



FARCLIMATE

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List of acronyms

CC	Climate Change
D	Deliverable
DNSH	Do Not Significant Harm
EU	European Union
FAO	Food and Agriculture Organization
GALP	Fisheries Local Action Group
GHG	Greenhouse Gas
KAEM	Center for AgriFood Entrepreneurship of Messenia
KPI	Key Performance Indicator
OECD	Organisation for Economic Co-operation and Development
PR	Periodic Report
SAFA	Sustainability Assessment of Food and Agriculture systems
STIV	Sustainable Transition in Viticulture
T	Task
UN	United Nations
WP	Work Package

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Abstract:	This document sets out the methodological guidelines to be followed in the context of the FARCLIMATE project to ensure the environmental sustainability performance of the project Living Labs, with the ultimate aim of achieving a strengthened resilience to climate change across Europe. Two different frameworks were used to define the methodological guidelines: EU taxonomy framework for the forestry case studies, and SAFA indicators for the agriculture and fisheries case studies. This report provides descriptions of both methodologies and a compilation of their requirements and indicators. Questionnaires have been prepared to facilitate the task of collecting the required data from stakeholders. In addition, the report provides a description of the forestry, agriculture and fisheries case studies included in the assessment and present the results of the environmental alignment analyses carried out for the case studies. These analyses assess their level of alignment with the environmental EU objectives, supported by conducted practices, planned targets and monitoring.

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Executive Summary

The FARCLIMATE Project is funded by the European Commission Horizon Europe Programme under the Mission on Adaptation to Climate Change, whose objective is to support at least 150 European regions and communities in becoming climate resilient by 2030. FARCLIMATE aims to enhance climate resilience in European regions and communities while addressing the political, social and economic challenges associated with climate change. As highlighted by the European Commission's EU strategy on adaptation to climate change, adopted on 24 February 2021, strengthening resilience and accelerating adaptation have become key priorities for European territories. FARCLIMATE contributes to this objective through a twofold approach. Firstly, the project implements specific actions and transversal activities targeting at least 20 European regions and communities, covering different geographical, climatic and socioeconomic contexts. Secondly, it provides methodologies, tools and recommendations that can support local and regional stakeholders in integrating climate adaptation and environmental sustainability considerations into their activities and decision-making processes.

Regarding this second approach, this report corresponds to subtask 3.5.1 (*Alignment with the EU Taxonomy of value chains*) within T3.5 (*Environmental analysis*). The initial objective of the subtask was to evaluate the alignment of the most relevant activities represented by the FARCLIMATE case studies with the environmental sustainability criteria established by the EU Taxonomy. However, the applicability of the EU Taxonomy varies considerably depending on the economic activity and sector considered. While suitable technical screening criteria are available for the forestry activities, criteria are not currently available for all the agriculture and fisheries activities. Consequently, the SAFA (Sustainability Assessment of Food and Agriculture Systems) framework was adapted and applied to agriculture and fisheries sectors.

To support a consistent application of both methodologies, the relevant requirements, criteria and indicators were compiled and translated into sector-specific questionnaires. These questionnaires were used to collect information from case study representatives and relevant stakeholders on existing environmental practices, management measures, plans and future actions. Beyond the definition of the methodological guidelines, the report presents descriptions of the FARCLIMATE case studies included in the assessment, covering the forestry, agriculture and fisheries sectors. These descriptions provide the geographical, operational and environmental context required to interpret the subsequent analyses and allow the main activities, production systems and environmental characteristics of each case study to be identified.

The collected information was subsequently analysed to determine the level of alignment of the assessed case studies with the applicable environmental criteria. The results identify environmental measures and good practices already implemented, planned actions and areas where further improvements may be required. Differences in the degree of alignment between environmental objectives and between case studies are also highlighted, reflecting their different territorial contexts, production systems, environmental pressures and stages of implementation. Overall, the analyses identify opportunities for improvement and support the integration of environmental sustainability considerations into future adaptation actions and decision-making processes. The methodology and results presented in this report therefore provide both a common assessment framework for the FARCLIMATE case studies and a basis for strengthening their contribution to environmental sustainability and climate resilience.

1 Introduction

The phenomenon of Climate Change (CC) is becoming one of the most significant threats to humanity in the coming decades, constituting a substantial challenge to the proper functioning of the natural ecosystems that configure the biosphere. Similarly, this acceleration is associated with significant financial investments in terms of mitigation strategies and remedial actions (Frame et al., 2020; Malhi et al., 2020). Therefore, CC gives rise to a multitude of environmental, economic, and social impacts, representing a significant challenge that must be addressed in order to achieve global sustainable development by 2030 (United Nations, 2015).

In order to establish a future society that is fully aware of environmental concerns and to identify strategies for mitigating CC, it is imperative to prioritize communication and education in this domain (Comfort & Park, 2018). These objectives may be achieved through the utilisation of social networks, the organisation of events, the production and dissemination of environmental education materials, and the collaboration with stakeholders, including journalists and policymakers (Armstrong et al., 2018). However, the dissemination of information is not sufficient in itself; it must be conveyed in an effective manner so that the audience is able to grasp the essence of the cause and become engaged with it (Wamsler et al., 2020).

Two distinct approaches to establishing communication channels for environmental protection can be identified, depending on the origin and direction of the message: (i) bottom-up, when the source of the message originates from the lower strata of society (i.e., consumers) who, through behavioural patterns, promote both new guidelines or policies and the modification of existing ones, and (ii) top-down, when the message is developed after a decision-making process in the higher strata of society (e.g., governors or policy makers) through policies or guidelines that are communicated to the general public (Gallup, 2018).

In terms of the bottom-up approach, a survey conducted during the 2010s revealed that approximately 60% of European Union (EU) citizens identified CC as one of the most significant challenges anticipated in the coming years (Baiardi & Morana, 2021). Notwithstanding, scepticism plays a pivotal role in climate inaction. In this regard, individuals frequently underestimate the significance of climate-related concerns when perceive climate issues as distant and irrelevant, both in terms of their spatial and temporal proximity. This is corroborated by the rising prevalence of climate crisis-related mental health conditions, such as eco-anxiety, in regions experiencing or at heightened risk of CC (Ingle & Mikulewicz, 2020).

In considering the top-down approach, it is evident that policies pertaining to climate action, or what is commonly referred to as "green policies," must strive to encourage environmentally conscious behaviour among the general public (Gkargkavouzi et al., 2019). Moreover, environmental policies should be accompanied by mainstream media campaigns. In these campaigns, communicators should strive to present a clear and concise message that strikes a balance between emotional appeals (such as fear and hope) and tangible actions that individuals can take (de Vries, 2020).

At the EU level, the European Green Deal represents the most ambitious plan to date, comprising a series of different initiatives and their respective financing channels. In this regard, it is noteworthy that the EU Climate Law advocates the goal of making Europe the first climate-neutral continent by 2050. Similarly, other forms of financial assistance are available, including the Just Transition Fund and the Social Climate Fund. These are designed to assist workers and regions in acquiring new skills and adapting to the green economy, as well as to support vulnerable groups in areas such as energy efficiency and the renovation of buildings, respectively. On the other hand, supplementary financing is allocated to assist individuals and regions experiencing heightened vulnerability to climate-related disasters (EU Solidarity Fund), in addition to supporting national initiatives aiming to address climate change mitigation through the NextGenerationEU funding program (European Commission, 2019).

While funding initiatives are undoubtedly a crucial element in advancing the European Green Deal, they are not the sole means of achieving this goal. This is exemplified by the EU Taxonomy, which serves as a tool for the promotion of sustainable growth and development. In this regard, the primary objective of this framework is to prevent the practice of greenwashing by proposing a classification system that establishes a common understanding of green economic activities. Consequently, the application of the EU Taxonomy provides a framework for identifying optimal practices for both mitigating and adapting to the effects of CC, at the same time that establish up to six different environmental objectives: (i) climate change mitigation, (ii) sustainable use and protection of water and marine resources, (iii) pollution prevention and control, (iv) climate change adaptation, (v) transition to a circular economy and (vi) protect and restore biodiversity and ecosystems (European Parliament and the Council, 2020).

It is in this context of climate crisis that the FARCLIMATE project is framed, with the main objective of making climate-resilient actions more accessible and applicable. In relation to this, it is proposed not only to identify the common barriers that exist when addressing climate-resilient actions (such as social, political and economic barriers), but also to make them more understandable to everyone.

These actions are contextualized at the European level, having selected 20 regions of the continent where it is expected to address transformative solutions in the way of climate resilience. In this sense, one of the work programs in the pipeline is the research of the environmental characteristics of the selected case studies from three different economic activities: (i) forestry, (ii) agricultural and (iii) fisheries, through indicators to be monitored, apart from the definition of transversal actions to be carried out.

Consequently, the EU Taxonomy has been chosen as the main framework to be applied to the case studies selected in the form of living labs. A living lab is understood as an open innovation ecosystem in a real environment, using a systematic user co-creation approach that integrates research and innovation methodologies and activities in communities, with a focus on putting citizens at the centre of the innovation process (Vervoort et al., 2022).

Notwithstanding, it is important to note that the EU Taxonomy only covers the forestry sector of the three aforementioned sectors (i.e., forestry, agriculture and fisheries) that comprise the FARCLIMATE project. Consequently, the SAFA (Sustainability Assessment of Food and Agriculture systems) has been selected for application in the agriculture and fisheries sectors. This is due to the fact that it is a framework of global relevance covering the whole value chains of entities (from small-scale producers up to worldwide companies) involved with the production, processing, and distribution of food goods. Furthermore, the framework adopts a holistic approach to sustainability, encompassing over 100 indicators that address environmental, economic, social, and governance dimensions (FAO, 2014).

2 Main aim and objectives

The principal objective of this report is to establish the methodological foundations for the assessment the alignment of FARCLIMATE case studies with the environmental EU objectives, and to evaluate the level of alignment of a set of case studies with the applicable environmental sustainability criteria. In order to achieve this aim, the following objectives have been proposed:

- The review and detail description of the EU Taxonomy framework, tailored to the three sectors that comprise the context of the project: (i) forestry, (ii) agriculture, and (iii) fisheries.
- The analysis of the SAFA framework and the selection and adaptation of environmental indicators suitable for assessing the agriculture and fisheries case studies, for which specific EU Taxonomy technical screening criteria are not currently available.
- The creation of an evaluation system that facilitates both the compilation of information from the stakeholders' perspective and the evaluation from the practitioners' perspective by means of questionnaires.
- The assessment of the ten FARCLIMATE case studies, including the identification of environmental practices already implemented, planned measures and potential areas for improvement that may contribute to strengthening the environmental alignment and climate resilience of the assessed case studies.

