature and Cultural Heritage (NCHA)		
	Netherlands's CAP Strategic Plan	National-Netherlands	CS-7
SUBSIDIES	Regulation (EU) 2021/2115 Regulation (EU) 2021/2116	EU	CS-2 CS-3 CS-4 CS-5 CS-6 CS-7 CS-8 CS-9
	Regulation (EU) 2024/1991 EU Nature Restoration Law		
	EU Soil Strategy for 2030		
	EU Biodiversity Strategy for 2030		
	Zero Pollution Action Plan		
	EU Forest Strategy for 2030		
	Farm to Fork Strategy		
	Renewed Sustainable Finance Strategy		
	Croatia's CAP Strategic Plan	National-Croatia	CS-4
	Croatian Regulation on the implementation of direct support to agriculture and IAKS rural development measures for 2023		
	Croatian Law on Agriculture (2018)		
	Croatian Agriculture Strategy until 2030		
	Italy's CAP Strategic Plan	National-Italy	CS-8

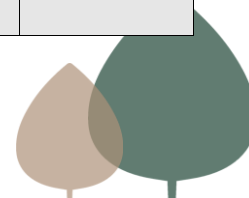
	Lithuania's CAP Strategic Plan	National-Lithuania	CS-5
	Swiss National Soil Strategy	National-Switzerland	CS-9
	Swiss Federal Act of 29 April 1998 on Agriculture (Agriculture Act, AgricA)		
	Swiss Direct Payments Ordinance / Structure Improvements Ordinance		
	Swiss Agricultural Policy		
	Swiss PA22+		
	The Swiss Federal Act on Foodstuffs and Utility Articles		
	Netherlands' CAP Strategic Plan	National-Netherlands	CS-7
	Spanish Circular Economy Strategy 2030	National-Spain	CS-3
	Galicia Strategy for Green Infrastructure, Connectivity, and Ecological Restoration (2024)		
	Spanish Regional Forestry Plan		
	Spanish Resolution of 4 April 2025 of the Presidency of the centre for technological development and innovation E.P.E. (CDTI)		
	Spanish Law 42/2007 on Natural Heritage and Biodiversity		
	Environmental Restoration Strategy for the Cartagena-La Unión Mining Sierra [The Recovery, Transformation, and Resilience Plan (PRTR)]		CS-2
	Environmental Recovery Plan for Soils Affected by Mining 2021-2028 of the Murcia Region. Autonomous Community of Murcia.		
	Regional Plan for the Management of Contaminated Soils of the Autonomous Community of Murcia		
	Regional Plan for the Management of Contaminated Soils of the Autonomous Community of Murcia		
DISINCENTIVES	Regulation (EU) 2021/2115	EU	CS-2CS-3 CS-4CS-5 CS-8
	Regulation (EU) 2021/2116		
	European Green Deal		
	Water Framework Directive (2000/60/EC)		



	<u>Directive 2006/21/EC on the management of waste from extractive industries</u>	National-Spain	CS-2
	<u>Spanish Law 7/2022 on Waste and Contaminated Soil for a Circular Economy</u>		
	<u>Spanish Royal Decree 9/2005, of January 14, establishing the list of potentially soil-polluting activities and the criteria and standards for declaring contaminated soil.</u>		CS-3
	<u>Spanish Royal Decree 1051/2022 - Sustainable nutrition of agricultural land</u>		
	<u>Croatian Law on Forest (1990, latest amendment in 2018)</u>	National-Croatia	CS-4
	<u>Croatian Agricultural Land Act</u>		
	<u>Croatian Law on Spatial Planning</u>		
	<u>Italian Catalogue of environmentally harmful subsidies and environmentally beneficial subsidies (art. 68 L 221 28 December 2015 - Environmental provisions to promote green economy measures and to contain the excessive use of natural resources)</u>	National-Italy	CS-8
	<u>Lithuanian Law on Environmental Protection</u>	National-Lithuania	CS-5
	<u>Lithuanian Resolution No. D1-528 (2020) – Regulation on issuance, amendments, and cancellation of permits for integrated pollution prevention and control</u>		
	<u>Lithuanian Law on Waste Management (1998)</u>		
	<u>Lithuanian Order No. D1-228 on Soil Protection</u>		
	<u>Lithuanian Program on Water Pollution Reduction</u>		



	from Agricultural Sources (2008)		
BIODIVERSITY OFFSETS	The Birds Directive (2009/147/EC)	EU	CS-1CS-2 CS-3
	The Habitats Directive (92/43/EEC)		
	EU Biodiversity Strategy for 2030		
	New Spanish Environmental Assessment (Ley 21/2013, de 9 de diciembre, de evaluación ambiental)	National-Spain	CS-1CS-2 CS-3
	Spanish Law 42/2007 on Natural Heritage and Biodiversity		CS-2
GRANTS	Regulation (EU) 2021/2115	EU	CS-6CS-3 CS-9
	Regulation (EU) 2021/2116		
	EU's 7th Framework Program		
	Interreg Galicia-Northern Portugal (POCTEP (V-A))	National-Latvia	CS-6
	Latvian Rural Development Programme (RDP) 2014–2022		
	Latvian Law on Compensation for Restrictions on Economic Activities in Protected Territories (2013)	National-Spain	CS-3
	Spanish Environmental Restoration Strategy for the Cartagena-La Unión Mining Sierra		
RISK FINANCING SCHEMES	Swiss Federal Act of 29 April 1998 on Agriculture (Agriculture Act, AgricA)	National-Switzerland	CS-9
	Regulation (EU) 2021/2115	EU	CS-3
	Regulation (EU) 2021/2116		
	Environmental Liability Directive (ELD, EU, 2004); Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage		
	Renewed Sustainable Finance Strategy	National-Spain	CS-3
	Spanish Agricultural Insurance System (ENESA)		
LAND CONVERSION FEES	Spanish Compensation Mutual Fund of Alava	EU	CS-4
	Land Use, Land-Use Change and Forestry Regulation (LULUCF)		



	Croatian Low-carbon Development Strategy	National-Croatia	CS-4
	Croatian Integrated National Energy and Climate Plan		

Table 3 The toolbox of incentive schemes and related policies at different governance level, including InBestSoil project case studies.



3.1 PAYMENTS FOR ECOSYSTEM SERVICES

Description:

Payments for Ecosystem Services (PES) are price-based tools that assign a value to environmental goods and services, helping to reflect their worth in the market. These schemes are usually run by public institutions. They are mainly used to tackle soil erosion and unsustainable land use by encouraging more sustainable practices. Payments are made to land managers or landowners in exchange for achieving certain environmental outcomes or for carrying out agreed actions that support ecosystem services. PES schemes are commonly applied in agriculture, forestry, and wetland areas. Their main benefit is an improvement in environmental outcomes, often with additional returns in kind. These schemes aim to improve cost-effectiveness, budget efficiency, coordination between actors, and fairer resource distribution. They can also help generate or attract funding for biodiversity and redirect existing financial flows, such as prices and subsidies, towards better biodiversity and land management practices⁴.

3.1.1.1 Regulation (EU) 2021/2115 | Regulation (EU) 2021/2116

[*\[Back to the Policy Table\]*](#)

Policy content and objective:

Regulations (EU) 2021/2115 and 2021/2116 provide the legislative foundation for the reformed Common Agricultural Policy (CAP) during the 2023–2027 programming period. A central objective is the promotion of sustainable management of natural resources alongside reducing dependency on chemical inputs and supporting climate action. It employs a range of economic mechanisms, which are PES, grants, and risk financing schemes.

The regulations introduce eco-schemes and agri-environment-climate commitments, which operate as forms of PES. These instruments offer financial incentives to farmers who voluntarily adopt agricultural practices that provide measurable ecosystem benefits beyond existing legal requirements. Such benefits include carbon sequestration, biodiversity enhancement, water conservation, and improved soil health. Payments are intended to offset the additional costs incurred or income lost when implementing these practices.

The CAP regulations are closely aligned with broader EU policy frameworks, particularly the European Green Deal, the EU Biodiversity Strategy for 2030, and the UN 2030 Agenda for Sustainable Development.

Under the reformed CAP, each EU Member State (MS) is required to develop a national CAP Strategic Plan aligned with the objectives set out in Regulations (EU) 2021/2115⁵ and 2021/2116⁶. These plans must be developed through mandatory stakeholder consultations and submitted to the European Commission (EC) for approval.

In *CS6 Latvia [LH6 Boreal Forestry Soil]*, policymakers argue that, since the CAP has multiple objectives, including, but not being limited to, climate and environmental



objectives, challenges may arise, because MS need to implement a range of objectives equally, e.g., economic and social ones. NGOs acknowledge that there has been some dissatisfaction among farmers, which has led to policy amendments. Indeed, in recent years, the CAP has evolved from having a primary focus on the European Green Deal to also including biodiversity aspects, climate issues, and relevant goals, to supporting farmers in overcoming economic challenges.

In *CS7 Netherlands [LH7-Atlantic Agricultural Soil]*, farmers consider CAP PES as land-based payments made to farmers for the delivery of services related to sustainable land management with larger societal or ecological benefits which do not directly financially benefit the farmer.

Stakeholder consultation in the formulation process

The formulation process included a structured stakeholder consultation process at the EU level. In 2017, the EC conducted a public consultation on the future of the CAP, receiving over 322,000 responses from a broad range of stakeholders, including farmers, environmental organizations, regional authorities, and members of the public. This was complemented by targeted stakeholder dialogues, workshops, and advisory group meetings involving actors such as Copa-Cogeca, environmental NGOs, and rural networks^{5|6}.

In *CS6 Latvia [LH6-Boreal Forestry Soil]*, NGOs believe that, in general, the CAP is well known among forestry organizations, mostly through the participation of international organizations/bodies, such as FAO, in its development and discussion, as well as among forest owners in broader terms. However, its specific content and aspects may not be well-known to landowners and managers.

Implementation

PES are granted based on eligibility conditions defined by each MS in its Strategic Plan. These typically require farmers or land managers to adopt practices that go beyond statutory environmental requirements. Compensation is calculated based on the additional costs incurred and income foregone.

Funding is delivered through two main EU instruments: the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD). A minimum of 25% of the EAGF must be allocated to eco-schemes, while at least 35% of the EAFRD must be reserved for environmental and climate-related objectives, ensuring a significant share of resources are supporting PES-like mechanisms.

The “polluter pays” principle underpins the conditionality of CAP support, with compliance mechanisms in place to ensure minimum environmental standards are met. MSs are responsible for implementation, monitoring, and reporting within a structured performance framework. This includes a set of common results and impact indicators covering environmental, economic, and social dimensions. Implementation is further supported by tools such as area monitoring systems, geospatial data, and farm-level recordkeeping, which enhance the targeting, transparency, and accuracy of PES-related payments^{5|6}.



In *CS6 Latvia [LH6-Boreal Forestry Soil]*, policymakers praise the CAP's flexibility in addressing country-specific needs through eco-schemes and agri-environmental interventions, which allows the challenges identified in CS6 to be addressed.

3.1.1.2 Spain's CAP Strategic Plan

[*\[Back to the Policy Table\]*](#)

Policy content and objective

Spain's CAP Strategic Plan's⁷ purpose is to ensure the economic, environmental, and social sustainability of agriculture and rural areas. It aims to safeguard national food security, support viable farm incomes, foster generational renewal, and promote vibrant and resilient rural communities.

The plan was developed in alignment with the EU's 2023–2027 CAP programming period and formally approved by the EC in August 2022. It covers the timeframe from 2023 to 2027. The plan may be adjusted during mid-term reviews or replaced at the end of the programming cycle, depending on future EU policy developments.

The plan introduces eco-schemes, which operate as voluntary, annual commitment-based incentives within Pillar I (direct payments). These schemes reward farmers who adopt or maintain agricultural practices that go beyond the baseline conditionality requirements and existing environmental legislation. By doing so, eco-schemes link public funds to the delivery of measurable environmental public goods and serve as a PES mechanism^{8|9|10|7}.

The plan's objectives are aligned with the broader objectives of the European Green Deal¹¹, Farm to Fork¹², and Biodiversity Strategy for 2030¹³.

In *CS1 Spain [LH1-Mediterranean Forestry Soil]*, farmers argue that there is no relationship between the plan and PES. Payments do not differentiate between the type of management employed. Furthermore, farmers are unsure whether unplanned extensive grazing or extensive grazing without planned rotation are beneficial; hence, they require further explanation on the impacts of those practices by technical experts. The plan is only linked to practices and not to their results, i.e., all practices are eligible for eco-schemes regardless of their environmental implications/contributions. There is no scientific consensus on what is good grazing and what is bad grazing. Livestock loading (LU/ha) is identified as not being a good management indicator, as it does not consider the instantaneous stocking or the remaining periods of the plots, key factors for understanding both the management and the environmental effects of the practice. Differently, farmers argue that the development of grass cover over the years is a measurable indicator of the carbon sequestration. Policymakers define the plan to have a result-based model. However, its design is lacking in detail on how to handle its management. A structure is needed that teaches how to apply good practices (e.g., rotational, holistic, need for extensive livestock). The plan's underlying model should be based on practice, i.e., how you get to the results, and not solely the results. A reward for what practice does well, i.e., pay more for good



practices (incentivizing). Support is also needed for build the structure for its implementation on the ground. Monitoring and data are needed. The model wants to converge to payments for results, but expectations are not met. *NGOs* highlight the priority of clearly defining extensive practices with verifiable environmental and social benefits —such as cover maintenance or biodiversity conservation— to ensure fair economic recognition. Moreover, although *NGOs* acknowledge the usefulness of new technologies, these ones cannot be considered as the solution or as a prerequisite for accessing incentives. Indeed, lack of territorial adaptation and technical complexity risk excluding many farmers. The possibility of using tax deductions could be a solution for those farmers who implement good practices. *NGOs* believe that it is necessary to adapt the plan as a payment opportunity and Eco-schemes were proposed in Spain, but they were removed because of a lack of monitoring capacity. Indicators are based on unreliable data and theories, since scientific evidence is very expensive. There is no scientific consensus, hence there can be no connection to payments. The plan started as an income compensation tool; however, with the increasing requirements, its initial purpose appears to have been forgotten. There is not enough adaptation to the regional contexts. Indeed, Dehesa area is also wrongly considered a forest system, instead of an agricultural and livestock system. Eco-schemes must be monitored to assess the biodiversity level achieved, and must be more specific. *Researchers* confirm that the Dehesa is also badly defined. There is a fight for the adaptation of the CAP to the Dehesa, to extensive livestock farming, and above all, to regenerative livestock farming. CAP rights of livestock farmers should be inspected, because today, people who have rights are paid for them, and do not have animals. CAP is essential for the dry land agricultural sector and for the other stubble fields. The main pillar of CAP is, nowadays and unfortunately, the main source of income in extensive livestock farms. It is the backbone of the agricultural and livestock sector in Spain. There is still ignorance about eco-schemes, which are not yet a key concept within the incentive landscape for the protection and restoration of soil health. The plan does not correspond to reality and lacks adaptation to real-world settings.

Stakeholder consultation in the formulation process

The plan was developed through a participatory and inclusive process, coordinated by the Ministry of Agriculture, Fisheries and Food. The process involved close collaboration with regional governments, the Ministry for the Ecological Transition and the Demographic Challenge, and the EC. During the early stages, more than sixty technical meetings were held, and approximately six hundred formal contributions were submitted. The process continued with the establishment of thematic working groups and sectoral conferences.

Key moments of engagement included five CAP Partnership meetings and a public consultation held between December 2021 and February 2022. A wide array of stakeholders participated in the process, including representatives from autonomous communities, farmers' associations, environmental *NGOs*, rural development networks, women's organizations, civil society actors, and competent authorities in climate and environmental policy^{8|9|10|7}.

In CS1 Spain [LH1-Mediterranean Forestry Soil], farmers find that non-producing stakeholders participate in the policy negotiations and therefore find a lack of



participation by their stakeholder group. Indeed, the CAP has not been designed by producers. *Policymakers* agree that more participation from producers is needed so that their needs can be represented in the negotiations of the policy details.

Implementation

The implementation of eco-schemes is structured around key priorities, which are 1-climate change mitigation and adaptation, 2 - soil health and erosion control, 3 - biodiversity conservation, and 4 - sustainable resource use. Eco-schemes are deployed via annual payment mechanisms that reward farmers for the voluntary adoption of environmentally beneficial practices exceeding baseline conditionality requirements. Payments are calculated on a per-hectare basis, with differentiation by agroecological region and practice type. This flexible approach preserves farmers' autonomy while promoting environmental ambition. Eco-scheme payments are purely incentive-based; there are no direct penalties associated with opting out. However, adherence to baseline environmental and legal standards remains essential. From 2024 onwards, this includes social conditionality, whereby compliance with national labor legislation becomes a prerequisite for receiving direct support.

The plan's total budget for the 2021–2027 period amounts to approximately €47.7 billion. Of this, €32.5 billion is allocated to the plan's implementation period for 2023–2027, which includes both direct payments (Pillar I) and rural development measures (Pillar II). Within Pillar I, about 25% of the budget, roughly €1.1 billion per year, is dedicated to eco-schemes, which function as PES by rewarding farmers for environmentally beneficial practices.

The implementation process is supported by a dual-layered monitoring and evaluation system, which includes annual performance reports based on specific results indicators, as well as a comprehensive evaluation plan using longer-term impact indicators. Key metrics include the share of agricultural area under emission-reducing or carbon-enhancing practices and the levels of soil organic carbon. Institutional oversight is carried out by a Monitoring Committee, and operational support is provided through the CAP National Network^{8|9|10|7}.

In *CS1-Spain [LH1-Mediterranean Forestry Soil]*, *farmers* argue that eco-schemes are like regulatory measures, hence the payment is made if certain conditions are fulfilled (conditionality). *Farmers* believe that in terms of environmental protection of soil health, there is neither added value nor special requirement, although there is some monitoring effort. However, *policymakers* highlight that the monitoring tests of the results are complex to execute by the administration, for example, the practice of rotational grazing is not currently considered within the eco-schemes because of the difficulty in monitoring it. *Farmers* also believe that there is no consensus on what good practice entails. For example, livestock load is not a good indicator since farmers earn the money despite soil degradation. *NGOs* point out that there is heterogeneity when it comes to the eco-schemes. For example, no income tax is declared in Dehesa, hence a change of the tax benefits is needed. Moreover, there is a lot of bureaucratic burden for farmers which, therefore, need tailored advice *Researchers* also agree on the need for ease the bureaucratic



process to acquire PES. NGOs suggest that the cooperatives could act as advisors for the CAP, since farmers trust them. Therefore, cooperatives should receive administration or subsidies support. *Researchers* also identify agri-environmental cattle farming as a potential practice to be applied to maintain CAP. However, *researchers* believe that there is no interest in changing the model, since there would be a lot of economic loss. The basic income has been reduced, and the eco-scheme currently equates the loss of income in the payment base. One possibility could be direct payment and tax breaks, i.e., whoever applies good practices pays less taxes. *Policymakers* argue that, in Spain, CAP is the same in every region, which cannot be, because there are different contexts, including in the same farm. The success of Dehesa system must be included in the local context of the CAP. When good practices become "basic", it no longer makes sense to pay more for that. There is a premium needed for the result, but it is unknown how to measure this result. It is necessary to know what the good practices are and how good they are before we can include them in the PES payments from the CAP. It is necessary to control without an administrative burden that is expensive.

3.1.1.3 Italy's CAP Strategic Plan

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Policy content and objective

Italy's CAP Strategic Plan¹⁴ promotes a green transition in the agricultural, food, and forestry sectors and aims to ensure sustainable food production, environmental protection, and rural development. It addresses environmental and climate challenges with regional variations in severity, and explicitly aims to enhance ecosystem services, preserve landscapes and habitats, and halt biodiversity loss.

The plan was developed in line with the requirements of the CAP 2023–2027, submitted in December 2021 to the EC and approved in August 2022. It covers the period from 2023 to 2027 and may be updated or replaced depending on mid-term evaluations, policy reforms, or post-2027 CAP negotiations.

The plan covers financial instruments such as direct payments, eco-schemes, agri-environment-climate commitments, and supports circular economy principles as well as the adoption of innovative technologies to reduce inputs and waste. Eco-schemes (voluntary annual payments under Pillar I) reward farmers for practices going beyond minimum requirements, such as maintenance of permanent grasslands, buffer strips along watercourses, and low-input farming systems. Agri-environment-climate commitments under Pillar II (rural development) offer multi-annual contracts for farmers who adopt environmentally beneficial practices, such as organic farming, integrated production, soil conservation, and carbon farming^{14|15}.

The plan aligns with broader EU environmental objectives, particularly those outlined in the European Green Deal¹¹, the EU Biodiversity Strategy for 2030¹³, and the Farm to Fork Strategy¹².

In *CS8-Italy [LL1-Mediterranean Agricultural Soil]*, *Farmers' associations* underline that PES in agriculture is not tied to the actual or expected ecosystem services



delivered, but rather to the application of sustainable practices. PES under the plan can compensate farmers for additional costs or loss of income. Agricultural *consultants* acknowledge that PES are conceived as a result-based mechanism but see it as hardly applicable in agriculture due to the difficulty in measuring outcomes. They consider eco-schemes to be useful in principle but acknowledge their complexity.

Stakeholder consultation in the formulation process

The plan was developed through a consultative and adaptive process, coordinated by the Ministry of Agriculture, Food Sovereignty and Forests in close collaboration with stakeholders from across the agri-food and environmental sectors. The first proposal was submitted following a national stakeholder consultation process. Although less formalized than in some other MSs, stakeholder engagement was integral to shaping the plan's strategic direction, particularly in defining the voluntary schemes that respond to demands for economic instruments supporting environmentally sound farming practices. The participatory nature of the process is also evident in the series of amendments made after initial approval, which reflect a dynamic and iterative approach to implementation^{14|15}.

Implementation

Implementation is structured through both Pillar I (direct payments and eco-schemes) and Pillar II (rural development interventions), under a coordinated national framework that accommodates regional differentiation in environmental priorities and agricultural practices. Farmers and land managers are eligible to apply for support, provided they meet baseline Good Agricultural and Environmental Conditions (GAECs). Applications are submitted through national and regional administrative channels, depending on the intervention, and can include either annual payments (e.g., eco-schemes under Pillar I) or multi-annual contracts (e.g., agri-environment-climate commitments under Pillar II). Participation in voluntary schemes requires the adoption of environmentally beneficial practices that go beyond regulatory compliance, such as reduced fertilizer and pesticide use, soil conservation, and biodiversity-friendly techniques. A central component of implementation is a set of 34 voluntary schemes that function as PES. These compensate beneficiaries for additional costs and income losses associated with practices that contribute to climate mitigation, biodiversity conservation, and sustainable resource use.

The plan allocates over EUR 10 billion to environmental and climate-related interventions over the 2023–2027 period. This funding comes from a combination of EU CAP funds, notably the EAGF for Pillar I and the EAFRD for Pillar II, and national co-financing. Of this, EUR 2 billion is specifically dedicated to promoting organic farming, with the target of converting 25% of agricultural land by 2027. Another EUR 557 million supports integrated production systems across approximately 403,000 hectares, and EUR 37 million is allocated to enhance fertilizer and manure distribution techniques, aiming to reduce air and water pollution over 63,000 hectares.



Monitoring and performance evaluation are carried out through annual performance reports that present both quantitative and qualitative assessments of implementation progress, budgetary execution, and environmental outcomes. These reports serve as a feedback mechanism to adjust interventions and ensure continued alignment with CAP objectives, particularly in terms of environmental effectiveness, climate action, and the delivery of public goods^{14|15}.

In *CS8-Italy [LL1-Mediterranean Agricultural Soil]*, NGOs note that monitoring the environmental benefits to justify PES is difficult and has not been properly addressed in agriculture yet. *Businesses* observe that PES have not been applied in their agricultural context and are not perceived as a realistic instrument.

3.1.1.4 Latvia's CAP Strategic Plan

[*\[Back to the Policy Table\]*](#)

Policy content and objective

Latvia's CAP Strategic Plan¹⁶ aims to increase farm competitiveness, raise agricultural income, and achieve both national and EU-level environmental and climate goals. It also seeks to foster vibrant rural communities, promote innovation, and ensure long-term food security. A strong emphasis is placed on sustainability, with a significant shift toward environmentally beneficial farming practices.

The plan was approved by the EC on 11 November 2022 and covers the programming period from 1 January 2023 to 31 December 2027. The plan was developed following Regulation (EU) 2021/2115 and submitted after an iterative process involving revisions and consultations.

The plan employs a range of financial incentives, notably direct payments and rural development funding under the EAGF and EAFRD. PES are integrated through eco-schemes and agri-environmental-climate measures. Eco-schemes provide annual payments to farmers who implement environmentally beneficial practices such as improving soil and water quality, reducing greenhouse gas emissions, conserving biodiversity, and managing landscapes.

The plan is fully aligned with Regulation (EU) 2021/2115 and Regulation (EU) 2021/2116. Its design also reflects consistency with the European Green Deal, the Farm to Fork Strategy, the EU Biodiversity Strategy for 2030, and climate neutrality objectives under the European Climate Law¹⁶.

In *CS6 Latvia [LH6-Boreal forestry soil]*, NGOs recognize that the plan is well-known and the most important policy document for Latvia's agricultural sector. Its eco-schemes include measures aimed at improving soil health, either directly or indirectly, which aim to increase the organic matter content in soil, reduce nutrient leaching and acidification, minimize soil tillage, and achieve other related soil health objectives. So far, measures focused directly on forest soil have not been included; however, since this year, there is a measure aimed at supporting landscape elements, such as trees and three groups on agricultural land (excluding areas/parcels already declared as forest land). The plan includes a measure aimed at the afforestation of agricultural land. This is the only aspect that



is partly related to the soil health challenges identified in CS6. Soil health issues in the plan are included indirectly under other primary aims, keywords, or indicators, such as climate change mitigation. Although some specific measures aim to address both climate change mitigation and soil health improvement, the improvement of soil health is not explicitly highlighted. Until 2027, the planned measures in forest land in Latvia include tending of young stands, restoration of forest stands after natural disasters (such as diseases, pests, or wildfires), and the replacement of unproductive stands. Overall, these measures only indirectly address the aspect of soil health. The costs of soil preparation are included in both the measure aimed at the replacement of unproductive forest stands and the restoration of forest stands after natural disasters. There is no regulation on the use of specific soil preparation methods for the terrain-specific or forest type, which also includes soil type (mineral or organic soil), fertility, and moisture conditions (dry, drained, wet). Such a regulation on soil preparation would be desirable; furthermore, an additional payment for choosing a site-specific method of soil preparation would serve as an incentive for landowners and managers. However, it would not be desirable if it led to an increased administrative (bureaucratic) burden. *Policymakers* argue that, although the plan provides a broad framework and a range of instruments that offer opportunities, there is still a wide range of problems to be addressed in the agricultural sector in Latvia. The plan must address all objectives equally (economic, social, climate, and environmental), and with the limited financial resources the plan has, it is very difficult to prioritize one objective over the others. The challenge lies in prioritizing goals in a way that ensures all objectives are covered and all needs and problems are adequately addressed. Soil is just one of the many aspects that must be covered by the CAP Strategic Plan.

Stakeholder consultation in the formulation process

The plan followed a participatory and iterative process. The EC issued its initial recommendations on 18 December 2020, prompting a national consultation process. Latvia submitted its first proposal on 18 January 2022, reflecting input from a wide range of stakeholders, including farming associations, environmental NGOs, local governments, and advisory services. These actors were particularly active in shaping eco-schemes and rural development measures. The EC responded with formal observations on 7 April 2022, and Latvia submitted a revised version on 20 October 2022. The plan was approved on 11 November 2022, followed by its first amendment on 7 September 2023¹⁶.

Implementation

Farmers and other eligible beneficiaries, such as rural businesses and Local Action Groups, can apply for support under various measures, including six eco-schemes that function as PES. These schemes provide financial compensation for environmentally beneficial practices such as organic land management, establishing ecological focus areas, reducing pesticide use (on 682,000 hectares), managing water quality (covering 24% of farmland), and restoring biodiversity-rich habitats. Applications may be submitted either through automatic enrolment or competitive calls, depending on the specific intervention. All payments are subject to compliance with contractual obligations and environmental standards, in line with the polluter-pays principle.



Implementation of Latvia's CAP Strategic Plan relies on a coordinated framework combining direct payments, eco-schemes, and rural development funding. The plan is financed by EAGF and the EAFRD, with total allocations for 2023–2027 amounting to approximately €1.71 billion for direct payments and €687 million under EAFRD, alongside €151 million in additional national co-financing for targeted interventions.

Strategic oversight is provided by the Ministry of Agriculture, while the Rural Support Service manages application procedures, administers payments, and monitors compliance. Environmental authorities contribute technical expertise, particularly in assessing eco-conditionality, and Local Action Groups play an operational role in bottom-up implementation under the LEADER approach. Monitoring and evaluation are conducted through annual performance reports, using a combination of qualitative and quantitative indicators to assess progress against defined objectives¹⁶.

In *CS6 Latvia [LH6-Boreal Forestry Soil]*, NGOs underline that, in general, measures specifically targeting forest soils are not included. There is neither practical/financial support nor informational activities for forest soils. Funding is available for consultations and training that forest owners can access; however, there is no information dedicated to the protection and health of forest soils. Natura 2000 payments, a form of compensation for ecosystem services, are insufficient. These payments compensate for restrictions on certain activities but do not serve as an incentive to manage land differently. Implementation challenges are related to the high level of detail in the plan, which hinders flexibility, as well as to incomplete statistical data on the agricultural sector, which hinders correct financing planning. Farmers are generally interested in implementing measures aimed at improving soil health, mainly because these measures are easy to understand and their benefits/improvements are measurable (for instance, improvements in soil agrochemical parameters). In contrast, improvements in, for instance, biodiversity, are more difficult to evaluate. In addition, soil analyses are relatively expensive; soils are highly diverse; soil challenges vary greatly by region; soil responses to the implementation of measures are only evident in the long term.

3.1.1.5 Swiss Federal Act of 29 April 1998 on Agriculture (Agriculture Act, AgricA)

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Policy content and objective

The Swiss Federal Act of 29 April 1998 on Agriculture (AgricA)¹⁷ aims to ensure that Swiss agriculture contributes to food security, the conservation of natural resources, and the maintenance of rural areas. It seeks to guarantee fair income opportunities for farmers, support sustainable agricultural production systems, and promote the provision of ecological and public services.



The act modernizes the country's agricultural policy by replacing the 1951 Agriculture Act and entered into force on 31 December 1998, remaining in effect indefinitely, continuing until amended or replaced by a future act.

The act establishes various financial incentives, most notably a system of direct payments to farmers. These payments are designed not as production subsidies, but as compensation for public services and environmental contributions provided by farms. Among the direct payments, a significant portion is dedicated to PES, particularly those aimed at biodiversity promotion. These biodiversity contributions are allocated to designated biodiversity promotion areas and are categorized into quality contributions and networking contributions.

At the national level, the act is linked with the Federal Act on the Protection of Nature and Cultural Heritage, the Environmental Protection Act, and the Spatial Planning Act. The Agriculture Act also supports the implementation of Switzerland's Biodiversity Strategy and Climate Strategy for Agriculture, making it an important instrument for achieving the country's broader environmental targets. The law is coherent with other national legislation such as the Forest Act (ForA) and the Nature and Cultural Heritage Act (NCHA)¹⁷.

Stakeholder consultation in the formulation process

Preceding the enactment of the act, the Federal Council circulated the agricultural policy framework through a formal public consultation (in German "Vernehmlassung"). This process solicited input from farmer associations, environmental NGOs, cantonal authorities, and other interest groups, ensuring diverse viewpoints were considered. Although the AgricA text itself doesn't detail every stakeholder input, the Federal Council's Dispatch of 26 June 1996 (cited in the act's preamble) underwent this open consultation prior to parliamentary debate¹⁷.

Implementation

PES are a core element of the direct payment system and are granted specifically for biodiversity-related measures such as maintaining or establishing biodiversity promotion areas, such as extensively managed meadows, hedgerows, fallow land, and orchards. Direct payments are conditional on meeting a set of ecological and social eligibility requirements. These include compliance with the "required ecological benefits" (in German "ökologische Leistungsnachweis", or "PER"), which encompass criteria such as crop rotation, soil protection, appropriate use of inputs, and biodiversity promotion. Farmers must also meet basic personal and structural conditions: they must be under 65 years of age, have completed recognized agricultural training, cultivated eligible agricultural land, and operated with at least 0.2 standard work units (UMOS). At least half of the farm work must be performed by the farm's own labor force. A ceiling of CHF 70,000 is set per UMOs to ensure equitable distribution of public support.

All payments are financed through federal government revenue, with allocations planned through multi-year financial programming. While the exact annual budget can vary and is subject to parliamentary approval, the Agriculture Act provides the legal basis for continued and stable public funding for these measures.



The implementation has been under the responsibility of the Federal Council since its entry into force in 1999. Operational management and oversight are carried out by the Federal Office for Agriculture (FOAG), while cantonal authorities are responsible for local-level implementation. Monitoring and evaluation of policy implementation are conducted annually by FOAG and includes the use of a comprehensive indicator system to assess outcomes related to biodiversity levels, soil and water quality, and the socio-economic performance of agricultural operations, including farm income¹⁷.

3.1.1.6 Swiss Federal Act on the Protection of Waters (Waters Protection Act, WPA)

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Policy content and objective

The Waters Protection Act (WPA)¹⁸ of Switzerland serves as the principal legal framework for protecting all surface and groundwater bodies across Switzerland. Its purpose is to safeguard water bodies from harmful effects to preserve public health, secure drinking water supply, support aquatic biodiversity, maintain landscape features, ensure agricultural irrigation, enable recreational use, and uphold the natural hydrological cycle.

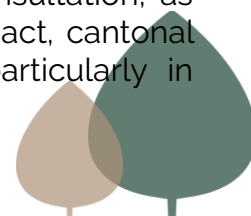
The act was adopted on 24 January 1991 and remains in force as continuing legislation, subject to ongoing amendments, most recently updated as of 1 February 2023.

The act includes both charges and incentive-based measures such as cost-bearing obligations are placed on wastewater producers, a federal wastewater charge, and compensatory payments for nitrogen and trace substance removal infrastructure, waste management infrastructure, agricultural measures to reduce nutrient runoff and leaching, watercourse rehabilitation, and planning for remediation of hydropowering and bedload transport deficits. As PES the act establishes compensatory payments to land managers for the extensive use of land within designated watercourse space. These payments are granted under the Agriculture Act and are intended to compensate for income foregone when land is withdrawn from intensive agricultural production¹⁸.

The act aligns closely with Switzerland's Agriculture Act through agri-environmental measures, the Nature and Cultural Heritage Act¹⁹, the Spatial Planning Act²⁰ and Hydraulic Engineering Act²¹.

Stakeholder consultation in the formulation process

The formulation and implementation of the act have been characterized by multi-level stakeholder involvement, in line with Switzerland's decentralized governance model and commitment to participatory environmental policymaking. The original act, adopted in 1991, was preceded by extensive consultation, as noted in the Federal Council Dispatch of 29 April 1987. Under the act, cantonal authorities have a central role in enforcement and planning, particularly in



delineating water protection zones, implementing renaturation and wastewater measures, and engaging affected landowners¹⁸.

Implementation

Landowners and managers are eligible for compensatory payments when they practice extensive land use in zones reserved for the ecological functioning of rivers and streams such as river renaturation, habitat restoration, and the re-establishment of natural floodplains. The amount of compensation is determined based on the ecological relevance and effectiveness of the measures taken, and in the case of PES, on the income foregone from withdrawing land from intensive use. For other rehabilitative actions, up to 75% of eligible costs may be covered by the Confederation (Art. 61a, 62b), depending on the intervention's scale and complexity.

The PES mechanism related to river corridor management is established under the act, but the actual payments are made via the Agriculture Act. Additional support includes CHF 30–40 million for ecosystem restoration and CHF 50 million for micropollutant infrastructure via dedicated fees. Funding is primarily federal, channelled through cantonal implementation, and monitored jointly by the Federal Office for the Environment (FOEN) and cantonal authorities for compliance and effectiveness.

Implementation is structured as a federal-cantonal partnership, with strategic oversight by the Federal Council and day-to-day technical and regulatory leadership provided by the FOEN. Cantons are responsible for local monitoring, including land-use compliance and wastewater performance, while FOEN conducts national-scale evaluations and coordinates data sharing. Both levels cooperate to track water quality, hydrological flows, and habitat conditions¹⁸.

3.1.1.7 Swiss Federal Law on the Arrangement of Waterways (Waterways Act, WWA)

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Policy content and objective

The Federal Waterways Act's (WWA)²² primary purpose is to ensure the safe, efficient, and ecologically sustainable use of federal rivers, streams, and watercourses. Its key objectives include flood prevention, environmental protection, and the sustainable use of water resources. It mandates the restoration of natural river dynamics, conservation of aquatic habitats, and the integration of climate adaptation measures to address soil erosion, habitat degradation, and the increased flooding risks associated with climate change. It provides the overarching legal framework for the administration, protection, and use of federal waterways in Switzerland.

The act was originally enacted on April 2, 1968, and most recently revised on August 18, 2021. The act remains in force indefinitely, with provisions for updates



or replacements through legislative procedures, and applies until it is formally replaced or amended.

Although explicit PES schemes are not institutionalized under this act, the compensatory provisions recognize the public good character of waterway restoration and management, creating a financial incentive for stakeholder participation and compliance. The mechanisms include monetary compensation (in German “Entschädigung”) to individuals or landowners affected by federal water infrastructure projects. Also, in certain cases, landowners may request the state to purchase their property at market value if its use has become impractical due to infrastructure works. But the act also allows for non-monetary compensation, such as alternative measures, if the affected party agrees. Similarly, costs for infrastructure adaptation or crossing installations between waterways and public roads or railways may be shared based on benefit or burden principles, introducing a system of cost distribution and incentives for cooperation among stakeholders²².

The act aligns with broader national and international environmental policy frameworks including EU Water Framework Directive (WFD)²³.

Stakeholder consultation in the formulation process

The act provides for stakeholder involvement primarily during the implementation and project planning stages, rather than in the initial formulation of the law. Affected parties, municipalities, and other stakeholders must be consulted during project approval procedures, allowing them to submit objections and have their concerns formally considered. Additionally, coordination with Länder authorities is required, ensuring subnational input into the application of the act. While the law ensures participation in specific infrastructure and restoration projects, it does not specify public or civil society involvement in the original legislative drafting process²².

Implementation

While the act does not include a formal PES scheme, it incorporates compensatory financial mechanisms for private individuals, landowners, and infrastructure operators who incur losses or land use restrictions because of federally mandated waterway interventions. Eligible parties may receive monetary compensation or in-kind measures for loss of land use, infrastructure impact, or ecosystem service provision.

Funding for projects of national significance is co-financed by the federal government, while cantons and municipalities contribute both to project delivery and the long-term maintenance of infrastructure and restored watercourses. Financial resources are sourced from federal and cantonal budgets, though the exact allocation varies per project and is determined through planning agreements.