3 Methodology

3.1 EU Taxonomy

A description of the EU Taxonomy has been made based on the documents available in the [EU Taxonomy Navigator](#), including the EU Taxonomy Compass (including the [Taxonomy Delegated Acts](#)), the EU Taxonomy Calculator and the EU Taxonomy User Guide, apart from the associated Taxonomy Regulation ([Regulation \(EU\) 2020/852](#)). The EU Taxonomy has been defined as a not mandatory classification system that establishes a common understanding and framework for identifying which economic activities are environmentally sustainable. This framework is based on six interconnected environmental objectives ([Table 1](#)), thereby promoting a holistic approach to sustainability assessment that encourage economic activities that not only attempt to comply with one of the six objectives, but also actively contribute to the rest of

them. In this sense, the primary goal of the EU Taxonomy is to enable investment in economic activities that comply with the six environmental objectives, as well as contribute to them, thereby assisting investors and companies in their transition towards a greener economy, apart from facilitating the development of EU-wide standards for sustainable financial products.

The EU Taxonomy emerged as part of the [European Green Deal](#), which was launched by the European Commission in 2019. The European Green Deal aims to make the EU climate neutral by 2050, and includes a number of initiatives to address CC and environmental degradation (e.g., zero pollution, preserving and restoring ecosystems and biodiversity, among others). In this context, the EU Taxonomy aims to provide a clear definition of what constitutes a sustainable economic activity, thereby avoiding and reducing greenwashing practices. Moreover, the EU Taxonomy is based on the principles set out in the [Sustainable Finance Action Plan](#) published in 2018, in which a taxonomy was introduced as a tool to provide investors with a clear framework for determining which economic activities are environmentally sustainable.

Table 1. Summary of the six environmental objectives addressed by the European Union Taxonomy methodology.

Environmental objective	Description	Examples
Climate change mitigation	Reduction or avoiding greenhouse gas emissions to limit global warming	- Renewable energy production - Carbon capture and storage technologies
Climate change adaptation	Support for adaptation measures to the current and future impacts of climate change	- Drought-resistant crop systems - Forest management to enhance ecosystem restoration
Sustainable use and protection of water & marine resources	Ensure efficient use of water resources, protect marine ecosystems by reducing water pollution and maintain the health of oceans and marine biodiversity	- Sustainable fisheries management - Reduce the use of harmful substances in industrial processes that affect aquatic ecosystems
Transition to a circular economy	Minimize waste generation and support the efficient use of resources	- Recycle and reuse of materials in manufacturing processes - Business models focused on sharing rather than ownership
Pollution prevention and control	Minimize air, water and land pollution, apart from prevent from the generation of pollution during industrial processes	- Promote cleaner transportation options - Reduce landfill use and increase recycling rates
Protect and restore biodiversity and ecosystems	Preserve and enhance biodiversity and the natural environment	- Restoration of degraded ecosystems - Sustainable land management to prevent desertification, deforestation and habitat loss

In 2020, the [Taxonomy Regulation](#) was launch, which laid the foundation for the EU Taxonomy by setting out the three overarching conditions that an economic activity must meet in order to be considered environmentally sustainable (see [Figure 1](#)):

- (i) Make a significant contribution to at least one of the six environmental objectives.

- (ii) Do No Significant Harm (DNSH) to any of the other five environmental objectives.
- (iii) Comply with minimum safeguards (social aspects).

The Taxonomy Regulation delineates four categories of economic activities, depending on the degree of compliance with the EU Taxonomy criteria.

- **Taxonomy eligible**, i.e., activities that meet the description detailed in the delegated acts of the EU Taxonomy.
- **Taxonomy-aligned activities**, i.e., economic activities that meet the four overarching conditions.
- **Enabling activities**, i.e., those that contribute significantly to the EU's environmental objectives by enabling other activities or improving their performance (indirect contribution).
- **Transitional activities**, which are activities for which low-carbon alternatives do not yet exist, but which are essential to support the transition to a low-carbon economy.



Figure 1. The three key conditions an economic activity must fulfil to be considered taxonomy-aligned.

Under the Taxonomy Regulation, the Commission established the technical screening criteria for a set of economic activities through delegated and implementing acts. The [Climate Delegated Act](#), launched in 2021, focuses on the economic activities and technical screening criteria for *Climate Change Mitigation* and *Climate Change Adaptation* objectives. The Climate Delegated Act was complemented by the [Complementary Climate Delegated Act](#), which came into effect in 2022. The latter includes certain nuclear and gas energy activities in the list of economic activities covered by the EU Taxonomy, under strict conditions, as activities contributing to accelerating the transition from solid or liquid fossil fuels, including coal, towards a low-carbon future. In addition to the climate-related objectives, the [Environmental Delegated Act](#), adopted in 2023, defines economic activities and technical screening criteria for the remaining four environmental objectives: *Sustainable Use and Protection of Water and Marine Resources*, *Transition to a Circular Economy*, *Pollution Prevention and Control*, and *Protection and Restoration of Biodiversity and Ecosystems*. Finally, the [Disclosures Delegated Act](#) stipulates the specific content and format of the information to be disclosed by companies engaged in sustainable economic activities, along with the methodology for adhering to this disclosure

obligation. [Figure 1](#) illustrates a synopsis of the EU Taxonomy principles and methodology, and [Figure 2](#) provides an overview of the steps involved in the EU taxonomy alignment analysis.

According to the guidelines stipulated in the Taxonomy Regulation, a limited number of economic activities are recognized as taxonomy eligible. Of the three sectors encompassed by the FARCLIMATE project—namely, forestry, fisheries, and agriculture—forestry stands as the sole sector that the EU Taxonomy has delineated, and it therefore taxonomy eligible. Consequently, the selection of the SAFA framework was made for the purpose of assessing case studies belonging to fishery and agriculture sectors.

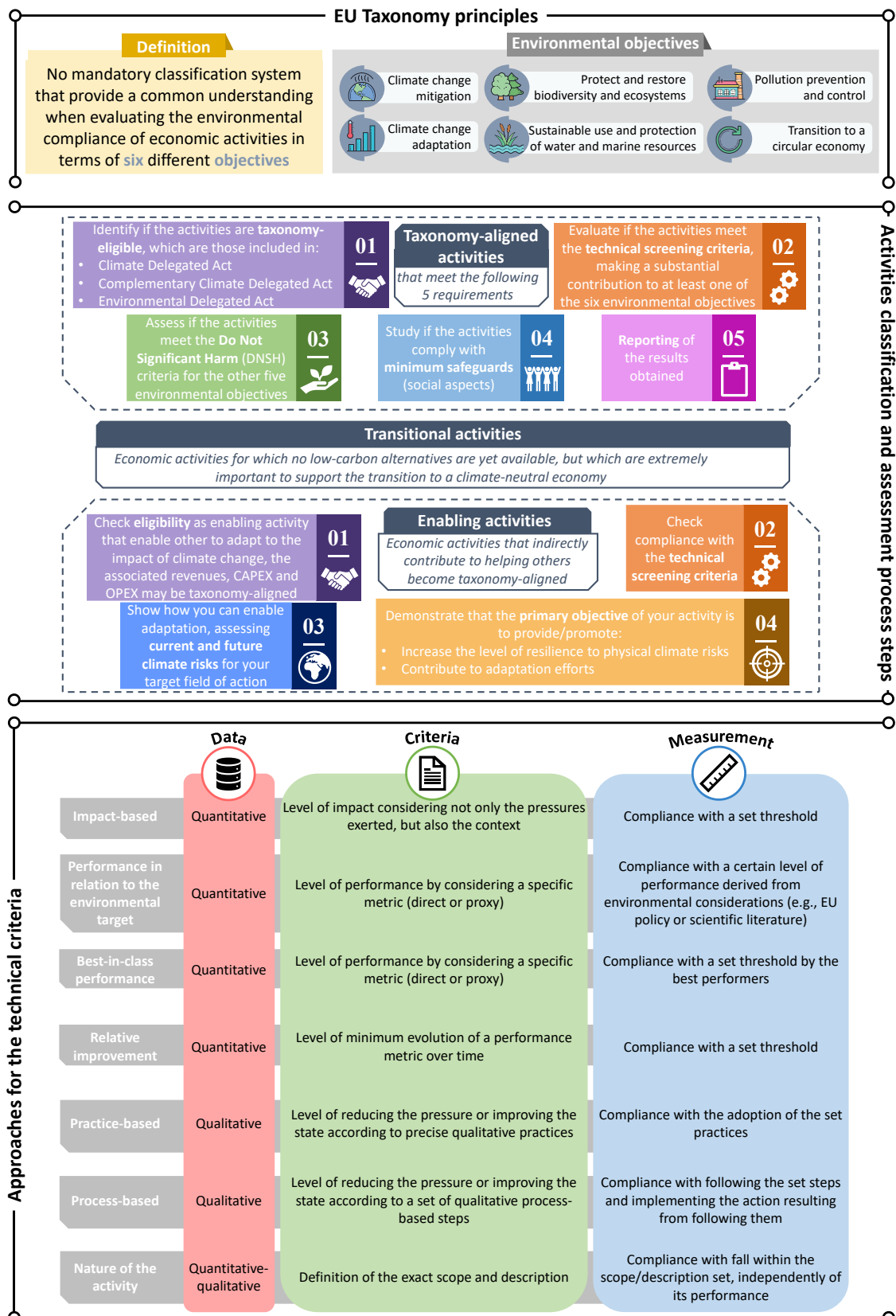


Figure 2. Overview of the EU Taxonomy principles, economic activities classification and approaches for the technical criteria.

In order to facilitate the task of evaluating the alignment of the case studies of the forestry living labs with the EU Taxonomy, the following questionnaire was prepared: [Annex A. Questionnaire for compiling information about the EU Taxonomy](#). This questionnaire was derived from an analysis of the different economic activities under the forestry sector, followed by a screening and adaptation of the evaluation criteria to the requirements of the project. The primary objectives of this initiative are twofold: first, to ensure comprehensive comprehension among all project partners, and second, to facilitate the acquisition of valuable primary information from the designated living labs.

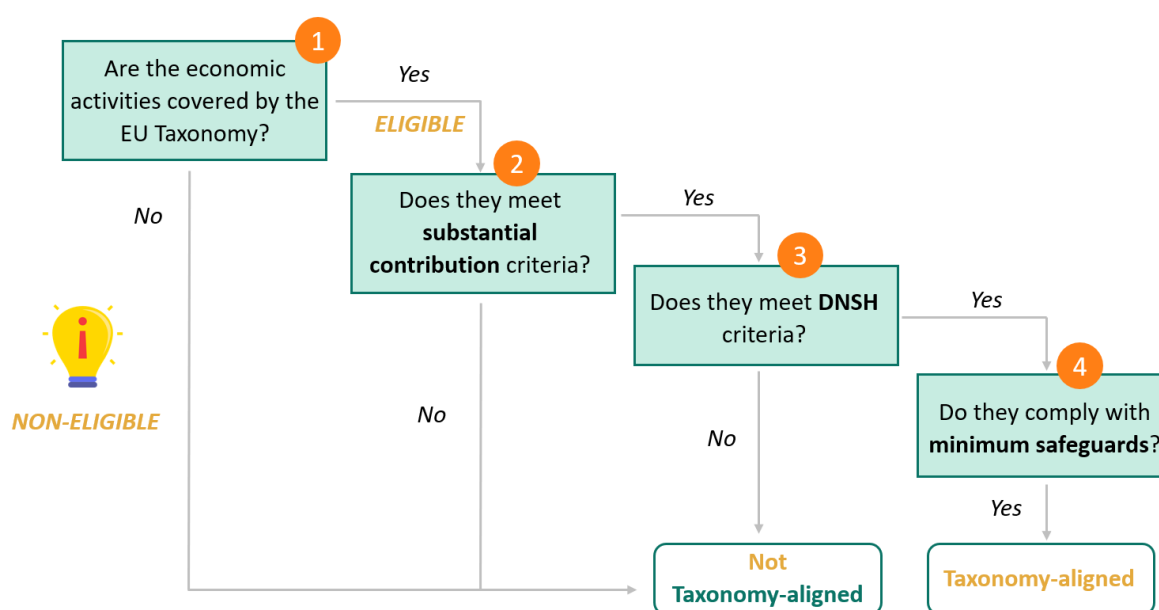


Figure 3. Overview of the EU taxonomy alignment analysis. DNSH: Do No Significant Harm.

3.2 SAFA framework

The SAFA framework, piloted by the FAO (Food and Agricultural Organization) of the UN (United Nations), was first introduced during the UN Conference on Sustainable Development in 2012, with the release of its initial test version (1.0). In the following months, an update version (1.1) was benchmarked against prominent sustainability tools and piloted in 30 settings. Subsequent to this, a preliminary version (2.0) of the SAFA guidelines was formulated based on the findings from a 2013 meeting that involved practitioners and contributors offering their insights. Following a peer review process that incorporated additional contributions from a group of experts, the most recent version of the SAFA guidelines (3.0) was established in 2014. This latest version was considered for the methodology delineation to evaluate living labs from the fisheries and agricultural sectors from the FARCLIMATE project.

This framework emerged from a period of conceptual refinement regarding sustainability, concurrent with the adoption of action and policy initiatives aimed at promoting sustainable development by various organizations and institutions worldwide, being this event especially notice-

able since the beginning of the 21st century. In this period, a substantial proliferation of frameworks, methodologies, indicators, and eco-labels took place, which has led to a state of frustration among producers regarding the awarding of all these certifications, as well as a lack of understanding among consumers in the marketplace.

The SAFA framework is a proposed solution from FAO to the aforementioned situation, since it aims to establish a universal, international reference point for assessing sustainability across food and agricultural value chains, facilitating trade-offs and synergies between four dimensions of sustainability: (i) good governance, (ii) environmental integrity, (iii) economic resilience, and (iv) social well-being. Building on these four dimensions, 21 universal sustainability goals (named as “themes”) were defined, as well as 58 sustainability objectives specific to supply chains (named as “sub-themes”), which encompass a list of 116 indicators for crops, livestock, forestry, fisheries and aquaculture enterprises. It is also important to note that the intended audience for this document includes both companies and organizations, apart from other relevant stakeholders involved in crop, livestock, forestry, aquaculture, and fishery value chains. The document also aims to establish a point of reference when referring to governments' strategies, policy making, and planning proposals.

For the environmental analysis within the FARCLIMATE context, only the environmental dimension of the SAFA framework (named as “environmental integrity”) was considered to develop the assessment methodology. Thus, a comprehensive evaluation of approximately 50 environmental indicators was conducted, meticulously selected to align with the project's objective of systematically assessing living labs from agricultural and fishery sector in a straightforward manner. The selected indicators are shown in [Figure 4](#), categorized under themes and sub-themes, and reporting their typology (e.g., target indicator, practice indicator and performance indicator), following the SAFA framework:

- (i) **Target indicators:** Sustainability goals are evaluated by the existence of a plan or policy. The target indicators were divided into three categories: dark green, indicating the presence of a written plan and steps taken towards the target; orange, indicating the presence of a set target, steps taken, but no written plan, or a written plan that is deficient in terms of the absence of steps towards the target, or the lack of availability to all stakeholders; and lastly, red, indicating the absence of any of the aforementioned.
- (ii) **Practice indicators:** Sustainability goals are evaluated through the implementation of specific practices. These practices are used as a proxy for a certain level of performance and are either considered “better practice” based on a general industry consensus or scientific evidence. These indicators were classified into three distinct categories: dark green indicates an example of a “better practice”; orange indicates a list of practices that have been implemented to achieve a sustainability goal from a sub-theme of the SAFA guidelines; while red indicates a list of unacceptable practices.

- (iii) **Performance indicators:** Sustainability goals are evaluated using measured values based on direct measurements or estimates. The indicators were divided according to the percentage performance required to achieve a specific sustainability aim, with the following five colours used to denote this: dark green indicates a performance of 80% or more; light green, 60% – 80%; yellow indicates 60% – 40%; orange indicates 40% – 20%; and red indicates performance levels of 20% or less.

As illustrated in [Figure 4](#), performance indicators were excluded due to the lack of primary data required to quantify such indicators. Furthermore, certain sub-themes, including genetic diversity and freedom from stress, which are associated with the themes of biodiversity and animal welfare, respectively, were excluded from consideration. This decision was made with the objective of streamlining the information collection process for the FARCLIMATE project partners. Consequently, the selection was confined to the most pertinent sub-themes that align with the primary objectives of the project.

When it comes to scoring the case studies to be evaluated, this was defined using points, where the maximum number of points are assigned to the best environmental performance according to the specific themes considered. Furthermore, each type of indicator has a different weighting, which in the SAFA framework is proposed as following: target indicators (1 point), practice indicators (2 points) and performance indicators (3 points). Therefore, in order to be as close as possible to the SAFA guidelines, the double weighting of the practice indicators compared to the target indicators was taken into account (i.e., target indicators equal to 1 point and practice indicators equal to 2 points), while the performance indicators were disregarded. Based on this assumption, the maximum potential indicator points for each theme in the specific case of the FARCLIMATE project were defined and summarized in [Table 2](#).

Likewise, according to the colour rating, points were progressively increased or decreased as the sub-theme became more green or red, with 30 points being the maximum possible score. However, for a better understanding of each sub-theme evaluated and to focus on the worst scores, a visual representation of a hypothetical scenario is presented in [Figure 5](#). A form of a spider diagram was selected to facilitate the understanding, from which it can be concluded that the improvement in the two sub-themes affecting “water” (i.e., “water withdrawal” and “water quality”), is particularly noteworthy, apart from the “soil quality” sub-theme of the “land” theme.

The rationale underpinning the SAFA guidelines approach followed is to streamline the data collection process and ensure the acquisition of reliable primary information. In addition, this methodology aligns with the main aim of the FARCLIMATE project, which is to facilitate both accessibility and applicability when it is referred to propose methodological procedures for the environmental assessment and, particularly, for the proposal of climate-resilient actions. In this regard, [Annex B. Questionnaire for compiling information about the SAFA guidelines](#) contains the questionnaire designed to compile information concerning the SAFA indicators, which is to be disseminated among the FARCLIMATE partners.

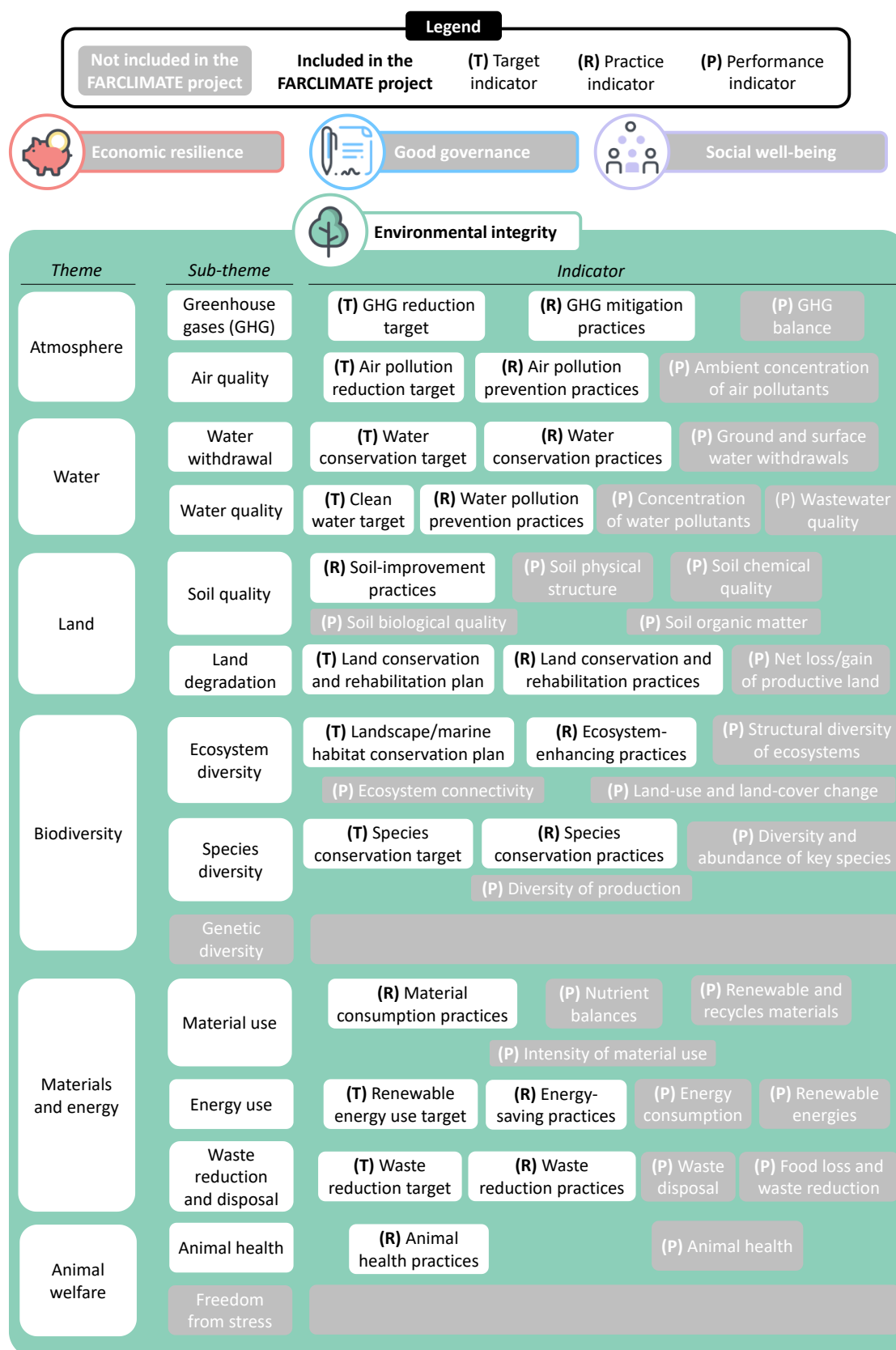


Figure 4. Themes, sub-themes and indicators selected for the environmental dimension of the SAFA guidelines to be applied in the FARCLIMATE project context.