The implementation of the act is overseen by the Federal Council, with cantonal authorities responsible for the planning and execution of flood protection and river restoration projects. The Federal Office for the Environment (FOEN) plays a key



role in technical support and nationwide monitoring, ensuring that federal objectives are met. Monitoring of implementation and effectiveness is carried out jointly by FOEN and the cantons, using key indicators such as the reduction of flood risk, improvement in ecological water quality, and effectiveness of river renaturation efforts²².

3.1.1.8 Swiss Federal Act on Forest (Forest Act, ForA)

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Swiss Federal Act on Forests (ForA)²⁴ aims to ensure the sustainable management and conservation of forests while safeguarding their multifunctionality, balancing ecological, economic, and social roles.

The act was adopted on 4 October 1991 and entered into force on 1 January 1992. It replaced the 1876 forest legislation to reflect modern priorities, particularly around ecological integrity, climate mitigation, and protection against natural hazards. It remains in force indefinitely, providing the legal foundation for forest governance in Switzerland until it is formally repealed or replaced.

The act includes various financial mechanisms to support its implementation, such as subsidies for forest maintenance that deliver public ecosystem services like protection forests, biodiversity preservation, and water regulation. These payments are typically made through programme and service agreements with forest owners. Additionally, financial support is available for structural improvements intended to increase operational efficiency at the regional level. The law employs indemnification mechanisms to compensate landowners for management practices that align with public interest goals. Although the act does not explicitly use the term PES, it effectively embodies PES principles by providing compensatory payments to those who manage forests in ways that maintain biodiversity, reduce risk, and supply ecological benefits to society.

The act aligns with other national environmental and spatial planning legislation, such as the Federal Act on the Protection of Nature and Cultural Heritage and the Federal Act on Spatial Planning and supports Switzerland's international commitments under agreements like the Convention on Biological Diversity, the UN Framework Convention on Climate Change, and the Forest Europe process²⁴.

Stakeholder consultation in the formulation process

The act was adopted through Switzerland's federal legislative process, which includes consultation and deliberation involving the Federal Council, and public consultation under the Swiss system of direct democracy. While the act itself does not provide detailed provisions on stakeholder engagement in policy formulation, the broader legislative process typically allows for input from cantonal authorities, sectoral associations, environmental NGOs, and forest owner organizations²⁴.

Implementation

Eligibility for payments, particularly those resembling PES, is generally limited to forest owners, including public entities, private individuals, and cooperatives, who



commit to delivering ecological functions such as biodiversity conservation, natural hazard protection, and water regulation. These payments are often structured through performance-based service or programme agreements, with funding shared between federal and cantonal budgets.

The bulk of financing comes from the federal government, which allocates multi-annual credits for forest-related environmental services, infrastructure, and structural improvement, while cantons co-finance specific projects and oversee disbursement.

The act has been implemented primarily by the cantonal authorities, who are responsible for forest management planning, supervising logging activities, and enforcing sustainability requirements at the regional level. The Federal Office for the Environment (FOEN) supports implementation by providing technical guidance, co-financing programmes, and ensuring consistency with national forest policy objectives. Monitoring is conducted by both federal and cantonal authorities: cantons track compliance with forest management plans and ecological standards on the ground, while FOEN compiles data nationally, evaluates programme effectiveness, and reports on progress towards sustainability and ecosystem service provision²⁴.

3.1.1.9 Swiss Federal Act on the Protection of Nature and Cultural Heritage (NCHA)

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Federal Act on the Protection of Nature and Cultural Heritage's (NCHA)¹⁹ purpose is to preserve and sustainably manage nature and the landscape, including their diversity and beauty, as well as cultural heritage. It emphasizes both protection and responsible use, aiming to strike a balance between conservation goals and development needs. The law applies to ecosystems, habitats, species, geological formations, and cultural objects of national, regional, and local significance. The act provides the framework for protecting Switzerland's natural landscapes, biodiversity, and cultural assets such as historic monuments and traditional settlements.

The act was adopted on 1 July 1966 and remains in force to this day. It serves as a continuing legal foundation, without a predefined expiration date, and has been subject to several revisions over the years, in 1967, 1987, 1995, and 2014, to reflect evolving ecological and cultural policy needs.

The act includes financial mechanisms and compensation measures to support its implementation. Landowners and relevant authorities can receive federal subsidies for the maintenance, restoration, and development of protected biotopes and landscapes. In addition, grants are available for the protection of cultural heritage, including historic buildings and monuments, often in coordination with the cantonal authorities. This support helps preserve the historical character and identity of communities. Several of the act's provisions



function in a comparable way to PES. For example, landowners may receive compensation for creating or maintaining habitats such as wetlands, forest edges, or species-rich meadows. Such payments reward the delivery of ecosystem services that benefit the broader public, including biodiversity conservation and landscape quality¹⁹.

The act aligns with other national legislation such as the Federal Act on Forests²⁴ and the Spatial Planning Act²⁰, and it supports Switzerland's commitments under international agreements including the Convention on Biological Diversity (CBD)²⁵, the Ramsar Convention on Wetlands²⁶, and the UNESCO World Heritage Convention²⁷.

Stakeholder consultation in the formulation process

The act was adopted through Switzerland's federal legislative process, which involves consultation with multiple political, cantonal, and civil society actors. Stakeholder involvement was integral during the formulation of the act, particularly from cantonal authorities, who play a key role in its implementation, as well as from environmental organizations and cultural heritage bodies that had long advocated for stronger legal protections. The act also introduced provisions empowering recognized environmental NGOs to participate in decision-making and appeal procedures, enhancing transparency and public accountability in conservation and land-use planning. Over time, revisions to the act have involved further consultations with relevant sectors and interest groups, reinforcing its legitimacy and responsiveness to ecological and societal needs¹⁹.

Implementation

Financial support mechanisms are central to the act's implementation, particularly in the form of payments to landowners and communities who contribute to the preservation of valuable landscapes, ecosystems, and cultural heritage. Eligible recipients include private landowners, municipalities, and non-governmental organizations that engage in activities such as maintaining biotopes, restoring habitats, or protecting cultural monuments. The act enables comparable arrangements to PES by providing compensation for ecological services like wetland maintenance, biodiversity enhancement, and landscape quality preservation.

Funding is primarily sourced from the federal budget, with cantons often contributing co-financing depending on the scope and designation level of the site in question. Specific payments, for instance under Article 18d, are provided to support the upkeep and enhancement of protected areas, with the amount and conditions defined through detailed ordinances and agreements between federal and cantonal authorities. Monitoring responsibilities are shared: cantons conduct regular assessments of site conditions and report to the federal level, while the Confederation ensures consistency with national goals and international commitments through supervisory evaluations and audits.

The implementation of the act is primarily carried out at the cantonal level, with the federal government providing strategic oversight and support. Cantonal authorities are responsible for identifying and managing protected sites, enforcing



conservation measures, and coordinating restoration activities. Monitoring responsibilities are shared: cantons conduct regular assessments of site conditions and report to the federal level, while the Confederation ensures consistency with national goals and international commitments through supervisory evaluations and audits¹⁹.

3.1.1.10 Netherlands's CAP Strategic Plan

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Netherlands' CAP Strategic Plan (2023–2027)²⁸ aims to promote a future-proof, sustainable, and resilient agricultural sector that contributes to national and EU-wide goals for climate neutrality, biodiversity recovery, water quality, and rural vitality. The plan seeks to transform Dutch agriculture by supporting a shift from compliance-based subsidies to performance-based incentives, fostering innovation, entrepreneurship, and ecosystem stewardship.

The plan was developed under the framework of EU Regulation (EU) 2021/2115 and formally approved by the EC on 13 December 2022. This plan is in effect from 1 January 2023 to 31 December 2027 and will remain valid unless replaced or revised under future EU CAP regulations or national modifications.

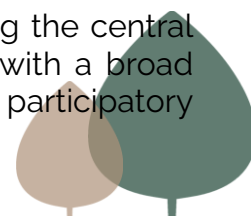
The plan features a performance-based eco-scheme functioning as a flexible PES system. This eco-scheme allows farmers to voluntarily select annually from a menu of 22 eco-activities, which vary in scope and duration. Some activities, such as organic farming, require long-term commitment across the full programming period. Each activity is aligned with one or more of the "tranche of five" national environmental objectives: climate, soil and air, water, landscape, and biodiversity. The scheme supports entrepreneurial flexibility by enabling farmers to tailor their environmental measures to specific farm conditions. To facilitate uptake and transparency, a simulation tool has been developed, allowing farmers to forecast potential outcomes and optimize their strategy for participation. The plan also integrates financial disincentives through conditionality requirements, whereby non-compliance with environmental standards may reduce a farmer's eligibility for direct payments^{28|29}.

The plan aligns with EU Green Deal objectives by positioning sustainable agriculture as both a public good and an entrepreneurial opportunity, leveraging PES mechanisms to promote climate resilience, biodiversity, and ecosystem stewardship in Dutch farming.

In *CS7 Netherlands [LH7-Atlantic Agricultural Soil]*, farmers argue that the CAP eco-schemes (in Dutch "GLB ecoregeling") is an optional scheme for farmers to take part in.

Stakeholder consultation in the formulation process

The plan was grounded in national coordination processes involving the central government and provincial authorities. The Netherlands engaged with a broad spectrum of stakeholders throughout the drafting phase. This participatory



approach incorporated inputs from farmer organizations, environmental NGOs, research institutions, and regional bodies, and shaped the policy's emphasis on flexibility, subsidiarity, and autonomy for farmers. Rather than mandating prescriptive measures, the plan reflects a deliberate policy choice to allow farmers to determine how best to contribute to environmental goals, facilitated through a transparent eco-point system that links payment levels to expected environmental benefits. This design emerged from stakeholder consensus on balancing environmental ambition with practical farm-level flexibility^{28|29}.

Implementation

Farmers can apply annually to participate in the eco-scheme and must select qualifying activities from the pre-defined list. These are implemented under the conditions set out in the plan and associated guidance. Farmers select from a menu of 22 eligible eco-activities and earn eco-points based on the anticipated environmental value of each action. These activities must contribute to one or more of the plan's five national environmental objectives: climate, soil and air, water, landscape, and biodiversity. Farmers are then grouped into bronze (€60/ha), silver (€100/ha), or gold (€200/ha) payment tiers, according to their cumulative eco-points. This classification directly determines the level of financial compensation received, thereby rewarding more ambitious and impactful environmental contributions.

The current payment structure follows the EU principle of cost-based reimbursement, reflecting the effort and investment associated with each measure. However, policy discussions are ongoing regarding a potential shift toward a value-based PES system, which would decouple payments from input costs and focus solely on ecological outcomes. Critics caution that such a shift could discourage uptake of high-cost but high-benefit measures, such as peatland restoration or extensive landscape management.

Funding for the eco-scheme is drawn from the Direct Payments envelope, with €963.9 million allocated over the five-year period. Additional co-financing for related environmental and climate measures is provided through the EAFRD, totaling over €1 billion for broader rural development support.

Monitoring and evaluation responsibilities rest with the Dutch Ministry of Agriculture, Nature and Food Quality, supported by reporting mechanisms required under EU regulations^{28|29}.

In *CS7 Netherlands [LH7-Atlantic Agricultural Soil]*, farmers get a certain amount per hectare based on three categories, i.e. gold, silver and bronze. The 'gold' category gets the highest number of direct payments. These categories are based on the sustainable practices implemented by farmers. Organic farmers are automatically under the 'gold' category, which saves time in the administrative process, although farmers have to do some extra work to get the certification. *Consultants* explain that it serves a welcome benefit to organic farmers who automatically meet the eco-schemes' requirements for 'gold' status. However, non-certified or conventional farmers have probably the most to gain by introducing the practices included in the eco-schemes. Eco-activities which are deemed relevant to the CS7



(LH7) are clearly listed and differ by region. Farmers look at how their current practices fit into the scheme and can be gently nudged to adopt additional eco-activities if they allow them to level-up in the scheme. Rijksdienst voor Ondernemend Nederland, or the Netherlands Enterprise Agency (RVO) has not released data on numbers of farmers which have taken part in the schemes yet. *Farmers* argue that for organic farmers, who are already implementing many sustainable practices at their own expenses, eco-schemes are quite helpful to cover some of the other costs. However, they struggle with the fact that many of the practices are considered by taking into account conventional farmers. ANLB is also a land-based scheme that is only accessible to farmers taking part in a regional collective. About 12,000 of the 50,000 farmers in the Netherlands are members of a regional agricultural collective hence make use of these payments. Parcel registration also happens via RVO, although the subsidy is registered for and doled out by the collective rather than the individual farmer. While there may be overlap between the two schemes, it is not possible to stack ANLB and eco-scheme payments for the same activity, hence there has to be a choice made as to which scheme is to be used for a particular activity, which is not always a straightforward choice for farmers. For example, under the Agricultural Nature and Landscape Management (ANLB), someone would have put a buffer-strip around waterways in order to be eligible for implementing a flower strip within the eco-scheme. However, this practice does not make sense to biodynamic farmers, since they fertilize very little and have barely any leeching, but they still have to comply with those extra requirements. Moreover, all schemes are based on highly localized practices, but none of them includes a full-farm approach where multiple practices are integrated in a sustainable and holistic way. Farmers are aware that the executive body that collects data via their own web portal and doles out these payments is RVO. *Consultants* highlight that these payments form an important basis of the farm's economic viability. In the Netherlands the incentives are broadly accessed and utilized. However, there are many frustrations with the system, most of which have to do with RVO's registration of the parcels and activities. The system has, indeed, a lot of shortcomings, especially regarding the registration of diversity. Narrow definitions of certain activities are also a limiting factor. For example, strip cropping is included in the eco-schemes and is defined as a crop system with no less than five crops, but inclusion of permanent grassland strips (for example, for mulch layers) disqualifies the parcel. Another frustration refers to the fact that the system requires farmers to be very precise with the allocation to the land in the system which needs to be perfectly aligned to the allocation defined together with ANLB. However, ANLB has a different system and platform than the RVO. Therefore, sometimes, someone might get an error if the land allocated for a certain eco-scheme in the RVO platform differs from the one allocated on the ANLB system. This can happen with the area (even 0.02 ha) or the crop type (e.g., 'cereal mix' instead of 'ANLB mix') even when the farmer actually complies with the requirements.



3.2 SUBSIDIES

Description:

Subsidies are mainly public financial instruments, including fiscal measures and price-based incentives, that involve monetary transfers, income support, and cost reductions. They are commonly applied to address environmental challenges such as unsustainable land use, soil erosion, and biodiversity loss. They are used in agriculture (wetland, forest) with landowners, farmers, and other resource managers as the primary beneficiaries. The expected return is largely in environmental impact. They also involve financial returns, in-kind benefits, and improvement in productivity or ecosystems. The main result of this scheme is delivering more effective and efficient outcomes, particularly in terms of cost-effectiveness, synergies, alignment, and a more equitable allocation of public resources. They can avoid future expenditures by preventing or reducing the need for costly future investments or remediation. They can also generate or leverage financial resources allocated to biodiversity. They can realign expenditures by reorienting existing financial flows towards improved biodiversity management⁴.

3.2.1.1 Regulation (EU) 2021/2115 | Regulation (EU) 2021/2116 (ref subsidies)

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Policy content and objective

Regulations (EU) 2021/2115⁵ and 2021/2116⁶ provide the legislative foundation for the reformed CAP during the 2023–2027 programming period. A central objective is the promotion of sustainable management of natural resources alongside reducing dependency on chemical inputs and supporting climate action. It employs a range of economic mechanisms, which are PES, grants, and risk financing schemes.

The regulations establish a system of subsidies to support farmers' incomes while incentivizing environmentally beneficial practices. Key financial instruments include direct payments decoupled from production, granted annually based on eligible agricultural land. Central among these is the Basic Income Support for Sustainability (BISS), which accounts for a significant portion of the direct payment budget and provides per-hectare payments. Additional subsidies are allocated through eco-schemes, which are voluntary payments that reward practices exceeding baseline legal standards and promote sustainability, and agri-environment-climate measures under rural development funding. Other targeted subsidies aim to redistribute support toward smaller and medium-sized farms, young farmers, and sectors facing specific socio-economic or environmental pressures.

The CAP regulations are closely aligned with broader EU policy frameworks, particularly the European Green Deal, the EU Biodiversity Strategy for 2030, and the UN 2030 Agenda for Sustainable Development.

Under the reformed CAP, each EU MS is required to develop a national CAP Strategic Plan aligned with the objectives set out in Regulations (EU) 2021/2115



and 2021/2116. These plans must be developed through mandatory stakeholder consultations and submitted to the EC for approval^{5]}^{6]}.

In *CS6 Latvia [LH6-Boreal forestry soil]*, both *NGOs* and *policymakers* agree that the CAP is a well-known policy document for the agricultural sector, as most support and investment payments are made available through the CAP.

Recently, MSs have been granted increasing flexibility to determine the scope of the implemented targeted measures. Everyone working in the agricultural sector is directly or indirectly connected to and affected by this policy. Moreover, the CAP and related regulations can significantly impact the forest sector, including forest soil health, through forest management restrictions and the definition of various specific provisions. The CAP addresses the needs of the agricultural sector at the EU level.

However, in general, policymakers find that the CAP provides too broad a framework and range of instruments. Hence, *NGOs* argue that aspects of forest soil health are currently not sufficiently included in the CAP. Therefore, it would be desirable to emphasize and incorporate them more, provided this contributes to achieving the objectives, while also ensuring additional economic instruments for landowners and avoiding an increase in bureaucracy (administrative burden) for forest owners and managers, which is an important aspect.

Stakeholder consultation in the formulation process

The formulation process included a structured stakeholder consultation process at the EU level. In 2017, the EC conducted a public consultation on the future of the CAP, receiving over 322,000 responses from a broad range of stakeholders, including farmers, environmental organizations, regional authorities, and members of the public. This was complemented by targeted stakeholder dialogues, workshops, and advisory group meetings involving actors such as Copa-Cogeca, environmental NGOs, and rural networks^{5]}^{6]}.

In *CS6 Latvia [LH6-Boreal forestry soil]*, *NGOs* believe that, in general, the CAP is well known among forestry organizations, mostly through participation of international organizations/bodies involved in its development and discussion. However, its specific content and aspects may not be well-known to landowners and managers.

Implementation

Subsidies under the CAP are implemented through national CAP Strategic Plans, which must define eligibility criteria, payment levels, and control mechanisms in accordance with EU regulations. Farmers must meet specific eligibility conditions related to land, activity status, and compliance with baseline environmental and agricultural standards (conditionality), which includes statutory management requirements (SMRs) and GAEC standards.

Funding is delivered primarily via the EAGF for direct payments and market-related expenditures, and the EAFRD for targeted rural development subsidies. A minimum of 10% of EAGF direct payments must be reserved for redistributive income support, and at least 3% allocated for young farmer support. The EAFRD



co-finance agri-environment-climate measures and other subsidies aimed at sustainability, generational renewal, and competitiveness.

Implementation is governed by the performance-based delivery model, which ties payments to the achievement of predefined outputs and results. MSs are required to establish control systems, ensure data collection, and report progress using a common set of indicators. Compliance is verified through administrative checks, on-the-spot controls, and area monitoring systems. Sanctions and reductions may apply in cases of non-compliance, reinforcing the link between subsidies and environmental and social standards^{5|6}.

In *CS6 Latvia [LH6-Boreal Forestry Soil]*, NGOs agree that specific difficulties to implement the CAP for the period of 2022-2027 were not observed. However, there is consensus that the CAP does not include a strict division of overall funding between agriculture and forestry measures specifically, and measures targeting forest land are under-represented compared to those for agricultural land. Although there are several measures aimed at supporting forest land and forestry, the focus on forest soil health is less than that on agricultural soil health. *Policymakers* also agree that forest land and forest soils are generally not widely covered by the CAP. Therefore, forest lands and their associated challenges are much less addressed by the CAP than those related to agricultural lands as most support measures are aimed directly at agricultural land.

In general, the CAP is highly complex, detailed and information-dense and the CAP has not been easy to understand or implement. In addition, there is concern about the availability of funding for the future implementation of the CAP (after 2027), given the increasing need for financing of national defense and various large-scale national projects. *Policymakers* highlight that one of the shortcomings is the limited financial resources for the agricultural sector (direct payments, subsidies) comparing to numerous objectives and the unequal distribution of direct payments, which disadvantages and distorts the EU internal market.

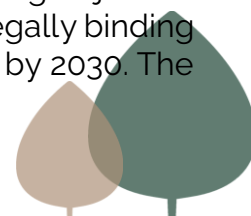
In addition, although the CAP provides flexibility to MSs in implementing their Strategic Plans, country-specific aspects are currently insufficiently considered and could be better addressed in the future. The EC agreed that a 'one size fits all' approach does not work; it is expected that national aspects will be more thoroughly considered in future policies. Comprehensive information on forest soil health (mapping) is lacking in Latvia. Since forest land in general, and forest soils specifically, are not widely covered by the CAP they could be better integrated into future policies, programs, and funding.

3.2.1.2 Regulation (EU) 2024/1991 | EU Nature Restoration Law

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Policy content and objective

The EU Nature Restoration Law (Regulation (EU) 2024/1991)³⁰ is the first binding EU-wide legal framework aimed at reversing the degradation of ecosystems across terrestrial, freshwater, and marine environments. Its overarching objective is to restore biodiversity and ecological functionality by 2050, with a legally binding interim target of restoring at least 20% of the EU's land and sea areas by 2030. The



regulation also supports broader climate action goals by enhancing ecosystem resilience and carbon sequestration.

The law enters into force on 18 August 2024. MSs are required to submit their National Restoration Plans by mid-2026. These plans must define ecosystem-specific targets, areas for restoration, and the financial instruments to be used.

A suite of financial mechanisms supports the implementation. These include EU funding from the CAP, LIFE Programme, InvestEU, Horizon Europe, European Maritime, Fisheries and Aquaculture Fund (EMFAF), and the Recovery and Resilience Facility. MSs are also expected to co-finance these efforts nationally. In addition to public funding, the law encourages private financing mechanisms such as results-based payments, carbon farming, and certified carbon removal schemes to ensure restoration actions are economically viable and scalable³⁰.

The policy is aligned with multiple EU and international strategies, including the EU Green Deal¹¹, EU Biodiversity Strategy for 2030¹³, European Climate Law (Reg. 2021/1119)³¹, EU Soil Strategy for 2030¹, and Global Biodiversity Framework³². It complements existing legal frameworks such as the Habitats³³ and Birds Directives³⁴, Water Framework Directive²³, and the Marine Strategy Framework Directive, ensuring policy coherence and integration across environmental, agricultural, and climate domains.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers recognize that the law establishes the framework for developing a national restoration plan by 2026.

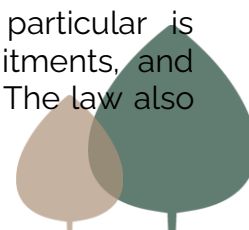
Stakeholder consultation in the formulation process

The legislative process was deeply participatory. It included an Inception Impact Assessment and a public consultation (Jan–Apr 2021), followed by five targeted stakeholder workshops from Dec 2020 to Sep 2021. These sessions engaged NGOs, farmers, landowners, environmental experts, and local authorities to co-design restoration goals, funding mechanisms, and implementation modalities. The EC introduced the proposal on 22 June 2022. The European Parliament adopted the text on 27 February 2024, followed by Council approval on 17 June 2024. This iterative consultation process ensured that financial feasibility and on-the-ground realities informed the law's structure, allowing for flexible national-level adaptation and support³⁰.

Implementation

Restoration actions target ecosystems including agricultural lands, peatlands, wetlands, forests, rivers, marine habitats, and urban green spaces. Eligibility is generally defined at the national level through the National Restoration Plans. However, land managers, farmers, local communities, and conservation actors are broadly eligible to receive financial support for restoration-compatible practices.

Funding is multi-sourced from a mix of EU-level instruments (CAP, LIFE, EMFAF, Horizon Europe, etc.) and national co-financing. The CAP in particular is instrumental, with eco-schemes, agri-environment-climate commitments, and result-based payment models integrated into MSs' Strategic Plans. The law also



supports innovative mechanisms like paludiculture (farming on rewetted peatlands) and carbon farming, which are tied to income generation and certification schemes.

Subsidies specifically support: 1) Peatland rewetting and restoration, including compensation for income loss, 2) Agroforestry and high-diversity landscape features that promote soil health and pollinator habitats, 3) Organic farming and low-intensity land use that aligns with biodiversity goals, 4) Measures targeting soil health improvement and pollution reduction, embedded in restoration measures for agricultural ecosystems.

Monitoring is jointly handled by MSs, the EC, and the European Environment Agency (EEA). MSs must set up monitoring systems using EU-funded technologies, including Copernicus, remote sensing, and geospatial tools. They are required to maintain open-access databases on progress, coordinated through the EEA's Reporter system. The Commission will assess the adequacy and effectiveness of the national plans and their implementation in light of Union-wide goals (20% restoration by 2030; full restoration by 2050). Progress reports will be drawn from national submissions, EEA assessments, and other EU datasets³⁰.

3.2.1.3 EU Soil Strategy for 2030

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Policy content and objective

The EU Soil Strategy for 2030¹ is a non-binding communication that sets out a long-term vision for achieving healthy soils across the EU by 2050. Targets include reaching land degradation neutrality by 2030 and eliminating net land take by 2050. The strategy aims to elevate soil protection to the same legal and political level as air and water, with the future introduction of a binding EU Soil Health Law proposed for 2023 to address current policy gaps and ensure consistent standards across MSs. Its objectives include reversing soil degradation, restoring damaged and carbon-rich ecosystems, reducing soil pollution, and promoting land-based climate neutrality by 2035. The strategy also proposes phasing out harmful subsidies, such as those promoting land sealing or unsustainable land-use changes and encourages fiscal reform to reorient public investment toward sustainable soil management.

The strategy was adopted by the EC on 17 November 2021 and sets a medium-term implementation horizon from 2021 to 2030, with long-term objectives extending to 2050.

The strategy integrates financial schemes to support sustainable soil practices. Result-based payment schemes and carbon farming initiatives reward practices that enhance soil carbon, reduce erosion, and increase ecosystem services. Support mechanisms under the CAP, particularly eco-schemes and agri-environment-climate measures (AECMs), are introduced as well. Funding is made through LIFE, Horizon Europe, Recovery and Resilience Facility (RRF), and the European Regional Development Fund (ERDF)¹.



It is closely aligned with the European Green Deal¹¹ and contributes to its overarching goals of climate neutrality, zero pollution, and biodiversity protection. It also reinforces and draws synergies from the EU Biodiversity Strategy for 2030¹³, the Farm to Fork Strategy¹², the Zero Pollution Action Plan³⁵, the Climate Adaptation Strategy³⁶ and the LULUCF Regulation³⁷, the CAP, the Water Framework Directive²³ and Urban Wastewater Treatment Directive³⁸.

Stakeholder consultation in the formulation process

The strategy was developed through a consultative and inclusive process. The EC issued a Call for Evidence in early 2022, followed by a public consultation between August and October 2022 to shape the future Soil Health Law. This process involved a broad range of stakeholders, including farmers and landowners, scientists and environmental NGOs, local and regional authorities and financial institutions and business actors. Additional input was gathered through expert workshops and policy forums, which helped refine the strategy's financial and legislative approaches. Stakeholders consistently emphasized the need for stronger regulatory tools, accessible financial incentives, and performance-based funding mechanisms to ensure widespread adoption of sustainable soil practices and effective restoration¹.

Implementation

Eligible participants include farmers, foresters, landowners, municipalities, and other land managers who adopt sustainable soil management (SSM) practices. Specific eligibility criteria are defined under the respective funding instruments. For example, CAP-related eco-schemes and AECMs require adherence to practices such as crop rotation, cover cropping, reduction of chemical inputs, or peatland rewetting. Free soil testing initiatives also target landowners interested in assessing and improving soil health.

The strategy does not introduce a new funding instrument but leverages existing EU financial mechanisms, such as the CAP (particularly through eco-schemes and rural development), LIFE and Horizon Europe for innovation and research, ERDF and RRF for regional and recovery investments. Financial support focuses on scaling up practices like carbon farming, result-based payments, and urban nature-based solutions. Private finance is also mobilized through carbon credit schemes, green investment products, and preferential lending for sustainable land use. Fiscal incentives are being reshaped to discourage unsustainable practices (e.g. sealing of fertile land) and promote circular land use models.

The strategy introduces a robust monitoring and evaluation framework anchored in a new EU Soil Observation System (EUSO). This includes the use of satellite data and Earth observation tools (e.g., Copernicus), the LUCAS Soil Module, national-level reporting obligations on key soil indicators. Additional tools include a soil passport for safe reuse of excavated soils, a proposed system of soil health certificates for land transactions, integration of soil data in the upcoming EU Green Deal data space¹.

3.2.1.4 EU Biodiversity Strategy for 2030

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Policy content and objective

The EU Biodiversity Strategy for 2030¹³, aims to halt biodiversity loss, restore ecosystems, and set Europe's biodiversity on a path to recovery by 2030. It envisions a long-term goal that by 2050 all ecosystems are restored, resilient, and adequately protected. This strategy responds to five primary drivers of biodiversity loss, which are land and sea use change, overexploitation, climate change, pollution, and invasive species, through legally binding targets and integrated action frameworks. Key objectives include legally protecting 30% of EU land and sea areas, with 10% under strict protection, and restoring degraded ecosystems, particularly carbon-rich and biodiverse areas such as peatlands, wetlands, and old-growth forests.

It was launched in May 2020 by the EC and was designed as a ten-year roadmap. Its core vision looks ahead to 2050, but its principal operational targets are focused on achieving measurable progress by 2030. By 2030, targets should be fully achieved, including 30% protected land and sea, 10% strictly protected, and substantial restoration of degraded ecosystems.

Under the EU Biodiversity Strategy for 2030, subsidies supporting soil health and pollution reduction are primarily delivered through the CAP and its eco-schemes and rural development measures. These subsidies promote practices like agroecology, organic farming, agroforestry, low-intensity permanent grassland management, and high-diversity landscape features (e.g., buffer strips, hedgerows, fallow land). Additional incentives are linked to pollution reduction, including targets to reduce nutrient losses by 50% and cut fertilizer use by at least 20%, supported through CAP payments and a planned Integrated Nutrient Management Action Plan. Soil restoration and protection are also eligible for funding under cohesion policy funds, LIFE, Horizon Europe, and green public procurement initiatives¹³.

The strategy is a core component of the European Green Deal¹¹. The strategy is coherent with other EU policies, notably the Farm to Fork Strategy¹², Circular Economy Action Plan³⁹, the CAP⁵¹⁶, and the Climate Law³¹, forming a unified framework for sustainable transition. Biodiversity targets are reflected in CAP Strategic Plans and supported by the Nature Restoration Law³⁰ and the Soil Health Law, and forestry policies.

In *CS2 Spain [LH2-Mediterranean industrial soil]*, coordinators recognize that the strategy's goal is to halt biodiversity loss, restore degraded ecosystems, and increase resilience of the natural environment to climate change. Mining soils are an example of degraded land, as they are often polluted or eroded areas. However, they have high potential to become restored habitats if ecological restoration projects are carried out using techniques such as phytoremediation, revegetation, or natural habitat recovery.

Some *researchers* acknowledge not being familiar with this strategy, and they find it to be very general, while others find this strategy as relevant for managing areas degraded by mining activities. Indeed, its implementation at the local level helps manage and improve the handling of spaces filled with mining waste and



environmental liabilities. This strategy seeks to stop the loss of natural life and recover degraded areas so they can regain ecological value. It is about improving environmental health and making it more resilient to climate change which is something increasingly urgent. *Researchers* believes that the strategy is important and necessary. It fits well with the needs of this area, where many sites have been affected by mining. Restoring those spaces not only improves the landscape but also helps make it habitable again for plants and animals, and more pleasant and safe for people. *NGOs* agree that the strategy is extremely important for habitat restoration. Similarly, municipalities have few tools to implement it, except for establishing local protection designations, such as natural monuments. *Policymakers* argue that the strategy is an ambitious roadmap that recognizes ecological restoration as a key pillar in addressing biodiversity loss and mitigating the effects of climate change. In the context of contaminated soils, it represents an opportunity to transform degraded areas into spaces with ecological value and environmental functionality.

In *CS3 Spain [LH3-Atlantic industrial soil]*, *researchers* point out that the strategy is developed in the Spanish context through the State Strategic Plan for Natural Heritage and Biodiversity 2023-2030.

Stakeholder consultation in the formulation process

The formulation of the strategy involved broad stakeholder consultation processes. The EC drew upon scientific inputs, such as the IPBES 2019 report, and organized public consultations to assess environmental, social, and economic impacts, following its Better Regulation principles. These included input from national governments, civil society, businesses, researchers, and the general public. The strategy emphasizes a participatory governance model, encouraging collaboration across EU institutions, MSs, local and regional authorities, as well as landowners, farmers, foresters, and fishers. It aims to foster a “whole-of-society” approach, promoting transparency and collective ownership¹³.

Implementation

Eligibility extends to farmers, foresters, and land managers in EU MSs who engage in practices aligned with biodiversity and soil protection goals. This includes operators adopting organic agriculture, sustainable soil management, or measures to combat land degradation and erosion. Urban and regional authorities may also access funding for urban greening and soil rehabilitation projects. Applicants must meet agri-environmental conditions, including: - Adherence to eco-scheme standards (e.g., organic certification, precision agriculture), - Implementation of biodiversity-friendly practices, such as preserving high-diversity features on at least 10% of agricultural land, - Compliance with environmental regulations, such as those under the Nitrates Directive or Sustainable Use of Pesticides Directive, and - Demonstrated contributions to soil fertility improvement, erosion reduction, or pollution control.

Eligible entities apply through national CAP Strategic Plans, which outline eco-schemes and rural development programs tailored to each MS. Applications are typically submitted to national or regional agricultural agencies, which administer these funds under EU guidance. Additional funds (e.g., LIFE, Horizon Europe)



require project proposals submitted via dedicated EU calls or national agencies. Funding is drawn primarily from the EU budget, notably the CAP, which allocates a significant portion to environmental measures (25% of CAP funds earmarked for eco-schemes). At least €20 billion annually is targeted for nature-related spending, including soil and pollution priorities.

Monitoring and evaluation are built into the strategy. MSs must report progress by 2023 on designation and management of protected areas, with a Commission assessment in 2024 to determine compliance. The strategy also includes a Knowledge Centre for Biodiversity, supports improved environmental data collection, and proposes legislative updates (e.g. Environmental Crime Directive) to ensure enforcement. Restoration targets will be legally binding, with expected compliance monitored via defined indicators and spatial mapping, particularly of high-value and degraded ecosystems, including soils¹³.

In *CS2 Spain [LH2-Mediterranean industrial soil]*, the researchers recognize that there is a need for a greater awareness and understanding of these issues among public administrations and the general population. In addition, in metal mining environments, the risk is that the restoration techniques applied may not be effective and could even become counterproductive in the long term. Indeed, they might create seemingly healthy vegetation cover that actually becomes a vector of toxic elements in the food chain if the techniques used fail to immobilize metal salts effectively. Moreover, ecological restoration is often approached from a very technical perspective, without sufficiently integrating the social or cultural use of the space. There is not a more creative or interdisciplinary approach that considers these areas not just as restored zones, but also as living spaces within the everyday environment. Guided tourist routes are a good example of integration, but probably not enough on their own. Environmental education among the population is key so that the natural environment is better valued and cared of in a more active and lasting way. Lack of funding is also considered as a challenge. Indeed, *policymakers* also agree that one of the main challenges is the lack of specific and stable funding for ecological restoration projects in degraded areas. There may also be a lack of technical knowledge or strategic planning at the local level to carry out such interventions effectively and sustainably. *NGOs* identify additional challenges such as lack of authority and, at times, lack of inter-administrative agility. Often, there is also a lack of interest.

3.2.1.5 Zero Pollution Action Plan

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Zero Pollution Action Plan (ZPAP)³⁵, adopted in May 2021, is a key element of the European Green Deal, aiming for a “toxic-free environment” in the EU by 2050. The plan targets a holistic reduction of pollution across air, water, and soil, with ambitious 2030 goals such as cutting premature deaths from air pollution by >55%, reducing nutrient losses and chemical pesticide use by 50%, cutting transport noise by 30%, halving plastic litter at sea, and reducing residual municipal waste by 50%. The action plan operates not as a standalone funding mechanism, but by integrating pollution prevention into existing EU financial frameworks including the



CAP, LIFE Programme, Horizon Europe, Cohesion Policy Funds, and the Recovery and Resilience Facility (RRF).

The plan was adopted on 12 May 2021 as part of the European Green Deal. It sets out a long-term vision for achieving a toxic-free environment by 2050, with concrete targets to be met by 2030 and key implementation actions planned for the period 2021 to 2024, subject to five-year progress reviews.

While the plan does not explicitly create new subsidy schemes for soil health, it aims to leverage and align existing instruments to address contamination and promote sustainable land use. The “polluter pays” principle is adopted and implemented together with insurance reforms, and private sector investment incentives³⁵.

The plan is closely aligned and coherent with other major EU strategies, including the Farm to Fork Strategy¹² and EU Biodiversity Strategy for 2030¹³, the EU Chemicals Strategy for Sustainability⁴⁰, the Circular Economy Action Plan³⁹, and the Climate Adaptation Strategy³⁶.

In *CS2 Spain [LH2-Mediterranean industrial soil]*, policymakers consider that the action plan is a key initiative under the European Green Deal, aiming to eliminate air, water, and soil pollution to levels that are no longer harmful to human health and ecosystems. It introduces a comprehensive vision of environmental sustainability, where the restoration of contaminated soils is a top priority. It promotes the identification, control, and rehabilitation of contaminated sites, supporting local authorities in addressing soils impacted by mining legacies. It encourages the development of clean technologies and the improvement of environmental quality.

Stakeholder consultation in the formulation process

The formulation of the ZPAP was grounded in broad and inclusive stakeholder engagement. The EC initiated the process in late 2019 and conducted an open public consultation (Q4 2020 to Q1 2021), drawing responses from thousands of individuals and organizations. A stakeholder workshop was held in February 2021 to refine the structure and tools of the plan. Sectoral consultations linked to chemicals, agriculture, and climate adaptation strategies were conducted. Stakeholders involved in these consultations included national authorities, regional and local governments, civil society and environmental NGOs, industry, SMEs, and farm advisory services and academia, research institutions, and general public³⁵.

Implementation

The plan does not define eligibility criteria in the form of a grant program but rather ensures that existing financial and regulatory tools are coordinated to advance pollution goals. MSs are responsible for integrating these goals into their national legal and funding frameworks, while local authorities are encouraged and supported in developing local zero pollution plans, particularly in urban settings.



Financial support is provided through the CAP, especially via eco-schemes, conditionality requirements, and agri-environmental measures to support nutrient and pesticide reduction, as well as through LIFE and Horizon Europe to support research, innovation, and demonstration of low-pollution technologies and the RRF and Cohesion Funds for infrastructure and pollution prevention investments.

While dedicated subsidies for soil remediation are not specified, the plan commits to developing an EU priority watch list for soil contaminants, promoting public and private funding for contaminated site remediation, facilitating awareness and access to financing for soil health improvement projects.