Table 2. Points for the themes, sub-themes and indicators in relation to the first and second scenarios considered in the FARCLIMATE project, according to the SAFA guidelines.

Theme (maximum points)	Sub-theme (maximum points)	Indicators (T: Target, R: Practice)	Scoring (points)		
Atmosphere (6)	Greenhouse gases (GHG) (3)	(T) GHG reduction target	1	0.5	0
		(R) GHG mitigation practices	2	1	0
	Air quality (3)	(T) Air pollution reduction target	1	0.5	0
		(R) Air pollution prevention practices	2	1	0
Water (6)	Water withdrawal (3)	(T) Water conservation target	1	0.5	0
		(R) Water conservation practices	2	1	0
	Water quality (3)	(T) Clean water target	1	0.5	0
		(R) Water pollution prevention practices	2	1	0
Land (SA: 5, SE: 5)	Soil quality (2)	(R) Soil-improvement practices	2	1	0
	Land degradation (3)	(T) Land conservation and rehabilitation plan	1	0.5	0
		(R) Land conservation and rehabilitation practices	2	1	0
Biodiversity (6)	Ecosystem diversity (3)	(T) Landscape/marine habitat conservation plan	1	0.5	0
		(R) Ecosystem-enhancing practices	2	1	0
	Species diversity (3)	(T) Species conservation target	1	0.5	0
		(R) Species conservation practices	2	1	0
Materials and Energy (SA: 5, SE: 5)	Material use (2)	(R) Material consumption practices	2	1	0
	Energy use (3)	(T) Renewable energy use target	1	0.5	0
		(R) Energy-saving practices	2	1	0
	Waste reduction and disposal (3)	(T) Waste reduction target	1	0.5	0
		(R) Waste reduction practices	2	1	0
Animal welfare (2)	Animal health (2)	(R) Animal health practices	2	1	0

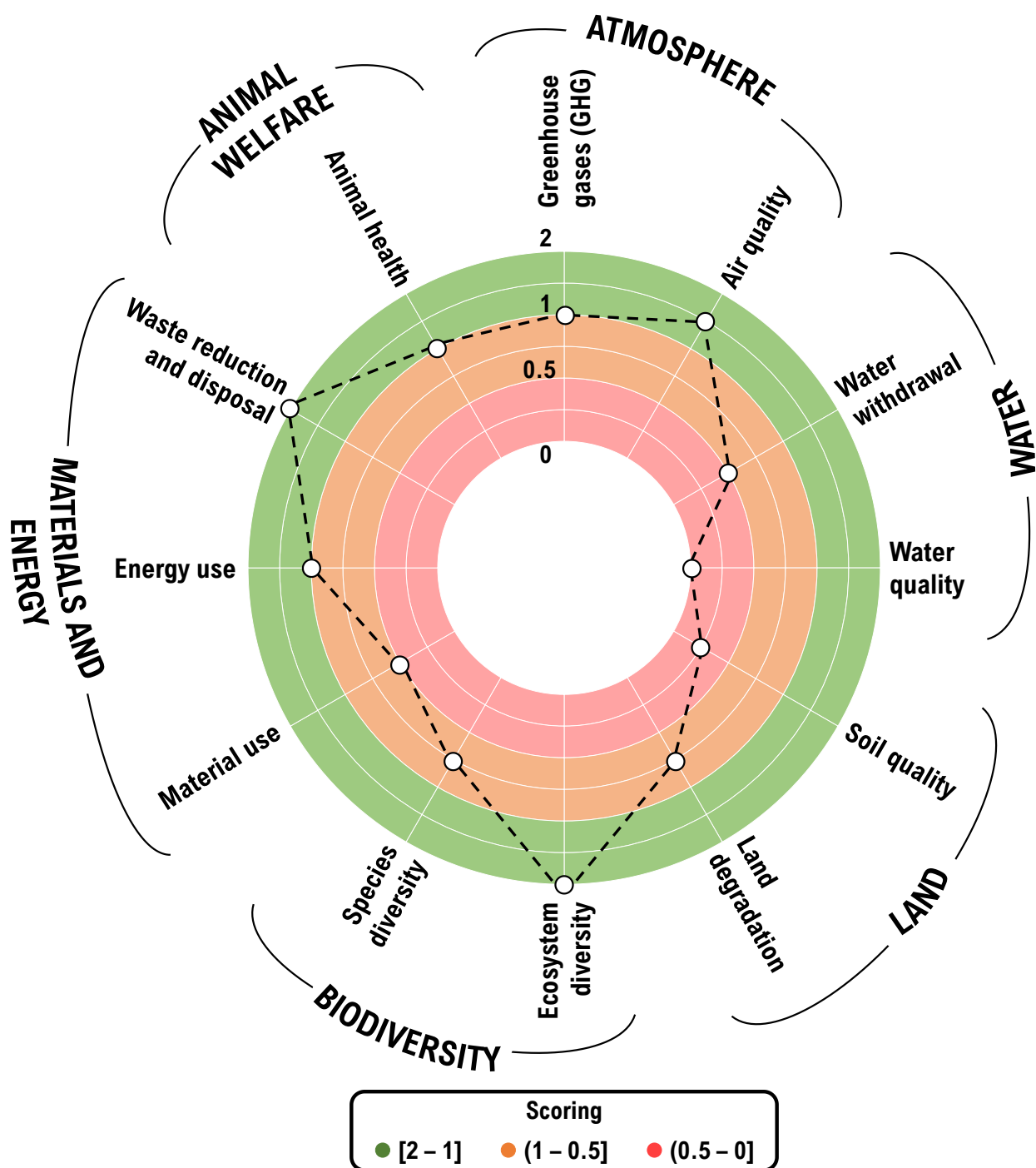


Figure 5. Visual representation of the SAFA guidelines of a hypothetical scenario tailored to FARCLIMATE project following the scoring system (see [Table 2](#)).

4 Analysed case studies

4.1 Forestry sector

The evaluated forestry case studies represent a wide range of forest management contexts across Europe. They are characterized by high ecological value, multifunctional land use, biodiversity conservation and rural economic activities, and include activities related to conservation forestry, forest management, forest restoration and rehabilitation, and afforestation. The assessed activities are aligned with the forestry-related categories established under Annex I of the Climate Delegated Act and are generally associated with NACE code A2, particularly NACE II 02.10 (silviculture and other forestry activities), 02.20 (logging), 02.30 (gathering of wild growing non-wood products), and 02.40 (support services to forestry).

Afforestation refers to the establishment of forest ecosystems through planting, deliberate seeding, or natural regeneration on land previously under a different land use. It involves the conversion of non-forest land into forest, in accordance with national legislation or, where unavailable, the FAO definition of forest. Afforestation activities play an important role in carbon sequestration, ecosystem restoration, soil protection, and climate adaptation.

Conservation forestry activities focus on preserving habitats, species, and ecosystem integrity within existing forest areas without changing the land-use category. Their primary objective is to maintain biodiversity, ecological functions, and the conservation status while supporting sustainable and low-impact forest uses compatible with ecosystem protection objectives.

Forest management activities comprise practices influencing the ecological, economic, and social functions of forest ecosystems under a structured management system. These activities include silvicultural interventions, biomass management, cork extraction, wildfire prevention, forest health measures, and sustainable resource use practices developed within existing forest areas. Sustainable forest management constitutes a central component of climate change mitigation and adaptation strategies.

Finally, **forest rehabilitation and restoration** encompass activities aimed at recovering degraded forest ecosystems, improving ecological functionality, and restoring forest resilience following disturbances, such as wildfires, droughts, pests, or extreme climatic events. This category also includes reforestation and natural forest regeneration processes implemented after ecosystem degradation or disturbance events. These activities contribute to biodiversity recovery, carbon stock enhancement, soil conservation, and the long-term resilience of forest landscapes under climate change pressures.

4.1.1 Alcornocales Natural Park

4.1.1.1 Case study description

The Alcornocales Natural Park case study, located in the provinces of Cádiz and Málaga in southern Spain, focuses on strengthening climate resilience and promoting sustainable forest management within one of the largest and best-preserved Mediterranean forest ecosystems in the Iberian Peninsula. Covering approximately 170,000 hectares, the park hosts one of the world's largest continuous cork oaks (*Quercus suber*) forests, together with important stands of Portuguese oak (*Quercus faginea*) and Algerian oak (*Quercus canariensis*). These forest

systems provide high ecological, climatic, economic and social value within the Mediterranean region.

The territory is strongly linked to cork production and other forest-based value chains. However, the sector currently faces important structural challenges, including declining cork productivity, shortages of skilled labour for cork extraction and handling, and increasing climate-related pressures such as drought stress, pests and declining forest vitality. In addition, several forest resources remain underutilised, including oak wood with potential for value-added products such as barrels for Jerez wine, as well as forest biomass for renewable energy and circular economy applications.

According to the risk assessment developed in D.2.7, one of the main climate-related risks affecting the territory is the degradation of forest ecosystems and the associated economic losses resulting from oak decline ("la seca"). The assessment identifies increasing temperatures, changes in rainfall patterns and the extension of summer drought conditions as key climatic drivers contributing to the deterioration of cork oak stands. This materialised hazard directly affects the extensive cork oak and Algerian oak forests that characterise the protected area, exposing both cork production activities and associated extensive livestock systems. The progressive decline of oak stands threatens not only ecosystem health and biodiversity but also the economic viability of forest-based businesses and the livelihoods dependent on sustainable forest management.

Climate change represents the main long-term threat to the ecosystem, increasing the vulnerability of Mediterranean forests to droughts and ecological degradation. At the same time, the case study highlights important opportunities linked to the green transition and sustainable forestry policies. The new Andalusian Forest Law facilitates access to funding mechanisms for sustainable forest management on private lands, while initiatives such as the LIFE CO2RK project¹ promote cork oak restoration, carbon sequestration and innovative carbon compensation schemes.

The case study also explores opportunities related to nature-based tourism, biodiversity conservation and rural development. Tourism remains largely underdeveloped, with only a small proportion of visitors accessing the visitor centre, indicating significant potential for activities linked to cork landscapes, biodiversity and sustainable Mediterranean forestry. Through integrated management approaches, the case study aims to strengthen the long-term ecological and socio-economic resilience of the territory.

4.1.1.2 Main economic activity

The economic activities undertaken within Alcornocales Natural Park case study fall within all the forestry activities recognised by the EU Taxonomy. These comprise afforestation, conservation forestry, forest management, and rehabilitation and restoration of forests, including reforestation and natural forest regeneration after extreme events. Through the implementation of these activities, the case study aims to preserve ecological integrity, enhance biodiversity, support ecosystem restoration processes and strengthen the adaptive capacity of one of the most important cork oak forest landscapes in the Mediterranean region.

¹ <https://yuntas.eu/life-co2rk/>

4.1.2 Rebollo

4.1.2.1 Case study description

The Rebollo case study, located in Castilla y León (Spain), focuses on strengthening climate resilience within Mediterranean forest ecosystems dominated by Pyrenean oak forests (*Quercus pyrenaica*), locally known as *Rebollo*. These forest systems provide multiple ecosystem services and forest-based products, including wood resources that can substitute more carbon-intensive materials, as well as secondary products such as acorns, mushrooms and fuelwood. However, only a small proportion of the annual forest growth is currently utilised, highlighting opportunities for innovation and the development of sustainable wood-based value chains.

According to the climate risk assessment presented in D2.7, one of the main risks affecting the territory is the ecological decline of Pyrenean oak forests caused by increasing temperatures and the growing frequency and intensity of summer droughts. These pressures increase water stress and significantly raise the risk of catastrophic wildfires across the approximately 716,000 hectares of Pyrenean oak forests in Castilla y León. The assessment highlights that many forest stands are characterised by high density, advanced age and low ecological maturity as a consequence of past management practices, making them particularly vulnerable to drought-induced decline, pests and diseases.

The case study addresses the increasing pressures associated with climate change, including prolonged droughts, rising temperatures, biodiversity loss, pests, diseases and the growing occurrence of wildfires. In addition, traditional monospecific forest structures reduce the adaptive capacity of these ecosystems to future climatic conditions. In response, the initiative promotes adaptive and close-to-nature forest management strategies aimed at improving forest productivity, enhancing product quality, reducing vulnerability to climate-related disturbances and strengthening ecosystem resilience.

D2.7 also identifies important socioeconomic and governance-related risks. The persistence of traditional low-value management models limits the development of innovative wood-based industries and reduces the economic viability of forest ownership, preventing the sector from fully exploiting opportunities linked to high-value timber products and the bioeconomy. Furthermore, the assessment highlights governance challenges associated with climate adaptation, including fragmented decision-making structures, limited coordination among stakeholders and the need for long-term institutional commitment to ensure that pilot initiatives can be successfully scaled up across the landscape.

The Rebollo case study is closely linked to the LIFE+ REB project², developed by CESEFOR and the regional authorities of Castilla y León. The initiative supports the transition towards more diverse and resilient mixed forest structures while promoting sustainable forest management practices aligned with climate mitigation and adaptation objectives. Overall, the case study positions the forestry sector as a strategic tool for both environmental resilience and the development of local bioeconomy opportunities in rural areas.

² <https://liferebollo.es/>

4.1.2.2 *Main economic activity*

The Rebollo case study incorporates a comprehensive range of forestry activities recognised under the EU Taxonomy, including afforestation, conservation forestry, forest management, and rehabilitation and restoration of forests, including reforestation and natural forest regeneration after extreme events. These activities are implemented to enhance the resilience of Mediterranean forest ecosystems, promote sustainable forest management practices and support the long-term adaptation of forest landscapes to climate change and other environmental pressures.

4.1.3 *Marin Drăcea*

4.1.3.1 *Case study description*

The Marin Drăcea case study is located in the municipality of Bârsești, in the Focșani region of Romania, and focuses on the transformation of vulnerable artificial pine plantations into more resilient and climate-adapted forest ecosystems. The pilot area covers approximately 41 hectares of *Pinus nigra* and *Pinus sylvestris* plantations established around 70 years ago on degraded lands with the original objective of soil stabilisation and erosion control. Although these plantations initially fulfilled an important protective function, they are currently experiencing significant ecological decline linked to climate change and increasing environmental pressures.

According to the climate risk assessment presented in D2.7, one of the main risks affecting the territory is the decline of protective forests caused by climate stress and the absence of adaptation measures. Increasing temperatures, prolonged droughts and heat stress are generating severe tree drying phenomena and compromising the stability of forest stands. The assessment highlights that these pine plantations are located on previously degraded lands and that the protective ecosystem services they provide, including soil stabilisation and water regulation, are increasingly exposed to climate-related pressures. As a result, both the ecological integrity of the forests and the environmental benefits delivered to local communities are at risk.

Rising temperatures, prolonged drought periods and increasing wildfire risk have reduced the vitality and resilience of these pine stands, increasing their vulnerability to pests, diseases and forest fires. Severe wildfire events recorded in nearby areas during recent years further demonstrate the limitations of monospecific forest systems under changing climatic conditions. Visible symptoms of drying and forest decline are already affecting the plantations, highlighting the need for adaptive forest management strategies capable of improving long-term ecosystem stability.

D2.7 further identifies the age and historical context of these plantations as an important source of vulnerability. Established 50–70 years ago on already degraded lands, the stands have become increasingly susceptible to climate-related disturbances as they age. The assessment also emphasises that no significant adaptation measures are currently in place, leaving these forests without active management interventions capable of enhancing their resilience to future climatic conditions. This situation highlights the need for coordinated action from public authorities and forest managers to support the transition towards more adaptive and sustainable forest ecosystems.

At the same time, natural regeneration processes are progressively introducing native broadleaf species such as beech (*Fagus sylvatica*) and oak species (*Quercus spp.*), creating opportunities for transitioning towards more biodiverse and climate-resilient forest ecosystems. The case study promotes close-to-nature restoration approaches based on monitoring forest health, implementing gradual species replacement and developing adaptive management strategies aligned with future climatic conditions.

The case study also integrates governance, community participation and stakeholder engagement, recognising that local communities remain economically dependent on forest resources for firewood and small-scale biomass production. Through collaboration between researchers, forest managers, authorities and local stakeholders, the initiative aims to develop scalable forest adaptation strategies that can serve as a reference model for sustainable forest transition and climate resilience in Romania and Central Europe.

4.1.3.2 *Main economic activity*

The Marin Drăcea case study encompasses all forestry-related economic activities recognised by the EU Taxonomy, including afforestation, conservation forestry, forest management, and rehabilitation and restoration of forests, including reforestation and natural forest regeneration after extreme events. These activities support the sustainable management of forest resources, the restoration of degraded forest ecosystems and the enhancement of ecosystem resilience, while contributing to the preservation of biodiversity and the long-term provision of forest ecosystem services.

4.1.4 Gorenjska

4.1.4.1 *Case study description*

The Gorenjska case study, located in the Gorenjska region of Slovenia, aims to reduce the growing climate vulnerability of lowland spruce forests in the region. Focuses on improving the climate resilience of forest ecosystems increasingly exposed to climate-related disturbances such as storms, prolonged droughts and outbreaks of bark beetles. These pressures threaten the ecological stability, productivity and long-term sustainability of Slovenian forests. The case study promotes the transition from vulnerable monospecific forest stands towards more diverse, mixed and climate-resilient forest ecosystems.

According to the climate risk assessment presented in D2.7, one of the main risks affecting the region is forest degradation and the resulting economic disruption to the forestry sector. Increasing temperatures, droughts, bark beetle outbreaks, windthrow events and ice damage are already affecting forest health and productivity, with these impacts expected to intensify in the future. Given that forests cover most of the Gorenjska landscape and constitute a key natural and economic resource, the degradation of forest ecosystems directly threatens the viability of forestry-related businesses and the regional economy.

The assessment also identifies increasing flood and landslide risks affecting local communities and critical infrastructure. As droughts, pests and storms weaken riparian and mountain forests, their capacity to regulate water flows and stabilise soils declines, increasing the exposure of settlements and infrastructure to erosion, flooding and landslides. In addition, climate change is contributing to biodiversity loss and the degradation of ecosystem services through the combined effects of heat stress, wildfires and the spread of invasive species.

These pressures threaten the ecological integrity of one of Slovenia's most environmentally valuable regions, including the Julian Alps and Karavanke mountain ranges.

The initiative is developed through a case study approach operating at both municipal and regional scales, reflecting the interconnected nature of forest management in Slovenia. The case study involves collaboration between municipalities, the Slovenian Forest Service, forest owners and regional development agencies to test innovative governance and cooperation models for adaptive forest management. This participatory framework encourages local stakeholders to contribute their knowledge and practical experience to the development of resilience strategies.

D2.7 further highlights the limited adaptive capacity of both forest ecosystems and governance structures as an important source of vulnerability. The increasing complexity of climate adaptation challenges requires stronger coordination between public authorities, forest managers and local stakeholders to ensure the long-term implementation of resilience measures. Consequently, the case study seeks not only to improve forest resilience but also to strengthen governance mechanisms capable of supporting landscape-scale adaptation and the preservation of critical ecosystem services.

As a practical demonstration area, the case study focuses on selected lowland forests in the Gorenjska region, particularly near the city of Kranj, where pilot measures aimed at increasing forest resilience can be implemented and evaluated under real conditions. The experiences and results obtained are intended to be scaled up and transferred as good practice examples to strengthen the resilience of other forest areas across the region.

4.1.4.2 Main economic activity

The Gorenjska case study encompasses all forestry-related economic activities recognised by the EU Taxonomy, including afforestation, conservation forestry, forest management, and rehabilitation and restoration of forests, including reforestation and natural forest regeneration after extreme events. Through the implementation of these activities, the case study supports the transition from vulnerable forest stands towards more diverse and climate-resilient forest ecosystems, while promoting biodiversity conservation, sustainable forest management and the long-term stability of ecosystem services.

4.2 Agriculture sector

4.2.1 American Farm School (KAEM)

The American Farm School (KAEM) case study is located in Messinia, Greece, a Mediterranean agricultural region where olive cultivation plays a central economic role. KAEM case study has been developed around the partnership between the American Farm School and the Captain Vassilis & Carmen Constantakopoulos Foundation, with the participation of farmers, cooperatives, agricultural advisors, research and educational bodies, technology providers, local authorities, rural development organisations and social enterprises.

The case study focuses mainly on olive groves, although fig orchards and other permanent crops are also considered within the broader agricultural system. The case study has been established to support the local farming community adopting practical solutions for climate-related risks and vulnerabilities. The main climate-related risks identified include increasing heat and dry conditions, soil moisture stress, climate-related pest and disease pressure and

impacts on crop productivity and quality. Other relevant vulnerabilities are associated with declining soil health, reduced soil water retention and lower microbial activity, particularly in fields managed under conventional or degraded conditions.