Monitoring is coordinated through the Zero Pollution Monitoring and Outlook Framework⁴¹, developed with the European Environment Agency (EEA), and the Zero Pollution Stakeholder Platform⁴², launched in 2021 and co-chaired by the Commission and Committee of the Regions. Progress will be reviewed every five years, with reporting to the European Parliament and Council. Advanced tools such as Earth Observation (Copernicus), digital twins, and AI-based systems are being deployed for data collection and evaluation³⁵.

In *CS2 Spain [LH2-Mediterranean industrial soil]*, policymakers underline that the lack of binding European legislation specifically on soils means that many efforts depend on national or regional political will. There is also often a shortage of technical and financial resources to implement effective large-scale measures.

3.2.1.6 EU Forest Strategy for 2030

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The EU Forest Strategy for 2030⁴³ aims to enhance the quantity, quality, resilience, and multifunctionality of EU forests. A core objective is to ensure forests continue providing ecosystem services, including carbon sequestration, soil stabilization, water retention, and biodiversity protection, under increasing pressures such as climate change, pollution, and overexploitation. The strategy links forest health to broader environmental goals by embedding soil conservation and pollution mitigation within sustainable forest management (SFM) practices. It also supports the cascading use of wood (promoting long-lived carbon-storing wood products) and reinforces nature-based solutions.

The strategy was adopted in July 2021 and sets out a 2021–2030 implementation timeframe, with a mid-term review planned in 2025.

Incentive schemes include incentives for environmentally friendly forest practices, notably those that promote carbon storage and sequestration, carbon farming schemes and a carbon removal certification framework, providing revenue streams through CO₂ capture activities, support under the CAP and the EAFRD, encouraging forest owners to adopt climate-resilient, biodiversity-supportive, and soil-protective practices⁴³.



The strategy is designed in coherence with the EU Biodiversity Strategy for 2030¹³, Farm to Fork Strategy⁴⁴, EU Soil Strategy, Fit for 55 Package⁴⁵, and LULUCF Regulation⁴⁶.

Stakeholder consultation in the formulation process

The strategy was shaped through a broad consultation process beginning in October 2020, including public consultations (ending in April 2021), stakeholder meetings and impact evaluation of the previous 2013 strategy. Participants included forest owners, NGOs, academia, and national authorities. The process was coordinated with related policies and received European Parliament backing. However, some stakeholder groups, especially forest owners and managers, criticized the lack of transparency and their exclusion from designing PES. A Forest Stakeholder Platform is planned to enable ongoing dialogue, and stakeholders are also engaged through EU-wide initiatives like the EU Climate Pact, Bioeconomy Strategy, and Pact for Skills⁴³.

Implementation

Eligibility for funding mechanisms such as CAP and carbon farming applies primarily to forest owners and managers, particularly private landholders, who manage the majority of EU forest land. Eligibility is contingent on adherence to sustainable forest management principles and practices aligned with biodiversity and climate targets. Implementation relies on the National strategic forest plans and integration of forest objectives into CAP strategic plans. At the same time, Forest Information System for Europe (FISE) and the EU Forest Monitoring Framework, using tools like Copernicus satellite data, are also highly relevant.

The strategy does not establish a dedicated EU-level budget. Instead, it leverages existing instruments such as the CAP and EAFRD to provide primary financial support. Carbon farming enables forest managers to access private funding through carbon credits and certification schemes. Additional financial instruments support training, generational renewal, and non-wood forest products (e.g., cork, honey).

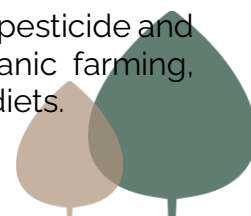
EU-level oversight is provided via DG ENV and DG AGRI. Evaluation is structured through the National Energy and Climate Plans, LULUCF reports, and CAP evaluations. A new legislative proposal is in development to harmonize EU forest data collection⁴³.

3.2.1.7 Farm to Fork Strategy

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Farm to Fork Strategy⁴⁴ is the EU's flagship initiative for transitioning to a fair, healthy, and environmentally sustainable food system. Central to the European Green Deal, the strategy aims to reduce the environmental and climate footprint of the food system, ensure food security and public health, and guarantee fair economic returns across the supply chain. Its goals include reducing pesticide and fertilizer use, lowering greenhouse gas emissions, promoting organic farming, improving soil health, cutting food waste, and fostering sustainable diets.



The timeline for implementation spans from 2020 onwards, with legislative and non-legislative actions scheduled up to at least 2023–2024, including key deliverables like the legislative framework for sustainable food systems and minimum mandatory criteria for sustainable food procurement.

The strategy is implemented primarily through the CAP, which includes eco-schemes, agri-environmental measures, and support for carbon farming. CAP Strategic Plans allocate funding for sustainable practices, with ring-fenced budgets for eco-schemes supporting biodiversity, organic agriculture, and nutrient management. The strategy also introduces carbon farming as a novel risk-financing model, allowing farmers and foresters to receive payments for carbon sequestration via CAP or voluntary carbon markets⁴⁴.

The strategy aligns with other major EU initiatives such as the EU Biodiversity Strategy for 2030¹³, Zero Pollution Action Plan³⁵, Circular Economy Action Plan³⁹, and EU Climate Law³¹, promoting policy coherence through integrated objectives and regulatory harmonization.

Stakeholder consultation in the formulation process

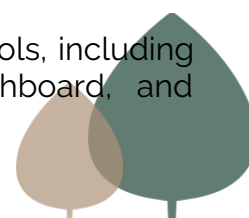
Stakeholder engagement was integral to the formulation of the Farm to Fork Strategy. Extensive consultations were conducted with a broad range of actors including civil society organizations, farmers, the food industry, environmental NGOs, consumer groups, and academic experts. This was especially intensified during the COVID-19 pandemic to reflect vulnerabilities exposed in the EU food supply chain. The European Parliament formally endorsed the strategy in October 2021, calling for even more ambitious legislative actions. Ongoing engagement is maintained through platforms such as the EU Food Policy Coalition and thematic consultations under legislative initiatives linked to the strategy⁴⁴.

Implementation

The Farm to Fork Strategy is operationalized through the CAP Strategic Plans, designed by MSs. Eligibility primarily applies to farmers, foresters, and food system actors who adopt environmentally sustainable practices. Specific funding tools target practices such as organic farming, precision agriculture, integrated pest management (IPM), carbon farming, and reduced use of chemical inputs. Conditions for access are tied to environmental performance indicators and alignment with Green Deal targets.

Funding stems from both pillars of the CAP, the EAGF and the EAFRD. Financial instruments include eco-schemes, investments in renewable energy and nutrient management, support for biogas infrastructure, and subsidies for sustainable practices. Additional funding comes from Horizon Europe for research and innovation. Economic mechanisms include the future carbon certification framework, green tax reforms (e.g. VAT), and revisions to feed additives legislation to reduce environmental impact.

Implementation is monitored through a combination of EU-wide tools, including the Farm Sustainability Data Network, EU Food System Dashboard, and



Harmonised Risk Indicators for pesticide usage. MSs must track and report on CAP Strategic Plan outcomes against Green Deal and Farm to Fork targets. The Commission, notably DG SANTE and DG AGRI, leads coordination, supported by agencies such as EFSA, EEA, and JRC⁴⁴.

3.2.1.8 Renewed Sustainable Finance Strategy

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Renewed Sustainable Finance Strategy's (RSFS)⁴⁷ aim is to create an enabling financial system to support the transition to a sustainable economy. The strategy proposes a multidimensional approach to sustainable finance, structured around six main actions: enhancing access to transition finance, improving inclusiveness for SMEs and citizens, strengthening resilience to sustainability risks, increasing the contribution of the financial sector, safeguarding market integrity during transition, and promoting international standards and cooperation.

It was adopted on 6 July 2021 by the EC, and is a cornerstone of the European Green Deal and builds on the 2018 Action Plan on Financing Sustainable Growth.

While the RSFS itself does not directly allocate EU subsidies, it supports the broader enabling framework that guides the use of public funds, particularly those directed through instruments like the EU Multiannual Financial Framework (MFF), the Recovery and Resilience Facility (RRF), and CAP. These instruments can provide significant financial support for environmental and climate-related objectives. By encouraging MSs to integrate green budgeting practices, the RSFS indirectly influences the allocation of national subsidies and fiscal incentives, promoting investment in taxonomy-aligned activities such as sustainable land use, biodiversity preservation, and pollution prevention⁴⁷.

The strategy is part of a broader policy coherence effort aligning with the EU Green Deal¹¹, the EU Taxonomy Regulation⁴⁸, the Corporate Sustainability Reporting Directive⁴⁹, and Sustainable Finance Disclosure Regulation (SFDR)⁵⁰. It reinforces the integration of environmental and social dimensions into EU financial and corporate regulations.

In *CS3 Spain [LH3-Atlantic industrial soil]*, researchers recognize that the strategy offers green bonds for projects aligned with its taxonomy regarding ecological restoration.

Stakeholder consultation in the formulation process

The RSFS was informed by extensive consultations, including a public consultation held in 2020. The European Economic and Social Committee (EESC) was actively involved, offering critical input and emphasizing the need for stronger social sustainability integration and the inclusion of civil society and social partners in strategy design and implementation. The EESC voiced concerns over the overuse of delegated acts and called for more participatory governance through involvement in platforms like the Platform on Sustainable Finance and EFRA. The development of the RSFS is built upon the previous work of the High-Level Expert



Group (HLEG) and the Technical Expert Group on Sustainable Finance (TEG). The EC also conducted a public consultation, the results of which were summarized in a report published on 10 February 2021. Following this process, several legislative initiatives were introduced. On 22 September 2021, the EC proposed amendments to the Solvency II Directive to incorporate sustainability risks into the risk management of insurers, including climate change scenario analyses⁴⁷.

Implementation

The RSFS is a strategic policy document; therefore, it does not directly issue financial instruments but informs and facilitates the creation of robust frameworks such as the European Green Bond Standard (EUGBS). The EUGBS is designed to serve as a gold standard for how companies, public authorities, and even non-EU issuers can use green bonds to raise capital for large-scale sustainable investments. By aligning with the EU Taxonomy, the EUGBS supports investor confidence and issuer accountability, contributing to the EU's broader sustainable finance architecture.

Although the strategy does not allocate green bond funding itself, it sets out clear conditions for transparency, credibility, and oversight. The EUGBS introduces four key requirements:

- a) Taxonomy alignment – all funds raised must be allocated entirely to projects aligned with the EU Taxonomy.
- b) Transparency – detailed and standardized reporting obligations on the allocation and environmental impact of bond proceeds.
- c) External review – mandatory external verification of compliance with the Regulation and taxonomy alignment.
- d) Supervision – external reviewers must be registered with and supervised by the European Securities and Markets Authority (ESMA) to ensure the quality and reliability of their assessments.

These measures aim to reduce the risk of greenwashing, provide issuers with a credible tool for showcasing sustainable investments, and enable investors to make informed, trustworthy decisions.

The EC committed to reporting on the implementation of the strategy by the end of 2023. Monitoring mechanisms tied to the EUGBS include oversight by ESMA, enhanced disclosure and review requirements, and alignment with broader supervisory frameworks. This contributes to market integrity, investor protection, and the overall effectiveness of sustainable capital market instruments in meeting EU environmental objectives⁴⁷.

3.2.1.9 Croatia's CAP Strategic Plan

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Croatian CAP Strategic Plan⁵¹ for the period 2023–2027 outlines Croatia's contribution to the ten specific objectives of the EU's Common Agricultural Policy, aiming to ensure economic viability, environmental sustainability, and social cohesion within its agricultural and rural sectors. The primary objectives include improving farm income, enhancing competitiveness, fostering climate and



environmental sustainability, promoting generational renewal, and revitalizing rural areas.

The plan was implemented following its approval by the EC in October 2022, it covers the programming period from 1 January 2023 to 31 December 2027.

The plan incorporates a Basic Income Support for Sustainability ensures income stability for active farmers, Redistributive Income Support targets small and medium-sized farms to reduce income inequality, Coupled Income Support is used for sectors under specific economic or environmental pressures (e.g., livestock, protein crops), Eco-schemes under Pillar I allocate at least 25% of direct payments to environmental practices such as soil health, biodiversity, and nutrient management, and Agri-environmental-climate measures under Pillar II include commitments for carbon farming, peatland restoration, and organic farming⁵¹.

The plan is coherent with the European Green Deal¹¹, including the Farm to Fork Strategy⁴⁴ and EU Biodiversity Strategy for 2030¹³. It supports the Green Deal's targets on nutrient loss reduction, sustainable soil management, organic farming, and the protection of biodiversity and pollinators^{51|52|53}.

In Croatia, PES are operationalized through CAP eco-schemes and AECM under this Strategic Plan.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers describe the CAP and the CAP Strategic Plan as central to Croatia's agricultural sector, as they provide direct payments to stabilize income, support societal and environmental services, and encourage rural development. They acknowledge that it covers measures such as basic income support, redistributive payments, support for young farmers, and carbon farming.

Stakeholder consultation in the formulation process

The formulation of the CAP Strategic Plan was led by Croatia's Ministry of Agriculture and strongly emphasized participatory governance. The drafting process integrated extensive consultations with a broad array of stakeholders, including farmers' associations, environmental NGOs, local and regional authorities, academic experts, and civil society groups. The plan was aligned with national strategies and underwent public consultation rounds, as well as iterative feedback and revisions following observations from the EC—particularly regarding environmental ambition. The revised version, submitted in October 2022, was approved and followed by amendments in 2023 and 2024 to adjust for new market and climate priorities^{51|52|53}.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers explain that the CAP was revised with the EC and approved after amendments. They highlight that local stakeholders were not deeply engaged.

Implementation

Eligibility for support is generally based on active farmer status and compliance with enhanced conditionality, which includes environmental and animal welfare standards. Participation in eco-schemes and Agri-environmental-climate



measures is voluntary but financially incentivized. Farmers apply annually and can access additional advisory services to support compliance and uptake of voluntary measures.

The plan's total budget is approximately €3.8 billion, combining EU funds (via EAGF and EAFRD) with national co-financing. Financial breakdowns include approx.€1.87 billion for Direct Payments (Pillar I), approx.€1.49 billion for Rural Development (Pillar II), approx.€468 million allocated to eco-schemes. Over 35% of Pillar II earmarked for climate and environmental objectives, including approx.€397 million under Article 70 for agri-environmental and climate commitments.

Monitoring and implementation are handled by the Ministry of Agriculture and the Paying Agency for Agriculture, Fisheries and Rural Development. Implementation tools include the Integrated Administration and Control System and Land Parcel Identification System (LPIS). Annual reporting and a mid-term evaluation in 2025 are part of the accountability framework. A final impact assessment will occur post-2027. Digitalization and technical assistance are also integrated to strengthen institutional capacity and ensure effective delivery^{51|52|53}.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers observe that farmers use CAP payments mainly as income support, with limited impact on innovation. They underline bureaucratic challenges and unequal distribution of funds. Indeed, some sectors have some advantages comparing to others and it is challenging to distribute the money among farmers. Indeed, small farmers will receive money according to the place they live, rather than the place they produce. In the last 15 years, the incentives provided for organic agriculture did not raise the productivity. Funds have just vanished while spreading the area of organic agriculture. Researchers recommend that legislative should introduce new bundled practice package (e.g. cover crop, reduced tillage, organic amendment, grass/hedgerow buffer) as a single eco-scheme and enable group enrolment via advisory bodies or cooperatives to cut transaction costs and raise uptake among peri-urban farms. A light-monitoring approach is recommended, with satellite indices used only as supporting evidence and always ground-truthed.

3.2.1.10 Croatian Regulation on the implementation of direct support to agriculture and IAKS rural development measures for 2023

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Regulation on the implementation of direct support to agriculture and IAKS rural development measures for 2023⁵⁴ governs the implementation of both production-unrelated and production-related direct support interventions and IAKS rural development measures under Croatia's CAP Strategic Plan 2023–2027. Its primary objective is to operationalize this strategic plan by enabling financial support to farmers in ways that promote income stability, environmental sustainability, and rural vitality. The Regulation encompasses eco-schemes to



incentivize sustainable practices (e.g. conservation agriculture, organic fertilization, extensive pasture management), and supports agri-environmental commitments such as biodiversity protection, reduced pesticide use, and soil-friendly cultivation.

The Regulation entered into force in 2023 and covers the full CAP Strategic Plan programming period from 2023 to 2027.

Financial mechanisms include basic income support for sustainability, redistributive support, targeted income support for young farmers, eco-schemes, production-linked payments for specific sectors, and rural development measures that require multi-year environmental or welfare commitments. While various risk mitigation measures are built into eligibility compliance and support diversification, the Regulation does not establish a standalone risk financing scheme (such as crop insurance or disaster funds) ⁵⁴.

The policy ensures alignment with the EU's Common Agricultural Policy and its underlying regulations—primarily Regulations (EU) 2021/2115⁵ and 2021/2116⁶. It also reflects coherence with broader EU strategies like the Green Deal¹¹, Farm to Fork Strategy⁴⁴, EU Biodiversity Strategy for 2030¹³, and EU Climate Law³¹, ensuring that environmental and climate priorities are integrated into financial support schemes.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers describe the Regulation as operationalizing the CAP Strategic Plan, specifying terms of direct payments, with objectives like the CAP and Strategic Plan.

Stakeholder consultation in the formulation process

The Regulation is derived directly from Croatia's CAP Strategic Plan 2023–2027, which itself was prepared through a participatory and consultative process. This involved formal stakeholder engagement across sectors, ensuring that farmer associations, environmental groups, public bodies, and EU-level actors contributed to shaping priorities and implementation mechanisms. This participatory approach strengthens the Regulation's legitimacy and ensures alignment with both local needs and EU directives⁵⁴.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers note that the Regulation is essentially a continuation of previous frameworks with updated dates and minor changes.

Implementation

Eligible applicants must be active farmers, defined as those entered in the Register of Family Farms or the Register of Farmers, with specific thresholds for standard economic output (above €3,000) or prior-year direct payments below €5,000. Young farmers (under 40) and new entrants (over 40 with recent farm management experience) are explicitly targeted. For most payments, a minimum farm size of 1 hectare is required, though certain exceptions apply for livestock-linked supports and IAKS measures. Land eligibility is verified through the ARKOD system, and compliance with conditionality (GAEC and SMR standards) is mandatory.



The Regulation is financed primarily through the EAGF for direct payments and the EAFRD for IAKS measures. National co-financing is required particularly for rural development components. Payments are intervention-specific, ranging from per-hectare eco-scheme payments to livestock unit-based coupled supports. There is no mention of risk-financing instruments beyond these support payments.

Implementation is overseen by the Paying Agency for Agriculture, Fisheries and Rural Development, which manages the Integrated Administration and Control System (IACS), including ARKOD for parcel identification, the Unified Application System, and a Monitoring system using Sentinel satellite data from the Copernicus program. Monitoring outputs guide compliance checks, with results displayed to applicants via the AGRONET platform in a traffic-light format. Early warnings are issued for non-compliance, enabling farmers to take corrective action. Geotagged photos, field inspections, and digital records are used to confirm eligibility and conditionality⁵⁴.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers state that they have not yet applied its provisions locally but confirm its potential relevance. Their opinion is to prioritise the bundle approach and group enrolment for small peri-urban parcels to reduce administrative burden and improve measure absorption.

3.2.1.11 Croatian Law on agriculture (2018)

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Croatian Law on Agriculture (2018)⁵⁵ serves as the core legislative framework for managing agricultural policy in Croatia, aligning closely with the EU's CAP. The law defines the goals and measures of agricultural policy, including sustainable development, competitiveness of the agri-food sector, environmentally friendly agriculture, and balanced rural development. A primary objective is to facilitate access to financial incentives that promote income stability, ecological practices, and long-term rural resilience.

The law was implemented in December 2018 and is intended as a long-term structural framework, with specific financial mechanisms and strategic planning cycles aligned with CAP periods, such as the 2023–2027 CAP Strategic Plan.

The incentives schemes covered include Direct income support (basic, redistributive, green, and young farmer payments), Rural development measures, Agri-environment-climate interventions, Organic farming, Sectoral aid and market organization mechanisms, and Programs for small farmers and producers in disadvantaged areas⁵⁵.

The law ensures coherence with EU regulations, explicitly implementing key CAP regulations, including the Regulations (EU) 1306/2013, 1307/2013, 1308/2013, and 1305/2013 (from the previous CAP), Regulations (EU) 2021/2115 and 2021/2116, which structure CAP financing and strategic plans post-2023, and Rules on eco-schemes, biodiversity, Codex Alimentarius, and food waste reduction.



In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers consider the law as a "skeleton" law, providing a general framework aligned with the CAP. They recognize that the law defines the institutional and financial framework for agricultural policy.

Stakeholder consultation in the formulation process

The law on Agriculture was drafted by the Ministry of Agriculture, which led a structured stakeholder consultation process. Input was solicited from farmers' associations, cooperatives, chambers, civil society organizations, local government authorities, and technical working groups. These consultations influenced the design and targeting of financial interventions, especially eco-schemes and support for young farmers and environmentally sustainable practices. Public debate and expert engagement ensured the legislation reflected both EU compliance and national priorities, such as ecological responsibility, generational renewal, and equitable access to support⁵⁵.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers find the law as written in generic terms, with operational details left to secondary regulations or guidelines. Specific implementing rules at sector level are laid down in secondary legislation, ministerial decrees and sectoral regulations ("pravilnici"), which define eligibility, payment rates, verification and notification procedures and are regularly updated by the Ministry of Agriculture.

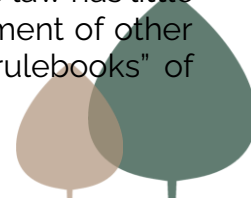
Implementation

Eligibility for support under the law is restricted to active farmers. These include natural and legal persons engaged in agricultural production who meet land use or production thresholds and are registered in the national Register of Farmers (in Croatian "Upisnik poljoprivrednika"). Some exceptions exist for smallholders and specific sectors.

Funding is structured around EU and national sources, which are the EAGF and EAFRD; and national co-financing ranging from 15% to 43% depending on the measure, state aid programs that include de minimis support and state-backed rural investments, and digital infrastructure including applications and processing being done through AGRONET, supported by the Integrated Administration and Control System (IAKS).

Monitoring and implementation are led by the Paying Agency for Agriculture, Fisheries and Rural Development and the Ministry of Agriculture. They oversee fund disbursement, compliance (e.g. GAEC and SMR rules), and performance tracking. Evaluations are conducted mid-term and ex-post, with data shared with the Croatian Parliament and EC. Control mechanisms include administrative audits, on-site inspections, and satellite-based monitoring via the Area Monitoring System⁵⁵.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers argue that the law has little direct effect on practice and it is just to have an executive enforcement of other regulations. Indeed, the law is complemented by more specific "rulebooks" of



conservation of agriculture, organic farming, soil protection, and administrative acts.

3.2.1.12 Croatian Agriculture Strategy until 2030

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Agriculture Strategy of Croatia until 2030⁵⁶ sets out a comprehensive roadmap to transform the country's agri-food sector. Its objectives include: increasing the quantity of high-quality food production at competitive prices; enhancing sustainability and resilience to climate change; revitalizing rural economies; and boosting employment. The strategy is built around four strategic objectives: competitiveness, climate resilience, rural revitalization, and innovation.

The strategy was adopted in February 2022 and covers the time frame up to 2030, aligning with the EU's CAP programming period (2021–2027) and longer-term national strategies.

Incentive support schemes include direct payments under the EAGF and rural development measures via the EAFRD, supplemented by national co-financing. Economic support mechanisms also feature eco-schemes, targeted investment aid, and grants for sustainable rural development. The strategy explicitly supports risk financing schemes, particularly insurance systems and improved risk management instruments, aiming to increase participation by small and medium-sized producers who face limited access to credit and capital.

Policy coherence is a core design feature. The strategy is aligned with major EU policy frameworks including the CAP^{5|6}, European Green Deal⁴¹, Farm to Fork Strategy⁴⁴, and EU Biodiversity Strategy for 2030⁴³. It is also consistent with Croatia's own Climate Adaptation Strategy and Low-Carbon Development Strategy, reflecting cross-sectoral integration and strategic environmental goals⁵⁶.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers acknowledge its vision of transforming agriculture into a sustainable, innovative, and resilient sector, but expressed skepticism, noting that the sector is currently in decline and far from this vision. The researchers also note an implementation gap that is particularly visible in peri-urban areas. The Strategy does not define a small, manageable set of measurable targets for soil health, nor a clear measurement and reporting structure aligned with CAP eco-schemes, making it difficult to implement in fragmented farms. They also point to the lack of coordination with spatial planning and land use change control at the urban level.

Stakeholder consultation in the formulation process

The strategy was formulated through an inclusive, evidence-based planning process involving a wide range of stakeholders. It drew on extensive diagnostic analysis supported by the World Bank and involved public consultations, workshops, and structured dialogue with farmers' associations, food producers, environmental NGOs, academic institutions, and local authorities. This participatory approach helped identify 15 priority development needs and shaped



the final interventions, ensuring they reflect bottom-up perspectives and localized challenges⁵⁶.

Implementation

Eligibility for support is open to entities registered in the national Farm Registry, and subject to compliance with Good Agricultural and Environmental Conditions and Statutory Management Requirements. Eligible beneficiaries must demonstrate alignment with the strategy's objectives—such as environmental stewardship, innovation, and scale of operation—and submit applications via digital national platforms administered by the Paying Agency for Agriculture, Fisheries and Rural Development.

Funding for measures is sourced primarily from CAP funds (EAGF and EAFRD), with national co-financing fulfilling EU obligations. The strategy emphasizes targeted and efficient use of resources, with strong focus areas including biodiversity, low-emission agriculture, circular economy practices, and soil and water conservation. Specific attention is given to soil health, with measures addressing erosion, nutrient management, and organic matter restoration under environmental sustainability goals.

Implementation oversight is handled by the Ministry of Agriculture, supported by APPRRR for disbursement and compliance. Regional authorities and research institutions play active roles in knowledge transfer and local uptake. The strategy includes a performance monitoring framework aligned with EU CAP indicators, featuring annual implementation reports, independent evaluations, and IT-supported monitoring systems to ensure transparency, accountability, and adaptive management⁵⁶.

3.2.1.13 Italy's CAP Strategic Plan

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Policy content and objective

Italy's CAP Strategic Plan¹⁴ promotes a green transition in the agricultural, food, and forestry sectors, and aims at ensuring sustainable food production, environmental protection, and rural development. It addresses an environmental and climate challenges with regional variations in severity, and explicitly aims to enhance ecosystem services, preserve landscapes and habitats, and halt biodiversity loss.

The plan was developed in line with the requirements of the Common Agricultural Policy 2023–2027, submitted in December 2021 to the EC and approved in August 2022. It covers the period from 2023 to 2027 and may be updated or replaced depending on mid-term evaluations, policy reforms, or post-2027 CAP negotiations.

Italy's CAP Strategic Plan 2023–2027 provides targeted subsidies to support soil health and reduce pollution, primarily through eco-schemes, agri-environmental measures, and investment support. Eco-schemes, funded under the first pillar, allocate 25% of direct payments to practices such as cover cropping, reduced tillage, and organic matter enhancement, all aimed at improving soil fertility and



limiting the use of synthetic inputs like fertilizers and pesticides. Agri-environmental payments under rural development (second pillar) support organic farming and sustainable practices (as conservation soil practices) with over €2 billion allocated, particularly in environmentally sensitive areas such as Natura 2000 and nitrate-vulnerable zones¹⁴.

The plan aligns with broader EU environmental objectives, particularly those outlined in the European Green Deal¹¹, the EU Biodiversity Strategy for 2030¹³, and the Farm to Fork Strategy⁴⁴.

In *CS8-Italy [LL1-Mediterranean Agricultural Soil]*, Farmers' associations consider financial incentives essential to support sustainable practices, but they point out that current payments are seen more as income support than as environmental tools. What they expect from policies is a change of approach, hence policies focusing on demanding sustainable practices in exchange for incentives. Agricultural consultants consider financial incentives as structural and indispensable for survival. Incentives for soil quality, organic farming, reuse of livestock waste and young farmers are considered important. These insights support the opinions expressed by farmers and government representatives during the in-person workshop organized by AGRIS and CMCC, where a SWOT analysis of financial incentives was conducted.

Stakeholder consultation in the formulation process

The plan was developed through a consultative and adaptive process, coordinated by the Ministry of Agriculture, Food Sovereignty and Forests (MASAF) in close collaboration with stakeholders from across the agri-food and environmental sectors. The first proposal was submitted following a national stakeholder consultation process. Although less formalized than in some other MSs, stakeholder engagement was integral to shaping the plan's strategic direction, particularly in defining the voluntary schemes that respond to demands for economic instruments supporting environmentally sound farming practices. The participatory nature of the process is also evident in the series of amendments made after initial approval, which reflect a dynamic and iterative approach to implementation¹⁴.

In *CS8-Italy [LL1-Mediterranean Agricultural Soil]*, farmer associations note the need for joint public-private training and collaboration (e.g., with ARGEA, the regional payment agency that manages the EU and national aid schemes) in designing measures, citing Spanish examples of coordinated formation as good practice. Agricultural consultants feel overwhelmed by the complexity of rules and bureaucracy, noting that farmers and their associations are not sufficiently involved in defining the measures.

Implementation

Eligibility for subsidies requires compliance with enhanced conditionality rules, with additional access criteria based on specific practices or certifications—such as participation in organic farming, quality schemes, or systems like ClassyFarm in the livestock sector. Beneficiaries must adopt practices that align with the CAP's



environmental objectives, including reduced chemical use and improved nutrient management.

Funding for these measures exceeds €10.7 billion, supplemented by national and EU funds, including the PNRR. Investment support targets improvements in farm infrastructure and equipment for sustainable soil and nutrient management, while biogas and circular economy projects promote the reuse of agricultural waste to reduce pollution and enhance soil fertility.

Monitoring and implementation rely on EU-aligned performance indicators, remote sensing, and digital systems such as ClassyFarm. Advisory services and farmer training are delivered through the AKIS network to ensure effective uptake of sustainable practices and compliance with program requirements¹⁴.

In *CS8-Italy [LL1-Mediterranean Agricultural Soil]*, farmer associations stress that education and training are distant from European policies, with schools and farmers often unaware of the broader policy objectives. They underline the need for integrated, company-specific training and better monitoring of income and soil quality improvements. Agricultural consultants experience great difficulty accessing funds, with heavy reliance on associations for navigating the process. They view incentives as income support rather than drivers of innovation and are under pressure from the monitoring and control system.

3.2.1.14 Lithuania's CAP Strategic Plan

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Policy content and objective

Lithuania's CAP Strategic Plan⁵⁷ is designed to secure the viability of its agricultural sector and promote sustainable rural development through a combination of income support, modernization investments, and environmental measures. The plan seeks to enhance competitiveness, support generational renewal, improve animal welfare, and promote climate-resilient practices, particularly in soil health and pollution reduction. Objectives explicitly include reducing nutrient runoff, improving manure management, and supporting sustainable soil management practices via eco-schemes and agri-environmental-climate commitments.

The plan was initially submitted in January 2022, approved in November 2022, and subsequently amended in November 2022 and April 2024. It covers the 2023–2027 programming period.

Incentive schemes include direct income support, redistributive payments for smaller farms, sectoral aid for vulnerable commodities (e.g., protein crops, fruit, dairy), investment support through rural development funds (including renewable energy and manure storage infrastructure), and start-up support for young farmers. Risk financing schemes are less explicitly defined but include preferential loan mechanisms and support for insurance schemes in the context of resilience and crisis preparedness (e.g., climate and market shocks), although uptake remains limited^{58|57}.



The plan aligns with broader EU objectives under the Green Deal¹¹, Farm to Fork Strategy⁴⁴, EU Biodiversity Strategy for 2030¹³, and Climate Action targets. It integrates horizontal priorities like the digital and green transitions, gender equality, and generational renewal, ensuring coherence with EU-wide goals and regulations, particularly under Regulation (EU) 2021/2115.

In *CS5-Lithuania [LH5-Boreal Urban soil]*, in the urban gardeners' opinion the policies are mainly designed for large agricultural producers, and the incentives or subsidies outlined in them are poorly aligned with the needs of small urban gardeners. In the opinion of the expert notice that The CAP provides financial aid to help establish and run these groups, especially in the early years, to cover administrative and organizational expenses. Producer organizations can also implement collective projects, such as improving product quality, adopting sustainable practices, or investing in marketing. This cooperation helps small and medium-sized farms compete more effectively and gain access to innovation and new technologies. Overall, the goal is to make farming more competitive, resilient, and market-oriented while ensuring fairer returns for producers. It is very unfortunate, but in the current programming period in Lithuania, support for producer groups according to the CAP is not used.

Stakeholder consultation in the formulation process

The formulation of Lithuania's CAP Strategic Plan followed an iterative and participatory process. It began with the EC's recommendations in December 2020 and incorporated inputs from an array of national stakeholders, including farmer organizations, environmental groups, local authorities, academic institutions, and rural communities. Public consultations, working groups, and expert panels contributed to successive drafts of the plan, with significant revisions submitted in October 2022. Stakeholder input was crucial in shaping policy decisions around income redistribution, support for young farmers, and eco-scheme design. This participatory approach helped ensure the plan's responsiveness to local needs and alignment with national and EU policy priorities^{58|57}.

Implementation

Eligibility for various CAP support measures is primarily open to active farmers, with differentiated support for small and medium-sized farms, young farmers (under 40), and collective entities involved in innovation or value-added production. Environmental and climate measures require participants to adhere to enhanced conditionality rules and eco-scheme participation criteria, such as cover cropping, reduced tillage, and precision fertilization.

Funding for the plan totals approximately EUR 3 billion, with 20% of direct payments redistributed in favor of smaller farms and 35% of rural development funds dedicated to modernization, sustainability, and renewable energy. Eco-schemes and agri-environmental-climate measures are key funding streams supporting soil health and pollution mitigation.

Implementation is supported by Lithuania's Ministry of Agriculture and relevant national paying agencies, with monitoring conducted through annual performance reports and EU-wide indicators. Digital infrastructure, including broadband



expansion and advisory services, underpins delivery. The plan also funds training for over 17,000 advisors and supports 40 European Innovation Partnership (EIP) projects to promote knowledge transfer and continuous adaptation. Amendments to the plan are made as needed, reflecting evolving conditions and stakeholder feedback^{58|57}.

In *CS5-Lithuania [LH5-Boreal Urban soil]*, researcher highlights that part of the Lithuanian plan provides support for young farmers to encourage generational change in a sector where the farmer population is aging. Another priority is promoting environmentally friendly practices, such as improving soil quality and biodiversity through eco-schemes. Support is also directed to rural development projects that strengthen small communities and diversify income sources beyond farming. In this way, the CAP responds not only to EU-wide goals but also to Lithuania's specific challenges and opportunities.

3.2.1.15 Swiss National Soil Strategy

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Policy content and objective

The Swiss National Soil Strategy⁵⁹ sets out a long-term national framework for sustainable soil management, aiming to preserve soil as a vital, non-renewable resource for future generations. Its core objective is to ensure the long-term functionality of soil, targeting net-zero soil consumption by 2050, meaning that any soil function lost due to land use (e.g., construction) must be offset elsewhere through restorative measures. This objective is aligned with Sustainable Development Goal 15.3 ("land degradation neutrality") and the EU's 7th Environment Action Programme, contributing to international efforts to halt soil degradation.

The strategy was officially published in 2020 and is designed with a generational horizon (20–30 years), guiding actions through 2050.

While the strategy itself does not introduce direct financial subsidies or budgeted schemes, it recognizes the importance of investment-based incentives and conditional financial support, particularly in agriculture. It links soil-protective practices to Switzerland's agri-environmental direct payments system, suggesting opportunities to condition subsidies on efforts such as minimizing erosion, compaction, and nutrient leaching. Risk financing is not explicitly addressed in the strategy, but the proposed offset mechanism for compensating soil function loss lays the conceptual foundation for market-based instruments or compensation funds in future implementations⁵⁹.

The strategy aligns with key international and EU policy goals, notably SDG 15.3 and the EU's 7th Environment Action Programme, which targets no net land take by 2050. It reflects EU approaches by integrating soil protection into agriculture, spatial planning, and climate policy, and draws on tools used in countries like Germany and Austria. Though not legally binding, the strategy ensures coherence with EU soil governance frameworks and positions Switzerland to adapt to future EU developments such as the EU Soil Strategy for 2030¹.



In *CS9-Switzerland (LL2-Continental Agricultural Soil)*, researchers highlight that the strategy is critical for the protection and restoration of soil health.

Stakeholder consultation in the formulation process

The strategy was developed through an inter-agency process led by the Federal Office for the Environment (FOEN), in collaboration with other federal agencies including FOAG (Agriculture), ARE (Spatial Planning), FEDRO, SFOE, and Swiss Federal Office of Topography (swisstopo). A broad participatory approach was central to its formulation. Key stakeholders included cantonal authorities across environment, agriculture, and spatial planning sectors; representatives from the Swiss Conference of Directors of Public Works, Planning and Environmental Protection (DPPE); seven structured interviews with spatial planners, including the President of the Swiss Conference of Cantonal Planners (KPK); consultation rounds with cantonal planning conferences and other interested agencies⁵⁹.

Implementation

The strategy does not define direct eligibility criteria for financial instruments, as it does not itself introduce specific subsidy programs. However, it proposes integrating soil-protective measures into existing instruments, such as direct agricultural payments tied to ecological performance (e.g., minimizing compaction or erosion); and spatial planning decisions informed by soil data to prioritize areas of high ecological function.

Future eligibility for funding or compensation mechanisms would likely be conditioned on demonstrable soil protection outcomes, such as preserving organic matter or using soil-friendly machinery.

Currently, there is no dedicated budget or new funding scheme embedded in the strategy. However, it emphasizes the coordination and adaptation of existing financial tools, including agri-environmental subsidies and structural improvement programs, to encourage sustainable soil use. A notable economic instrument proposed is a functional compensation mechanism: if soil function is lost (e.g., due to construction), it must be compensated by improvements elsewhere.

A cornerstone of the implementation strategy is improved soil information and data systems. The National Competence Centre for Soil (KOBO) is being established as a central institution to coordinate monitoring and data collection, enabling more informed decision-making. The strategy prioritizes three action areas for implementation: 1-Soil information (closing data gaps); 2-Awareness-raising (targeted at land users and the public); 3-Enforcement and legislation (improving coordination and compliance).

Long-term implementation will involve cantonal and federal cooperation, with specific targets and strategic approaches detailed across eight key fields, including agriculture, forests, urban development, and international cooperation⁵⁹.



3.2.1.16 Swiss Federal Act of 29 April 1998 on Agriculture (Agriculture Act, AgricA) (ref subsidies)

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Policy content and objective

The Swiss Agriculture Act of 29 April 1998¹⁷ serves as the foundational legal framework governing agriculture in Switzerland. The act aims to ensure that agriculture contributes meaningfully to food security, conservation of natural resources, rural landscape maintenance, and decentralized territorial occupation. It emphasizes a balance between sustainability and market demands. Among its instruments, the act enables direct payments to compensate for ecological and public services delivered by soil-cultivating farms. It also supports the sustainable use of natural resources and production methods that are environmentally and animal-friendly.