To address these risks, the KAEM case study combines technological, agroecological and capacity-building solutions. One of the principal lines of actions is the introduction of climate-smart irrigation practices, the use of soil sensors, air sensors and digital monitoring platforms. These tools support data-driven decision-making and can improve irrigation scheduling, input efficiency and the early identification of crop stress. The case study also promotes carbon footprint assessment, digital farm records and traceability tools. Soil vulnerabilities are addressed through friendly practices such as the application of compost, biostimulants, cover crops and natural materials such as sheep wool to improve soil structure and water retention.

4.2.2 STIV Sicily

The STIV (Sustainable Transition in Viticulture) Sicily case study is located in the provinces of Agrigento and Trapani, in Western Sicily, Italy, a Mediterranean viticulture region where wine production plays an important economic, environmental and territorial role. The case study focuses mainly on vineyards and small and medium-sized wine producers operating under Mediterranean climatic conditions. It aims to support the ecological and digital transition of local winegrowers by promoting the adoption of enhanced viticulture practices adapted to local conditions, while engaging producers, vocational education and training institutions, researchers, technology providers, academia, public institutions and local communities.

The main climate-related risks identified include increasing drought, soil degradation, climate pressure on vine productivity and quality, and the growing need for more efficient management of water, soil and agricultural inputs. Other relevant vulnerabilities are associated with the socio-economic fragility of the sector, the fragmentation of small and medium-sized wine growers, and the need to improve digital skills and innovation capacity within local farming communities.

To address these risks, the STIV Sicily case study combines digital innovation, sustainable vineyard management and capacity-building solutions. One of the principal lines of action is the validation of AI-based decision-support tools, precision agriculture solutions and digitally enhanced cultivation methods through on-site experimentation in vineyards. These tools support data-driven decision-making and can improve irrigation planning, input efficiency, crop monitoring and the early identification of agronomic stress. The case study also promotes sustainable cultivation practices, green and digital skills training, cooperation between producers and institutions, and the development of replicable protocols and long-term collaboration frameworks. Through this integrated approach, the STIV Sicily case study aims to enhance the resilience, competitiveness and environmental stewardship of viticulture in Western Sicily.

4.3 Fishery sector

4.3.1 COSVAP

The COSVAP case study is developed by the Fishing Production District of Mazara del Vallo (COSVAP), located in Sicily, and focuses on the adaptation of Mediterranean coastal and fishing communities to climate change. The case study addresses the increasing pressures affecting small-scale fisheries, marine biodiversity and local coastal economies, including

warming seas, invasive species, declining traditional fish stocks and the digital divide within the fisheries sector. These challenges are particularly relevant in coastal areas where fisheries and tourism are closely linked to local livelihoods, maritime culture and regional economic development.

Within FARCLIMATE, COSVAP works with fisheries, marine researchers, public authorities, technology providers, training actors and coastal communities to identify sectoral needs and co-design solutions adapted to the local fisheries context. The case study explores several lines of intervention, including AI-supported maritime monitoring, innovation in fishing gear, improved management of marine resources and the development of climate-smart fishing practices. These activities are intended to strengthen the capacity of local fishers to respond to climate-related pressures while improving the environmental and economic sustainability of fishing activities.

The work is implemented through a collaborative and participatory approach that combines scientific knowledge with the practical experience of fishing communities. Co-creation workshops, stakeholder panels, awareness activities, professional training and maritime networking are used to involve relevant actors in the identification, discussion and validation of potential solutions.

4.3.2 Ría de Pontevedra

The Ría de Pontevedra case study is located in Galicia, Spain, and focuses on strengthening climate resilience in a coastal territory with estuarine characteristics, high urbanisation, economic diversity and a long tradition linked to the exploitation of fishing and shellfish resources. The case study is connected to the Ría de Pontevedra GALP (Fisheries Local Action Group) area and covers several municipalities around the estuary, including Poio and Bueu, where fishing, shell fishing and aquaculture remain important for territorial cohesion, local employment and the seafood value chain.

The production system is based on small-scale fisheries, shellfish harvesting and aquaculture activities, supported by a significant number of fisheries-related businesses and local workers affiliated with the fishing and aquaculture sector. Although the area also hosts industrial, port and tourism activities, marine resources continue to play a relevant socio-economic role in the identity and livelihoods of coastal communities.

During the 2021–2025 period, the Ría de Pontevedra GALP supported 80 projects approved under the European Maritime, Fisheries and Aquaculture Fund (FEMPA) in Spain. These projects address five main strategic objectives: increasing the added value of fisheries and aquaculture products, creating employment, attracting young people and promoting innovation throughout the supply chain; protecting and enhancing the environmental heritage of fisheries and aquaculture areas, including climate change mitigation measures; strengthening social well-being and preserving fisheries, aquaculture and maritime cultural heritage; reinforcing the role of fishing communities in local development and in the governance of fisheries resources and local maritime activities; and supporting economic diversification, lifelong learning and employment creation both within and beyond the commercial fisheries sector. As part of the environmental assessment, the projects approved during this period were reviewed to evaluate their contribution and alignment with the EU environmental objectives.

The case study addresses several climate-related risks and vulnerabilities affecting fisheries resources, biodiversity and coastal ecosystems. Rising temperatures, changes in salinity,

extreme weather events, invasive species, harmful algal blooms and the presence of toxins in molluscs that may prevent their commercialisation are among the main pressures identified. These factors can affect shellfish stocks, alter species distribution, reduce fishing yields and generate economic uncertainty for local producers. Additional pressures are associated with adjacent ecosystem changes, including river alterations and wildfire impacts, which may further affect coastal biodiversity and ecosystem functioning.

At present, climate change adaptation measures are mainly linked to production plans of fishers' guilds and specific investments in sustainable fishing practices and marine ecosystem restoration. The case study also highlights the relevance of coordinated exploitation plans among several brotherhoods, which reflect a collaborative governance approach to resource management. This shared management between the fisheries sector and the public administration contributes to improving the organisation and sustainability of fishing activities.

The Ría de Pontevedra case study aims to improve the understanding of climate impacts on marine ecosystems, support coordinated management frameworks and promote adaptive strategies that safeguard marine resources, fisheries productivity and the socio-economic stability of the territory. Through stakeholder engagement and cooperation within the GALP strategy, the case study seeks to strengthen the resilience of coastal communities while preserving the environmental and economic value of Ría de Pontevedra.

4.3.3 Ría de Arousa

The Ría de Arousa case study is located in Galicia, Spain, and focuses on one of the most productive and economically significant estuarine fishing and aquaculture systems in the region. The case study is connected to the Ría de Arousa GALP and covers several municipalities located around the estuary, where fishing, shell fishing and mussel cultivation play a central role in the local economy, employment and territorial identity. The Ría de Arousa is the widest and shallowest of the Galician rias and supports a highly productive marine ecosystem, including intertidal areas and wetlands that sustain a wide range of marine activities.

The production system is strongly linked to small-scale fisheries, shellfish harvesting and extensive mussel cultivation. The area includes a significant number of fisheries-related companies and a large proportion of the local labour force is connected to fishing and aquaculture activities. Key coastal towns such as Ribeira and Cambados act as important fishing ports, while mussel rafts, shell fishing areas and coastal ecosystems form the basis of a highly specialised seafood value chain.

During the 2021–2025 period, the Ría de Arousa GALP supported 83 projects approved under the FEMPA. The projects cover five broad areas of intervention: increasing the added value and competitiveness of fisheries and aquaculture activities; promoting economic diversification and employment; protecting coastal and marine ecosystems; preserving the social and cultural heritage of fishing communities; and strengthening local governance and stakeholder participation. As part of the environmental assessment, these projects were reviewed to determine their contribution and level of alignment with the EU environmental objectives.

The case study addresses several climate-related risks and vulnerabilities affecting the marine environment and the fisheries sector. Rising temperatures, changes in salinity, extreme weather events, harmful algal blooms, invasive species and thermohaline stress are affecting marine ecosystems and commercially valuable shellfish stocks. These pressures may alter species

distribution, reduce fishing yields, damage infrastructure and increase uncertainty for local producers. Changes in water patterns, river flows, ocean currents and ecosystem dynamics may also affect the growth, reproduction and behaviour of marine organisms, with direct consequences for the productivity and economic stability of the sector.

Despite the relevance of these risks, adaptation planning in the area remains limited. Current initiatives are mainly linked to existing production plans, isolated investments in equipment for sustainable fishing practices and actions aimed at restoring marine ecosystems. Interactions such as those observed in seagrass meadows covering shellfish nursery habitats may also contribute to reducing environmental stress and improving the resilience of coastal systems.

The Ría de Arousa case study aims to improve the understanding of climate impacts on marine ecosystems, strengthen dialogue among stakeholders and support the development of adaptive strategies for the fisheries and aquaculture sectors. By reinforcing knowledge exchange within the GALP strategy, the case study seeks to promote a more proactive and climate-aware fisheries territory, while preserving the economic, social and ecological value of Ría de Arousa.

4.3.4 Vlorë Municipality

The Vlorë case study is led by the Municipality of Vlore, Albania. It focuses in the local fisheries sector, with particular attention to the environmental, social and economic resilience of coastal communities. Its territorial scope covers the coastal and marine areas of the Municipality of Vlore, including Triport, Zvërnec and other fisheries areas where fishing activity plays an important role in local communities.

The Vlorë Municipality case study is conceived as a participatory space that brings together fishers, public authorities, universities, experts, local organisations and other relevant stakeholders, aiming to identify the main climate-related risks affecting fisheries, marine ecosystems and coastal communities, and to define adaptation measures that are suitable for the local territorial context.

The main activities carried out include the identification and assessment of climate risks for fisheries and coastal areas, the organisation of participatory workshops and stakeholder consultations, and the analysis of vulnerabilities affecting both marine ecosystems and fishing communities. These actions provide the basis for the development of proposals aimed at strengthening the resilience of the fisheries sector to climate change.

A potential action currently being explored to strengthen the resilience of local fishing communities is the diversification of fisheries-related activities, particularly through the development of tourism. However, fishers currently face regulatory challenges when seeking to combine fishing activities with tourism. The two activities are governed by different regulatory frameworks, which are not always fully aligned or compatible, for instance, regarding the licensing and insurance requirements, and the number and type of people allowed on board. The absence of a clear and comprehensive regulatory framework governing the combination of fishing and tourism activities may therefore represent a barrier to the implementation of diversification strategies and limit opportunities for local fishing communities to develop complementary sources of income.