The act has been in force since 1998, with several amendments over time, including important updates in 2014 and 2017 to strengthen ecological criteria and regional coherence. It does not set a strict expiration but operates within four-year financial envelopes authorized by federal decree.

Financial mechanisms include direct payments distributed across several targeted schemes, such as 'Contribution for Organic Farming', 'Contribution for Maintaining Adequate Soil Cover', 'Contribution for Reduced Tillage', 'Contribution for Renunciation of Herbicides', 'Contribution for Renunciation of Plant Protection Products', and 'Contribution for Efficient Use of Nitrogen'. These are action-based subsidies designed to promote soil health and mitigate pollution. The act focuses on structural improvements, income stability, and environmental services¹⁷.

Policy alignment with EU legislation is informal due to Switzerland not being an EU member. Nonetheless, the act is consistent with the EU's CAP pillars, particularly regarding sustainability, rural development, and agri-environmental payments. Notably, it emphasizes biodiversity, climate-resilient production, and soil conservation—principles echoed in the EU Green Deal¹¹ and Farm to Fork Strategy⁴⁴.

Stakeholder consultation in the formulation process

The act was developed following extensive national political processes, as required under the Swiss federal system. Although the document itself does not detail participatory mechanisms, legislative development in Switzerland generally involves consultations with cantons, agricultural associations, environmental NGOs, and farmers' unions. Producer organizations and interprofessional bodies are explicitly recognized under Articles 8 and 9 as key implementers and are allowed to propose collective agreements, such as indicative pricing and market regulation measures. These structures ensure that stakeholders are not only consulted but are also instrumental in implementation¹⁷.

Implementation



Eligibility for direct payments is defined under Article 70a. Payments are available to farms that are peasant-operated and soil-cultivating, fulfill ecological performance standards (e.g., biodiversity promotion, balanced nutrient use, crop rotation, and soil protection), meet legal obligations under water, environmental, and animal welfare law, and are operated by trained farmers below a certain age and with a minimum workforce threshold.

Financial envelopes are set for up to four years via federal decree. The Confederation funds direct payments and coordinates with cantons and producer organizations for program delivery. The payment levels are adjusted based on the ecological services rendered and the market income levels achievable from agricultural activity.

Monitoring is carried out by the Federal Office for Agriculture (OFAG) with cooperation from cantonal authorities. The act requires reporting from farmers (e.g., on land use and livestock numbers) and stipulates compliance with environmental standards as a condition for receiving payments. Regular market observation and public reporting are also embedded under Article 27. The act allows the federal government to enforce ecological standards and revoke payments where compliance lapses¹⁷.

In *CS9-Switzerland (LL2-Continental Agricultural Soil)*, farmers can enroll in many available subsidy programmes as part of the Swiss direct payment schemes from the Federal Office of Agriculture. Some schemes are most closely related to the protection and restoration of soil health. They are rolled out across all of Switzerland and are part of the Federal Agricultural Policy and they are action-based payment type. These schemes include: 'Contribution for Organic Farming'; 'Contribution for Maintaining Adequate Soil Cover'; 'Contribution for Reduced Tillage'; 'Contribution for Renunciation of Herbicides'; 'Contribution for Renunciation of Plant Protection Products'; 'Contribution for the Efficient Use of Nitrogen'.

3.2.1.17 Swiss Direct Payments Ordinance (DOP) / Structure Improvements Ordinance

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Policy content and objective

The Direct Payments Ordinance (DPO)⁶⁰, officially known as "Verordnung über die Direktzahlungen an die Landwirtschaft" (DZV) in German, was enacted as part of Switzerland's revised agricultural support framework. Its primary objective is to allocate direct financial contributions to agricultural producers who provide public goods and services in line with ecological, economic, and social goals. These contributions incentivize sustainable land use, environmental protection, animal welfare, and resource efficiency.

It was implemented on 1 January 2014, following its enactment on 23 October 2013, and it applies on an ongoing basis without a fixed end date, subject to amendments and periodic policy reviews.



The ordinance outlines multiple financial support schemes, including payments for landscape maintenance, biodiversity, landscape quality, supply security, production systems, and resource efficiency. Notably, the resource efficiency contributions support environmentally beneficial practices such as reduced-emission fertilizer application and conservation tillage linked to soil health and pollution mitigation.

Although Switzerland is not an EU member, the ordinance accounts for EU agricultural payments (Art. 54) in foreign border zones and exhibits structural similarities to EU CAP instruments, suggesting an intentional coherence, especially in cross-border financial interactions and environmental conditionalities⁶⁰.

Stakeholder consultation in the formulation process

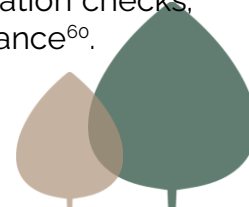
While the ordinance text does not detail the stakeholder engagement process during its drafting, its scope and structure reflect Switzerland's well-established tradition of inclusive policymaking. This typically includes consultations with cantonal authorities, agricultural interest groups, environmental NGOs, and research institutions. The ordinance was issued by the Swiss Federal Council under a mandate from the Agriculture Act (LwG), suggesting that it followed standard legislative procedures, including expert reviews and stakeholder consultation at various levels. Given this, it is reasonable to infer a consultative approach, although specifics remain undocumented in the ordinance itself⁶⁰.

Implementation

Farmers and land managers are eligible for direct payments if they meet several baseline criteria: they must be Swiss residents, under 65 years old, possess appropriate agricultural training, and operate a farm that requires a minimum labor input (0.25 standard labor units), of which at least 50% must be conducted by the farm's own workforce (Art. 6). Additional restrictions apply, such as maximum livestock thresholds, and tiered eligibility conditions exist for communal pastures and summering farms.

Funding is structured by contribution type, each with specific formulas and requirements. Soil health and pollution control are addressed via the resource efficiency category, which includes subsidies for emission-reducing slurry application, and previously, for reduced tillage. Additionally, biodiversity and ecological compensation promote land uses that indirectly support soil conservation and pollution reduction through fallowing, diversified crop rotations, and limits on chemical input use.

The ordinance mandates robust oversight mechanisms. Beneficiaries must maintain nutrient balances, conduct periodic soil tests (every 10 years), and meet ecological performance proof (in German "Ökologischer Leistungsnachweis" (ÖLN)) standards across a wide range of criteria, including soil protection and limited agrochemical use. The Federal Office for Agriculture (FOAG) is responsible for administering payments and ensuring compliance via documentation checks, site inspections, and a graduated system of sanctions for noncompliance⁶⁰.



3.2.1.18 Swiss Agricultural Policy

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Policy content and objective

Swiss Agricultural Policy⁶¹ is a national framework aiming to ensure food security and promote agricultural trade in an environmentally sustainable and multifunctional manner. Its objectives include the sustainable use of natural resources (notably soil and water), landscape maintenance, rural development, animal welfare, and the competitiveness of Swiss farmers. The policy places strong emphasis on ecological standards, linking financial support to environmentally friendly practices through direct payments.

The key reforms began in 1993, with a constitutional amendment approved by referendum in 1996 to enshrine multifunctionality. The initial reform cycle covered the 1990s through early 2000s, and policy evolution continues through successive updates. For example, milk quotas were abolished in 2009.

The main financial mechanisms include direct payments, both general (for basic tasks like landscape maintenance and food supply) and ecological (rewarding eco-friendly practices such as maintaining permanent meadows, hedgerows, rotated fallows, and organic farming). Additional economic measures include import control, subsidies for dairy and certain plant products, start-up loans, and structural investment support.

The policy aligns with EU regulations in several ways, especially through bilateral agreements with the EU (notably the 2002 Agricultural Agreement), which harmonize trade standards and gradually deregulate dairy markets. The policy also complies with WTO rules by shifting support from market interventions to non-trade-distorting direct payments⁶¹.

Stakeholder consultation in the formulation process

Swiss agricultural policy formulation involves significant stakeholder engagement. The 1996 constitutional change was approved through a national referendum, demonstrating broad public support. Additionally, the policy incorporates feedback from agricultural associations, regional governments, research institutes, and NGOs. For example, the success of the Wauwil valley birdlife project involved collaboration among farmers, conservationists, and local municipalities—indicating a participatory approach in regional policy execution⁶¹.

Implementation

Farmers eligible for direct payments must demonstrate "Proof of Ecological Performance" (PEP), which includes maintaining a minimum of 7% of land as ecological compensation areas (3.5% for fruit, vine, and vegetable growers), using fertilizers rationally, practicing crop rotation, protecting soil, and following animal welfare standards. From 2007 onwards, additional criteria include minimum work requirements, income and asset limits, and professional qualifications.

Federal funds (approx. CHF 2.4 billion annually as of 2002) are the main financial backbone, supplemented by cantonal and local funds (approx. CHF 500 million).



Payments are allocated for ecological services, structural improvements, market support (reduced since the 1990s), and research. Mechanisms include both fixed payments per hectare or animal and targeted subsidies (e.g., for organic farming, dairy cheese exports, and ecological connectivity).

The Federal Office for Agriculture (FOAG) is the primary implementing authority, supported by cantonal agencies and specialized research institutions (e.g., Agroscope). Monitoring includes performance audits tied to ecological and structural criteria. Since 2001, the Ordinance on Eco-Quality introduced quantitative targets for biodiversity, requiring network plans and regional monitoring to receive network subsidies⁶¹.

3.2.1.19 Swiss Politique agricole à partir de 2022 (PA22+)

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Policy content and objective

The Politique agricole à partir de 2022 (PA22+)⁶² is a comprehensive policy reform proposed by the Swiss Federal Council to modernize Switzerland's agricultural framework by promoting sustainability, market efficiency, and environmental responsibility. It targets key domains: improving farmers' competitiveness on domestic and international markets, reducing environmental impacts (notably nitrogen and phosphorus emissions), and enhancing biodiversity and ecosystem services. Specific environmental objectives include reducing fertilizer use, limiting harmful phytosanitary products, and incentivizing voluntary ecological services.

The policy is slated for implementation over the 2022–2025 period, with a financial package of CHF 13.8 billion, maintaining nominal parity with the 2018–2021 budget.

Incentive schemes under PA22+ include three major funding envelopes:

Direct Payments (CHF 2.8 billion) — linked to public services such as biodiversity, landscape maintenance, resource efficiency, and animal welfare.

Production and Sales Promotion (CHF 434 million) — including subsidies for milk, meat, plant production, and marketing. Improvement of Production Bases and Social Measures (CHF 134 million) — covering structural improvement and advisory services.

PA22+ aligns with various international and regional standards, including the Paris Climate Agreement, and EU's agri-environmental goals. It shares conceptual alignment with the EU's CAP^{5|6} in areas such as biodiversity, ecosystem services, and agri-environmental conditionality, though Switzerland maintains higher per-unit financial support and regulatory autonomy⁶².

Stakeholder consultation in the formulation process

The formulation of PA22+ included broad stakeholder engagement. A formal public consultation process (Consultation Project 2023/57) gathered inputs until May 1, 2024. This participatory approach integrated feedback from farmers, environmental groups, regional governments (cantons), and agri-business stakeholders, which helped shape the final provisions of the policy. The Federal Office for Agriculture (OFAG) led the drafting, under the strategic direction of the



Federal Council, ensuring policy responsiveness to economic, ecological, and societal concerns⁶².

Implementation

Eligibility for subsidies is contingent upon compliance with stringent ecological and production standards. Farms must implement "Prestations écologiques requises" (PER) such as crop rotation, buffer strips, and nutrient management. Additional incentives are granted for practices like pesticide-free farming, organic agriculture, biodiversity promotion, and allowing livestock access to pastures. Specific targets include a reduction in fertilizer-derived surface application and decreased use of high-risk plant protection products.

The policy maintains its overall agricultural budget but reallocates funds to reward sustainable behaviors. Direct payments are performance-linked, rewarding ecological contributions. Biodiversity promotion and climate adaptation strategies are funded both via standard subsidies and through regional ecological initiatives, with the possibility of tighter regional regulations if local pollution thresholds are exceeded.

Monitoring will be performance-based and indicator-driven, focusing on nutrient balance (nitrogen/phosphorus), biodiversity surface coverage, and environmental emissions. Institutions such as OFAG and Agroscope (Swiss agricultural research body) are tasked with data collection, compliance oversight, and periodic evaluation. Emission thresholds and environmental quality benchmarks (e.g., for ammonia and nitrates) are legally binding and subject to federal and cantonal enforcement strategies⁶².

3.2.1.20 The Swiss Federal Act on Foodstuffs and Utility Articles

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Policy content and objective

The Federal Act on Foodstuffs and Utility Articles (FSA)⁶³ aims to protect consumer health by regulating the safety, hygiene, and truthful labelling of foodstuffs and utility articles. Its key objectives are to safeguard health from unsafe products, ensure hygienic handling, prevent deception, and provide consumers with sufficient purchasing information.

The act was adopted on 20 June 2014 and came into force on 1 May 2017, with its current status as of 1 October 2024.

The FSA does not establish direct financial support or subsidy schemes, nor does it introduce explicit risk financing mechanisms for soil health or pollution prevention. Its indirect contribution lies in mandating safe production and processing practices that reduce risks of contamination, which has positive implications for soil and environmental health.



The act emphasizes coherence with international treaties and standards, particularly via Art. 44–46, which require adherence to international systems and allow recognition of foreign certifications. It is designed to align with other Swiss laws, including the Agriculture Act (Art. 42(5e)), as well as international food safety standards. Although Switzerland is not an EU member, this alignment facilitates coherence with EU food safety, traceability, and hygiene regulations, indirectly supporting environmental standards relevant in the EU context⁶³.

In *CSg-Switzerland (LL2-Continental Agricultural Soil)*, researchers believe that the Federal Act could be relevant to the protection and restoration of soil health.

Stakeholder consultation in the formulation process

The FSA was developed by the Federal Assembly, based on input from the Federal Council and multiple stakeholder consultations, including cantonal authorities and enforcement agencies (as inferred from Art. 42 and Art. 51). While specific stakeholder consultation procedures are not exhaustively detailed in the act, the decentralized Swiss governance structure requires involvement and coordination with cantonal authorities, and, under Art. 24 and Art. 54, includes consumer organizations and the public in risk communication and precautionary measures. This implies a consultative and participatory development process⁶³.

Implementation

The FSA applies to all operators involved in the production, processing, import, export, storage, and marketing of foodstuffs and utility articles (Art. 2). Both individuals and companies are subject to its provisions. Operators must meet hygiene requirements (Art. 10), possess specialist knowledge (Art. 11, Art. 26), and follow self-supervision procedures (Art. 26).

The act does not contain direct financial incentives or subsidy mechanisms. Enforcement costs are shared between the Confederation and the cantons (Art. 57). Certain inspections and services (e.g. meat inspection, complaints follow-up) are subject to fees (Art. 58), but these are cost-recovery mechanisms, not economic instruments.

Enforcement is divided between federal and cantonal authorities. The Federal Food Safety and Veterinary Office (FSVO) coordinate national implementation (Art. 42, Art. 62), while cantonal chemists and veterinarians manage inspections and enforcement at local levels (Art. 47–49, Art. 51). Monitoring includes risk-based inspections, traceability requirements, self-supervision by businesses, and a centralized FSVO information system (Art. 28, Art. 30, Art. 62). The act also includes public warning provisions and the use of third-party accredited inspectors (Art. 54–55), strengthening oversight and compliance⁶³.

3.2.1.21 Netherland's CAP Strategic Plan

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Policy content and objective

The Netherlands' CAP Strategic Plan (2023–2027)²⁸ aims to promote a future-proof, sustainable, and resilient agricultural sector that contributes to national and EU-



wide goals for climate neutrality, biodiversity recovery, water quality, and rural vitality. The plan seeks to transform Dutch agriculture by supporting a shift from compliance-based subsidies to performance-based incentives, fostering innovation, entrepreneurship, and ecosystem stewardship.

The plan was developed under the framework of EU Regulation (EU) 2021/2115 and formally approved by the EC on 13 December 2022. This plan is in effect from 1 January 2023 to 31 December 2027 and will remain valid unless replaced or revised under future EU CAP regulations or national modifications.

The plan includes a wide range of incentive schemes. Direct payments to farmers amount to approximately €3 billion, rural development support totals around €1.38 billion, and sectoral support is valued at €635 million. A specific risk financing scheme is also addressed in the form of weather insurance, with €17.5 million allocated annually to compensate farmers for harvest losses due to extreme weather events such as droughts or floods.

The plan aligns with EU Green Deal¹¹ objectives by positioning sustainable agriculture as both a public good and an entrepreneurial opportunity, leveraging PES mechanisms to promote climate resilience, biodiversity, and ecosystem stewardship in Dutch farming^{28|29}.

In *CS7 Netherlands [LH7-Atlantic agricultural soil]*, researchers refer to “*basispremie*” or the basic income support for farmers which is a more straightforward land-based payment per hectare doled out if the farmer meets a list of basic requirements and also varies per regional context. PES can be stacked on top of the basic income payment.

Stakeholder consultation in the formulation process

The plan was grounded in national coordination processes involving the central government and provincial authorities. The Netherlands engaged with a broad spectrum of stakeholders throughout the drafting phase. This participatory approach incorporated inputs from farmer organizations, environmental NGOs, research institutions, and regional bodies, and shaped the policy's emphasis on flexibility, subsidiarity, and autonomy for farmers. Rather than mandating prescriptive measures, the plan reflects a deliberate policy choice to allow farmers to determine how best to contribute to environmental goals, facilitated through a transparent eco-point system that links payment levels to expected environmental benefits. This design emerged from stakeholder consensus on balancing environmental ambition with practical farm-level flexibility^{28|29}.

Implementation

Eligibility for support under the plan is open to all farmers in the Netherlands, with specific provisions aimed at small- and medium-sized farms. These farms receive higher payments per hectare for the first 40 hectares. Young farmers, including those without an agricultural background, are also prioritized for financial support, including start-up aid and higher investment subsidies.



The funding mechanisms within the plan are extensive. Eco-schemes worth €964 million are intended to encourage sustainable agricultural practices, such as soil protection and reduced use of fertilizers and pesticides. Additionally, €174 million is dedicated to increasing water levels in peat meadows to reduce greenhouse gas emissions. Biodiversity is supported through initiatives such as the creation of 36,000 hectares of meadowland to attract bird species, and specific support is allocated to areas around Natura 2000 sites to reduce ammonia levels and improve water conditions.

Monitoring and implementation are structured around the EU's result-oriented performance framework. While the plan outlines numerous targets and investments, some observers have criticized it for lacking enforceable environmental targets and for continuing the Dutch tradition of relying heavily on voluntary measures. There are concerns that without mandatory regulations, especially concerning nitrogen emissions, pesticide use, and peatland degradation, the plan may fall short of its environmental goals^{28|29}.

In *CS7 Netherlands [LH7-Atlantic Agricultural Soil]*, farmers explain that each region of the Netherlands has a certain budget to use for projects that strengthen the objectives of the CAP, in which farmers need to be the primary applicant. Multiple farmers have invested in sustainable business models and techniques through these funds. The downside is that the application is competitive and requires a certain capacity and skills, for example in terms of project management and proposal writing, and time to invest in the application. These conditions thus tend to favor farmers who have already experience with these applications or have a well-established network.

3.2.1.22 Spanish Circular Economy Strategy 2030

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Policy content and objective

España Circular 2030 is the Spanish Circular Economy Strategy⁶⁴ designed to transition from a linear economic model to a circular one that retains the value of products, materials, and resources within the economy for as long as possible. Its main objectives are to reduce waste generation, increase reuse and recycling, decarbonize the economy, and protect environmental and human health while fostering competitiveness, innovation, and employment.

The strategy was implemented in 2020 and spans until 2030. Its execution is structured into successive three-year action plans to adjust to evolving contexts and ensure policy relevance and adaptability.

While the strategy outlines multiple policy instruments and encourages public-private collaboration, it does not explicitly detail financial subsidy schemes or risk financing mechanisms related to soil health or pollution mitigation. However, it promotes eco-design, waste prevention, water reuse, and sustainable production/consumption, which may be indirectly supported through national or EU funding mechanisms such as the CAP or Horizon Europe.



Policy alignment is ensured through coherence with the European Union's Circular Economy Action Plan³⁹, the Waste Framework Directive (e.g., Directive 2018/851/EU), and broader EU Green Deal goals. It is also aligned with Sustainable Development Goals (notably food waste reduction and decarbonization targets)⁶⁴.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers recognize that the strategy may be relevant for the protection and restoration of soil health.

Stakeholder consultation in the formulation process

Stakeholder participation is a cornerstone of España Circular 2030. The formulation and ongoing governance of the strategy involve multiple institutional and sectoral stakeholders through three main bodies:

- 1) Interministerial Commission for Circular Economy: Involves representatives from all relevant ministries with influence over circular economy policies.
- 2) Work Group on Circular Economy of the Commission of Waste Coordination: Comprises national, regional, and local government representatives to ensure cross-level coherence.
- 3) Council for Circular Economy: Includes representatives from the private sector (across all economic sectors), social agents, waste management actors, and research institutions. It promotes public-private cooperation and can include independent experts and academics⁶⁴.

Implementation

The strategy itself is a high-level framework, not a funding instrument, so it does not specify eligibility criteria for individual beneficiaries. However, it emphasizes that all societal sectors, government, industry, academia, and civil society, must be involved. Specific eligibility conditions would be addressed in the triennial action plans and accompanying sectoral programs.

While the strategy promotes actions such as sustainable industrial transformation, waste reduction, and water reuse, it does not specify funding mechanisms. However, it underscores the importance of public-private partnerships, digital transformation (e.g., Industria Conectada 4.0), and EU co-funding opportunities to drive innovation and sectoral shifts.

Spain adopts the EC's circular economy indicators across four pillars: producers and consumers, waste management, secondary raw materials, and competitiveness/innovation. An additional national indicator focuses on greenhouse gas emissions from the waste sector. Assessments are conducted every three years by the Ministry for the Ecological Transition and Demographic Challenge (MITEDS), aligned with the triennial action plan cycle to inform revisions and future planning⁶⁴.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers argue that the use of Technosoils promote the circular economy, since the primary input used for Technosoils comes from industrial and agro-industrial waste, representing a win-win situation.



3.2.1.23 Galicia Strategy for Green Infrastructure, Connectivity, and Ecological Restoration (2024)

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Policy content and objective

The Galician Strategy for Green Infrastructure, Connectivity, and Ecological Restoration (Estrategia gallega de la Infraestructura verde y de la conectividad y restauración ecológicas)⁶⁵, is a strategic framework designed to align Galicia with EU biodiversity and climate goals, particularly the EU Biodiversity Strategy for 2030, the EU Green Infrastructure Strategy (2013), and Spain's National Strategy for Green Infrastructure (2020). Its primary objectives are creating a continuous network of ecologically significant areas, ensuring ecological connectivity across landscapes, restoring degraded ecosystems, promoting sustainable natural resource use and improving biodiversity, mitigating the effects of climate change and enhancing ecosystem resilience.

The strategy was approved in 2024, with its goals oriented toward achievement by 2050.

The Galician Green Infrastructure Strategy does not create new subsidies. However, it encourages integration of green infrastructure goals into existing funding mechanisms, such as EU's CAP, Rural Development Programs, and sectoral policies on forestry, water, and land use. No specific subsidies are mentioned for soil health or pollution, though these may be supported indirectly via related sectoral funding.

The strategy is strongly aligned with the EU Biodiversity Strategy for 2030¹³, EU Green Infrastructure Strategy (2013), Spanish National GI Strategy (2021), Galicia's own Laws 5/2019 (Biodiversity) and 1/2021 (Land Use Planning), and Article 11 of the EU Treaty, ensuring environmental integration across policies. It complies with all relevant EU and national legal frameworks^{65|66}.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers acknowledge that the strategy may be relevant to the protection and restoration of soil health.

Stakeholder consultation in the formulation process

Stakeholder involvement was a defining characteristic of the strategy's development. A comprehensive participatory process took place over several years. Comarcal and Sectoral Meetings (2017–2018) were held (47 local comarcal meetings engaged 957 participants from 7,948 contacted stakeholders). These included citizens, municipal staff, and politicians. Sectoral Workshops were organized (7 thematic sessions brought together 150 expert stakeholders from 858 contacted sectoral actors). Online Public Consultation was done, in the form of a dedicated webpage allowed broader public input. Interdepartmental Consultation were done where all Xunta de Galicia departments were consulted twice (in 2021 and 2022) to integrate sectoral perspectives, exceeding legal requirements to ensure transparency and inclusivity. In addition, collaboration with academia was



done where key technical foundations were developed through collaboration with the Universities of Santiago de Compostela and A Coruña^{65|66}.

Implementation

While the strategy outlines priority actions and areas, it does not specify eligibility criteria for funding or participation at the individual or organizational level. Instead, it creates a framework to guide sectoral and territorial plans across multiple governance scales. Implementation is expected to occur through integration into existing policies and instruments related to land use, water, agriculture, forestry, and biodiversity.

The strategy does not establish new subsidy schemes or funding instruments explicitly for soil health or pollution mitigation. However, it promotes ecosystem service valuation to support future funding; integration into sectoral policy instruments (e.g., CAP rural development programs, water and forestry planning); cross-sectoral coordination to align existing budgetary tools with green infrastructure needs.

The strategy includes goals, indicators, and priority areas, including ecological restoration zones and critical connectivity points for fauna. However, concrete institutional mechanisms or agencies for ongoing monitoring, enforcement, or evaluation are not detailed in the documents provided^{65|66}.

3.2.1.24 Spanish Regional Forestry Plan

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Policy content and objective

The Plan Forestal Español 2022–2032 (PFE)⁶⁷ is a long-term strategic planning instrument that guides Spanish forest policy and aligns with the Spanish Forest Strategy 2050. Its main objective is to promote sustainable forest management, ensuring conservation of biodiversity, soil health, and climate adaptation while supporting rural development and bioeconomy. The PFE emphasizes integrated action on forest restoration, soil erosion prevention, desertification mitigation, carbon capture, and biodiversity protection.

The plan was approved on December 20, 2022, and covers a ten-year period (2022–2032), though it aligns with a broader vision to 2050 as outlined in the Spanish Forest Strategy.

The plan includes a range of subsidies and financial incentives to support soil health, pollution control, and sustainable forest management. It provides funding for actions such as reforestation, erosion control, hydrological-forestry restoration, and the removal of invasive species. These measures aim to combat desertification, improve soil conservation, and reduce ecological degradation. Subsidies are financed through national budgets (via the Ministry for the Ecological Transition and the Demographic Challenge (in Spanish “Ministerio para la Transición Ecológica y el Reto Demográfico” (MITECO)) and regional governments), EU structural funds (EAFRD), and Spain’s Recovery, Transformation and Resilience Plan (PRTR), with additional support from the EU Sustainable



Finance framework to attract private capital. Stakeholders—including forest owners, cooperatives, and NGOs—can access support if they comply with sustainability standards, management plans, or conservation programs like Red Natura 2000. Agri-environmental subsidies under the Common Agricultural Policy (2023–2027) also fund climate-adaptive forestry and soil management. These subsidy schemes are complemented by mechanisms such as carbon credits, voluntary carbon markets, and training programs, reinforcing the plan's alignment with broader EU environmental and climate goals.

The PFE is fully aligned with EU policies and strategies, including the EU Forest Strategy for 2030, EU Biodiversity Strategy for 2030, European Green Deal, and Common Agricultural Policy (CAP 2023–2027) via integration of agri-environmental measures and climate adaptation financing (PEPAC) ^{67|68|69|70|71}.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers agree on the fundamental role of the plan for the protection and restoration of soil health.

Stakeholder consultation in the formulation process

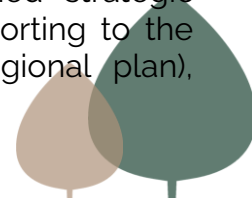
The formulation of the PFE involved broad institutional collaboration, including all Spanish Autonomous Communities, in accordance with Article 30 of the Ley de Montes. It is grounded in a multilevel governance model that includes coordination with sectoral conferences and committees (e.g., Comité Forestal Nacional), consultation with scientific bodies and NGOs, participation of forest owners, environmental groups, and local entities, though the level of influence varied across regions^{67|68|69|70|71}.

Implementation

Implementation responsibilities lie mainly with regional governments, as forestry is a devolved competence. Eligible stakeholders include public forest agencies, private forest owners, cooperatives, and NGOs, depending on the measure. For soil and biodiversity-related actions, eligibility may hinge on commitments to sustainable forest management, adoption of ecological restoration practices, and participation in monitoring or reforestation schemes using local genetic materials.

Financially, the plan is supported by national public budgets (MITECO and Autonomous Communities), EU structural funds (EAFRD), the Recovery, Transformation and Resilience Plan (PRTR), especially Component 4 for ecosystems and biodiversity, and it leverages the EU Sustainable Finance framework to mobilize private capital (e.g., reforestation and restoration investments are considered "green" under EU taxonomy). Direct subsidies and grants are under national and EU frameworks (e.g., EAFRD), taxonomy-aligned green investments are provided to attract private capital. Specific budget allocations exist under the PRTR (e.g., €92M for restoration, €90M for desertification-related actions). Support for carbon credits through updates to the carbon footprint registry (RD 163/2014) incentivize carbon sequestration projects.

The plan sets a five-year evaluation cycle, aligned with defined strategic indicators, and includes biannual internal assessments, public reporting to the Galician Forestry Council and parliamentary bodies (for the regional plan),



integration with national monitoring systems such as the Inventario Español del Patrimonio Natural y la Biodiversidad, and development of early warning systems for soil erosion, forest degradation, and biodiversity loss^{67|68|69|70|71}.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers explain that in the forestry sector, public policies do not sufficiently promote the implementation of Technosoils, even though their benefit is scientifically proven and widely disseminated by entities like ADIF and companies like FERROVIAL or ENUSA. This is because of a lack of knowledge among potential customers, as well as a "negative image" of Technosoils resulting from the improper use of industrial waste to produce them by some waste management companies. Additionally, there have been some soil interventions carried out by other companies that have caused damage due to the incorrect application of the technique, which may lead the public to have a wrong idea about its potential for soil health. However, the production of "custom-made" Technosoils is a complex process that can be harmful for the environment or have inadequate or inferior restorative efficiency if not done correctly. Therefore, solutions must be "tailored" to the needs of each type of soil, and the used materials must be carefully analyzed and controlled. It is necessary to build trust with society and administration in order to address the limitations in forestry. Moreover, demand for this technology requires decisive policies for the remediation of all damaged soils, as well as greater openness to innovation in forestry.

3.2.1.25 Spanish Resolution of 4 April 2025 of the Presidency of the centre for technological development and innovation E.P.E. (CDTI)

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Policy content and objective

The Resolution of 4 April 2025 of the Presidency of the centre for technological development and innovation E.P.E.⁷² approves the convening for the year 2025 the procedure for granting aid to the proceedings of Regional Consortia (ININTERCONECTA-STEP), co-financed by the European Regional Development Fund (ERDF). The Regional Consortia (ININTERCONECTA STEP) initiative is designed to finance cooperative R&D projects with a regional focus, led by enterprises, to address strategic challenges related to sensitive technologies for Europe (STEP). The main objective is to support disruptive research and technological innovation that enhances the competitiveness and strategic positioning of Spanish industry while encouraging public-private collaboration. Projects must propose solutions aligned with the STEP framework, contributing to the development of technologies that are of strategic interest to the EU.

The call is set to launch in 2025, with projects expected to conclude between 31 December 2027 and 30 June 2028. Financial support under the program is structured through grants with minimum and maximum eligible project budgets of €1 million and €4 million, respectively. Each participating company must have a minimum budget of €175,000. Subcontracting at least 10% of the eligible budget to research organizations is mandatory. The scheme does not explicitly mention



risk financing mechanisms, such as guarantees or loans, but is grant-based with clear cost-sharing and accountability structures.

The policy aligns with several EU-level frameworks, including the ERDF 2021–2027 and the EU Taxonomy Regulation (EU) 2020/852. It ensures compliance with environmental safeguards, prohibiting funding for activities that could significantly harm the environment. It is also in line with Regulation (EU) 2021/1058 on the ERDF and Cohesion Fund, especially regarding sustainable and inclusive regional development and innovation⁷².

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers are aware of the program with the EU funding, which was a previous program set to be relaunched.

Stakeholder consultation in the formulation process

The policy structure implies a high level of interinstitutional coordination. It fosters regional participation by targeting multiple autonomous communities and mandates public-private cooperation, suggesting that enterprises, regional authorities, and research bodies were likely consulted or involved during the development phase. The requirement for co-financing via ERDF funds also implies alignment with regional development strategies coordinated through local authorities and the EU⁷².

Implementation

Eligibility for funding under ININTERCONECTA STEP is limited to consortium-based R&D projects involving at least two of the following regions: Andalusia, Canary Islands, Castilla-La Mancha, Castile and León, Ceuta, Valencian Community, Extremadura, Galicia, Melilla, or Murcia. Participating entities must be enterprises, though collaboration with public or private research organizations is encouraged through subcontracting. Importantly, no participant may account for more than 70% of the project's eligible budget, promoting balanced cooperation.

Funding is provided through grants from CDTI and co-financed by the ERDF, with the availability of regional ERDF funds being a prerequisite for project approval. Applicants must submit proposals before the project's start to qualify as having an "incentive effect," in line with EU state aid rules. All project members are jointly and severally liable for fulfilling the commitments tied to their share of the grant.

Monitoring and implementation oversight appear to be managed by CDTI, with clear financial, operational, and environmental compliance requirements. Projects must demonstrate balanced budget distribution over their duration and are subject to audit or corrective actions in case of default or environmental non-compliance⁷².

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers acknowledge that the program requires significant funding from the consortium, close to EUR 1 million, which the interested company had to advance to initiate the project. This is not affordable for a small or medium-sized enterprise.



3.2.1.26 Spanish Law 42/2007 on Natural Heritage and Biodiversity

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Policy content and objective

Law 42/2007 on Natural Heritage and Biodiversity⁷³ establishes the basic legal framework for the conservation, sustainable use, improvement, and restoration of Spain's natural heritage and biodiversity. The law aims to safeguard ecological processes, preserve biodiversity and geodiversity, and ensure a high-quality environment that supports human well-being and development. It emphasizes integrating biodiversity considerations into sectoral policies and land use planning.

The law was enacted on 13 December 2007 and remains in force in a consolidated form as of its latest amendment (December 2020). Its implementation is continuous and open-ended, structured through strategic multi-year planning instruments.

While the law does not create direct subsidies specifically for soil health or pollution, it introduces a framework for economic and fiscal instruments that support conservation goals. This includes positive incentives and the elimination of negative subsidies, fiscal measures to promote private conservation initiatives, and the Fondo para el Patrimonio Natural y la Biodiversidad (Natural Heritage and Biodiversity Fund). This fund co-finance planning, restoration, and sustainable management actions, such as fire prevention and conservation in protected or forested areas.

The policy is aligned with EU legislation, notably the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC), through its support for the Natura 2000 network and species/habitat conservation obligations. It also integrates the EU Biodiversity Strategy for 2020 targets and mirrors objectives from the Strategic Plan for Biodiversity 2011–2020 under the Convention on Biological Diversity⁷³.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers recognize that this law establishes the obligation to restore degraded natural areas, which include zones affected by extractive activities, such as abandoned or unused mining operations. Researchers agree that this law seeks to protect and restore degraded natural areas, including abandoned mining zones. It is seen as a way to return environmental and social value to damaged places. It addresses actual issues identified in the area, but it is unsure how demanding it is or how it aligns with other similar regulations or policies. It is a law that only addresses the impact of extractive industry, but not agriculture, which affects much larger areas. However, the law meets the needs, and this is the main national reference law in this area. Since environmental powers are devolved to the regions, this law must be adapted to the specifics of each territory. It is a fundamental regulation for managing natural heritage and biodiversity. Its implementation at the local level helps manage and improve natural heritage and biodiversity. Both *policymakers* and *NGOs* also agree that the law is a fundamental part of the Spanish legal framework that protects



ecosystems and promotes biodiversity conservation. *Policymakers* point out that the law focus on restoring degraded natural areas makes it a key tool for acting on mining-impacted zones, contributing to both environmental recovery and public interest. It allows the legal inclusion of the rehabilitation of abandoned mining areas as a priority for environmental management, facilitating their integration into local conservation plans and programs. It also reinforces the importance of restoring ecological value to degraded areas, generating environmental and social benefits for the territory.

Stakeholder consultation in the formulation process

The law ensures participatory governance through the creation of two consultative bodies. The State Commission on Natural Heritage and Biodiversity, a coordination mechanism involving national and regional administrations. The State Council on Natural Heritage and Biodiversity, a public participatory body with representatives from scientific, environmental, social, and economic sectors. This council advises on policy, plans, and international commitments. In addition, public consultation and involvement of economic and social stakeholders, NGOs, and affected administrations are mandatory in the development of strategic plans and planning instruments (such as the Strategic Plan and Natural Resources Management Plans)

⁷³,

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, NGOs recognize that there are practically no local powers to design and apply measures, except in the General Urban Development Plan, where some protection measures may be established for areas due to the presence of a particular species.

Implementation

Eligibility for the economic mechanisms and incentives under the law extends to various organizations and stakeholders. Non-profit organizations, especially for activities focused on conservation and restoration. Landowners and users participating in conservation agreements, particularly within protected areas. Public administrations implementing management or restoration actions in line with the Strategic Plan or habitat protection measures.

The funding mechanisms include grants to non-profit entities (Article 75), incentives to positive externalities in protected areas (Article 77), the Natural Heritage and Biodiversity Fund (FRER/FCPJ), which supports co-financing of national objectives (Article 78).

Monitoring and implementation are supported through several key instruments. The Spanish Inventory of Natural Heritage and Biodiversity monitor the distribution, conservation status, and pressures on biodiversity. Annual reports are done on the state of biodiversity. Strategic Plans are prepared with defined targets, timelines, and budget estimates. The State Commission and State Council provide feedback loops, advice, and updates on national implementation⁷³.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers explain that the law implementation depends on how much importance each regional government places on environmental issues. In metal mining environments, this regulation is



too generic and does not contribute much, as it does not address the specific technical challenges of this unique type of waste. Moreover, both *researchers* and *NGOs* find there is often a lack of authority and coordination between administrations and a broader vision that links environmental and social aspects. Even though there are laws and regulations, the specific steps for implementation are not always clear, nor it is clear who is responsible for what, which complicates their practical application. Both *researchers* and *policymakers* agree that one of the main obstacles is the lack of dedicated funding for carrying out restoration projects in old mining sites, especially when there are no identifiable responsible parties. Additionally, *policymakers* point out that there may be a disconnection between land-use planning instruments and conservation objectives, which hampers effective and coordinated implementation.