4.4 Environmental alignment of forestry case studies

4.4.1 EU Taxonomy eligibility

EU Taxonomy eligibility refers to whether an economic activity falls within the scope of the activity defined by the EU Taxonomy, regardless of its level of compliance with the technical screening criteria. Therefore, eligibility should not be interpreted as evidence of environmental sustainability, but rather as the first step in determining whether an activity can subsequently be assessed for Taxonomy alignment.

According to the EU Taxonomy Climate Delegate Act, forestry activities are considered eligible when they fall within one or more of the economic activities defined for the forestry sector. These include afforestation, conservation forestry, forest management, and the rehabilitation and restoration of forests, including reforestation and natural forest regeneration after extreme events. The assessment confirms that all analysed case studies are eligible under the EU Taxonomy, as their activities fall within the recognised forestry categories.

4.4.2 Technical screening criteria

Climate change adaptation

Climate change adaptation in the forestry sector focuses on ensuring that forest ecosystems and management practices remain resilient under both current and future climatic conditions. Within the EU Taxonomy framework, this requires the identification of relevant climate risks and vulnerabilities, together with the implementation of measures aimed at reducing potential impacts. The objective is to maintain the ecological, economic and social functions provided by forests while avoiding inadequate responses or unintended negative effects on surrounding systems.

These requirements apply to the different forestry activities covered by the EU Taxonomy, including afforestation, conservation forestry, forest management, and forest rehabilitation and restoration. In practice, such interventions should help forests cope with increasing climate pressures, including higher temperatures, prolonged drought periods, extreme weather events, pest outbreaks, diseases and wildfire risks. Measures based on ecosystem processes, adaptive management approaches and continuous monitoring play a central role in improving the capacity of forest systems to respond to these challenges.

The assessment therefore considers whether climate-related risks have been identified and evaluated, whether appropriate adaptation measures have been put in place, and whether these measures effectively contribute to enhancing forest resilience. It also examines whether the implemented actions avoid transferring risks or generating adverse impacts on ecosystems and socio-economic activities.

Table 3. Alignment of forestry case studies with EU Taxonomy climate adaptation criteria (A: Aligned; NA: Not Aligned).

Case study	Adaptation solutions	Climate risk & vulnerability assessment	Climate projections	Climate data & methods	Adaptation quality	Adaptation enabling activity
Alcornocales Natural Park	A	NA	NA	NA	A	A
Rebollo	A	NA	A	A	A	A

Case study	Adaptation solutions	Climate risk & vulnerability assessment	Climate projections	Climate data & methods	Adaptation quality	Adaptation enabling activity
Marin Drăcea	A	NA	NA	NA	NA	NA
Gorenjska	A	NA	NA	A	A	A

In the forestry sector, the assessment of compliance with the climate change adaptation objective under the EU Taxonomy framework is based on a set of criteria designed to evaluate how forestry activities identify, address and respond to climate-related risks and vulnerabilities. **Table 3** summarises the alignment of each forestry case study with the main EU Taxonomy criteria related to the climate change adaptation objective.

The assessment showed that all case studies are aligned with the EU Taxonomy criteria related to the implementation of adaptation measures intended to address the most significant climate-related risks affecting the activity. However, these risks have not been identified through a comprehensive climate risk and vulnerability assessment carried out in accordance with assessment steps required to demonstrate alignment with the EU Taxonomy.

Although climate-related threats such as droughts, heat stress, pests, diseases, storms, and wildfires have been recognised across all territories, the identification and assessment of physical climate risks are generally not supported by formal methodologies explicitly aligned with EU Taxonomy requirements. Consequently, the materiality of climate risks and the systematic evaluation of adaptation options are not consistently documented.

Regarding the use of climate projections and climate risk assessment methodologies, Rebollo case study is aligned, incorporating climate projections proportional to the expected lifetime of forestry activities and relying on scientific information consistent with recognised climate assessment approaches. Gorenjska also demonstrate alignment with these criteria through the use of climate projections and impact assessment based on best available data and recognised good practices. By contrast, Alcornocales Natural Park and Marin Drăcea case studies do not provide sufficient evidence to demonstrate that climate projections or risk assessments have been developed using methodologies consistent with current climate risk assessment frameworks, such as those based on IPCC recommendations or Copernicus data.

Most implemented adaptation solutions, except in the Marin Drăcea case study, demonstrate full alignment with the EU Taxonomy requirements. They have already implemented solutions that are consistent with relevant adaptation plans, climate projections and are monitored through predefined indicators.

Finally, the Alcornocales Natural Park, Rebollo and Gorenjska case studies show elements that are consistent with the concept of enabling activities under the EU Taxonomy. Beyond their direct effects on the areas where they are implemented, these initiatives promote management practices, technical knowledge and experience that can support climate adaptation in other forest areas and by other stakeholders. As a result, their contribution extends beyond the individual case study and may help increase resilience and support adaptation efforts in a wider context.

Climate change mitigation

Climate change mitigation in the forestry sector focuses on enhancing the capacity of forest ecosystems to remove and store atmospheric carbon while maintaining their long-term

ecological integrity and productivity. Under the EU Taxonomy framework, forestry activities are expected to contribute to climate mitigation through the conservation, sustainable management, expansion, rehabilitation and restoration of forests, thereby increasing carbon sequestration and avoiding greenhouse gas emissions associated with forest degradation or unsustainable land-use practices.

The criterion applies across the full range of forestry activities, including afforestation, conservation forestry, forest management, and the rehabilitation and restoration of forests. These activities are expected to maintain or increase forest carbon stocks, support sustainable biomass production, promote ecosystem resilience and ensure that forest resources are managed in a way that contributes to long-term climate mitigation objectives.

The assessment therefore examines whether forest-related activities are implemented under sustainable forest management principles, contribute to the maintenance or enhancement of carbon sinks, and comply with the requirements established by the EU Taxonomy regarding forest management practices, greenhouse gas mitigation performance, monitoring systems and independent verification mechanisms.

The assessment indicates that most forestry case studies are aligned with the EU Taxonomy requirements regarding the verification of compliance with the DNSH criteria on climate mitigation (**Table 4**). However, alignment is not fully demonstrated in Gorenjska case study at the forest supply area level. Additionally, Gorenjska and Marin Drăcea do not provide sufficient evidence to demonstrate compliance at the level of a sufficiently homogeneous group of holdings for assessing the sustainability risks associated with the forestry activity.

Table 4. Alignment of forestry case studies with EU Taxonomy climate mitigation criteria (A: Aligned; NA: Not Aligned; DNSH: Do No Significant Harm).

Case study		AI-cornocales Natural Park	Rebollo	Marin Drăcea	Gorenjska
DNSH verification at	Forest supply area level	A	A	A	NA
	Holdings group level	A	A	NA	NA
Afforestation plan	Minimum duration	NA	A	A	NA
	Environmental assessment	NA	A	NA	NA
	Afforestation plan documentation	A	A	NA	NA
Management plan	Forest management plan	A	A	A	A
	Forest management plan documentation	A	A	A	NA
	Sustainable management compliance	A	A	A	A
Carbon stock protection		A	A	A	A
Legality compliance		A	A	A	A
Monitoring system		A	A	A	A
Forest management plan coverage		A	A	A	A
Independent verification		NA	A	NA	NA
Auditor independence		NA	A	NA	NA

All case studies have an afforestation plan in place. In cases where the afforested area has already reached forest status, the afforestation plan is replaced by the subsequent forest management plan. Evidence supporting this criterion is documented in the corresponding forest management plans for all case studies, except from Gorenjska where some required information is not fully documented. Regarding the sustainability of forest management systems, alignment with the EU Taxonomy requirements was observed across all case studies.

The duration of the afforestation plans developed for most case studies meets the minimum requirements established under the relevant national legislation. The only exceptions are the Alcornocales Natural Park and Gorenjska case studies, where compliance with this requirement could not be demonstrated. Regarding the content of the afforestation plans, only the Rebollo case study includes all the elements required under national legislation for the environmental impact assessment of afforestation activities. Rebollo and Alcornocales Natural Park afforestation plan provides detailed information on the characteristics of the area (public access routes, physical characteristics, forest habitat context), addresses potential impacts on existing carbon stocks, evaluates forest-related risks such as fires, pests and diseases, considers relevant social and environmental aspects, and includes the applicable DNSH requirements for afforestation activities.

All case studies demonstrate the implementation of sustainable forest management practices that contribute to maintaining or enhancing forest carbon stocks. In particular, all case studies are covered by forest management plans or equivalent instruments extending over periods of at least ten years, supported by monitoring systems that ensure the reliability of management information and facilitate the long-term management of forest resources. In addition, all case studies demonstrate compliance with the due diligence and legality requirements established under Regulation (EU) No 995/2010.

Across the sector, the main weaknesses are associated with the verification and auditing requirements established by the EU Taxonomy. Only Rebollo provides evidence of being formally verified by competent authorities or independent third-party certifiers. Similarly, evidence demonstrating the independence of auditors is not consistently available across all case studies. These gaps do not necessarily reflect deficiencies in forest management performance but rather limitations in the documentation and verification procedures currently implemented.

Sustainable use and protection of water and marine resources

In the forestry sector, water resources are closely linked to forest management practices. Forest ecosystems influence water quality, water retention, groundwater recharge and erosion control, while also supporting rivers, wetlands and other aquatic habitats. For this reason, forestry activities can have a direct impact on the condition and availability of water resources.

Within the EU Taxonomy framework, the assessment examines whether forestry activities identify and address risks associated with water quality degradation and water stress. This includes evaluating whether management measures contribute to maintaining or achieving a good ecological and chemical status of water bodies, supported where relevant by water protection and management plans. In addition, the assessment considers whether forestry activities are implemented in a manner that avoids adverse impacts on surface waters, groundwater and associated aquatic ecosystems, ensuring that they do not hinder the achievement of environmental objectives established under European water legislation or contribute to the deterioration of the status of water bodies.

Table 5 summarises the alignment of the forestry case studies with the EU Taxonomy criteria for the sustainable use and protection of water and marine resources. The table provides a comparative overview between all case studies.

Table 5. Alignment of forestry case studies with EU Taxonomy sustainable use and protection of water and marine resources criteria (A: Aligned; NA: Not Aligned).

Case of study	Water risk assessment	Water status protection
Alcornocales Natural Park	A	A
Rebollo	A	A
Marin Drăcea	NA	A
Gorenjska	NA	A

The assessment of the forestry case studies against the EU Taxonomy objective of sustainable use and protection of water and marine resources focuses on two key aspects. The first examines whether risks related to water quality degradation and water stress have been identified and addressed through appropriate management measures. Alignment with this criterion was only observed in the Alcornocales Natural Park and Rebollo case studies, while the remaining cases did not provide sufficient evidence to demonstrate compliance.