3.2.1.27 Environmental Restoration Strategy for the Cartagena-La Unión Mining Sierra [The Recovery, Transformation, and Resilience Plan (PRTR)]

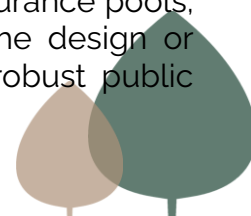
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Policy content and objective

The Environmental Restoration Strategy for the Cartagena–La Unión Mining Sierra is a subcomponent of the “Marco de Actuaciones Prioritarias para la Recuperación del Mar Menor (MAPMM)”^{74|75}, which itself is one of the key investment lines under Spain's Recovery, Transformation and Resilience Plan (PRTR). The strategy aims to restore abandoned and contaminated mining sites in the Sierra Minera to prevent heavy metals from reaching the Mar Menor lagoon via water runoff and wind dispersion, protect nearby communities (e.g. Llano del Beal) from exposure to toxic mine tailings and contribute to ecosystem regeneration and long-term resilience of the Mar Menor basin. Thus, the restoration strategy is directly linked to the MAPMM, which in turn is financed through the PRTR, Spain's national implementation of the EU's NextGenerationEU recovery funds.

The implementation of the strategy began in November 2024, marked by the initiation of works in Llano del Beal. The execution period for the intervention is approximately 18 months, extending into the year 2026. This timeline aligns with Spain's broader PRTR objectives, which set out a multi-year investment schedule for ecological and climate-oriented recovery actions.

The financial foundation for the Sierra Minera strategy is primarily based on public funding derived from the PRTR, with significant support from the EU Recovery and Resilience Facility (RRF). Of the total €675 million allocated to the MAPMM framework, about €110 million is dedicated specifically to the remediation and recovery of approximately 600–700 hectares of mining-impacted terrain in the Sierra Minera. Additional funding includes an earmarked €4 million for the closure of the El Lirio mining waste deposit, a project coordinated between MITECO and the Murcia regional government, with the state covering up to 70% of costs. It is worth noting that no formal risk-financing mechanisms—such as insurance pools, reinsurance schemes, or catastrophe bonds—are referenced in the design or financing of this intervention. Instead, risk is addressed through robust public



procurement procedures and technical performance guarantees established in state contracts with implementation agencies.

This restoration initiative is closely aligned with several European Union policies and strategies. As a PRTR-funded project, it falls under the umbrella of the EU Green Deal and directly contributes to the goals of the EU Biodiversity Strategy for 2030 by restoring heavily degraded land and reducing pollutant flows into sensitive ecosystems. Furthermore, it supports implementation of the EU Water Framework Directive (2000/60/EC), given its direct aim of reducing pollutant loads into a vulnerable water body and reflects objectives of the EU Soil Strategy for 2030¹, which prioritizes action on contaminated soils. Thus, the strategy exhibits vertical alignment with EU-wide legislation and strategies on environment and biodiversity and horizontal coherence with Spain's national environmental priorities.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers explain that its main objective is to restore and recover ecosystems and landscapes degraded by past mining activity in the Cartagena - La Unión Mining Sierra, an area heavily impacted environmentally due to mineral extraction. The strategy focuses on the physical, chemical, and biological recovery of soils affected by mining, including the decontamination and stabilization of mining waste. It also includes ecological restoration techniques, such as phytoremediation, to restore the productive and ecological capacity of the soils. Additionally, it seeks environmental and landscape integration of the territory, improving soil quality and promoting biodiversity.

Some *researchers* have no knowledge on this Strategy as a law, rather they are familiar with the Ministry's plans for the Mar Menor watershed and the Environmental Recovery Plan for Soils Affected by Mining from the Autonomous Community. If a comprehensive strategy to restore the Mining Sierra was fully applied, it would be a very significant social achievement. Other *researchers* find this strategy is of interest for the environmental restoration of the Cartagena-La Unión Mining Sierra. It focuses on the recovery of abandoned mining sites and hydrological-forestry restoration of mining-affected areas, aiming to minimize contamination, prevent erosion, and recover biodiversity. This strategy aims to repair the damage caused by mining, recovering both soil and landscape. It is considered as a necessary intervention in such an altered territory. It responds to an evident need for environmental recovery. However, it is not always clear to the public what the actions entail or how they contribute to improving the environment. Differently, some *researchers* do not believe it fully responds to local needs. Indeed, it is critical to look at other mining projects being developed under similar conditions to see what they are doing, because restoration alone may not be the solution, especially considering the economic cost to public funds. *Policymakers* identify this strategy as a specific and necessary initiative to address one of the most degraded mining environments in Spain. It represents a comprehensive intervention approach that not only aims to eliminate environmental and health risks, but also to restore the ecological landscape and social functionality of a territory with high natural and historical value. *NGOs* believes that the strategy is fundamental for the local population and the environment. Indeed, mining left a significant social and public health impact, as



well as environmental damage to the local area. Therefore, it is necessary and vital to contribute towards addressing it.

Stakeholder consultation in the formulation process

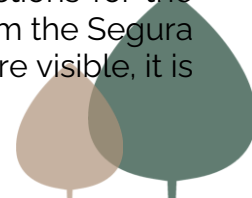
Within the framework of Spain's Recovery, Transformation, and Resilience Plan (PRTR), the environmental remediation project for mining waste in Cartagena–La Unión was subject to a formal public consultation process, as required by environmental and administrative law. Specifically, the project and its Environmental Impact Study were opened to public comment for 30 business days in accordance with Article 36 of Law 21/2013 on environmental assessment and Law 39/2015 on administrative procedure. The Ministry for Ecological Transition (MITECO), through its Directorate General for Biodiversity, was designated as the project's promoter. Following the environmental review, additional legal procedures related to compulsory expropriation and the rights of affected property owners were initiated. While there was no open call for applications, civil society groups such as the Fundación Sierra Minera and the Plataforma de Afectados por los Metales Pesados had long advocated for intervention. These groups submitted technical documentation, hazard maps, and formal allegations that contributed to the identification of risk areas and informed the state's site selection and planning decisions.

Implementation

There was no public call for applications or competitive selection process for stakeholders to propose restoration projects. Instead, the entire initiative was planned, designed, and implemented as a top-down public intervention by the MITECO. This was made possible because the overall strategy—within the framework of the Marco de Actuaciones Prioritarias para el Mar Menor (MAPMM)—was declared to be of “general interest” by the Spanish Government in 2021. That legal declaration allowed the central government to directly manage environmental projects in the Mar Menor basin, even though land-use and environmental competencies are generally regional matters in Spain.

The selection of mining waste sites for intervention in the Sierra Minera was based on environmental risk criteria established through technical studies by MITECO and its affiliated scientific and engineering teams. These criteria included proximity to the Mar Menor watershed, potential for pollution via surface water or wind erosion, physical condition and stability of waste deposits, toxicity levels in tailings and soils and exposure risk to nearby populations. Publicly accessible government maps and documents identify 25 priority waste deposits grouped into eight main intervention zones, including Llano del Beal, El Descargador, Brunita, El Lirio, and others. These were chosen not through applications but through risk-based environmental diagnostics, often using pre-existing data from regional environmental records and past studies.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers argues that there would be no difficulties applying such a plan beyond potential budget constraints. This strategy is implemented through the Framework of Priority Actions for the Recovery of the Mar Menor and complemented by other actions from the Segura River Basin Authority and the Green Belt. Although the restorations are visible, it is



often difficult to understand for those people without technical training. There is a lack of accessible information explaining what is being done, why, and the benefits for the territory and its inhabitants. *Researchers, policymakers* and *NGOs* identify, among the main challenges, the lack of stable funding. *Policymakers* also highlight the technical complexity of contaminated soils, and the need for coordination between administrations. There are also social and legal barriers, such as land ownership or legacy environmental liabilities without direct responsible parties, which complicate effective implementation. *NGOs* also underlines lack of regulatory adaptation, and lack of long-term sustainable activities that promote stable employment.

3.2.1.28 Environmental Recovery Plan for Soils Affected by Mining 2021-2028 of the Murcia Region. Autonomous Community of Murcia.

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Policy content and objective

The plan de Recuperación Ambiental de Suelos Afectados por la Minería (PRASAM)⁷⁶ is an environmental recovery policy created by the Region of Murcia to restore soils severely degraded by historical mining activity, especially in the Sierra Minera de Cartagena-La Unión and Mazarrón. Its central objectives are to protect public health, reduce environmental risks, prevent erosion and sediment transfer to marine ecosystems (notably the Mar Menor), and promote ecosystem restoration and sustainable use of affected territories. The plan is structured around four main objectives: generating environmental knowledge, raising social awareness, restoring degraded areas, and preventing future degradation.

PRASAM was adopted in 2018 and covers a ten-year period until 2028.

The plan involves a total estimated cost of approximately €81.6 million, with funding expected to be provided through regional budgets, EU structural and investment funds (e.g., ERDF, EAFRD), and the Spanish national government. While the document does not explicitly describe risk financing instruments like insurance or contingency funds, it does consider co-financing and phased implementation to mitigate financial uncertainty.

PRASAM aligns with several EU directives and policies, including the EU Soil Thematic Strategy, the Water Framework Directive (2000/60/EC), and the Marine Strategy Framework Directive (2008/56/EC). It is also coherent with the Regional Climate Change Adaptation Plan and contributes to achieving the EU Biodiversity Strategy for 2030¹³ targets by promoting ecosystem-based remediation approaches⁷⁶.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers are familiar with the plan.

Stakeholder consultation in the formulation process



The formulation of PRASAM involved a multi-actor consultation process. Key stakeholders included regional environmental authorities, municipal governments, hydrographic confederations, technical experts, and civil society organizations. A participatory process was employed to integrate local knowledge and concerns, particularly those of affected municipalities and scientific institutions. The plan also highlights coordination with national environmental authorities and EU funding bodies to ensure coherence and access to technical and financial resources⁷⁶.

Implementation

Eligibility for actions under PRASAM is generally tied to ownership or administrative responsibility for degraded sites. Public land and municipally managed areas are prioritized, though private landowners can participate if they meet the restoration criteria and legal responsibilities are clarified. The plan highlights the need for legal instruments to clarify liability, ownership, and responsibility before certain actions can be executed.

Funding for PRASAM implementation comes from a combination of sources: regional government allocations, national funds, and EU co-financing instruments like the ERDF and LIFE programmes. No direct economic instruments or market-based mechanisms (like pollution taxes or credit trading) are embedded in the plan, but PRASAM provides for public investment and cost-sharing strategies across jurisdictions.

Monitoring and implementation are to be overseen by the Regional Ministry for Environment (Consejería de Agua, Agricultura, Ganadería, Pesca y Medio Ambiente), which is responsible for tracking progress via predefined environmental indicators. Monitoring focuses on the physical condition of restored sites, pollutant reduction, erosion control, and vegetation recovery. Public reporting mechanisms and adaptive management strategies are also integrated to ensure ongoing effectiveness and accountability⁷⁶.

3.2.1.29 Regional Plan for the Management of Contaminated Soils of the Autonomous Community of Murcia

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Policy content and objective

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, policymakers describe the Regional Plan as a territorial planning instrument that establishes the identification, monitoring, and action on contaminated soils in the region, adapting national and European legal frameworks to local needs. It allows detecting and prioritizing affected areas, channelling resources and specific measures for their recovery, with particular attention to historic industrial and mining zones.

Stakeholder consultation in the formulation process. N/A.

Implementation



In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, policymakers acknowledge budgetary and technical limitations for carrying out exhaustive inventories and keeping records updated. Additionally, the dispersion of competencies among administrations complicates coordinated execution.



3.3 DISINCENTIVES

Description

A disincentive is an economic or regulatory instrument designed to discourage activities that degrade soil health by increasing their cost or reducing their profitability. Disincentives can be price-based instruments or regulatory measures. Price-based instruments are mechanisms that impose a monetary cost on environmentally harmful practices to reflect their social or environmental value in markets (e.g., soil degradation taxes, land-use levies), applying the “polluter pays” principle. Regulatory measures comprise reforms to laws, policies, or enforcement systems that restrict or penalize unsustainable land use (e.g., limits on certain cultivation practices, mandatory remediation requirements). These instruments are used to promote sustainable land management and soil conservation, particularly in agriculture. The primary beneficiaries are land users and landowners who adopt improved practices. Expected outcomes include reduced pressure on contaminated or overexploited soils, prevention of future remediation costs, and generation of revenue that can be reinvested in biodiversity and soil health programmes⁴.

3.3.1.1 Regulation (EU) 2021/2115 | Regulation (EU) 2021/2116 (ref disincentives)

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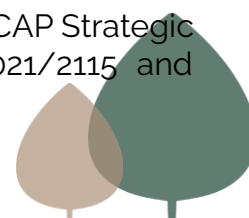
Policy content and objective

Regulations (EU) 2021/2115⁵ and 2021/2116⁶ provide the legislative foundation for the reformed CAP during the 2023–2027 programming period. A central objective is the promotion of sustainable management of natural resources alongside reducing dependency on chemical inputs and supporting climate action. It employs a range of economic mechanisms.

The regulations discourage soil pollution through a system of environmental conditionality. Farmers must comply with GAEC standards and SMRs to receive CAP payments. These include obligations to maintain minimum soil cover, apply crop rotation, and prevent soil erosion, all aimed at preserving soil quality and reducing diffuse pollution from agricultural activities. In addition to environmental standards, the CAP reinforces the Polluter Pays Principle by linking financial support to compliance and penalizing harmful practices. MSs are required to apply proportionate, effective, and dissuasive sanctions for non-compliance, including payment reductions or exclusions. This enforcement ensures that beneficiaries are held accountable for damage to soil and other natural resources, and supports broader EU objectives on biodiversity, climate, and sustainable development.

The CAP regulations are closely aligned with broader EU policy frameworks, particularly the European Green Deal, the EU Biodiversity Strategy for 2030, and the UN 2030 Agenda for Sustainable Development.

Under the reformed CAP, each MS is required to develop a national CAP Strategic Plan aligned with the objectives set out in Regulations (EU) 2021/2115 and



2021/2116. These plans must be developed through mandatory stakeholder consultations and submitted to the EC for approval^{5|6}.

Stakeholder consultation in the formulation process

The formulation process included a structured stakeholder consultation process at the EU level. In 2017, the EC conducted a public consultation on the future of the CAP, receiving over 322,000 responses from a broad range of stakeholders, including farmers, environmental organizations, regional authorities, and members of the public. This was complemented by targeted stakeholder dialogues, workshops, and advisory group meetings involving actors such as Copa-Cogeca, environmental NGOs, and rural networks^{5|6}.

Implementation

Farmers are only eligible for support if they meet conditions related not just to land use and activity status but also to a mandatory set of environmental and agricultural standards, collectively referred to as conditionality. This includes compliance with SMR and GAEC standards. To discourage environmentally harmful practices, the CAP implements a set of disincentives that reinforce the Polluter Pays Principle. When farmers fail to meet these baseline requirements, MSs are obligated to apply proportionate, effective, and dissuasive sanctions. These may take the form of reduced payments, temporary suspensions, or complete exclusion from CAP funding.

Financial support is channelled primarily through the EAGF, which covers direct payments and market-related expenditures, and the EAFRD, which finances more targeted and long-term interventions. While portions of these funds are reserved for objectives such as income redistribution and support for young farmers, a substantial share is allocated to agri-environment-climate measures.

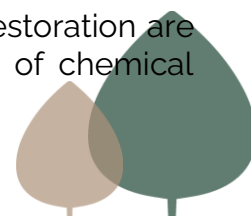
The CAP's implementation is governed by a performance-based delivery system, in which support payments are tied to the achievement of predefined outputs and results. MSs must monitor compliance through a combination of administrative checks, on-the-spot inspections, and remote sensing via area monitoring systems. These tools allow authorities to track whether farmers are respecting environmental requirements, including those related to nutrient management and the reduction of chemical inputs. To ensure transparency and accountability, MSs must report progress annually using a harmonized set of performance indicators and submit certified data to the EC^{5|6}.

3.3.1.2 European Green Deal

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Policy content and objective

The European Green Deal¹¹ has central objective to transform the EU into a climate-neutral, resource-efficient economy by 2050, decoupling economic growth from resource use and ensuring no net greenhouse gas emissions. Environmental protection, pollution reduction, and natural capital restoration are key goals, including through sustainable agriculture, reduced use of chemical inputs, and protection of soil and water quality.



The Green Deal was launched in December 2019 and covers the period from 2021 to 2050, with key interim milestones for 2030.

While the policy does not explicitly implement financial disincentives such as EU-wide environmental taxes, it allows MSs to introduce such mechanisms. This includes limiting pesticide and fertiliser use and implementing polluter-pays principles.

The Green Deal aligns closely with other EU policy frameworks, notably the CAP, Farm to Fork Strategy, EU Biodiversity Strategy for 2030, and Zero Pollution Action Plan. This coherence is reinforced through mainstreaming sustainability in national budgets, state aid reform, and regulatory alignment with the Sustainable Development Goals (SDGs) ¹¹.

Stakeholder consultation in the formulation process

The development of the European Green Deal has included consultation with a broad range of stakeholders: MSs, farmers, scientists, NGOs, agri-food industry representatives, and trade organisations such as COPA-COGECA. Environmental NGOs and civil society actors have played a role in advocating for stronger sustainability measures, while industry stakeholders were involved to ensure sectoral viability and competitiveness during the transition. Public participation mechanisms and dialogues were essential to foster legitimacy and support for the strategy¹¹.

Implementation

Implementation mechanisms vary across different sectors and funding streams. For agriculture, eligibility criteria are embedded in the national strategic plans under the CAP, which must align with Green Deal goals. Beneficiaries, typically farmers or land managers, must meet performance-based criteria, such as adopting organic farming, precision agriculture, or agro-ecological methods.

Funding comes from multiple instruments. The Just Transition Fund supports regions most affected by the green transition. The InvestEU Fund and Innovation Fund support green innovation and sustainable projects. The CAP provides direct payments and eco-schemes rewarding environmental performance. Additionally, mechanisms to support regenerative agriculture and reduce chemical inputs are incentivized through performance-linked eco-schemes.

The EC emphasizes enhanced monitoring, enforcement, and transparency. Soil analysis, satellite technology, and digital tools (e.g., electronic product passports) will support compliance monitoring. National strategic plans under CAP are evaluated against climate and environmental benchmarks, and the Commission ensures legal alignment and coherence through better regulation principles (e.g., "do no harm")¹¹.

3.3.1.3 Water Framework Directive (2000/60/EC)

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Policy content and objective

The EU Water Framework Directive, Directive 2000/60/EC²³, establishes a framework for the protection of inland surface waters, transitional waters, coastal waters, and groundwater. Its primary objective is to achieve "good status" for all water bodies within the EU through integrated water resource management based on river basin districts. "Good status" is defined in terms of ecological and chemical (for surface water) or chemical and quantitative (for groundwater) criteria. The directive aims to prevent further deterioration, protect and enhance the aquatic environment, reduce groundwater pollution, and mitigate flood and drought impacts.

It was adopted on 23 October 2000 and entered into force in December 2000, with initial River Basin Management Plans due by 2009, and subsequent updates every six years thereafter.

The directive requires an economic analysis of water use and mandates the polluter pays principle (Article 9). MSs must ensure that water-pricing policies provide adequate incentives for efficient water use and cost recovery for water services, including environmental and resource costs. This may discourage pollution and overuse of resources, indirectly influencing soil health by reducing inputs from agriculture (e.g., fertilizers, pesticides).

The directive aligns with other EU policies such as the Nitrates Directive (91/676/EEC), Urban Wastewater Directive (91/271/EEC), and the Habitats Directive (92/43/EEC). It also integrates with CAP, climate, and biodiversity strategies, promoting coherence across environmental and sectoral policy frameworks²³.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers highlight that the directive's main objective is the protection and sustainable management of water across the EU, even when soil contamination affects nearby groundwater or surface water. Historical mining activities have caused soil pollution that may impact underground aquifers and nearby watercourses, especially due to heavy metals and acid mine drainage. The rehabilitation of contaminated mining soils helps prevent the leaching of pollutants into the water environment, thereby fulfilling the objectives of this Directive.

Researchers affirm that the directive is a reference from an environmental point of view regarding water quality. It is seen more as a framework than a regulation with a local character. It is a fundamental regulation for managing water resources and their quality. Its implementation at the local level helps manage and improve water resources. This directive aims to protect water and ensure its responsibility managed, especially in areas where past mining activity has left a significant environmental footprint. It seeks to prevent soil pollutants from reaching the water, which directly impacts the health of the environment and its inhabitants. It is especially relevant in the context of CS2, because there is a need to control ongoing pollution, even though the mines are no longer active. This policy helps justify rehabilitation projects and highlights the connection between soil, water, and environmental health. This policy helps justify rehabilitation projects and highlights the connection between soil, water, and environmental health. It is a



correct and very important objective to prevent pollutants from reaching both surface and groundwater. It addresses the issue well.

Policymakers agree that this directive represents a comprehensive framework to protect and improve water quality in the EU. Its holistic approach to river basins means that any interventions in the territory, including the management of contaminated soils, must consider its impact on surface and groundwater. In areas with mining environmental liabilities, such as CS2, this policy is key to promoting soil rehabilitation actions that prevent the spread of heavy metals and other pollutants into the water environment. It contributes to protecting aquifers and aquatic ecosystems, which are often essential sources of water for human, agricultural, or industrial use.

NGOs argue that the protection of water resources is of vital importance, as mandated by the directive, but compliance is extremely complicated in areas where the soil is contaminated by mining, especially in large areas in the Sierra Minera, where there is no isolated facility that can be easily addressed. In this case, water management responsibilities are not local, rather, they fall under the ministry's jurisdiction. Municipalities have very little room to act. Local governments only have authority over authorizing discharges into the sewer system and wastewater treatment.

Stakeholder consultation in the formulation process

The formulation of the WFD involved extensive consultation and collaboration among various EU institutions and stakeholders. The process included the EC, European Parliament, Council of the EU, Economic and Social Committee, and the Committee of the Regions. The development was informed by previous Council resolutions, ministerial declarations, and policy communications from the Commission dating back to the late 1980s and early 1990s. Public participation is a key component of the WFD. Article 14 mandates active involvement of all interested parties—including local authorities, water users, NGOs, and the general public—in the preparation, review, and updating of RBMPs. MSs must publish key documents (e.g., work programmes, overviews of water management issues, and draft plans) with sufficient time (minimum six months) for public consultation and feedback²³.

Implementation

All MSs are required to implement the directive. Eligibility is not limited to specific stakeholders but encompasses all entities engaged in water use and management. Competent Authorities designated by each MS are responsible for implementation within river basin districts. These may include government departments, water agencies, or other appointed bodies.

The directive obliges MSs to integrate economic instruments into their Programmes of Measures. Article 9 explicitly calls for the recovery of costs of water services, including both environmental and resource costs. These mechanisms, such as pricing policies and pollution charges, aim to internalize the costs of environmental degradation and incentivize more sustainable practices, including in agriculture. Although no direct subsidies or financing instruments are laid out in the directive, it allows MSs flexibility to design economic instruments



consistent with the polluter pays principle and to report any exemptions (e.g., for social or geographic reasons).

Monitoring programs for surface water, groundwater, and protected areas are mandated under Article 8, and must be operational six years after the directive's entry into force (i.e., by 2006). Monitoring follows standardized criteria laid out in Annex V, including chemical, ecological, and quantitative parameters. RBMPs are reviewed and updated every six years, with interim reporting on progress. The directive includes a combined approach (Article 10) for controlling pollution from point and diffuse sources, incorporating emission limit values and environmental quality standards²³.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers believe that aspects such as the geology and topography of an area should be taken into account to adapt the implementation of the directive. In the context of metal mining environments, the risk lies in applying restoration techniques that do not effectively minimize the infiltration and drainage of metal salts. One difficulty is that, in many cases, there is lack of clear communication about what is being done and why, which can lead the population to perceive the directive as something foreign or overly technical. In addition, solutions are sometimes approached purely from a technical standpoint, without considering everyday use or visual aspects, which is a missed opportunity to make these spaces more accessible, educational, or even pleasant for the community. Lack of funding is another challenge in implementing the directive.

Policymakers also agree that the economic and technical resources for characterizing and decontaminating polluted soils are limited-especially in areas affected by historic mining with no identifiable current responsible parties. This makes it difficult to fully meet the directive's objectives. Additionally, *policymakers* recognizes that one of the main challenges is the lack of coordination between the authorities responsible for water and soil. *NGOs* also agrees that the main issue is the coordination required to work across different levels of government due to the separation of powers and, often, the difficulty of coordinating between them.

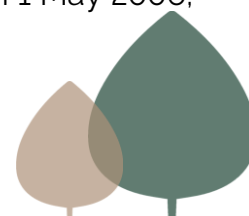
3.3.1.4 Directive 2006/21/EC on the management of waste from extractive industries

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Policy content and objective

Directive 2006/21/EC⁷⁷ addresses the management of waste from extractive industries (e.g., mining and quarrying), with the primary objective of preventing or reducing adverse effects on the environment, particularly on water, air, soil, fauna, flora, and landscape, and any resulting risk to human health. It requires operators to develop waste management plans and imposes specific safety obligations, especially for high-risk "Category A" waste facilities.

The directive was adopted on 15 March 2006 and came into force on 1 May 2006, with a deadline for transposition into national law by 1 May 2008.



Article 14 requires operators to provide a financial guarantee (or equivalent) before beginning operations to ensure that funds are available for rehabilitation and to address any potential environmental damage. These guarantees may involve insurance instruments or financial institutions, though details vary by MS. Some guidance has been provided at the EU level, but few MSs have issued their own detailed schemes.

The directive aligns closely with other EU environmental directives such as the directive 2004/35/EC on environmental liability, the directive 96/61/EC on integrated pollution prevention and control, the Seveso II Directive (96/82/EC) concerning major accident hazards, the Landfill Directive (1999/31/EC), and the Waste Framework Directive 75/442/EEC (now replaced by Directive 2008/98/EC) ⁷⁷.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers recognize that the directive's goal is to prevent or reduce the negative effects of mining waste on the environment and human health, both during and after operations. The directive requires that, at the end of an operation, rehabilitation of the affected land must be carried out, including stabilization of waste (such as spoil heaps and tailings ponds), landscape restoration, revegetation, and improvement of soil quality. It establishes measures to prevent the leaching of pollutants from mining waste into soil or water, which implies directly intervening in the quality of the affected land. *Researchers* consider the directive as a reference from an environmental point of view. It provides the framework upon which more specific regulations should be developed, not only at the national level but even at the regional level. It is a basic regulation for managing mining activity waste. Its implementation at the local level helps manage and improve the handling of this waste. This Directive aims to control the waste generated by mining, both during its operation and after it ends. It seeks to ensure that this waste no longer affects the environment or people's health, and it promotes land recovery to restore some environmental and visual stability. This instrument is considered as appropriate because, in areas where mining has left behind spoil heaps and disturbed soils, there is a real need to intervene to prevent the waste from continuing to pollute. Including landscape restoration and soil improvement directly connects to the quality of the environment people live in. Overall, it is a sound directive which meets local needs. *Policymakers* argue that it is a key tool to ensure that mining activity, even once completed, does not continue to generate negative impacts on the environment or public health. The directive requires responsible management of mining waste and land rehabilitation, making it an essential instrument for addressing soil contamination. It directly addresses the challenges faced by regions with mining legacies, such as abandoned spoil heaps and tailings ponds. It sets clear obligations to prevent diffuse pollution and protect natural resources, contributing to landscape recovery and the long-term safe use of the land. *NGOs* believe that it is necessary, but similarly, except for land uses defined in the General Urban Development Plan, the responsibilities are not local in this case, they would fall under the regional government.

Stakeholder consultation in the formulation process



The directive was developed with inputs from the European Parliament, Council, Commission, European Economic and Social Committee, and Committee of the Regions. In the run-up to its adoption, consultations included industry stakeholders, environmental NGOs, and MSs' authorities. The 2017 implementation assessment confirmed further engagement through workshops, surveys, and direct requests for data from national authorities⁷⁷.

Implementation

The directive applies to operators managing waste generated during prospecting, extraction, treatment, and storage of mineral resources and quarrying. It excludes certain waste types (e.g., food waste, end-of-life vehicles) and offshore activities. Facilities are categorized by risk, with "Category A" facilities subject to stricter controls.

Apart from mandatory financial guarantees, the directive does not establish a dedicated EU funding mechanism. However, implementation may be supported by national schemes or broader EU instruments related to environmental protection, such as cohesion or structural funds. Some stakeholders have called for better integration with resource efficiency and circular economy strategies.

MSs are responsible for enforcing the directive, including permitting, inspection, and enforcement. Monitoring is inconsistent; some countries with mining legacies have more robust systems and inspector expertise. The EC evaluates MS reports and may intervene in cases of inadequate implementation. Gaps include incomplete inventories of closed/abandoned sites and underreporting of accidents⁷⁷.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers point out that there is a need for technical development adapted to the type of pollutants. In metal mining environments, the risk lies in the fact that restoration techniques being applied are not required to be effective in the short term, but especially in the medium and long term. This can lead to paradoxical situations where the risk increases instead of decreasing, due to the use of practices that are inappropriate for the type and dynamics of these wastes. One difficulty is that interventions are often carried out with a focus solely on technical stabilization, without considering aspects such as landscape and cultural integration. There may also be a disconnection between those who design the interventions and the people who live in the area, making it harder for the outcomes to be seen as valuable at the local level. Lack of funding is also a challenge in implementing the directive. *Policymakers* identify the main difficulty in its application to old mining sites closed before the directive came into force, where there are no responsible operators. Moreover, the rehabilitation of mining soils requires significant investments and specific technologies that are not always available locally, making it difficult to effectively meet the directive's objectives. *NGOs* highlights that the municipalities do not have the tools to monitor its compliance.



3.3.1.5 Spanish Law 7/2022 on Waste and Contaminated Soil for a Circular Economy

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Policy content and objective

Spain's Law 7/2022 on Waste and Contaminated Soils for a Circular Economy⁷⁸, aims to align waste management and soil protection with the principles of the circular economy. It updates the 2011 legislation, emphasizing waste prevention, improved resource use efficiency, pollution reduction, and the minimization of health and environmental risks. The law also aims to curb the environmental impact of plastic products, particularly in marine ecosystems

The law entered into force on April 9, 2022 (BOE n.º 85), with certain fiscal measures such as the plastic packaging tax coming into effect on January 1, 2023.

The law introduces two key fiscal instruments in Title VII: (1) a special tax on non-reusable plastic packaging (Article 67–83), and (2) a tax on the landfilling, incineration, and co-incineration of waste (Article 84–97). These are designed to internalize environmental costs and promote sustainable practices. The law assigns financial responsibility to waste producers, especially under the extended producer responsibility regime (Title IV, Articles 37–54).

The law transposes Directive (EU) 2018/851 (amending Directive 2008/98/EC on waste) and Directive (EU) 2019/904 on single-use plastics, thus aligning Spanish legislation with the EU Circular Economy Action Plan and the European Plastics Strategy. The law adopts EU concepts such as “subproduct” and “end-of-waste” criteria and strengthens application of the waste hierarchy using economic instruments⁷⁸.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers are familiar with the Royal Decree 975/2009, of June 12, on the management of waste from extractive industries and the protection and rehabilitation of land affected by mining activities; and the Royal Decree 777/2012, of May 4, which amends Royal Decree 975/2009.

Stakeholder consultation in the formulation process

The legislative development of Ley 7/2022 incorporated a public consultation phase. In compliance with the transparency principle (Article 129 of Law 39/2015), the Ministry of Hacienda y Función Pública published the draft order and its regulatory impact assessment online, allowing public access and feedback during the hearing and public information phase. This facilitated contributions from civil society, industry stakeholders, and public entities⁷⁸.

Implementation

The law applies to all entities involved in the production, management, and disposal of waste, including both public and private actors. Specific obligations are assigned based on roles, e.g., producers, importers, waste managers. For fiscal



instruments, eligibility (or liability) is based on roles like manufacturer, intra-EU acquirer, or importer of non-reusable plastic packaging (Articles 76–82).

Funding is largely sourced through the two taxes established under the law. Revenues from these taxes are distributed among competent authorities (national and regional), with Article 97 outlining revenue-sharing for the landfill/incineration tax. Extended producer responsibility schemes are financed by producers, who must contribute proportionally to the management costs of their products' waste streams (Article 43).

Implementation is carried out at multiple levels: national, regional, and local. Competencies are clearly distributed (Article 12), and a national coordination commission oversees intergovernmental coherence (Article 13). Obligations include registration, accounting, and reporting by economic agents, monitored via the Electronic Waste Information System (Article 66). Compliance is enforced through inspections and a robust sanctioning framework detailed in Title IX⁷⁸.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers believe that the extent to which the law is implemented, it depends on how much importance each regional government places on the environment. Moreover, in metallic mining areas, this regulation is very generic. It does not provide updated reference values, nor does it demand the effectiveness of restoration techniques applied in such unique environments. In addition, there may be a lack of clarity about what to do once a contaminated soil is identified. Also, the circular economy approach does not always translate into concrete proposals for reusing or adding value of resources. Lack of funding is also considered a challenge for the implementation of the law. NGOs agree on budget constraints as challenge. Indeed, no politician wants to assume the political cost of proper waste management. Other challenges include change existing models, or invest in raising public awareness, etc. This results in very inefficient waste management.

Policymakers recognize the lack of updated inventories of contaminated soils, as well as the technical and legal complexities of the declaration procedures as ones of the main challenges. Additionally, in the case of historic mines, assigning responsibility for decontamination can be difficult, which hinders recovery efforts.

3.3.1.6 Royal Decree 9/2005, of January 14, establishing the list of potentially soil-polluting activities and the criteria and standards for declaring contaminated soil.

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Policy content and objective

Royal Decree 9/2005⁷⁹ establishes a regulatory framework in Spain for identifying and managing soil contamination. Its primary objective is to define potentially contaminating activities, set criteria and standards for declaring soils as contaminated, and outline procedures for risk assessment and soil remediation. The policy aims to protect both human health and ecosystems by ensuring soil pollution is systematically monitored, assessed, and addressed.



It was implemented on January 14, 2005, and remains in force, with the most recent consolidation updated on August 31, 2023.

The decree introduces several indirect disincentives that affect landowners and operators, especially those involved in potentially polluting activities. These disincentives are mostly regulatory and financial in nature, embedded in the obligations and consequences the decree establishes 1. Regulatory Burden on Activity Holders, 2. Financial Liability for Soil Remediation, 3. Legal and Transactional Barriers, 4. Potential Sanctions, 5. Legacy Burdens. So, while the decree does not impose explicit economic penalties like pollution taxes, it creates a clear set of regulatory and financial disincentives to discourage soil contamination, encourage careful land management, and internalize environmental costs into industrial and land-use decisions.

The decree is closely aligned with EU environmental objectives, including the EU Soil Thematic Strategy and principles in Regulation (EC) No. 1488/94 on risk assessment of substances. It also builds upon the Spanish Waste Act (Ley 10/1998), harmonizing national law with broader EU frameworks on soil and environmental protection⁷⁹.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, policymakers affirm that this instrument establishes the list of potentially soil-contaminating activities. It is the key regulation in Spain for the management of contaminated soils. It defines the activities that may cause contamination. It establishes the criteria for determining soil quality and regulates the procedures for declaring contaminated soils. It facilitates the official identification of contaminated soils and obliges operators of potentially polluting activities such as mining operations to investigate soil condition, allowing for preventive or corrective action.

Stakeholder consultation in the formulation process

The decree was developed with consultation from Spain's autonomous communities, fulfilling the legal requirement set by Ley 10/1998, de Residuos. While the document does not detail a broad participatory process, it indicates inter-administrative collaboration, including the involvement of the Ministry of Environment and Ministry of Health. Stakeholders such as regional authorities were integral to shaping the technical and procedural components, especially regarding risk assessment and soil inventory development⁷⁹.

Implementation

The policy applies to landowners and operators of activities listed in Annex I that are considered potentially contaminating. Also included are sites with certain chemical storage thresholds or past uses with possible residual contamination. Obligations include submitting periodic soil status reports and conducting detailed risk assessments where necessary.

While the decree does not provide explicit funding or subsidies, it imposes obligations on polluters and property owners to finance assessments and remediation. This creates a polluter-pays principle framework but lacks dedicated state or insurance-backed financing mechanisms.



Enforcement is delegated to regional governments, which oversee compliance, evaluate submitted reports, and declare soil as contaminated based on standardized criteria (Annexes III–VIII). Risk assessments must follow specific technical methodologies. Monitoring is continuous and may involve mandatory updates upon changes in site use or ownership. Registration mechanisms ensure legal transparency, including marginal notes in property registries and sanctions for non-compliance under the Waste Act⁷⁹.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, policymakers recognize that many soils affected by historical mining lack current legal owners, which makes it difficult to include them in official procedures. Moreover, the required investigations are costly and require specialized technical personnel.

3.3.1.7 Spanish Royal Decree 1051/2022 - Sustainable Nutrition of Agricultural Land

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Policy content and objective

The Royal Decree 1051/2022, of 27 December 2022⁸⁰, establishes a general framework for sustainable nutrient application in Spanish agricultural soils, aiming to optimize crop fertilization while minimizing environmental harms, such as nitrogen and phosphorus losses, ammonia emissions, water contamination, soil degradation, biodiversity loss, and heavy-metal accumulation, while preserving soil fertility and enhancing the carbon-sink capacity of soils to contribute to climate neutrality. Its objective is to align with the EU's Farm to Fork strategy and EU Biodiversity Strategy for 2030, including the national target to reduce nutrient losses by at least 50 % and fertilizer use by at least 20 % by 2030.

It became effective on 27 December 2022 and has key obligations phased in from 1 September 2024 (subject to ongoing revisions).

It deploys via regulatory disincentives, such as fertilizer limits, required rapid burial of manure, prohibition of harmful spreading methods, metal contaminants thresholds, and requirements for certified advisors or decision-support tools. These mechanisms incentivise compliance through mandated technical procedures rather than direct subsidisation.

The decree is fully coherent with EU policy: it serves the objectives of the Farm to Fork and biodiversity strategies, and it also supports Spain's commitments under the LULUCF regulation and the NEC Directive (Directive (EU) 2016/2284) on atmospheric emissions⁸⁰.

Stakeholder consultation in the formulation process

The decree's formulation followed the formal legislative procedure under Spain's Law 50/1997, which includes public consultation and sectoral hearings. Specifically, two rounds of hearings were held in autumn 2020 and spring 2022, both via the Ministry's website and through direct outreach to agrarian



organisations and cooperatives. Feedback from agricultural sector representatives and cooperatives was considered in drafting, ensuring proposals were technically and economically feasible. The decree was also reviewed by the Council of State, proposed by the Ministry of Agriculture, and formally adopted by the Council of Ministers (23 January 2023) after inter-administrative consultation with all Autonomous Communities, including Ceuta and Melilla, under Spain's cooperation duties. In addition, the measure underwent EU pre-notification under Directive 2015/1535 (technical standards notification), verifying consistency with EU rules⁸⁰.

Implementation

The Decree applies to all agricultural and forestry operations that contribute nutrients or organic matter to the soil across Spain. From 1 September 2024, each production unit (i.e. parcel or farm segment) exceeding certain thresholds must implement a fertilisation plan, except for unirrigated holdings under 10 ha used only for pastures or forage for self-consumption. Those under thresholds are exempt from the obligation. Fertilisers and manure must be applied according to defined good agricultural practices, with heavy-metal limits on soil amendments, mandatory rapid burial (generally within 24 hours), and bans on certain spreading technologies for high-moisture (> 90 %) organic inputs unless effective emission-mitigating methods are used.

While the decree is regulatory, the Ministry of Agriculture and relevant autonomous governments may support implementation through eco-scheme funding under the CAP/PAC 2023–2027. For example, eco-regime measures may cover the additional costs of preparing fertilisation plans during the initial transition period, even though the obligations are normative. A national budget line of about €3.6 million (2020–2025) supports development of the digital farm register (CUE) and the SATIVUM tool; use of authorised digital tools may exempt farmers from mandatory engagement of fertilisation advisors.

Compliance is tracked via the digital farm register (in Spanish "cuaderno de explotación"), which must record nutrient applications, plan parameters, soil and water analyses, and advisor input. Autonomous Communities are responsible for enforcement and may set stricter local standards. National authorities compile aggregated data (e.g. nitrogen and phosphorus use and ammonia emissions) based on the farm records for reporting under Eurostat indicators and national greenhouse gas (GHG) emissions inventories. Periodic resolutions and adjustments based on UNECE mitigation options further refine compliance mechanisms⁸⁰.

3.3.1.8 Croatian Law on Forest (1990, latest amendment in 2018)

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Policy content and objective

The Croatian Law on Forests (in Croatian "Zakon o šumama, NN 68/2018")⁸¹ governs the management, use, and protection of forests and forest land in Croatia. Its primary objective is to ensure sustainable forest management that balances



ecological, economic, and social interests, thereby maintaining biodiversity, preventing degradation, and supporting climate resilience. The law defines forests as assets of national interest and applies strict stewardship rules to protect their public benefit functions, including soil and water protection, climate regulation, and biodiversity conservation.

This version of the law was adopted on 13 July 2018, continuing from earlier versions, including the 1990 Forest Law and the 1983 Yugoslav Forest Act. It has undergone amendments to align with evolving sustainability standards and national forest strategies.

The law includes a Forest Public Benefit Function Fee (in Croatian “Naknada za korištenje općekorisnih funkcija šuma”), introduced in 1983 and retained in Croatian law. It is a mandatory annual charge of 0.0265% of company income, excluding forest managers, used to fund forest restoration, fire prevention, demining, and research. The fee acts as a de facto economic disincentive to environmental degradation and contributes to resilience building.

The law explicitly adheres to pan-European criteria for sustainable forest management, including maintaining forest health, biodiversity, and protective functions (especially for soil and water). It supports Croatia's compliance with EU forest, biodiversity, and climate frameworks, such as the EU Forest Strategy, EU Biodiversity Strategy for 2030, and LULUCF Regulation through monitoring, reporting, and planning requirements⁸¹.

Stakeholder consultation in the formulation process

The formulation of the Croatian Forest Law was predominantly top-down, driven by governmental bodies, particularly the Ministry of Agriculture and Forestry. While it refers to public participation principles (e.g., transparency, public access to forest management plans), actual evidence of early-stage stakeholder engagement or participatory drafting is limited. The law mandates informing the public and facilitating access to forest planning documents but does not outline structured consultations during law development⁸¹.

Implementation

The law applies broadly across Croatia. All business entities operating in Croatia (excluding forest managers) are required to pay the Forest Public Benefit Function Fee. Forest owners, both public and private, are obliged to manage forests according to approved forest management plans, and fulfil responsibilities related to soil conservation, biodiversity, and climate services.

The fee revenue is collected by the Ministry and redistributed to fund forest protection activities, such as restoration, infrastructure, fire prevention, and scientific research. Public forest management is entrusted to Hrvatske Šume d.o.o., the state-owned enterprise responsible for implementing national forest objectives. Additional funds may be drawn from EU programs, though the law itself does not elaborate on co-financing mechanisms.

Implementation is monitored through a Forest Registry, that is kept electronically by the Ministry; operational and strategic forest plans, required for both public and private owners; annual operational plans linked to the use of the benefit function



fee; supervision by ministerial bodies and committees, including on the allocation of the forest fee funds. Obligatory audits and national forest inventories to track resource condition, biodiversity, and ecological trends⁸¹.

In *CS4 Croatia [LH4-Continental Urban Soil]*, the researchers welcome the Law's strong protection of the soil and water functions of forests but note an implementation gap in peri-urban mosaics where small private forests lie alongside farmland, orchards, grassland and abandoned land. They emphasise the need for clearer, sectoral rules (in Croatian "pravilnici") for soil-conserving forestry in this context and better coordination with urban spatial plans to protect erosion control corridors and limit land sealing on the outskirts of cities.

3.3.1.9 Croatian Agricultural Land Act

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Croatian Agricultural Land Act⁸² regulates the maintenance, protection, use, lease, disposal, and enhancement of agricultural land in Croatia, covering both private and state-owned fields. Its core objective is to safeguard agricultural land as a strategic national resource by ensuring rational use, preserving soil fertility, and preventing degradation, pollution, or unauthorized change of land use. The act mandates that landowners and users maintain land in cultivable condition, apply agrotechnical and anti-erosion measures prescribed by ministerial ordinance, and refrain from practices that degrade physical, chemical, or biological properties of soil.

It entered into force in February 2018, and remains a standing law, updated via consolidated amendments most recently integrated in 2022. The act continues in force unless formally repealed or significantly amended.

The act establishes a fee system linked to changes in the use of agricultural land, fees for conversion to non-agricultural use, calculated as a percentage of market value depending on land grade and zoning. Revenues are partly retained at local-government level to fund land consolidation and cadastral improvements (30 %), while the remainder accrues to the state budget.

The legislation is coherently aligned with relevant EU policies: it complements the CAP, especially rural development and agri-environmental components, and adheres to EU environmental standards including Natura 2000 objectives⁸².

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers recognize its purpose of preserving and improving soil quality, preventing illegal conversion of land, and implementing anti-erosion measures. They acknowledged its importance but said they had limited knowledge about the policy and its implementation.

Stakeholder consultation in the formulation process

During drafting and amendment, the act and its secondary legislation underwent public consultations involving a range of stakeholders: farmers' associations, local government units, NGOs, chambers of agriculture, and professional bodies



typically submit feedback through formal consultation procedures via the Ministry of Agriculture. In parallel, development of Croatia's Rural Development Programme (RDP) used multi-actor participation via Monitoring Committees and evaluation working groups, incorporating voices from the National Rural Network, LAGs, environmental NGOs (e.g. Green Forum), agricultural chambers, and local authorities⁸².

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers point out a lack of sufficient knowledge to participate.

Implementation

Landowners and holders of agricultural land (both private individuals/legal persons and leaseholders of state-owned land via the Agricultural Land Agency) are subject to the act. To remain eligible for using land, they must maintain it in good condition, free of weeds, contamination, overgrowth, and comply with required agrotechnical and anti-erosion measures specified by ministerial ordinances.

The act's main economic instrument is the change-of-use fee: a one-off charge when agricultural land is converted to non-agricultural uses. The fee rate varies: for "particularly valuable arable land" (P1) or "valuable arable land" (P2), the fee ranges from 2.5–5 % within buildable zones, up to 25–50 % of market value outside buildable zones, depending on status. Seventy per cent of the proceeds go to the national budget and thirty per cent to local units, earmarked specifically for land consolidation, improvement, and cadastral record upgrades.

The Agricultural Land Agency, under the Ministry of Agriculture, is tasked with operational implementation: maintaining a soil-monitoring database, analysing soil condition, lab testing, managing the Land Fund, executing lease or sale of land, and overseeing compliance and remediation. Administrative and inspection supervision is performed by Ministry-level and county/city units to ensure that obligations, such as contamination limits, required agricultural-engineering measures, suitability for cultivation, and proper use of change-of-use revenues, are met. The Environmental Protection Agency of the Ministry of Environmental and Nature Protection supports broader soil pollution monitoring and enforcement via an environmental soil register (GEOL) aligned with IED obligations⁸².

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers point out a lack of sufficient knowledge to participate.

3.3.1.10 Croatian Law on Spatial Planning

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The law on Spatial Planning⁸³ regulates the system of physical or spatial planning in Croatia. Its primary objective is to ensure the rational and sustainable use, management, protection, and development of Croatian space, including the ecological-fishing zone and continental shelf, recognized as particularly valuable and limited national goods. The law establishes the framework for setting spatial



planning goals and principles, adopting the Spatial Development Strategy, implementing spatial plans, and ensuring compliance through supervision mechanisms. It aims to create preconditions for sustainable social and economic development, environmental and nature protection, construction quality, and rational use of natural and cultural resources.

The law entered into force eight days after its publication in the Official Gazette on 1 January 2013, with its latest amendments adopted on 25 April 2019. It operates as an ongoing legal framework rather than a time-limited policy.

The law does not explicitly refer to financial mechanisms. Instead, it focuses on regulatory governance through spatial planning instruments rather than financial tools. However, by influencing land use and construction permissions, it can indirectly impact the economics of development, conservation, and potentially soil degradation or pollution.

The law aligns broadly with EU environmental and land use planning directives, particularly the EU Strategy on Soil Protection, the Environmental Impact Assessment (EIA) Directive, and the Strategic Environmental Assessment Directive. It also supports the principles of sustainable development and environmental integration stipulated in EU treaties. However, no explicit cross-referencing to EU soil or pollution control legislation is detailed in the law's general provisions⁸³.

In *CS4 Croatia [LH4-Urban Soil]*, researchers observe that these laws are generic and written to comply with EU expectations, then operationalized through secondary acts. Moreover, the researchers consider that enforcement of land use planning boundaries and protection of agricultural soils should act as a disincentive to soil sealing and be synchronised with on-farm CAP incentives (hedgerows, green strips, permanent cover) so that restrictive conversion rules are coupled with positive incentives for soil functions.

Stakeholder consultation in the formulation process

The formulation of the law on Spatial Planning involved several public institutions and expert bodies, including the Ministry of Construction and Physical Planning, national planning institutes, and professional chambers. Stakeholders such as municipal authorities, land management agencies, and construction-related institutions were consulted during drafting and through public consultations. The planning procedures outlined in the law require transparency and participation, particularly during the preparation of spatial plans, which must undergo public consultation phases. Nevertheless, there is limited specific reference to the involvement of environmental NGOs, soil scientists, or civil society actors focusing on pollution or land degradation⁸³.

Implementation

Implementation of the law involves all levels of government, including national, regional, and local authorities, depending on the type of spatial plan. Eligibility conditions are not defined in terms of individuals but rather institutional competencies: municipalities, counties, and relevant ministries are responsible for drafting and implementing spatial plans.



The law does not establish or mandate funding schemes or economic mechanisms directly; rather, it provides the legal and procedural conditions under which spatial plans—potentially supported by other financial instruments—are developed and enforced. Funding for spatial planning activities typically derives from public budgets, and the law does not mention specific incentive or disincentive structures related to soil health or pollution control.

Monitoring and implementation responsibilities are delegated to spatial planning inspectorates and relevant supervisory bodies. The Ministry of Physical Planning oversees compliance, while municipalities are required to report and update spatial planning documents. However, environmental monitoring, particularly for soil health or pollution impacts, is not directly specified as part of this spatial planning law, suggesting a potential governance gap in integrating land degradation considerations into spatial development controls⁸³.

3.3.1.11 Italian Catalogue of environmentally harmful subsidies and environmentally beneficial subsidies (art. 68 L 221 28 December 2015 - Environmental provisions to promote green economy measures and to contain the excessive use of natural resources)

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Catalogue of Environmentally Harmful and Environmentally Beneficial Subsidies is a policy instrument mandated by Article 68 of Law No. 221/2015⁸⁴, which aims to identify, monitor, and guide the reform of public subsidies with environmental impacts in Italy. Its main objective is to support the green transition by phasing out environmentally harmful subsidies, particularly those related to fossil fuels, pesticides, and chemical fertilisers, and by promoting environmentally beneficial subsidies that are consistent with climate neutrality, and the polluter pays principle as per Article 191.2 of the TFEU.

The catalogue covers data starting from 2016, with the 2022 edition based on 2021 data. It captures both direct and indirect subsidies, including implicit ones such as tax exemptions and under-pricing of environmental costs. Tax reforms began in 2023 (e.g. Law of 9 August 2023, Art. 12) with a transition horizon set for 2032 to align with the amended EU VAT Directive.

It functions primarily as an analytical tool that indirectly introduces disincentives by identifying and recommending the removal or restructuring of subsidies that encourage environmentally damaging practices. While it does not establish new penalties or taxes, it aligns with the polluter pays principle and aims to increase the economic cost of harmful behaviours, such as the excessive use of fossil fuels, chemical fertilisers, and pesticides. By phasing out tax exemptions or reduced VAT rates for these inputs, particularly in the agricultural sector, the catalogue seeks to disincentivize overuse and promote more sustainable practices. It also highlights the under-pricing of natural resource extraction (e.g. land use, irrigation water) as



a missed opportunity for cost internalisation, effectively advocating for fiscal reforms that would make unsustainable practices less economically viable.

The Catalogue aligns closely with several EU strategies, including the European Green Deal, Fit for 55, the EU Sustainable Finance Taxonomy, and the Do No Significant Harm principle. It also supports the goals of the National Strategy for Sustainable Development and the National Ecological Transition Plan⁸⁴.

In *CS8-Italy [LL1-Mediterranean Agricultural Soil]*, farmer associations argue against punitive disincentives, favouring rewards for virtuous practices instead. They mention that harmful subsidies should be better identified and phased out. Agricultural consultants perceive disincentives, such as reduction in subsidized fuel, as harmful and demotivating. They express a strong preference for positive incentives over penalties. These insights support the opinions expressed by farmers and government representatives during the in-person workshop organized by AGRIS and CMCC, where a SWOT analysis of disincentives was conducted.

Stakeholder consultation in the formulation process

In drafting and annually updating the Catalogue, in addition to the information available to it and to ISPRA, the information made available by the Italian Statistical Institute (in Italian "Istituto nazionale di statistica" (ISTAT)), the Bank of Italy, the Ministries, the Regions and local authorities, universities and other research centres, which provide the data at their disposal according to a scheme prepared by MASE. As required by law, the Minister of the Environment transmits the Catalogue to the Presidents of the Chambers and to the President of the Council of Ministers and to the Ministers of the Interministerial Committee for Ecological Transition (CITE)⁸⁴.

In *CS8-Italy [LL1-Mediterranean Agricultural Soil]*, both farmer associations and agricultural consultants acknowledge a lack of sufficient knowledge to participate.

Implementation

The Catalogue does not create new schemes but operates by applying disincentives through primarily via the identification and progressive removal of subsidies that enable environmentally harmful practices, especially those impacting soil health and pollution. It defines which financial incentives (such as tax exemptions for chemical fertilisers, pesticides, and fossil fuels) should be reduced or abolished, thereby increasing the relative cost of environmentally damaging activities.

Monitoring data covers the 2021–2022 transition period, while the actual tax reforms began in 2023 (e.g. Law of 9 August 2023, Art. 12), with the full alignment expected by 2032 in line with the amended EU VAT Directive. The CITE plays a central role, having agreed that the gradual elimination of harmful subsidies should be defined by 2025, in coherence with the National Strategy for Sustainable Development, the Do No Significant Harm principle, the European Green Deal, the Fit for 55 strategies, and the National Ecological Transition Plan.



Implementation is coordinated by the Ministry of the Environment and Energy Security (MASE), which is tasked annually with preparing and updating the Catalogue. MASE works in coordination with ISPRA, ISTAT, the Bank of Italy, relevant ministries, regional and local authorities, universities, and research centres, all of which contribute data via a formalised scheme. The Catalogue's measures are classified as environmentally harmful (SAD), beneficial (SAF) or uncertain (SAI) and are accompanied by financial estimates, legal references, and reformability indicators, determining whether a measure can be unilaterally reformed at the national level or requires EU/international coordination⁸⁴.

In *CS8-Italy [LL1-Mediterranean Agricultural Soil]*, farmer associations observe that disincentives are little known and should be approached gradually to avoid harming competitiveness. Agricultural consultants already experience reduced fuel subsidies as a form of disincentive, which they find punitive and problematic.

3.3.1.12 Lithuanian Law on Environmental Protection

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The law on Environmental Protection of the Republic of Lithuania⁸⁵ establishes a comprehensive legal framework aimed at safeguarding the environment, including soil, air, water, and biodiversity, from harmful effects stemming from economic and other human activities. Its primary objectives are to ensure a healthy and clean environment, preserve ecological systems and biodiversity, and regulate the rational and sustainable use of natural resources. Special emphasis is placed on preventing and remedying soil contamination through legal, financial, and administrative measures.

The law entered into force in 1992 and remains in effect as an evolving framework, continuously updated to align with both national priorities and EU environmental regulations.

The law incorporates incentive schemes such as pollution taxes, environmental damage compensation mechanisms, economic sanctions, and incentives for adopting eco-friendly technologies. The law enforces the "polluter pays" principle and requires polluters to finance both preventive and remedial actions to restore ecological balance and compensate for environmental damage, including harm to soil health.

The law is fully aligned with relevant EU directives, particularly Directive 2004/35/EC on environmental liability, Directive 2010/75/EU on industrial emissions, and Directive 2001/42/EC on strategic environmental assessment, ensuring coherence with broader EU policy on sustainable development and environmental governance.

Stakeholder consultation in the formulation process

The law embeds robust mechanisms for civic engagement and public oversight in environmental decision-making. While the legislative drafting is led by the Ministry of Environment and approved through parliamentary procedures in the Seimas,



citizens, NGOs, and other stakeholders have legal rights to access environmental information, participate in environmental impact assessments, and submit proposals or complaints. Public involvement is formalized in multiple provisions, granting the public concerned the right to challenge decisions in court and to contribute to the drafting of plans, programmes, and regulatory documents affecting the environment. This participatory framework aligns with the Aarhus Convention principles and supports transparent, inclusive governance.

Implementation

Eligibility for undertaking economic activities is conditioned upon obtaining appropriate permits, either standard environmental permits or Integrated Pollution Prevention and Control (IPPC) permits, based on compliance with environmental quality standards and risk assessments. Operators of economic activities must obtain environmental permits and comply with emission thresholds; failure to do so results in financial penalties, permit revocation, or mandatory remediation orders. Environmental Impact Assessment and Strategic Environmental Assessment tools are evaluated before economic activities or public plans are approved.

Funding for environmental schemes comes from a combination of public and private sources. Polluters are obligated to finance preventive and remedial actions and pay environmental pollution taxes, while additional financing is provided through the State Environmental Protection Support Programme and municipal environmental funds. These funds are allocated to priority environmental measures as determined by the government.

Monitoring and enforcement are carried out through a multi-tiered system involving the Ministry of Environment, municipal authorities, and state environmental inspectors. These bodies oversee compliance, conduct audits, and impose administrative or legal sanctions where violations occur. Economic entities are required to self-report emissions and monitor environmental impact, with this data feeding into a national environmental monitoring system. The state ensures the transparency and accessibility of environmental information and periodically evaluates environmental quality and the effectiveness of regulatory tools.

3.3.1.13 Lithuanian Resolution No. D1-528 (2020) – Regulation on issuance, amendments, and cancellation of permits for integrated pollution prevention and control

[*\[Back to the Policy Table\]*](#)

Policy content and objective

Resolution No. D1-528 (2020)⁸⁶ regulates the issuance, amendment, and cancellation of Integrated Pollution Prevention and Control (IPPC) permits for industrial installations that pose significant environmental risks. Its main objective is to prevent or reduce pollution to air, water, and soil by mandating the use of Best Available Techniques (BAT), conducting baseline contamination assessments, and adhering to stringent environmental performance standards.



The regulation was revised and adopted on July 17, 2020, updating a framework initially established in 2013. It is a standing regulation with no fixed end date, remaining in force unless amended or repealed.

The regulation introduces financial mechanisms such as state fees for permit applications, amendments, and reviews. It also embeds risk disincentives, including routine compliance monitoring, risk of permit suspension or revocation, and penalties for non-compliance.

The policy is fully aligned with EU Directive 2010/75/EU on Industrial Emissions, aiming to harmonize environmental protection standards across MSs. It ensures policy coherence by integrating various environmental requirements into a single, consolidated permit, thus streamlining compliance for industrial operators.

Stakeholder consultation in the formulation process

The formulation of Resolution No. D1-528 was led by the Lithuanian Ministry of Environment to transpose and implement the EU Industrial Emissions Directive. The drafting process involved technical input from national institutions including the Environmental Protection Agency, the Environmental Protection Department, the Lithuanian Geological Service. These bodies contributed expertise in permitting procedures, compliance mechanisms, and baseline reporting requirements for soil and groundwater. The draft regulation underwent public consultation, which included engagement with environmental NGOs, municipalities, industry representatives, and the general public. Transparency was maintained through mandatory online publication of draft texts, permit applications, and regulatory decisions.

Implementation

Eligible entities include operators of industrial installations that fall within the scope of the EU Industrial Emissions Directive. Permit applications must be submitted via ALIS, Lithuania's national e-permitting platform, which centralizes submission, processing, and public access to IPPC-related information. Applications must include emissions data, environmental impact assessments, baseline contamination studies, proof of compliance with BAT. Permits are typically valid indefinitely, but subject to mandatory review at least every four years, or earlier in cases of legal or operational changes.

While state fees are applied to applications and reviews, the regulation does not establish a specific funding mechanism or economic incentive scheme for pollution prevention beyond these regulatory charges.

The Environmental Protection Agency is the main authority responsible for issuing, amending, and cancelling permits. The Environmental Protection Department conducts on-site inspections and enforces regulatory compliance. The Lithuanian Geological Service reviews baseline contamination reports related to soil and groundwater. The National Public Health Centre oversees health-related factors such as noise and odour. Monitoring is enforced through regular inspections, mandatory reporting, and risk-based permit reviews. Regulatory non-compliance can result in penalties, permit suspension, or revocation.



3.3.1.14 Lithuanian Law on Waste Management (1998)

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Policy content and objective

The Lithuanian Law on Waste Management⁸⁷ establishes the national framework for handling waste at every stage, from generation and collection to treatment and disposal. Its primary objective is to safeguard environmental and human health through strict regulation of hazardous and municipal waste streams, promoting waste prevention, recycling, and resource recovery. It also aims to curb illegal dumping and ensure that waste is handled, stored, transported, and treated according to national technical standards.

The law was adopted on June 16, 1998 and remains in force as a standing legal framework. It has been repeatedly amended to ensure alignment with Lithuania's evolving priorities and European Union waste legislation, particularly the EU Waste Framework Directive.

In terms of incentive schemes, the law enforces the "polluter pays" principle by assigning full financial responsibility for waste management and cleanup to those who produce or handle waste. It introduces economic instruments such as waste-related environmental pollution taxes on packaging and hazardous substances, local service fees set by municipalities, cost-recovery obligations for waste managers.

The policy is closely aligned with EU directives, particularly on waste, hazardous waste, and packaging. Regular amendments help maintain coherence with EU environmental policy and support Lithuania's compliance with EU sustainability objectives.

Stakeholder consultation in the formulation process

The Ministry of Environment led the drafting of the law, in collaboration with the Ministries of Health, Economy, and Social Security and Labour. Although formal public consultation is not explicitly required in the original legislation, the law mandates that municipalities publish local waste and resource plans, thereby enabling a degree of public awareness and community engagement. Stakeholders involved in the development and subsequent revisions of the law include municipal authorities (implementing local waste programs), licensed waste managers (applying technical rules), businesses (subject to packaging/waste obligations), NGOs (advocating for environmental protections).

Implementation

All entities that produce, handle, or manage waste, including waste holders, importers, producers, and treatment facilities, are subject to the law. Specific obligations apply to hazardous waste handlers, who must sort, label, and store waste properly, deliver it to licensed facilities, and follow approved technical and environmental safety protocols. Hazardous waste may not be stored longer than three months.



All facilities handling hazardous waste must prepare closure plans, maintain financial guarantees to cover future environmental liabilities, submit regular reports and maintain long-term waste records.

Implementation is supported by State Waste Management Fund (partly funded through pollution taxes), State and municipal budgets, EU and international financing instruments, Private sector contributions (e.g., from waste fees and licensing).

The Ministry of Environment is the lead body for compliance oversight, legal drafting, and national waste classification. The Ministry of Health monitors health-related impacts, especially from hazardous and medical waste. The Ministry of Economy promotes recycling and approves waste facility closure plans. The Ministry of Social Security and Labour ensures occupational safety standards. County governors coordinate regional waste systems, and municipalities manage local operations and fee-setting. The Customs Department oversees hazardous waste during import, export, and transit stages.

3.3.1.15 Lithuanian Order No. D1-228 on Soil Protection

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Policy content and objective

Order No. D1-228⁸⁸ establishes a legally binding procedure for addressing environmental damage, with a specific focus on soil contamination and remediation. Its primary objective is to ensure the effective restoration of damaged land, water bodies, and protected habitats, by enforcing the polluter pays principle. Polluters are obligated to submit, fund, and implement remediation plans following pollution incidents.

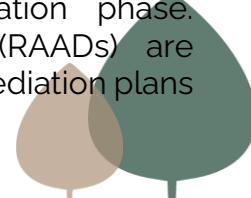
The order was adopted on May 16, 2006. The most recent consolidated version came into effect on December 28, 2018, and it remains in force indefinitely, unless amended or repealed by future legislation.

The regulation is based on a liability-based financial model: all remediation costs, including clean-up and compensatory measures, must be fully borne by the responsible party. Public funds are only used in exceptional orphan pollution cases, where no polluter can be identified.

It aligns with and operationalizes EU Directive 2004/35/EC on Environmental Liability, and is also coherent with Lithuania's Environmental Protection Law and the National Environmental Protection Strategy, ensuring integration with broader EU and national environmental frameworks.

Stakeholder consultation in the formulation process

The Order was formulated by the Ministry of Environment of Lithuania. While the regulation does not mandate public consultation during its initial drafting, it incorporates stakeholder engagement during the implementation phase. Specifically, Regional Environmental Protection Departments (RAADs) are required to inform affected landowners and communities when remediation plans



are proposed. These stakeholders may submit comments or proposals, which RAAD is legally obligated to evaluate.

Implementation

Any party responsible for environmental damage, including individuals, companies, or institutions, is eligible in the context of being held liable. Upon detection or notification of damage to soil, water, habitats, or landscapes, the polluter must submit a remediation plan to the RAAD within 7 days.

The policy follows a strict liability-based approach. All costs related to remediation and compensatory actions are paid by the polluter. There is no mention of subsidies, insurance, or alternative risk-financing schemes. Public funding is restricted to orphan cases with unidentified polluters.

The RAAD supervises the full remediation process, including plan review, approval (within 7–21 days), and on-site enforcement. The remediation plan, once approved, is legally binding and enforceable. RAAD also applies valuation tools, such as monetary equivalents, to assess the adequacy of compensatory measures. The Lithuanian Geological Service supports RAAD by providing technical soil assessments and guidance on remediation technologies.

3.3.1.16 Lithuanian Program on Water Pollution Reduction from Agricultural Sources (2008)

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Policy content and objective

Lithuania's Program on Water Pollution Reduction from Agricultural Sources (2008)⁸⁹ was developed to implement the European Union's Nitrates Directive (91/676/EEC), aiming to reduce nutrient pollution stemming from agricultural activities. The program specifically targets environmental pressures such as improper manure management, excessive use of fertilizers, and nutrient runoff into surface and groundwater. Its primary objective is to improve water quality by encouraging sustainable farming practices, supported through both technical assistance and legal enforcement.

The program was approved on December 9, 2008, with an initial implementation timeframe lasting until May 1, 2012. It included short-term measures between 2008 and 2010 focused on training, monitoring, and legal structuring, while long-term actions extended beyond 2012 to support systemic changes and infrastructure development in agriculture. Although the formal program concluded in 2012, many of its core measures and enforcement mechanisms continue to be applied through broader policy integration.

The program was supported by a mix of European Union Rural Development Program (RDP) funds for the 2007–2013 period, national budget allocations, and co-financing from participating farms. These financial resources were directed primarily toward infrastructure projects—particularly the construction of manure storage facilities—and the modernization of agricultural practices. The program



incorporated conditional access to subsidies based on environmental compliance, thereby creating an indirect financial disincentive against polluting practices. Non-compliant farms could be excluded from EU and national agricultural subsidies.

The program is firmly aligned with the Nitrates Directive and broader EU water and agricultural policies, reinforcing integrated water management and environmentally sustainable land use.

Stakeholder consultation in the formulation process

The formulation of the program was a joint effort by the Ministry of Agriculture and the Ministry of Environment. It was shaped by insights gained from over four years of pilot initiatives (2004–2008), which involved testing EU-funded schemes such as “Compliance with Standards” and organizing more than 450 farmer training sessions. Although no formal public consultation mechanism was mandated, the formulation process was de facto participatory. A wide range of stakeholders—including farmers, agricultural organizations, scientific researchers, farm advisory services, and interministerial working groups—contributed to the program's technical and regulatory elements. These stakeholders helped establish nitrogen use limits, design slope-based erosion control strategies, and develop nutrient planning requirements. Research institutions also played a vital role by conducting baseline environmental assessments and developing nutrient balance tools to guide decision-making.

Implementation

Eligibility for the program's measures typically includes farms engaged in high-nutrient activities or those located near sensitive water bodies, with particular obligations for large-scale farms. Compliance is enforced through a combination of legal restrictions, including bans on winter fertilization and mandatory buffer zones near water bodies, alongside economic mechanisms such as exclusion from subsidies for non-compliance and fines for regulatory violations. Mandatory fertilization planning and reporting obligations further support accountability. Monitoring and enforcement efforts are robust, involving both centralized oversight and decentralized support to ensure adherence to environmental standards. Core measures are legal restrictions such as bans on winter fertilization, buffer zones near water bodies, and mandatory manure storage standards; caps on nitrogen use to limit over-fertilization; mandatory fertilization plans for large farms and high-nutrient users; exclusion from EU and national subsidies for non-compliant farms; fines and enforcement actions for violations; and reporting obligations that increase compliance accountability.

Financial support for implementation is provided through a blend of EU Rural Development Program funds (2007–2013), national budget allocations, and co-financing from farms. These funds primarily support infrastructure, such as manure storage facilities, and the modernization of farming practices.

Implementation of the program is led by the Ministry of Agriculture, which is responsible for farmer training, fertilization planning, and advisory services, while the Ministry of Environment oversees legal compliance and nitrate monitoring. The Environmental Protection Agency manages surface and groundwater monitoring



efforts, and the Lithuanian Geological Survey conducts eco-geological research to support policy enforcement. Local implementation and compliance assistance are provided by municipalities and farm advisory services.



3.4 BIODIVERSITY OFFSET

Description:

Biodiversity offsets are regulatory instruments that deliver measurable conservation outcomes to compensate for significant residual biodiversity loss caused by development projects, after all feasible avoidance and mitigation measures have been applied. Offsets aim to achieve no net loss, and preferably a net gain of biodiversity. They are most often publicly mandated and can be implemented in sectors such as agriculture, forestry, construction, manufacturing, and mining, including measures to address soil erosion and habitat degradation. Land users and landowners may benefit through restoration projects, habitat management agreements, or in-kind conservation investments. Expected outcomes include equivalent or greater biodiversity value compared to the losses incurred, improved soil and ecosystem health, and strengthened natural capital in the affected landscape⁴.

3.4.1.1 EU-The Birds Directive (2009/147/EC)

[*\[Back to the Policy Table\]*](#)

Policy Content and objective

The Birds Directive (2009/147/EC)³⁴ establishes a legal framework for the conservation of all wild bird species naturally occurring in the European Union. It aims to maintain or adapt populations of birds to levels that meet ecological, scientific, and cultural requirements while taking account of economic and recreational needs. This objective is pursued through habitat preservation, regulation of hunting and trade, prohibition of harmful activities, and establishment of Special Protection Areas (SPAs). It requires the conservation, restoration, and creation of habitats and biotopes for bird species, which serves similar ecological functions to offsetting by restoring environmental quality lost elsewhere.

Adopted on 30 November 2009 as a codified version of Directive 79/409/EEC, it entered into force 20 days after publication in the Official Journal.

Incentive schemes are not specified in the directive itself. However, conservation actions under the directive may receive funding from broader EU instruments such as the LIFE Programme or the EAFRD.

The Birds Directive aligns closely with the Habitats Directive (92/43/EEC), forming the legislative backbone of the Natura 2000 network. It also complements the Sixth Environment Action Programme and supports the EU Biodiversity Strategy for 2030. This ensures coherence in EU nature protection and conservation efforts³⁴.

Stakeholder consultation and formulation process

The directive was adopted following the standard EU legislative procedure, which involved a proposal from the EC, consultation with the European Economic and Social Committee, and co-decision by the European Parliament and the Council of the European Union. Although the directive itself does not detail stakeholder consultation, the legislative process implies involvement of institutional



stakeholders. The Commission also consults MSs for adaptations, such as changes to species listings or authorisations for trade under Annex III provisions³⁴.

Implementation

The directive applies to all EU MSs and covers all wild bird species, their eggs, nests, and habitats. There is no individual “eligibility” in a beneficiary sense, but MSs are responsible for implementing its provisions nationally, including designating Special Protection Areas (SPAs) and enforcing protective measures.

While the directive does not define specific financial instruments or economic mechanisms, MSs can access EU funds to support implementation (e.g., LIFE, EAFRD). National budgets typically fund core obligations, such as SPA designation and habitat restoration. Financial support indirectly facilitates biodiversity conservation goals that parallel offset principles.

MSs are required to report every three years on implementation, population status, and conservation actions. These reports are synthesized by the EC into composite reports shared with MSs. Article 9 outlines conditions under which MSs may grant derogations, subject to annual reporting and Commission scrutiny. MSs are also obliged to avoid habitat deterioration and pollution inside and outside SPAs (Article 4.4), contributing indirectly to ecosystem integrity and resilience³⁴.

3.4.1.2 Eu-The Habitats Directive (92/43/EEC)

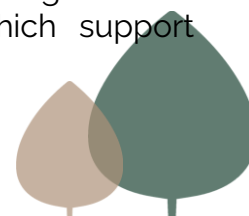
[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Habitats Directive (92/43/EEC)³³ is a cornerstone of EU nature conservation policy, adopted in 1992. Its primary objective is to contribute to the maintenance and restoration of biodiversity through the conservation of natural habitats and wild fauna and flora across the European Union. It operates in synergy with the Birds Directive (2009/147/EC), collectively forming the legal basis for the Natura 2000 network, a coherent ecological network of protected areas.

The directive is a permanent, legally binding legislative instrument with no fixed expiration date. It was adopted on 21 May 1992, and required MSs to transpose it into national law within two years of notification (i.e. by 1994).

The directive establishes a legal foundation for compensatory measures when significant negative impacts on Natura 2000 sites from plans or projects cannot be avoided. These measures are functionally equivalent to biodiversity offsets and must ensure the overall coherence of Natura 2000 is maintained. The directive provides for community co-financing to support MSs in managing and restoring sites with priority habitat types or species, particularly where financial burdens are high and distribution is uneven. However, there is no explicit mention of risk financing instruments such as insurance or catastrophe bonds. Financing is tied to existing EU funding instruments like LIFE and the EAFRD, which support conservation actions, including restoration and site management.



The directive aligns with the Birds Directive (2009/147/EC)³⁴, the Environmental Impact Assessment (EIA) Directive (2011/92/EU as amended), the Strategic Environmental Assessment (SEA) Directive (2001/42/EC) and the Water Framework Directive (2000/60/EC), by contributing to the ecological health of water-dependent habitats³³.

Stakeholder consultation and formulation process

The directive was developed through standard EU legislative processes, involving a proposal by the EC, followed by consultation with the European Parliament and the Economic and Social Committee. Though the directive itself does not detail the extent of stakeholder engagement, its implementation mechanisms encourage broader participation. Furthermore, transposition into national law often involves national and local consultations, especially when developing management plans or assessing development projects that affect Natura 2000 sites³³.

Implementation

The directive applies to all MSs, which are obligated to identify and propose Sites of Community Importance (SCIs) based on ecological criteria and to designate them as Special Areas of Conservation (SACs). Eligibility is ecological, not applicant-based, hence sites are selected for their contribution to maintaining or restoring habitats and species of Community interest (Annex I and II). In practical terms, when a development project threatens to impact a Natura 2000 site, it must undergo an appropriate assessment as required by Article 6(3). If adverse effects cannot be avoided, the MS must ensure compensatory measures are taken, thereby institutionalizing the concept of biodiversity offsets. These measures must not be the responsibility of the project proponent but rather coordinated at the national level.

The directive itself does not provide direct funding, but includes mechanisms for Community co-financing, whereby MSs submit financial estimates and propose measures for SACs with priority species or habitats. The Commission assesses these and establishes a prioritized action framework. Funding decisions are made in light of available resources under EU instruments such as LIFE, EAFRD, or regional funds. Compensation for residual impacts must be coordinated by MSs, not merely delegated to project proponents, ensuring consistency with conservation goals.

Monitoring is a legal requirement under Article 11, obliging MSs to track the conservation status of habitats and species within Natura 2000. Although the directive does not outline specific budget allocations, MSs bear the financial responsibility for implementation, including the design and execution of compensatory measures. This is supported in part by EU instruments such as LIFE and EAFRD. The application conditions are strict: MSs must demonstrate that a project will not compromise site integrity before approval, and if impacts are unavoidable, that effective compensation is in place to secure the directive's conservation objectives³³.



3.4.1.3 EU Biodiversity Strategy for 2030 (ref biodiversity offset)

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Policy content and objective

The EU Biodiversity Strategy for 2030¹³ aims to halt biodiversity loss, restore ecosystems, and set Europe's biodiversity on a path to recovery by 2030. It envisions a long-term goal that by 2050, all ecosystems are restored, resilient, and adequately protected. This strategy responds to five primary drivers of biodiversity loss, which are land and sea use change, overexploitation, climate change, pollution, and invasive species, through legally binding targets and integrated action frameworks. Key objectives include legally protecting 30% of EU land and sea areas, with 10% under strict protection, and restoring degraded ecosystems, particularly carbon-rich and biodiverse areas such as peatlands, wetlands, and old-growth forests.

It was launched in May 2020 by the EC and was designed as a ten-year roadmap. Its core vision looks ahead to 2050, but its principal operational targets are focused on achieving measurable progress by 2030. By 2030, targets should be fully achieved, including 30% protected land and sea, 10% strictly protected, and substantial restoration of degraded ecosystems.

Financially, the strategy seeks to mobilize at least €20 billion annually for biodiversity through EU instruments (e.g. CAP, Cohesion Fund, LIFE), national budgets, and private investments. It integrates biodiversity into economic decision-making via sustainable finance tools such as the EU Taxonomy and biodiversity tracking systems for EU funding.

The strategy is a core component of the European Green Deal. The strategy is coherent with other EU policies, notably the Farm to Fork Strategy, Circular Economy Action Plan, the CAP, and the Climate Law, forming a unified framework for sustainable transition. Biodiversity targets are reflected in CAP Strategic Plans and supported by the forthcoming Nature Restoration Law, Soil Health Law, and forestry policies¹³.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers point out that the goal of the strategy is to halt biodiversity loss, restore degraded ecosystems, and increase the resilience of the natural environment to climate change. Mining soils are an example of degraded land, as they are often polluted or eroded areas. However, they have high potential to become restored habitats if ecological restoration projects are carried out using techniques such as phytoremediation, revegetation, or natural habitat recovery. This strategy is relevant for managing areas degraded by mining activities. Its implementation at the local level helps manage and improve the handling of spaces filled with mining waste and environmental liabilities. This strategy seeks to stop the loss of natural life and recover degraded areas so they can regain ecological value. It is about improving environmental health and making it more resilient to climate change which is something increasingly urgent. It fits well the needs of this area, where many sites



have been affected by mining. Restoring those spaces not only improves the landscape but also helps make habitable again for plants and animals, and more pleasant and safe for people. It is important and necessary, and it addresses the needs. However, some *researchers* are not familiar with this, and it is very general. *Policymakers* argue that the strategy is an ambitious roadmap that recognizes ecological restoration as a key pillar in addressing biodiversity loss and mitigating the effects of climate change. In the context of contaminated soils, it represents an opportunity to transform degraded areas into spaces with ecological value and environmental functionality.

NGOs consider the strategy extremely important for habitat restoration. Similarly, municipalities have few tools to implement it, except for establishing local protection designations, such as natural monuments.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, *researchers* affirm that the strategy has been developed in the Spanish context through the Strategic Plan for Natural Heritage and Biodiversity 2023-2030.

Stakeholder consultation and formulation process

The formulation strategy involved broad stakeholder consultation processes. The EC drew upon scientific inputs, such as the IPBES 2019 report, and organized public consultations to assess environmental, social, and economic impacts, following its Better Regulation principles. These included input from national governments, civil society, businesses, researchers, and the general public. The strategy emphasizes a participatory governance model, encouraging collaboration across EU institutions, MSs, local and regional authorities, as well as landowners, farmers, foresters, and fishers. It aims to foster a “whole-of-society” approach, promoting transparency and collective ownership¹³.

Implementation

Implementation is anchored at multiple governance levels, with MSs responsible for designating protected areas, setting restoration priorities, and integrating biodiversity goals into national policies. Eligibility to benefit from funding mechanisms depends on alignment with EU biodiversity, agricultural, and climate targets. Conditions include the preparation of biodiversity-friendly CAP Strategic Plans, restoration projects for degraded land, and organic farming expansion.

Funding is provided through a range of instruments: CAP (with eco-schemes and agri-environmental payments), LIFE Programme, Horizon Europe, Cohesion Policy, InvestEU, and national allocations. The strategy envisions greening public and private investment, with biodiversity tracking and natural capital accounting becoming standard. The financial framework encourages blending public support with private sector engagement, including ESG-compliant financial products.

Monitoring and evaluation are built into the strategy. MSs must report progress by 2023 on the designation and management of protected areas, with a Commission assessment in 2024 to determine compliance. The strategy also includes a Knowledge Centre for Biodiversity, supports improved environmental data collection, and proposes legislative updates (e.g., Environmental Crime Directive) to ensure enforcement. Restoration targets will be legally binding, with expected



compliance monitored via defined indicators and spatial mapping, particularly of high-value and degraded ecosystems, including soils¹³.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers highlight that there is need for a greater awareness and understanding of these issues among public administrations and the general population. Moreover, in metal mining environments, the risk is that the restoration techniques applied may not be effective and could even become counterproductive in the long term. They might create seemingly healthy vegetation cover that becomes a vector of toxic elements in the food chain if the techniques used fail to immobilize metal salts effectively. In addition, ecological restoration is often approached from a very technical perspective, without sufficiently integrating the social or cultural use of the space. There is no a more creative or interdisciplinary approach that considers these areas not just as restores zones but as living spaces within the everyday environment. Guided tourist routes are a good example of integration, but probably not enough on their own. Environmental education among the population is key so that the natural environment is better valued and cared of in a more active and lasting way. Lack of funding is also identified as a challenge for the implementation of the strategy. *Policymakers* also agree that one of the main challenges is the lack of specific and stable funding for ecological restoration projects in degraded areas. In addition, there may be a lack of technical knowledge or strategic planning at the local level to carry out such interventions effectively and sustainably.

NGOs rather consider that lack of authority and, at times, lack of inter-administrative agility, as challenges. Often, there is also a lack of interest.

3.4.1.4 New Spanish Environmental Assessment (Ley 21/2013, de 9 de diciembre, de evaluación ambiental)

[*\[Back to the Policy Table\]*](#)

Policy content and objective

Spain's New Environmental Assessment (Ley 21/2013, de 9 de diciembre, de evaluación ambiental)⁹⁰ integrates and updates previous legislation on environmental assessment, aiming to streamline and unify the procedures for both Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA). The law's core objective is to ensure environmental protection by incorporating sustainability principles into the planning and approval of plans, programs, and projects. It emphasizes preventive, corrective, and compensatory measures, including mechanisms like habitat banking to achieve "no net loss" of biodiversity.

The law was approved on December 9, 2013 and published on December 11, 2013. A one-year adaptation period was granted to Spain's Autonomous Communities to align their regional legislation with the national framework. Even without such adaptation, the law applies as basic national legislation within one year of entry into force.



The law does not explicitly establish financial instruments or risk financing mechanisms, but it introduces market-based tools like habitat banking as voluntary mechanisms for developers to offset residual environmental impacts. These habitat banks allow the purchase of conservation credits, which serve as compensatory measures under the EA framework. These credits reflect ecological values (e.g., species, habitat quality/function) and are intended to make offsetting more systematic and accountable.

The law explicitly transposes key EU directives, including the directive 2001/42/EC (SEA Directive), and the directive 2011/92/EU (EIA Directive). It is also aligned with the Espoo Convention and its Protocol on Strategic Environmental Assessment, and the European Landscape Convention⁹⁰.

In *CS1 Spain [LH1-Mediterranean Forestry Soil]*, Law 21/2013 of 9 December on Environmental Assessment is little known and explored in terms of the relationship between environmental assessment and biodiversity compensation by all stakeholders. *NGOs* express their ability to mobilize society to participate in the development of the law. *Farmers* express that an environmental law has never been used to remunerate livestock farmers (implying that only the CAP is responsible for livestock issues).

Both *researchers* and *NGOs* highlight the lack of clear guidelines for the application of the policy in Extremadura, making implementation uncertain and inconsistent. There remain open questions about the uncertainty of how resources are transferred to the autonomous community and how the funds are managed. As a reference, stakeholders suggest consulting the Catalonia guide, which offers a more structured approach to compensation. Furthermore, given that 60% of Extremadura is part of the Natura 2000 network, there is an urgent need to promote its maintenance and support conservation efforts. *NGOs* highlight major misalignments in economic and agricultural policies. For example, the CAP prioritizes productivity over biodiversity, undermining conservation efforts. Furthermore, *NGOs* argue that companies responsible for paying compensation are often located in large urban centres, such as Madrid, rather than in regions directly affected by biodiversity loss. This disconnect prevents local communities from effectively benefiting from compensation measures. *Farmers* know that there is a hierarchy of roles in compensation measures (project submission and final decision). *Policymakers* identify a critical limitation: compensation measures are mainly applied on public lands because they are easier to manage, while private spaces remain neglected. This excludes significant conservation opportunities on privately owned lands, where biodiversity restoration could have a considerable impact. Furthermore, a lack of knowledge among stakeholders hinders participation in compensation programs, limiting their scope and effectiveness.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, *researchers* affirm that the instrument is the national reference law in this area. Since environmental responsibilities are devolved to regional governments, this law must be adapted to the specific characteristics of each territory. The law is a basic regulation for assessing the environmental impact of extractive activities. Its application at the local level should help to minimize the local impacts of extractive activities. This law aims to analyse and evaluate potential environmental impacts before carrying



out a project, especially in sectors like mining or rehabilitation. It is an important tool for making more responsible decisions from the outset. It makes sense in a context where interventions can have long-lasting effects on the landscape and environment. It is still unclear how demanding it is actually in practice or how it coordinates with other related laws. The steps to follow or the responsibilities may not always be well defined. Some researchers believe that more emphasis should be placed on other sectors that have a greater environmental impact. However, the law meets the local needs.

Policymakers argue that the law is a fundamental tool to ensure that projects and plans with significant environmental impact, such as mining and their subsequent rehabilitation phases, are rigorously assessed before implementation. Its application ensures that alternative, preventive, and corrective measures are considered from the start of the process. It allows for early evaluation of the potential effects of restoration on the environment and public health, as well as its compatibility with land use and conservation goals. It also gives a voice to local authorities and the public through information and public participation procedures. *NGOs* consider the law as fundamental for setting limits and establishing corrective measures for activities that are potentially harmful to the environment. Although the municipality participates in the process by providing input, mainly regarding urban planning, it does not have any decision-making powers.

In CS3 Spain [LH3-Atlantic Industrial Soil], researchers are familiar with the law.

Stakeholder consultation and formulation process

The formulation of habitat banking under the EA law unfolded in three phases:

Phase 1 (2014–2015): Led by MAGRAMA (now MITECO), the drafting of the Habitat Banking Guidelines (HBG) was driven by a small circle of experts affiliated with the Business and Biodiversity Offsets Programme (BBOP). Wider public and multi-sectoral participation was lacking, raising legitimacy concerns.

Phase 2 (2015–2017): Work stalled due to political turmoil and fears of backlash. Meanwhile, Catalonia launched its own consultation process and published compensation standards emphasizing additionality and local integrity.

Phase 3 (2017–2018): MAGRAMA broadened participation, integrating expert group input, simplifying credit classification, and revising compensation ratios. Despite increased consultation, concerns over transparency and accountability remained. Hence, stakeholder involvement was uneven, with early stages dominated by a niche expert network and later stages only partially opening up to broader feedback and institutional dialogue⁹⁰.

In CS1 Spain [LH1-Mediterranean Forestry Soil], there is a general lack of sufficient knowledge to participate in this particular instrument among relevant stakeholders.

Implementation

The EA Law applies to all public and private plans, programs, and projects that may have significant environmental impacts. All such activities must undergo SEA or EIA prior to approval. The use of habitat banking is voluntary, available to developers seeking to offset residual impacts after avoiding and minimizing harm in line with the mitigation hierarchy. Eligibility for using conservation credits



depends on project type, impact nature, and geographic fit with habitat bank provisions.

While the law does not allocate direct funding for habitat banks, it provides a legal basis for their operation. Habitat banks operate on a market-based logic, where developers purchase credits to compensate for environmental losses. The legal framework enables private or public actors to establish banks and generate credits, but does not mandate financial guarantees, a provision removed in later HBG drafts.

The law mandates post-project monitoring of the environmental impacts and mitigation/compensation measures. Articles 51–52 define monitoring duties for SEA and EIA outcomes, requiring follow-up on compliance with conditions in environmental declarations. Concerns remain about the administrative capacity to enforce monitoring, particularly for habitat banks, due to limited budgets, technical expertise, and data availability, especially in non-protected areas. In Catalonia, enhanced standards for monitoring, ecological proximity, and public interest exceptions have been introduced to strengthen implementation integrity⁹⁰.

In *CS1 Spain (LH1-Mediterranean Forestry Soil)*, researchers recognize that effective biodiversity compensation requires direct compensation mechanisms and clear transfers of resources between those responsible for environmental damage and those tasked with restoring or conserving ecosystems. Without this clear structure, resource flows remain ambiguous, compromising the effectiveness of compensation efforts. One of the most significant barriers identified is the voluntary nature of current policies. In the absence of mandatory requirements, few stakeholders are willing to compensate for their environmental losses. In addition, the undesirable impacts that poorly managed compensation can generate (e.g., fire risk) must be considered. Another issue is the lack of effective management tools to oversee and regulate the compensation process. A Dehesa state plan is needed to provide structure and guidance for these efforts. Moreover, there is no need to develop a separate ecosystem services label; this would add unnecessary complexity without addressing key implementation challenges. NGOs believe that the lack of a market for biodiversity offsets presents a challenge to implementing effective local strategies. Without a clear market framework, it becomes difficult to facilitate offset measures or attract the necessary investments to support conservation objectives. A strategic plan for the Dehesa is essential to fill this gap. Furthermore, highlighting the environmental and economic value of the Dehesa, and thus promoting the Extremaduran territory, would attract the interest of investors and decision makers, creating a stronger link between conservation and economic growth. At the policy level, state plans should also hold polluters accountable through higher taxes, applying the "polluter-pays principle" to ensure that those who damage the environment contribute proportionally to its restoration. Furthermore, conservation services need to be less restrictive, allowing for broader participation by landowners and stakeholders. A more flexible approach would encourage active involvement rather than alienate those wary of overly rigid regulations. Another aspect is the importance of educating producers about biodiversity payment programs, enabling them to maintain and improve sustainable practices. *Farmers* argue that effective



implementation of biodiversity offsets requires a clear and well-defined framework. Biodiversity offsets must go beyond a narrow focus on biodiversity alone. Value also lies in maintaining ecological stability and ecosystem functions. A further aspect is that financial compensation cannot adequately address biodiversity loss. Indeed, money alone does not restore the intrinsic value or complexity of ecosystems. Furthermore, there are no clear criteria for how offset funds should be used, creating uncertainty about their impact and effectiveness. Finally, *farmers* also note the difficulty in measuring the results of offsets. *Policymakers* consider the lack of mandatory requirements for biodiversity offsets as a barrier. Another critical issue is the lack of resources to effectively implement offsets at the local level.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers explain that, in terms of challenges in applying the law at the local level, it depends on how much importance each regional government places on environmental issues. In metal mining environments, this regulation is very generic and contributes very little, as it does not technically address the specific challenges of these very unique types of waste. These processes can be perceived as bureaucratic and disconnected from local realities. Moreover, the social or cultural dimension of the territory is not always considered in the evaluation, which can limit the positive impact of projects, even if they meet technical or legal requirements. Lack of funding is one of the main challenges in applying the law at the local level.

Policymakers acknowledge that local administration often lacks the technical and human resources to process complex environmental assessments. There can also be delays due to bureaucracy and a lack of coordination between involved agencies. In some cases, the assessment is seen more as an administrative burden than as a useful planning tool.

NGOs identify a lack of authority and, in some cases, coordination as the main challenges in applying the law at the local level.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers believe that it would be effective to introduce a condition for the use of Technosoils, either mandatory or with other incentives, in the Environmental Assessment Plans that the government requires for civil construction projects. In this sense, lack of experience and knowledge, but also the lack of transparency of middle-level officials, appears to be the major obstacles. In several projects, even exposed rock cover has not been completed (such as some new highways or railways), leaving the debris exposed and creating a potential risk that could end up containing the soil, surface and groundwater, and damaging the biodiversity and productivity of aquatic and terrestrial environments.

3.4.1.5 Spanish Law 42/2007 on Natural Heritage and Biodiversity (ref biodiversity offset)

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Policy content and objective

The law 42/2007 on Natural Heritage and Biodiversity⁷³ establishes the basic legal framework for the conservation, sustainable use, improvement, and restoration of



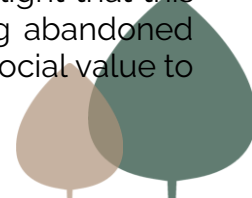
Spain's natural heritage and biodiversity. It aims to guarantee ecological processes, conserve habitats and species, and ensure biodiversity through preventive, corrective, and restorative measures.

The law was enacted on 13 December 2007 and published in the Official Gazette on 14 December 2007. It remains in force as a foundational environmental law, updated periodically to align with EU legislation and national biodiversity strategies.

The law provides for several economic instruments. Article 77 introduces incentives for positive externalities in protected areas and agreements under land stewardship schemes. Article 78 establishes a Fund for Natural Heritage and Biodiversity to support actions aligned with the law's goals. Article 75 authorizes financial support to non-profit entities working on biodiversity. Risk financing schemes per se (e.g. insurance, catastrophe bonds) are not explicitly covered, but Article 4(3) allows declaration of certain conservation works (including post-catastrophic actions) as of General Interest, enabling exceptional funding and intervention.

The law explicitly aligns with EU Directives, especially the Habitat Directive 92/43/EEC, Birds Directive 2009/147/EC, and EU Biodiversity Strategy for 2030. It incorporates and operationalizes Natura 2000 site protections (Articles 42–48) and reflects principles from broader EU environmental and sustainability frameworks, ensuring coherence across planning, agriculture, and land-use regulation⁷³.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers recognize that this law establishes the obligation to restore degraded natural areas, which includes zones affected by extractive activities, such as abandoned or unused mining operations. The law is the main national legal reference in that area. Since environmental powers are devolved to the regions, this law must be adapted to the specifics of each territory. Both *researchers* and *NGOs* believe that this law is a fundamental regulation for managing natural heritage and biodiversity. *NGOs* affirm that there are practically no local powers, except for the General Urban Development Plan, where some protection measures may be established for areas due to the presence of a particular species. *Researchers* argue that its implementation at the local level helps manage and improve natural heritage and biodiversity. Some researchers think that the law addresses real problems in the area but are not sure how demanding it is or to what extent it aligns with other similar regulations and policies. *Policymakers* agree that this law is a fundamental part of the Spanish legal framework that protects ecosystems and promotes biodiversity conservation. It focuses on restoring degraded natural areas which makes it a key tool for acting on mining-impacted zones, contributing to both environmental recovery and the public interest. The law allows the legal inclusion of the rehabilitation of abandoned mining areas as a priority for environmental management, facilitating their integration into local conservation plans and programs. It also reinforces the importance of restoring ecological value to degraded areas, generating environmental and social benefits for the territory. *Researchers* highlight that this law seeks to protect and restore degraded natural areas, including abandoned mining zones. It is considered as a way to return environmental and social value to



damaged places. However, some researchers also argue that this law only addresses the impact of the extractive industry, but not agriculture which affects much larger areas. The law meets the needs.

Stakeholder consultation and formulation process

Stakeholder involvement is institutionalized through: The State Council for Natural Heritage and Biodiversity (Article 8), which involves autonomous communities, scientists, and civil society in advisory capacities.

Voluntary agreements with landowners and users are promoted for biodiversity conservation (Article 4.4), reflecting co-management approaches.

The law emphasizes public participation in environmental planning and decision-making (Article 2.h), consistent with the Aarhus Convention on access to information and justice in environmental matters⁷³.

Implementation

Eligibility for financial and administrative support extends to 1) Autonomous communities and local governments responsible for executing biodiversity actions, 2) Non-profit entities (Article 75) engaged in conservation, and 3) Landowners and managers entering stewardship agreements or voluntary conservation contracts (Articles 76–77).

Funding is channelled through the Fund for Natural Heritage and Biodiversity (Article 78) for national and regional projects, incentive mechanisms for conservation-compatible land uses and habitat restoration (Article 77), and public-private partnerships and EU co-financing are encouraged, although detailed mechanisms are left to implementing regulations.

Monitoring and implementation are structured through state and regional biodiversity inventories (Articles 9–11), environmental impact assessments, habitat mapping, and connectivity assessments. Article 48 mandates surveillance and monitoring of Natura 2000 sites. Articles 80–81 classify violations and impose fines up to €2 million, depending on severity, including offenses related to pollution and ecosystem degradation⁷³.

In *CS2 Spain [LH2-Mediterranean Industrial Soil]*, researchers point out that the implementation of the law is subject to the importance placed on environmental matters by regional governments. In metal mining environments, these regulations are too generic and do not contribute much, as they do not address the specific technical challenges of this unique type of waste. Additionally, there is often a lack of coordination between administrations and a broader vision that links environmental and social aspects. *NGOs* agree that there is a lack of authority and, in some cases, coordination. *Researchers* affirm that, even though there are laws and regulations, the specific steps for implementation are not always clear, nor is it clear who is responsible for what, which complicates their practical application. There is also a lack of funding, which is recognized by *policymakers* as well. In particular, one of the main obstacles is the lack of dedicated funding for carrying out restoration projects in old mining sites, especially when there are no identifiable responsible parties. Additionally, there may be a disconnection



between land-use planning instruments and conservation objectives, which hampers effective and coordinated implementation.



3.5 GRANTS

Description:

Grants are primarily publicly funded instruments that function as non-repayable transfers, often used to support specific objectives or activities. This scheme encompasses transfers made in cash, goods, or services for which no repayment is expected. This scheme has been widely applied in agriculture, particularly for conservation or sustainable land use, with landowners and land users as primary beneficiaries. The expected returns are mainly in terms of environmental impact, although some are also associated with increased productivity or socio-economic co-benefits. The main results of its application consist of avoiding future expenditures and delivering more cost-effective and targeted outcomes, but it may also involve the reallocation of existing financial flows to support environmental or sustainability goals⁴.

3.5.1.1 Regulation (EU) 2021/2115 | Regulation (EU) 2021/2116 (ref grants)

[*\[Back to the Policy Table\]*](#)

Policy content and objective

Regulations (EU) 2021/2115⁵ and 2021/2116⁶ provide the legislative foundation for the reformed CAP during the 2023–2027 programming period. A central objective is the promotion of sustainable management of natural resources alongside reducing dependency on chemical inputs and supporting climate action. It employs a range of economic mechanisms, which are PES, grants, and risk financing schemes.

Several types of grants are provided to support agricultural sustainability, rural development, and income stability. Key grant types include Basic Income Support for Sustainability, which offers area-based payments to active farmers to ensure a fair standard of living; Complementary Redistributive Income Support, aimed at enhancing support for small and medium-sized farms; and Complementary Income Support for Young Farmers, which promotes generational renewal. Under rural development, grants include Agri-Environment-Climate Commitments, supporting environmental practices beyond legal baselines; Investments in Physical Assets, funding farm modernization and infrastructure; and Cooperation Grants, which foster innovation and collective action.

The CAP regulations are closely aligned with broader EU policy frameworks, particularly the European Green Deal, the EU Biodiversity Strategy for 2030, and the UN 2030 Agenda for Sustainable Development.

Under the reformed CAP, each EU MS is required to develop a national CAP Strategic Plan aligned with the objectives set out in Regulations (EU) 2021/2115 and 2021/2116. These plans must be developed through mandatory stakeholder consultations and submitted to the EC for approval^{5|6}.

Stakeholder consultation and formulation process



The formulation process included a structured stakeholder consultation process at the EU level. In 2017, the EC conducted a public consultation on the future of the CAP, receiving over 322,000 responses from a broad range of stakeholders, including farmers, environmental organizations, regional authorities, and members of the public. This was complemented by targeted stakeholder dialogues, workshops, and advisory group meetings involving actors such as Copa-Cogeca, environmental NGOs, and rural networks^{5|6}.

Implementation

Grants are implemented through eligibility rules and funding mechanisms defined in each MS's CAP Strategic Plan. Eligibility typically applies to active farmers, agricultural cooperatives, and rural businesses, with specific criteria tailored to the grant type, such as age and business status for young farmer grants, or the nature of the investment for rural development and cooperation grants. For income support and environmental measures, beneficiaries must comply with conditionality requirements, which include statutory management rules and standards for GAEC.

Funding is provided via the EAGF for direct income support and eco-schemes, and the EAFRD for rural development interventions. MSs must allocate at least 10% of direct payments to redistributive income support, and a minimum of 35% of EAFRD funds must target environmental and climate-related actions, which often include grant-based measures.

Monitoring and performance are overseen by MSs reporting annually on outputs and outcomes using a common set of indicators. The EC evaluates these reports and may suspend payments in cases of insufficient progress or non-compliance. Implementation is supported by accredited paying agencies, certification bodies, and coordinating authorities, with control systems that include on-the-spot checks, remote sensing, and area monitoring systems to ensure accuracy and compliance in grant disbursement^{5|6}.

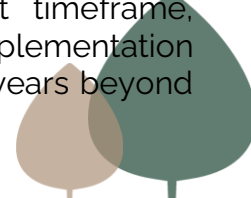
3.5.1.2 EU's 7th Framework Program

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Policy content and objective

The 7th Framework Programme for Research and Technological Development (FP7)⁹¹ had the objective to strengthen scientific excellence, support innovation, and boost Europe's industrial competitiveness while addressing major societal challenges such as health, climate change, environment, and energy security. FP7 sought to contribute to EU-wide goals of sustainable economic growth, job creation, and improved quality of life, while also advancing Europe's leadership in key technologies.

The FP7 covered the period from 1 January 2007 to 31 December 2013, representing a seven-year funding cycle. It was established as the EU's primary instrument for supporting research and innovation during that timeframe, succeeding FP6 and preceding Horizon 2020. Although its formal implementation ended in 2013, projects funded under FP7 often extended several years beyond



this, with many research activities, evaluations, and impacts continuing into the mid-2010s.

Financially, FP7 mobilized €50.5 billion, with dedicated funding streams such as the Cooperation programme (€28.7 billion), the European Research Council (ERC) for frontier science, the Risk-Sharing Finance Facility (providing €11.3 billion in loans to innovation-focused companies), and SME-targeted funding exceeding €6.4 billion. While FP7 did not specifically operate as a risk-financing scheme in the insurance sense, the Risk-Sharing Finance Facility represented a financial mechanism to enhance access to loans and leverage private investment in research and development.

FP7 was closely aligned with EU policies such as the Lisbon Strategy and Europe 2020, promoting sustainable growth, competitiveness, and innovation. It also complemented structural funds, LIFE, and other programmes, although the evaluation notes that synergies with related funding mechanisms like the Competitiveness and Innovation Programme (CIP) were limited due to legal and procedural differences⁹¹.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers identify that, in the mid-2010s, there was a participation in the GREENLAND project "Gentle remediation of trace element contaminated land" in collaboration with other EU partners to explore the possibilities of rehabilitating contaminated soils.

Stakeholder consultation and formulation process

FP7's priorities and structure were shaped through consultations with MSs, research institutions, industry stakeholders, and independent experts. A High-Level Expert Group (HLEG) consisting of 12 independent experts provided evaluation and recommendations, ensuring that the programme responded to both scientific opportunities and societal challenges. Moreover, FP7 was designed to be open and inclusive, with international participation from over 170 countries and significant engagement of SMEs, universities, and research organizations. Public-private partnerships (PPPs) and Joint Technology Initiatives (JTIs) were also developed to ensure industry perspectives were integrated⁹¹.

Implementation

FP7 calls for proposals were open to a broad set of stakeholders, including universities, research organizations, SMEs, private companies, and public bodies. Eligibility conditions required that participants meet EU-defined research objectives, form consortia (in most cases transnational), and submit competitive project proposals evaluated through a peer-review process based on excellence, impact, and implementation quality.

Funding was project-based and varied by programme pillar, with substantial investments in environmental research (€1.7 billion for 494 projects), including soil health, resource efficiency, and pollution reduction. FP7 supported both fundamental and applied research, leading to innovative technologies and policy-relevant knowledge.



Monitoring and evaluation were integral, with rigorous reporting, external reviews, and impact assessments conducted to ensure transparency and accountability. The programme's success was evidenced by over 170,000 scientific publications, 1,700 patent applications, and 7,400 commercial exploitations during its lifetime⁹¹.

3.5.1.3 Interreg Galicia-Northern Portugal (POCTEP (V-A))

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Policy content and objective

The Interreg V-A Spain–Portugal (POCTEP) Galicia–Northern Portugal Programme⁹² is a European Territorial Cooperation (ETC) initiative co-financed by the ERDF. It aims to promote cross-border integration, sustainable development, and cohesion between northern Portugal and Galicia. The programme covers several thematic objectives, including innovation, environmental protection, risk prevention (notably wildfires), biodiversity conservation, water quality, and climate change adaptation.

The programme operates in programming periods: 2007–2013, 2014–2020, 2021–2027 (current). The implementation timeframe for each cycle aligns with EU Cohesion Policy funding rounds, with ongoing evaluations and project completion extending into the following years. In the 2014–2020 period, it included relevant actions to address soil and water pollution, such as the NOR-WATER project, which focused on emerging pollutants in aquatic environments and developed new risk assessment tools for better environmental management.

The financial instruments used are predominantly non-repayable grants financed through the ERDF. While traditional risk financing instruments (e.g., insurance, guarantee schemes) are not prominent, the programme supports infrastructure and systems that mitigate environmental and disaster-related risks, thereby contributing indirectly to risk management capacity. Also, while economic instruments such as PES or market-based risk transfer tools are not explicitly part of POCTEP, some projects have developed tools or assessments that can support future use of such mechanisms. For instance, environmental monitoring and valuation tools from pollution-related projects can underpin cost-recovery or risk-pricing schemes.

The programme aligns closely with broader EU policy frameworks, including the EU Green Deal, the EU Biodiversity Strategy for 2030, the Nature Restoration Law, the Water Framework Directive, and climate adaptation strategies. It also complements national strategies in Spain and Portugal, including Portugal 2030 and Spain's environmental transition policies⁹².

Stakeholder consultation and formulation process

POCTEP's formulation process incorporates multi-level governance and broad stakeholder participation. Key actors include managing authorities (e.g., Spanish and Portuguese national and regional governments), regional entities (e.g., Xunta de Galicia, CCDR-Norte), local authorities and municipalities, universities and research centres, environmental NGOs and civil society organizations,



and private sector partners, particularly in the fields of innovation and environmental services. Public consultations, expert working groups, and interregional platforms such as the Eixo Atlántico have provided input into programme priorities and project selection criteria. For example, the NOR-WATER project involved the creation of a cross-border stakeholder network to co-develop tools for monitoring water pollution and informing policy and public awareness efforts⁹².

Implementation

Eligible applicants include: Public authorities (local, regional, national), Non-profit organisations (including NGOs and associations), Universities and research institutes, SMEs and business clusters, particularly in thematic priorities like green innovation, and Cross-border consortia of actors from both Spain and Portugal.

Eligibility conditions require that: Projects demonstrate cross-border cooperation, Activities align with programme priorities and thematic objectives, Partnerships include at least one Spanish and one Portuguese entity, and Projects deliver measurable transboundary impacts.

Funding is provided mainly through grants (ERDF co-financing), covering up to 75–85% of eligible costs depending on project type and partnership composition. Eligible expenses include personnel, equipment, infrastructure, training, communication, and research.

Monitoring is coordinated by the Joint Secretariat (based in Badajoz), working with the Managing Authority and National Authorities from Spain and Portugal. Each project must provide: Periodic progress reports, Output and result indicators (e.g., hectares of restored ecosystems, water quality metrics), and financial audits and compliance checks. Independent evaluations are conducted at programme mid-point and closure, ensuring alignment with EU Cohesion Policy requirements and thematic effectiveness⁹².

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers explain that a program was developed for the production of a Technosoil that is useful in fire prevention. This Technosoil and project were carried out with the company "Centre de Valorización Ambiental del Noroeste (CVAN)" within the project TERRAMATER. The project focused on "research and development" to develop new practices and advance their knowledge about the production of Technosoils for different types of environmental issues. The project developed a Technosoil that prevents and rehabilitates soils burned by forest fires, which adds to their research on Technosoils that enhance tree growth and, consequently, forestry productivity. However, the issue they may face is that all this knowledge and the products developed are not in demand by the market, partly due to limitations imposed by the administration. Meanwhile, in other sectors, such as forestry or civil construction, public policies do not sufficiently promote the implementation of Technosoils, even though their benefits are scientifically proven and widely disseminated by entities like ADIF and companies like FERROVIAL or ENUSA.



3.5.1.4 Latvian Rural Development Programme (RDP) 2014–2022

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Policy content and objective

The Latvian RDP 2014–2022⁹³ has the core objectives to improve the competitiveness of the agri-sector, ensure environmental sustainability, promote climate-resilient practices, and diversify the rural economy. Environmental priorities feature strongly soil health and pollution reduction, to restore, preserve, and enhance ecosystems related to agriculture and forestry, addressing biodiversity, water, and soil challenges, and include significant allocations for contracts on soil management.

The Programme spans the 2014–2022 period, with the final amendment approved in March 2024.

Substantial grant support is provided through several environmental and climate-focused measures. Measure 10 (Agri-environment-climate) offers grants for sustainable land management, crop rotation, and practices to reduce soil erosion and nutrient runoff. Measure 11 (Organic farming) provides per-hectare payments to farmers converting to or maintaining organic practices, directly supporting soil fertility and pollution prevention. Measure 12 (Natura 2000 & Water Framework Directive) makes grants available for land under environmental constraints, compensating for compliance with protection rules related to water and soil. Measure 13 (Areas with natural constraints) offers grants for land with limited productivity (e.g., due to poor soil), ensuring its continued use in ways that preserve environmental value. These grant-based measures are complemented by risk financing schemes under Measure 17 (insurance support) and Measure 5 (catastrophe recovery), which are more limited and focused on damage mitigation rather than proactive soil health investment.

The policy is strongly aligned with the EU CAP, the EU Water Framework Directive, biodiversity strategies, and climate objectives. It demonstrates coherence with Latvia's Partnership Agreement for the EU Structural and Investment Funds and complements Pillar I greening measures.

In *CS6 Latvia [LH6-Boreal Forestry Soil]*, NGOs argue that EAFRD is well-known and important for the agricultural sector both in Europe and Latvia. Farmers are generally well aware of agri-environmental (5-year commitment) and investment measures. A significant portion of funding has been allocated to various initiatives that can be linked to soil health, for instance, precision agriculture - precise application of fertilizers (mineral and manure), reduced tillage tractor equipment/aggregates. The fund also finances the afforestation of agricultural land and forest thinning. Needs related to soil health are relatively well covered, and there is a higher level of implementation flexibility. Investment measures largely meet the needs of farmers. More practical agri-environmental measures would be desirable. For instance, measures related to the implementation and



maintenance of buffer zones are linked to soil biodiversity and, consequently, to soil health. Greening measures could better incorporate broader production functions. However, the aspects of forest soil health were insufficiently addressed. *Policymakers* agree that the EAFRD is important as it provides financing for agri-environmental interventions. In Latvia, this funding is used in a targeted manner.

Stakeholder consultation and formulation process

The RDP was formulated through extensive stakeholder engagement. The ex-ante evaluation process involved farmers' associations, environmental NGOs, Local Action Groups (LAGs), and research institutions. A broad consultation process took place through public meetings, thematic working groups, and advisory councils, especially under the LEADER approach (M19), which empowers 32 LAGs representing over 90% of the rural population. Environmental and soil-related measures were discussed in targeted workshops with representatives from environmental authorities and civil society. The documentation confirms structured dialogue on soil degradation, biodiversity, and climate impacts through forums such as the Farmers' Advisory Council (in Latvian "Lauksaimnieku konsultatīvās padomes sanāksme") and meetings with environmental organizations.

Implementation

Support under the RDP is available to a wide range of rural actors, primarily registered farmers, forest owners, rural SMEs, producer groups, and municipalities. Eligibility conditions vary by measure but commonly include registration status, land or livestock thresholds, and adherence to environmental standards.

Key funding instruments include direct grants, contracts for environmental services (e.g., agri-environment, organic farming), risk management payments, and infrastructure investments. Substantial funds are allocated to environmental measures: M10 (Agri-environment-climate): €111.6 million, M11 (Organic farming): €151.9 million, M12 (Natura 2000 & Water Directive): €24.1 million, M13 (Areas with natural constraints): €267.5 million.

The RDP is implemented under the EU Common Monitoring and Evaluation Framework (CMEF). The Ministry of Agriculture provides strategic oversight, while the Rural Support Service (RSS) manages administration, payments, and compliance. Annual implementation reports, performance indicators, mid-term and ex-post evaluations are used to assess progress. Soil health and pollution indicators are explicitly tracked via contracts for soil and water management and emissions reduction.

In *CS6 Latvia [LH6-Boreal Forestry Soil]*, NGOs point out that implementation challenges are related to the achievable results and indicators, as external factors may hinder the achievement of these results. In addition, challenges arise from the technical details of the implementation process. The process should be more result-oriented rather than process-oriented. Forest owners' access to grants under the EAFRD (including insurance and risk management) is insufficient, and such practices have not been implemented or widely adopted in Latvia. Moreover, some of the measures are still being implemented until September 2025.



Differently, *policymakers* believe that, in general, significant challenges related to the use of the EAFRD (agri-environmental interventions) are not identified; some specific minor technicalities are faced. Moreover, the implementation of agri-environmental measures is voluntary for landowners and managers. In addition, the use of the Fund's resources and interest in its measures/interventions (including those related to soil health) are high in Latvia.

3.5.1.5 Latvian Law on Compensation for Restrictions on Economic Activities in Protected Territories (2013)

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Policy content and objective

The Latvian Law on Compensation for Restrictions on Economic Activities in Protected Territories (2013)⁹⁴ establishes a legal framework to compensate landowners whose ability to use their land is restricted due to environmental conservation designations, such as specially protected nature territories and micro-reserves. The primary objective of the law is to ensure financial fairness for landowners affected by such restrictions.

The law entered into force on 1 June 2013 following its approval by the Saeima on 4 April 2013 and remains valid for as long as the restrictions on economic activity persist.

The law utilizes national budgetary allocations, EU co-financing, and annual payments tied to land type and estimated income loss. It introduces a grant-based mechanism that offers annual compensation payments, land repurchase options by the state, and access to EU rural development funding, particularly under Natura 2000 measures.

The law is well aligned with EU environmental and agricultural policy frameworks, including the Birds and Habitats Directives, Natura 2000 objectives, and the Latvian Rural Development Programme. It ensures coherence between biodiversity conservation and the CAP by integrating EU-funded compensation into domestic governance structures.

In *CS6 Latvia [LH6-Boreal Forestry Soil]*, researchers recognize that the law offers green bonds for projects aligned with its taxonomy regarding ecological restoration.

Stakeholder consultation and formulation process

The policy was developed by the Ministry of Environmental Protection and Regional Development (MEPRD) in cooperation with other key governmental stakeholders, including the Ministry of Agriculture, Ministry of Finance, State Forest Service, and State Environmental Service. While there was no formal public consultation process, the law was shaped by persistent advocacy from landowners, farmers, and forestry stakeholders who had long expressed dissatisfaction over uncompensated restrictions. These grievances were communicated through sectoral organizations, parliamentary petitions, and public



debates, prompting legislative action. Local governments also played a role in defining eligible areas and activities. This collaborative yet top-down process ensured interministerial coordination, legislative coherence, and stakeholder alignment.

Implementation

Eligibility for compensation is open to individuals and entities with legal ownership or usage rights over land designated as a specially protected nature territory or micro-reserve, provided that formal restrictions on economic activity are in place. Applicants must submit cadastral and environmental zoning data and must comply fully with conservation conditions throughout the compensation period.

Funding for the scheme is sourced from a mix of national budgets, EU rural development funds, and disbursements managed by the State Treasury. Budgetary ceilings are set annually by the Cabinet of Ministers, and the compensation is based on land type and expected income loss from restricted use. Although no new revenue streams are introduced, administrative and operational costs are absorbed within existing institutional budgets.

Implementation is overseen by the MEPRD, with operational roles divided among the State Environmental Service, State Forest Service, local governments, and the State Treasury. The process is standardized and formalized, ensuring transparency in both application and disbursement. Monitoring and evaluation are conducted through MEPRD oversight, institutional reporting, and compliance audits, ensuring that compensated landowners respect all relevant restrictions and conservation objectives.

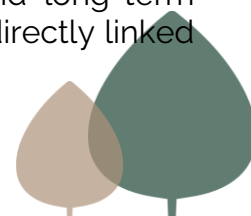
In *CS6 Latvia [LH6-Boreal Forestry Soil]*, NGOs argue that compensations for restrictions on forest land were unfair and too low. The compensation system is currently under review, and proposals for legislative amendments have been prepared. There is no indication that soil protection aspects will be included in these amendments.

3.5.1.6 Spanish Environmental Restoration Strategy for the Cartagena-La Unión Mining Sierra

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Policy content and objective

The Environmental Restoration Strategy for the Cartagena–La Unión Mining Sierra is a subcomponent of the “Marco de Actuaciones Prioritarias para la Recuperación del Mar Menor (MAPMM)”^{74|75}, which itself is one of the key investment lines under Spain's Recovery, Transformation and Resilience Plan (PRTR). The strategy aims to restore abandoned and contaminated mining sites in the Sierra Minera to prevent heavy metals from reaching the Mar Menor lagoon via water runoff and wind dispersion, protect nearby communities (e.g., Llano del Beal) from exposure to toxic mine tailings, and contribute to ecosystem regeneration and long-term resilience of the Mar Menor basin. Thus, the restoration strategy is directly linked



to the MAPMM, which in turn is financed through the PRTR, Spain's national implementation of the EU's NextGenerationEU recovery funds.

The implementation of the strategy began in November 2024, marked by the initiation of works in Llano del Beal. The execution period for the intervention is approximately 18 months, extending into the year 2026. This timeline aligns with Spain's broader PRTR objectives, which set out a multi-year investment schedule for ecological and climate-oriented recovery actions.

The financial foundation for the Sierra Minera strategy is primarily based on public funding derived from the PRTR, with significant support from the EU Recovery and Resilience Facility (RRF). Of the total €675 million allocated to the MAPMM framework, about €110 million is dedicated specifically to the remediation and recovery of approximately 600–700 hectares of mining-impacted terrain in the Sierra Minera. Additional funding includes an earmarked €4 million for the closure of the El Lirio mining waste deposit, a project coordinated between MITECO and the Murcia regional government, with the state covering up to 70% of costs. It is worth noting that no formal risk-financing mechanisms—such as insurance pools, reinsurance schemes, or catastrophe bonds—are referenced in the design or financing of this intervention. Instead, risk is addressed through robust public procurement procedures and technical performance guarantees established in state contracts with implementation agencies.

This restoration initiative is closely aligned with several European Union policies and strategies. As a PRTR-funded project, it falls under the umbrella of the EU Green Deal and directly contributes to the goals of the EU Biodiversity Strategy for 2030 by restoring heavily degraded land and reducing pollutant flows into sensitive ecosystems. Furthermore, it supports the implementation of the EU Water Framework Directive (2000/60/EC), given its direct aim of reducing pollutant loads into a vulnerable water body, and reflects objectives of the EU Soil Strategy for 2030, which prioritizes action on contaminated soils. Thus, the strategy exhibits vertical alignment with EU-wide legislation and strategies on environment and biodiversity and horizontal coherence with Spain's national environmental priorities.

Stakeholder consultation and formulation process

Within the framework of Spain's Recovery, Transformation, and Resilience Plan (PRTR), the environmental remediation project for mining waste in Cartagena–La Unión was subject to a formal public consultation process, as required by environmental and administrative law. Specifically, the project and its Environmental Impact Study were opened to public comment for 30 business days following Article 36 of Law 21/2013 on environmental assessment and Law 39/2015 on administrative procedure. MITECO, through its Directorate General for Biodiversity, was designated as the project's promoter. Following the environmental review, additional legal procedures related to compulsory expropriation and the rights of affected property owners were initiated. While there was no open call for applications, civil society groups such as the Fundación Sierra Minera and the Plataforma de Afectados por los Metales Pesados had long advocated for intervention. These groups submitted technical documentation,



hazard maps, and formal allegations that contributed to the identification of risk areas and informed the state's site selection and planning decisions.

Implementation

There was no public call for applications or competitive selection process for stakeholders to propose restoration projects. Instead, the entire initiative was planned, designed, and implemented as a top-down public intervention by the Spanish Ministry for the Ecological Transition and the Demographic Challenge (MITECO). This was made possible because the overall strategy—within the framework of the Marco de Actuaciones Prioritarias para el Mar Menor (MAPMM)—was declared to be of “general interest” by the Spanish Government in 2021. That legal declaration allowed the central government to directly manage environmental projects in the Mar Menor basin, even though land-use and environmental competencies are generally regional matters in Spain.

The selection of mining waste sites for intervention in the Sierra Minera was based on environmental risk criteria established through technical studies by MITECO and its affiliated scientific and engineering teams. These criteria included proximity to the Mar Menor watershed, potential for pollution via surface water or wind erosion, physical condition and stability of waste deposits, toxicity levels in tailings and soils, and exposure risk to nearby populations. Publicly accessible government maps and documents identify 25 priority waste deposits grouped into eight main intervention zones, including Llano del Beal, El Descargador, Brunita, El Lirio, and others. These were chosen not through applications but through risk-based environmental diagnostics, often using pre-existing data from regional environmental records and past studies.

3.5.1.7 Swiss Federal Act of 29 April 1998 on Agriculture (Agriculture Act, AgricA) (ref grants)

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Policy content and objective

The Swiss Federal Act of 29 April 1998 on Agriculture (AgricA)¹⁷ aims to ensure that Swiss agriculture contributes to food security, the conservation of natural resources, and the maintenance of rural areas. It seeks to guarantee fair income opportunities for farmers, support sustainable agricultural production systems, and promote the provision of ecological and public services.

The act modernizes the country's agricultural policy by replacing the 1951 Agriculture Act and entered into force on 31 December 1998 remaining in effect indefinitely, continuing until amended or replaced by a future act.

The act establishes direct payments to farmers, grants are available for modernizing infrastructure to meet ecological or welfare standards, funding supports for market development, branding, and quality assurance schemes for Swiss agricultural products, financial support for research projects aligned with federal agronomic goals, and sustainability or innovation grants.



At the national level, the act is linked with the Federal Act on the Protection of Nature and Cultural Heritage, the Environmental Protection Act, and the Spatial Planning Act. The Agriculture Act also supports the implementation of Switzerland's Biodiversity Strategy and Climate Strategy for Agriculture, making it an important instrument for achieving the country's broader environmental targets. The law is coherent with other national legislation, such as the Forest Act (ForA) and the Nature and Cultural Heritage Act (NCHA)¹⁷.

In *CS9-Switzerland ILL2-Continental Agricultural Soil*, researchers recognize that the Federal Office for Agriculture (FOAG) may, on request, grant financial assistance to public or private institutions for research projects that are in line with the federal government's agronomic research goals and priorities.

Stakeholder consultation and formulation process

Preceding the enactment of the act, the Federal Council circulated the agricultural policy framework through a formal public consultation (in German "Vernehmlassung"). This process solicited input from farmer associations, environmental NGOs, cantonal authorities, and other interest groups, ensuring diverse viewpoints were considered. Although the AgricA text itself doesn't detail every stakeholder input, the Federal Council's Dispatch of 26 June 1996 (cited in the act's preamble) underwent this open consultation prior to parliamentary debate¹⁷.

Implementation

Under the Swiss Federal Agriculture Act, farmers receive basic direct payments for public services, top-up payments for environmental, animal welfare, organic, and marketing efforts, investment grants for infrastructure improvement, and regional compensation in disadvantaged areas. But in addition to these, under the Federal Agriculture Act and the new Ordinance on Agricultural Research (in force since 1 Jan 2025), the Federal Office for Agriculture (FOAG) can grant financial assistance for research projects that align with national agronomic research priorities. Public and private research institutions (federal/cantonal university institutes, non-profit research bodies) as well as collective consortia projects are eligible across topics. The covered fields are organic farming, where only collective projects are eligible. Funding conditions are that up to 50% of certified and chargeable project costs are eligible. In addition to federal initiatives, cantonal and regional programs also support sustainable and innovative agricultural practices. Some of these are fully or partly financed by the federal government. They are also tailored to regional conditions and needs, often more experimental or pilot-oriented. An example is "Klimaschutz durch Humusaufbau" (2022–2027).

All payments are financed through federal and, in some cases, cantonal or regional government revenue, with allocations planned through multi-year financial programming. While the exact annual budget can vary and is subject to parliamentary approval, the Agriculture Act provides the legal basis for continued and stable public funding for these measures.

The implementation has been under the responsibility of the Federal Council since its entry into force in 1999. Operational management and oversight are carried out



by the Federal Office for Agriculture, while cantonal authorities are responsible for local-level implementation. Monitoring and evaluation of policy implementation are conducted annually by FOAG and include the use of a comprehensive indicator system to assess outcomes related to biodiversity levels, soil and water quality, and the socio-economic performance of agricultural operations, including farm income¹⁷.

In *CS9-Switzerland [LL2-Continental Agricultural Soil]*, researchers recognize that funding is available for research and development projects carried out by qualified research institutions (federal and cantonal university institutes or private non-profit research institutions). Collective consortia projects are also eligible for support. In the field of organic farming, only collective projects are eligible for funding. With the entry into force of the new Ordinance on Agricultural Research on 1 January 2025, financial support for newly submitted research projects will amount to a maximum of 50% of the certified and chargeable costs for each project. Projects are evaluated according to thematic, scientific and resource evaluations by the areas of the FOAG's Directorates; the final decision on project funding is then taken by the FOAG's Senior Management. If the application is accepted, financing is contractually agreed. The project can be launched at the earliest four months after submission of the application to the FOAG.

Farmers point out that non-national projects/incentive programmes are available at a cantonal or regional scale - some of which are funded wholly or partially by the federal government. 'Klimaschutz durch Humusaufbau' (2022-2027) is a public-private project type with Canton Basel Landschaft as geographical scope.

3.6 RISK FINANCING SCHEMES

Description:

Risk financing schemes are insurance-based instruments that transfer financial risk from land users or landowners to another party, typically in exchange for a premium. They may take the form of payment-linked insurance policies or contractual agreements between two or more parties. Funding can come from public sources, private sources, or a combination of both. These schemes are often used to encourage the adoption of soil conservation measures and best land management practices (BMPs), particularly in agriculture. The main beneficiaries are land users and landowners who gain financial protection against losses from soil degradation or other environmental risks. Expected outcomes include both environmental and economic benefits: improved soil health and land productivity, enhanced cost-effectiveness in resource allocation, alignment of incentives for sustainable practices, more equitable distribution of resources, and reduced need for future remediation or investment⁴.

3.6.1.1 Regulation (EU) 2021/2115 | Regulation (EU) 2021/2116 (ref risk financing schemes)

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Policy content and objective



Regulations (EU) 2021/2115⁵ and 2021/2116⁶ provide the legislative foundation for the reformed CAP during the 2023–2027 programming period. A central objective is the promotion of sustainable management of natural resources alongside reducing dependency on chemical inputs and supporting climate action. It employs a range of economic mechanisms, which are PES, grants, and risk financing schemes.

Several risk financing instruments are supported under the CAP framework, including risk management tools such as crop, animal, and plant insurance schemes, mutual funds, and income stabilization tools. Grants can be provided to cover a share of the premiums for insurance contracts or to support the creation and functioning of mutual funds that compensate farmers for economic losses. Additionally, income stabilization tools allow compensation payments when farm income drops significantly, helping to smooth income volatility over time.

The CAP regulations are closely aligned with broader EU policy frameworks, particularly the European Green Deal, the EU Biodiversity Strategy for 2030, and the UN 2030 Agenda for Sustainable Development.

Under the reformed CAP, each EU MS is required to develop a national CAP Strategic Plan aligned with the objectives set out in Regulations (EU) 2021/2115 and 2021/2116. These plans must be developed through mandatory stakeholder consultations and submitted to the EC for approval^{5|6}.

Stakeholder consultation and formulation process

The formulation process included a structured stakeholder consultation process at the EU level. In 2017, the EC conducted a public consultation on the future of the CAP, receiving over 322,000 responses from a broad range of stakeholders, including farmers, environmental organizations, regional authorities, and members of the public. This was complemented by targeted stakeholder dialogues, workshops, and advisory group meetings involving actors such as Copa-Cogeca, environmental NGOs, and rural networks^{5|6}.

Implementation

Risk financing schemes under the CAP are implemented as part of rural development interventions defined in each MS's CAP Strategic Plan. Eligible beneficiaries include farmers, groups of farmers, and producer organizations who face substantial economic losses due to adverse climatic events, animal or plant diseases, environmental incidents, or significant income drops. To qualify for support, these schemes, such as crop or livestock insurance, mutual funds, and income stabilization tools, must meet specific conditions, including thresholds for loss and mechanisms for fair and transparent compensation.

Funding for these instruments is provided through the EAFRD, with MSs optionally allocating portions of direct payment envelopes (via the EAGF) to subsidize farmers' contributions to risk management tools.

Implementation is overseen by accredited paying agencies and subject to audit and verification mechanisms under Regulation (EU) 2021/2116. MSs must ensure



compliance with performance and eligibility criteria, and report annually on implementation outcomes. Monitoring is integrated into the CAP's broader performance framework, using indicators to track uptake, financial execution, and effectiveness, supported by risk assessment methodologies and financial management systems^{5|6}.

3.6.1.2 Environmental Liability Directive (ELD, EU, 2004); Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage

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Policy content and objective

The Environmental Liability Directive (ELD)⁹⁵ aims to establish a common EU framework for the prevention and remedying of environmental damage based on the polluter-pays principle. It aims to prevent and remediate damage to biodiversity, water resources, and land; create financial responsibility for operators whose activities cause or threaten such damage; ensure that operators bear the costs of preventive and remedial measures and promote sustainable development by deterring environmentally harmful practices through liability mechanisms. The framework applies particularly to occupational activities and relies on both strict liability for inherently risky activities and fault-based liability for other activities harming protected species and habitats.

The directive was adopted on 21 April 2004 and entered into force on 30 April 2004. MSs were required to transpose the directive into national law by 30 April 2007 (Article 19). It is an open-ended framework, designed to continue in force unless amended or replaced.

Risk financing is explicitly addressed, though not made mandatory at the EU level. MSs must encourage the development and use of financial security instruments, such as insurance, to cover environmental liability. It reiterates the role of insurance markets and other financial security tools in helping operators meet liability obligations. It mandates the Commission to assess the availability and cost of such instruments and to consider a gradual approach, liability ceilings, and the exclusion of low-risk activities when deciding whether to propose harmonized mandatory financial security. Implementation remains voluntary at EU level.

The ELD is interconnected with other major EU environmental legislation including the Habitats Directive, Wild Birds Directive, Water Framework Directive, Marine Strategy Framework Directive and Industrial Emissions Directive (2010/75/EU).

Stakeholder consultation and formulation process

The directive was developed through the ordinary legislative procedure involving the EC, European Parliament, and the Council of the EU, as indicated in the introductory legal references of the directive. While the directive doesn't spell out stakeholder involvement, it was developed through a participatory EU legislative



process involving multiple institutions and advisory bodies, which implies structured stakeholder input⁹⁵.

Implementation

Implementation of the Environmental Liability Directive (ELD) works through a system where operators are primarily responsible for taking action, and competent authorities in each MS oversee, enforce, and intervene when necessary. When there is an imminent threat of environmental damage (but no damage yet), the operator must immediately take preventive measures (Article 5). If the operator fails to act, cannot be identified, or is not liable, the competent authority can step in and take action itself. When environmental damage has already occurred, the operator must notify the competent authority, take all practicable steps to control or limit further damage, and propose and carry out remedial measures.

The directive does not provide EU-level funding for remediation or prevention. Instead, it requires that operators themselves bear the costs of environmental damage they cause, in line with the polluter-pays principle. MSs are encouraged to promote the use of financial security instruments, but these are not mandatory at the EU level. There is no dedicated public funding mechanism established by the directive.

Monitoring is largely entrusted to national authorities, and MSs are required to report to the EC on their experience in implementing the directive, including data on cases handled and financial aspects such as cost recovery and use of financial security tools⁹⁵.

3.6.1.3 Renewed Sustainable Finance Strategy (ref risk financing schemes)

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Policy content and objective

The Renewed Sustainable Finance Strategy's (RSFS)⁴⁷ aim is to create an enabling financial system to support the transition to a sustainable economy. The strategy proposes a multidimensional approach to sustainable finance, structured around six main actions: enhancing access to transition finance, improving inclusiveness for SMEs and citizens, strengthening resilience to sustainability risks, increasing the contribution of the financial sector, safeguarding market integrity during transition, and promoting international standards and cooperation.

It was adopted on 6 July 2021 by the EC and is a cornerstone of the European Green Deal and builds on the 2018 Action Plan on Financing Sustainable Growth.

It provides a framework that can facilitate investment in environmentally sustainable activities, including those addressing soil and pollution. For instance, the extension of the EU Taxonomy to include pollution prevention and biodiversity (soil included) and the promotion of risk-sharing mechanisms like green budgeting can support related initiatives indirectly. Amendments to the Solvency II Directive and the Capital Requirements Directive/Regulation incorporate sustainability risks



into insurers' and banks' risk management systems, supporting the broader alignment of financial flows with environmental objectives.

The strategy is part of a broader policy coherence effort aligning with the EU Green Deal, the EU Taxonomy Regulation, the Corporate Sustainability Reporting Directive, and Sustainable Finance Disclosure Regulation (SFDR). It reinforces the integration of environmental and social dimensions into EU financial and corporate regulations⁴⁷.

In *CS3 Spain [LH3-Atlantic Industrial Soil]*, researchers acknowledge that the strategy offers green bonds for projects aligned with its taxonomy regarding ecological restoration.

Stakeholder consultation and formulation process

The RSFS was informed by extensive consultations, including a public consultation held in 2020. The European Economic and Social Committee (EESC) was actively involved, offering critical input and emphasizing the need for stronger social sustainability integration and the inclusion of civil society and social partners in strategy design and implementation. The EESC voiced concerns over the overuse of delegated acts and called for more participatory governance through involvement in platforms like the Platform on Sustainable Finance and EFRAG. The development of the RSFS is built upon the previous work of the High-Level Expert Group (HLEG) and the Technical Expert Group on Sustainable Finance (TEG). The EC also conducted a public consultation, the results of which were summarized in a report published on 10 February 2021. Following this process, several legislative initiatives were introduced. On 22 September 2021, the Commission proposed amendments to the Solvency II Directive to incorporate sustainability risks into the risk management of insurers, including climate change scenario analyses⁴⁷.

Implementation

The RSFS is a strategic policy document; thus, eligibility pertains to subsequent instruments it informs, such as green bonds, taxonomy-aligned investments, and regulatory adjustments under CRD, CRR, and Solvency II. It indirectly enables financial institutions, SMEs, and public authorities to access sustainable finance tools by setting standards, definitions, and frameworks.

Although the strategy does not allocate specific EU funding, it seeks to leverage private capital by setting up conditions for effective risk assessment and disclosure. It promotes the development of sustainable finance labels and standards, encourages the use of ESG ratings, supports the creation of EU green bonds, and explores green budgeting and insurance coverage expansion for environmental risks as risk-sharing mechanisms.

The EC committed to reporting on the strategy's implementation by the end of 2023. Monitoring mechanisms are embedded via supervisory updates, stress tests (e.g. climate stress testing for banks and insurers), ESG disclosure improvements, and the establishment of a robust monitoring framework to measure sustainable investment flows and assess alignment with environmental goals⁴⁷.



3.6.1.4 Spanish Agricultural Insurance System (ENESA)

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Spanish Agricultural Insurance System (ENESA)^{96|97} constitutes Spain's primary risk financing scheme in the agricultural sector and serves as the basis for not programming interventions under EU "risk management tools". Its principal goal is to ensure stable farm incomes by protecting farmers against natural and weather-related risks through a public-private insurance mechanism. ENESA covers various sectors through a comprehensive set of policies. In agriculture, these include multi-risk or combined risk cover and yield insurance. In the livestock sector, policies include coverage for accidents and diseases, removal of dead animals, and indexed drought insurance. Fish farming is protected via multi-risk insurance against accidents and diseases, and forestry coverage includes basic liability for fires in reforested or cork oak areas.

It was introduced in 1978 and is rooted in the Agricultural Insurance Act (Law No. 87/1978), which is complemented by Royal Decree No. 2329/1979 and other insurance-related legislation.

The system includes multi-risk and modular insurance models, yield insurance, and indexed drought insurance (e.g., using NDVI satellite data for pasture losses). It is financed via public subsidies (primarily from ENESA, under the Ministry of Agriculture), supplemented by regional governments, and reinsurance mechanisms via the Insurance Compensation Consortium and private reinsurers.

ENESA is aligned with EU policies such as the CAP, the Green Deal and Climate Adaptation Strategy, EU State Aid rules (including the Agricultural Block Exemption Regulation), and the EU Disaster Risk Management Framework; at the national level, it is coherent with Spain's agricultural policy, the National Climate Change Adaptation Plan (PNACC), the National Civil Protection System, and public-private risk governance through its partnership with Agroseguro^{96|97}.

Stakeholder consultation and formulation process

The formulation of the Spanish Agricultural Insurance System was a collaborative effort among political parties, agricultural organizations, and insurance companies. This coalition led to the enactment of the legislation that governs the system today. The legal design enables the development of Annual Plans for Agricultural Insurance Policies, approved by the government through proposals from the Ministry of the Environment and Rural and Marine Affairs. These plans determine the structure and types of insurance available each year and ensure that new types of production and risks are evaluated for technical and financial viability before inclusion. The system emphasizes specialization among actors, each responsible for specific functions, ensuring a structured, technically-informed insurance environment tailored to the needs of the sector^{96|97}.

Implementation

The system uses a co-insurance pool model (AGROSEGURO) involving private insurers, with public reinsurance (Insurance Compensation Consortium) and



private reinsurers ensuring solvency and coverage sustainability. Insurance coverage is voluntary and open to all producers (farmers, livestock breeders, aquaculture and forestry operators). To benefit from subsidies, producers must ensure all relevant production plots meet technical criteria (e.g., crop conditions, minimum thresholds) and fulfil administrative obligations (e.g., tax and social security compliance).

ENESA provides about €300 million in subsidies annually which is directly deducted from policy prices. This is often complemented by regional subsidies. ENESA also facilitates instalment payment schemes and SAECA guarantees to improve access.

ENESA is responsible for designing annual insurance plans, providing subsidies to farmers, coordinating with Autonomous Communities, and ensuring technical compliance with policy conditions. It also sets technical and financial conditions, reviews policy proposals, and conducts feasibility studies. It also monitors compliance and arbitrates disputes between insurers and policyholders. The General Commission—ENESA's executive body—acts as a decision-making forum representing all stakeholders, while the Coordinating Committee for the Autonomous Communities ensures regional coordination. The Ministry of Economy oversees the insurance and reinsurance markets, while regional governments coordinate through territorial commissions^{96|97}.

3.6.1.5 Spanish Compensation Mutual Fund of Alava

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Compensation Mutual Fund of Alava represents a localized risk financing scheme in Spain aimed specifically at addressing potato price risks. Unlike broader agricultural insurance systems, this fund is limited to seed potato production for open market sale, excluding production under contract with the processing industry.

The Compensation Fund of Alava was developed in response to the potato price crisis of 1992, following demands from producers for a price protection mechanism. A formal study was initiated, and the system was designed and implemented after a subsequent crisis in 1996, in cooperation with the Provincial Government of Alava. It was operational from the 1997–1998 season onward. The fund is managed by Caja Rural de Alava, a public savings bank, which also uses the fund as collateral for financing production expenses.

The fund guarantees a minimum price to participating farmers, calculated annually against an estimated market price. When the market price falls below this guaranteed level, farmers receive an indemnity equal to the price gap multiplied by a pre-established yield common to all producers in the province. However, compensation is capped at 85% of the balance in the individual farmer's account, making the fund individually capitalized with no cross-subsidization. Farmer contributions are calculated per hectare planted, and both the Government of



Alava and the Basque regional government supplement these with area-based contributions.

Stakeholder consultation and formulation process

Since it is born out of the effects of crises, its creation was highly reactive and demand-driven, based on localized economic hardship, and involved institutional collaboration between public authorities and producers.

Implementation

The mutual fund functions as a single but individualized account-based scheme, where each farmer's risk coverage is tied to their contributions and government co-payments. There is no transfer of funds between farmers, reinforcing the fund's self-insurance character. The scope of the fund is highly geographically and sector-limited, covering only about 30% of potato farmers and area in the province of Alava. Despite its limited scale and impact at the national level, the scheme provides a concrete example of a price risk management tool tailored to a specific crop and region, offering financial stability to participating producers through a mutualized but non-pooling model of compensation.

The Caja Rural de Alava plays a central operational role by both managing the fund and providing loans secured by it.

3.7 LAND CONVERSION FEES

Description

Land conversion fees are price-based instruments, typically mandated and funded by public authorities, that require payment when agricultural land is permanently or temporarily removed from production. They are designed to incentivize the retirement of land with low productive potential and redirect its use toward natural vegetation through ecological restoration. This instrument is mainly applied in the agricultural sector, with land users and landowners as the primary beneficiaries, often receiving financial or technical support for restoration activities. Expected outcomes include improved soil health, enhanced biodiversity, increased ecosystem services, and long-term environmental gains through the recovery of degraded land⁴.

3.7.1.1 Land Use, Land-Use Change and Forestry Regulation (LULUCF)

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Land Use, Land Use Change and Forestry (LULUCF) Regulation (EU) 2018/841⁴⁶ aims to ensure that GHG emissions from land use and land-use changes are fully integrated into the EU's climate framework, thus contributing to the overall goal of climate neutrality by 2050. The regulation requires that each MS ensures emissions from land-use activities do not exceed removals within its



territory. It focuses on maintaining and enhancing carbon sinks, particularly in forests, cropland, grassland, and wetlands.

Implemented in 2018, the regulation applies to accounting periods 2021–2025 and 2026–2030. Although the LULUCF Regulation does not mandate or define land conversion fees, it allows MSs to implement national measures, including conversion fees, carbon pricing, or land-use taxation, as tools to fulfill their emissions/removals accounting obligations. These tools can indirectly address soil health and pollution by discouraging unsustainable land-use changes.

Although land conversion fees are not mandated or designed directly by the regulation, MSs may introduce national schemes—such as land-use taxation, carbon pricing, or conversion fees—as tools to fulfil their LULUCF obligations. The regulation aims to ensure that emissions from land conversion are offset through removals or other flexible mechanisms and requires comprehensive monitoring and transparent accounting. It integrates land-based emissions into EU climate goals, targeting net-zero land sector emissions by 2030 and contributing to overall carbon neutrality by 2050. The policy recognizes national specificities and supports sustainable land-use practices through accounting rules and climate-smart land management incentives.

The regulation aligns with and complements other EU climate laws, notably the EU ETS, the Effort Sharing Regulation (EU) 2018/842, the CAP, and the EU Biodiversity Strategy for 2030⁴⁶.

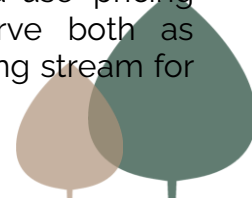
Stakeholder consultation and formulation process

The regulation was developed under the ordinary legislative procedure, involving input from the European Parliament and the Council, as well as national parliaments. It integrated opinions from the European Economic and Social Committee and the Committee of the Regions. The EC conducted stakeholder consultations and technical evaluations, including public feedback and expert inputs, particularly concerning sustainable land use and forest management. This participatory approach ensured national and sectoral concerns, such as soil degradation, land-use transitions, and food security, were accounted for⁴⁶.

Implementation

The regulation applies to MSs as the primary duty bearers, not to individual landowners directly. It covers emissions and removals from defined land-use categories: afforested land, deforested land, managed cropland, managed grassland, managed wetland, and managed forest land. Although private landowners are not directly accountable under the Regulation, national governments may impose land conversion fees or permits as part of their domestic compliance strategies.

No EU-level financial instruments are embedded within the regulation for land conversion. However, MSs are expected to mobilize funding through national budgets, CAP strategic plans, or revenues from carbon or land-use pricing mechanisms. Conversion fees, if applied nationally, could serve both as disincentives for carbon-intensive land-use changes and as a funding stream for



restoration or conservation actions, indirectly supporting soil health and pollution mitigation.

Monitoring is rigorous and harmonized with UNFCCC inventory standards, using geographically explicit data and IPCC methodologies. MSs must maintain transparent, complete, and verifiable GHG inventories, with land conversion tracked over time—typically 20 years—to ensure permanence and consistency. The EC, supported by the European Environment Agency, reviews compliance biennially and may trigger corrective actions for underperformance⁴⁶.

3.7.1.2 Croatian Low-carbon Development Strategy

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Low-Carbon Development Strategy of Croatia⁹⁸ provides a comprehensive, long-term roadmap aimed at reducing greenhouse gas emissions by 2030 and achieving climate neutrality by 2050. The strategy addresses all major emitting sectors and emphasizes land-use change as a critical factor in GHG mitigation, particularly in the LULUCF sector.

The strategy was formally adopted in June 2021, covering the period until 2030 with a view to 2050.

The strategy outlines financial mechanisms to support implementation, including access to EU funds, national budget allocations, and revenues from auctioned emission allowances under the EU ETS. No direct land conversion fees or penalties are defined in the strategy for actions such as converting forests or agricultural land into built environments. Instead, the LCDS proposes indirect economic instruments, such as carbon pricing, green taxation, and subsidies for sustainable practices, that could discourage unsustainable land-use changes. For example, the strategy supports afforestation, improved forest management, and soil carbon enhancement to protect carbon sinks and reduce emissions from land-use changes.

The strategy is fully aligned with EU-level policy frameworks, particularly the European Green Deal, Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action, and the Paris Agreement. It integrates with Croatia's NECP and CAP-related rural development measures, thereby ensuring policy coherence and reinforcing nature-based carbon sinks through existing agricultural and forestry policy levers rather than new fee-based instruments.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers consider the strategy as important to reduce greenhouse gas emissions and promote sustainable practices, but notes that on croplands and grasslands implementation is particularly challenging.

Stakeholder consultation and formulation process

The formulation of the strategy was grounded in inclusive and iterative stakeholder engagement that unfolded over four main phases between 2012 and



2020. This process included sectoral workshops, public consultations, and technical expert group meetings involving a wide range of stakeholders (government ministries, local and regional authorities, academic institutions, NGOs, and industry representatives). These consultations shaped sectoral visions and priorities for 2050, including the explicit integration of land-use objectives, afforestation needs, and protection of carbon sinks. Although stakeholders did not propose land conversion fees, their input was crucial in embedding land-related climate risks and sustainable land management goals into the strategy's financial and policy instruments.

Implementation

The strategy does not define a specific eligibility scheme for land conversion fees because such a mechanism is not included. Instead, eligibility and access to financial support mechanisms are determined by pre-existing sectoral programs that have been realigned with its priorities. Thus, landowners or land users may become eligible for positive incentives for sustainable land management, but not subject to direct economic penalties for land conversion under this strategy.

Funding to support economic mechanisms, including indirect land-use disincentives, comes from a mix of national budgetary sources and EU-level instruments, such as the Multiannual Financial Framework (MFF), Recovery and Resilience Fund, Modernization Fund, and auction revenues from the EU Emissions Trading System.

Monitoring and implementation are coordinated by the Ministry of Economy and Sustainable Development, supported by inter-sectoral coordination bodies. Progress is reported biannually to the EC following the EU Governance Regulation. Indicators include GHG emissions and carbon sink performance, but do not monitor land conversion fees, as such mechanisms are absent.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers identify a lack in methodologies and institutional capacity for effective strategy implementation. They note that the Strategy does not translate the high level objectives into concrete actions for end users. There is no simple, practical guidance for farmers or smallholders on how to implement measures to reduce soil carbon and erosion on cropland and grassland. Instead, the Strategy relies on existing sectoral programmes and general funding channels, which leaves an implementation gap, especially in peri-urban mosaics where farms are small and fragmented.

3.7.1.3 Croatian Integrated National Energy and Climate Plan

[*\[Back to the Policy Table\]*](#)

Policy content and objective

The Integrated National Energy and Climate Plan for Croatia⁹⁹ outlines the country's strategy for meeting its 2030 climate and energy targets in alignment with EU goals, particularly across the five dimensions of the Energy Union. A significant component of the plan addresses decarbonization through LULUCF, with specific attention to preserving and enhancing carbon sinks in forests and soils. The plan aims to maintain or increase net carbon sequestration but does not



introduce land conversion fees as a direct policy tool. Rather, land-use change is addressed through integrated policies, such as sustainable forestry and agriculture practices, afforestation, and LULUCF accounting under EU Regulation (EU) 2018/841.

The current plan covers the period from 2021 to 2030, with the latest draft update submitted in June 2023.

While it refers to financial instruments and fiscal incentives, primarily through EU funds, the EU ETS, and the Environmental Protection and Energy Efficiency Fund, there is no explicit mention of risk financing schemes or land conversion fees as standalone economic mechanisms. Instead, land-use-related emissions are managed through compliance obligations and integrated planning with the CAP, and not through direct pricing or penalties for land conversion.

The plan is aligned with key EU legislation, including the Governance Regulation (EU) 2018/1999, the LULUCF Regulation (EU) 2018/841, the EU Climate Law, and the European Green Deal. It is coherent with Croatia's Low-Carbon Development Strategy and CAP Strategic Plan, indirectly discouraging harmful land conversion through broader climate and sustainability requirements.

In *CS4 Croatia [LH4-Continental Urban Soil]*, researchers are aware that annual reports attesting to the current state of affairs are shared with the EC. However, these reports do not contain sufficient information regarding LULUCF.

Stakeholder consultation and formulation process

The plan was developed through a structured process involving inter-ministerial coordination and broad stakeholder engagement. Stakeholders included representatives from civil society, academia, local governments, industry, and the energy and agricultural sectors. Although there was no direct discussion or proposal of land conversion fees during consultations, the concerns over sustainable land use and environmental degradation were addressed through LULUCF measures and alignment with sustainable agricultural and forestry practices. This indicates that land-related sustainability was a stakeholder priority, though not monetized through conversion disincentives.

Implementation

Eligibility for actions under the plan, including land-use-related measures, generally applies to public institutions, private landowners, local governments, and businesses, particularly those engaged in agriculture and forestry. Eligibility conditions often depend on compliance with EU and national environmental regulations and contribution to emission reduction goals.

Funding for schemes and economic mechanisms comes primarily from EU sources (e.g., CAP, Cohesion Fund, EU ETS revenues), national budgets, and the Environmental Protection and Energy Efficiency Fund. These funds support afforestation, sustainable soil management, and carbon sequestration projects, but do not impose direct financial penalties or fees for land conversion. Instead,



land conversion is discouraged indirectly through prioritization of sustainable land-use practices in funding criteria and project selection.

Monitoring and implementation follow EU governance procedures, including mandatory reporting under the Governance Regulation. The LULUCF sector is monitored through national inventories and emissions reports submitted annually to the EC and the UNFCCC. While there are robust systems for tracking land-use emissions and carbon sinks, these do not include enforcement or collection of land conversion fees.



4 Lessons Learned

This report was created with the main purpose of serving as a toolbox that enables stakeholders interested in engaging with sustainable farming practices to quickly identify the relevant EU-level as well as national incentive schemes. Our analysis is supported by data from the case studies on the applicability of the identified policies in the field, alongside opportunities and barriers for improved uptake of the incentive schemes.

We acknowledge several limitations in this report. First, the choice of countries which are included in the analysis comprise solely those countries with case studies present under the InBestSoil project. Hence, we do not present a comprehensive overview of soil-relevant incentive schemes for all European countries. Second, we acknowledge that not all incentive schemes have been analysed for all the covered countries. Instead, the focus was solely on the incentive schemes that have been identified as relevant given the context of the respective case studies. Third, the differing scope and context of the case studies leads to a diverse background in stakeholders. Since case study stakeholders only comment on the policies identified as relevant for them, we cannot present a balanced and complete picture that portrays evaluations of all stakeholder groups of all incentive schemes. While these aspects may limit the report's broader applicability, they also make it more relevant and precise within its narrower scope.

Across the case studies, several common themes emerge in stakeholder feedback. Stakeholders widely report that existing economic instruments, especially CAP-related PES and subsidies, are often difficult to access due to administrative burden, insufficient guidance, and limited monitoring capacity. Stakeholders from *CS6 Latvia [LH6-Boreal Forestry Soil]*, *CS7 Netherlands [LH7-Atlantic Agricultural Soil]*, *CS1 Spain [LH1-Mediterranean Forestry Soil]*, and *CS8 Italy [LL1-Mediterranean Agricultural Soil]* underline that current schemes are not adequately adapted to local contexts or land-use specificities, resulting in misalignment between policy design and real-world land management. A shared concern is the difficulty of measuring soil-related ecosystem service outcomes, which constrains the shift toward result-based schemes and limits the effectiveness of PES mechanisms.

At the same time, divergences in feedback reflect strongly differing sectoral realities. Forestry stakeholders in *CS6 Latvia [LH6-Boreal Forestry Soil]* emphasise the near-absence of measures targeting forest soils, while agricultural stakeholders in *CS7 Netherlands [LH7-Atlantic Agricultural Soil]* focus on practical barriers such as incompatible digital systems, rigid eligibility definitions, and challenges for organic farmers within eco-schemes. In *CS1 Spain [LH1-Mediterranean Forestry Soil]*, stakeholders highlight the lack of scientific consensus on what constitutes "good practice", while in *CS8 Italy [LL1-Mediterranean Agricultural Soil]*, stakeholders consider PES conceptually sound but largely unworkable due to monitoring challenges. Urban-soil contexts in *CS4 Croatia [LH4-Continental Urban Soil]* and *CS5 Lithuania [LH5-Boreal Urban Soil]* face a different type of divergence: policies are perceived as distant and hard to translate to small-scale or communal land users.



Taken together, these findings highlight a clear need for future policy design to prioritise flexibility, local relevance, and practicality in implementation. While EU-level frameworks set important strategic direction, their effectiveness ultimately depends on how well they translate into diverse territorial, ecological, and socio-economic contexts. Strengthening monitoring capacities, reducing administrative burden, and incorporating soil-type-specific guidance, particularly for underrepresented land uses such as forest soils, would significantly enhance the usability and uptake of incentive schemes. Most importantly, the insights gathered here provide a foundation for the forthcoming D6.4 policy recommendations, where the emphasis will be on turning the identified challenges, gaps, and opportunities into actionable proposals that support scalable, stakeholder-centred, and soil-health-driven policy innovation across Europe.



5 Disclaimer

The information included in the toolbox has been produced by the CMCC Foundation - RAAS Division, based on data collected through both desk research and workshops organized in collaboration with the various case studies involved. It is worth noting that, during the desk research phase, translation tools were used for documents not originally written in English. The first draft of this work was prepared and structured in a table format; only later were the table contents transferred to a report from the documentary structure.

The information contained herein was analysed and processed during the first half of 2025. According to the grant agreement, this tool is not intended to be updated. Views and opinions expressed in this report reflect only the view of the authors and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.



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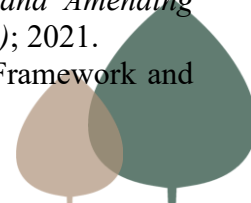
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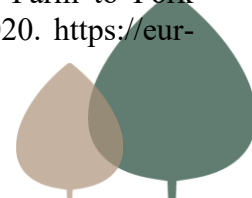
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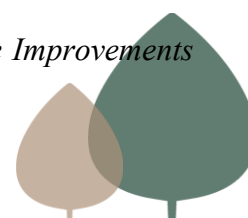
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