The second aspect evaluates whether forestry activities avoid the deterioration of water bodies and are compatible with the objective of achieving or maintaining good environmental status, as established in Article 3(5) of Directive 2008/56/EC. All case studies were found to be aligned with this criterion, indicating that the assessed activities do not hinder the environmental objectives established under European water protection legislation.

Transition to a circular economy

For forestry activities, the transition to a circular economy objective is closely linked to the sustainable production of forest biomass. The assessment focuses on whether forest management practices maintain the long-term capacity of forests to supply wood resources without compromising ecosystem productivity. In particular, it evaluates whether silvicultural interventions could significantly reduce the availability of primary forest biomass suitable for the production of long-lived wood products.

Table 6 provides a summary of the alignment of the forestry case studies with the EU Taxonomy criteria related to the transition to a circular economy. The assessment indicates that all case studies comply with these criteria. The silvicultural practices implemented do not appear likely to cause a significant reduction in the sustainable supply of primary forest biomass and therefore do not compromise the availability of wood resources suitable for the production of long-lived wood products.

Table 6. Alignment of forestry case studies with EU Taxonomy circular economy criteria (A: Aligned; NA: Not Aligned).

Case of study	Sustainable biomass supply
Alcornocales Natural Park	A
Rebollo	A
Marin Drăcea	A
Gorenjska	A

Pollution prevention and control

Pollution prevention and control in the forestry sector focuses on minimizing the release of pollutants to air, water and soil through the adoption of sustainable forest management practices and the reduction of hazardous inputs. Forest ecosystems provide important environmental functions that can be negatively affected by the inappropriate use of pesticides, fertilizers and other hazardous substances. Consequently, preventing pollution is essential not only to protect forest biodiversity and ecosystem services, but also to safeguard surrounding water bodies, soils and human health.

Under the EU Taxonomy framework, forestry activities are expected to minimize the use of chemical inputs, promote alternative management approaches and avoid the use of hazardous substances that may generate significant environmental impacts. It is important to reduce dependence on pesticides and fertilizers, ensuring compliance with relevant environmental legislation and preventing the use of substances identified as highly hazardous under international conventions and European regulations.

Table 7 outlines the alignment of each forestry case study with the EU Taxonomy criteria for pollution prevention and control. The assessment indicates that the forestry activities analysed are generally aligned with the EU Taxonomy requirements concerning the reduction of pesticide and fertiliser use, as well as the promotion of alternative practices in accordance with Directive 2009/128/EC and Regulation (EU) 2019/1009. This alignment was observed across all case studies, except in specific situations where the application of pesticides is considered necessary to control pest outbreaks or forest diseases.

Table 7. Alignment of forestry case studies with EU Taxonomy pollution prevention and control criteria (A: Aligned; NA: Not Aligned).

Case of study	Pesticide reduction	Fertiliser reduction	Hazardous substances avoidance	Legal compliance	Prevention of water and soil pollution
Alcornocales Natural Park	A	A	A	A	A
Rebollo	A	A	NA	NA	A
Marin Drăcea	A	A	NA	A	A
Gorenjska	A	A	NA	A	A

A similarly positive result is observed regarding compliance with national legislation governing active substances. The Alcornocales Natural Park, Marin Drăcea and Gorenjska provide evidence of compliance with the relevant regulatory framework. Rebollo presents a minor gap in the formal demonstration of this requirement, although no evidence was identified indicating non-compliance with applicable legislation. In addition, all case studies demonstrate alignment with the EU Taxonomy requirements related to the prevention of water and soil pollution. Measures are in place to minimise the risk of contamination, and appropriate remediation actions are undertaken where pollution events occur.

The main differences between case studies are associated with the criterion concerning the implementation of documented and verifiable measures to avoid hazardous substances regulated under international conventions and European legislation. The Alcornocales Natural Park demonstrate alignment with this requirement through documented management approaches and evidence regarding the avoidance of prohibited substances. In contrast,

Rebollo, Maren Drăcea and Gorenjska do not provide sufficient evidence to formally demonstrate compliance with this specific criterion, although no indication of the use of such substances was identified during the assessment.

Protection and restoration of biodiversity and ecosystems

Protection and restoration of biodiversity and ecosystems in the forestry sector is linked to conservation of habitats, species and ecological processes. Protected areas and habitats can be influenced by forest management decisions. For this reason, biodiversity considerations are an important component of sustainable forest management.

Within the EU Taxonomy methodology, the assessment focuses on whether activities are carried out in a manner that is consistent with conservation objectives and avoid negative impacts. The assessment also examines whether forest management plans include measures to conserve habitats and species, maintain soil quality, promote natural forest processes and preserve the structural diversity of forest ecosystems. In addition, it evaluates whether forestry activities avoid the conversion of ecosystems with high biodiversity value and contribute to the long-term ecological integrity of forest landscapes.

Forests represent some of the most important terrestrial ecosystems in Europe, providing habitat for a wide range of species and delivering essential ecosystem services such as carbon sequestration, soil protection, water regulation and climate resilience. Consequently, sustainable forest management plays a critical role in achieving biodiversity conservation objectives and supporting the long-term functioning of natural.

The assessment indicates a very high level of alignment with the EU Taxonomy criteria related to the protection and restoration of biodiversity and ecosystems (**Table 8**). Alignment was observed across all case studies and for almost all assessed criteria. The only exception is the Marin Drăcea case study, where compliance with the conservation objectives established under national legislation for protected habitats could not be demonstrated.

Table 8. Alignment of forestry case studies with EU Taxonomy protection and restoration of biodiversity and ecosystems criteria (A: Aligned; NA: Not Aligned).

Case of study	Conservation objectives	Habitat protection	Biodiversity management
Alcornocales Natural Park	A	A	A
Rebollo	A	A	A
Marin Drăcea	NA	A	A
Gorenjska	A	A	A

For the remaining criteria, all case studies were found to be aligned with the EU Taxonomy requirements. No evidence was identified of the conversion of habitats particularly sensitive to biodiversity loss, habitats of high conservation value, or areas designated for their restoration under national legislation. In addition, the corresponding forest management plans include provisions aimed at maintaining and, where possible, enhancing biodiversity in accordance with applicable national and local requirements. These provisions cover the conservation of habitats and species, the prevention of invasive alien species, the protection of soil quality, and the maintenance of forest structures and ecological processes that support biodiversity over the long term.

Minimum guarantees

Minimum guarantees constitute the social and governance foundation of the EU Taxonomy framework and aim to ensure that environmentally sustainable activities are implemented in a manner that respects internationally recognized human rights, labour standards and responsible business conduct principles. While the environmental objectives of the EU Taxonomy focus on the ecological performance of economic activities, minimum guarantees ensure that these activities are carried out in accordance with fundamental social and ethical requirements.

Table 9 presents the alignment of each forestry case study with the EU Taxonomy minimum safeguards requirements. The assessment indicates full alignment across all forestry case studies. They demonstrate compliance with the social and governance principles established under the EU Taxonomy framework, providing a strong foundation for the environmental performance of the assessed activities. All case studies demonstrate alignment with the international frameworks referenced by the EU Taxonomy, including the OECD Guidelines for Multinational Enterprises, the United Nations Guiding Principles on Business and Human Rights, the principles and rights established under the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and the International Bill of Human Rights. The organizations involved in the implementation of the forestry activities operate within governance and regulatory frameworks that support compliance with these internationally recognized standards.

Table 9. Alignment of forestry case studies with EU Taxonomy minimum guarantees (A: Aligned; NA: Not Aligned; DNSH: Do No Significant Harm).

Case of study	Human rights & labour standards	DNSH compliance
Alcornocales Natural Park	A	A
Rebollo	A	A
Marin Drăcea	A	A
Gorenjska	A	A

4.5 Environmental alignment of agriculture sector case studies

For the agricultural sector, the environmental assessment was carried out using the SAFA-based framework to analyse the alignment of the case studies with the EU environmental objectives. The same methodological structure was applied to the two agricultural case studies, American Farm School and Sicily, ensuring a consistent basis for comparison. The assessment covers five main environmental areas: i) atmosphere, ii) water, iii) land, iv) biodiversity, and v) materials and energy. Each environmental area is assessed through two complementary dimensions: the existence of formal plans and the implementation of activities and practices. This distinction allows the analysis to capture both the strategic commitments established by each case study and the measures already implemented in practice.

To support the comparison between the two case studies, the qualitative alignment categories were converted into numerical scores, assigning a value of 2 to Aligned, 1 to Partially aligned and 0 to Not aligned. Criteria considered Not applicable were excluded from the corresponding score. The resulting values were then represented through a radar chart, allowing the

environmental performance of both case studies to be compared across all assessment dimensions using a common scale.

As shown in **Figure 6**, the graphical representation makes it possible to identify differences between planning and implementation, as well as the environmental areas in which each case study shows stronger or weaker alignment. The radar chart therefore provides a concise overview of the agricultural sector results while preserving the distinction between plans and activities and practices, which is particularly relevant for identifying cases where environmental measures are already being implemented despite the absence of fully developed formal planning instruments.

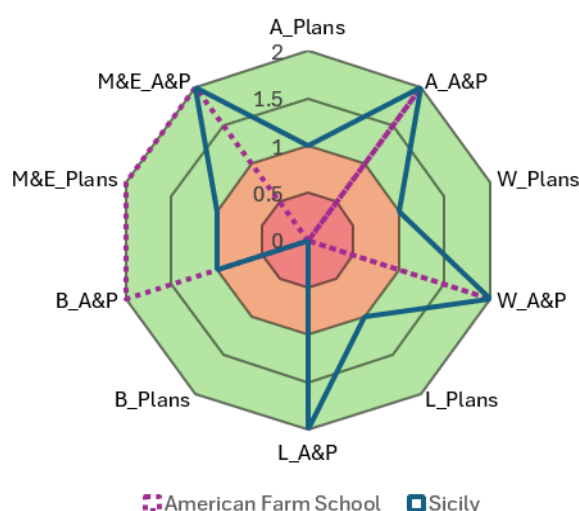


Figure 6. Visual representation of the SAFA-based environmental alignment of the FARCLIMATE agricultural sector following the scoring sector (A: Atmosphere; W: Water; L: Land; B: Biodiversity; M&E: Materials and Energy; A&P: Activities & Practices).

The environmental assessment has been structured using the SAFA framework to analyse the alignment of the case studies with the EU environmental objectives. The questionnaire provided is organised around five main environmental themes: i) atmosphere, ii) water, iii) land, iv) biodiversity, and v) materials and energy.

Atmosphere

The assessment of the KAEM and STIV Sicily case studies regarding the atmosphere theme shows a partial alignment with the environmental objectives assessed through the SAFA guidelines. In both cases, actions have been identified that contribute to the reduction of greenhouse gas emissions and air pollutants, although the level of formalization differs between the two case studies.

In the KAEM case study, no formal written plan has been identified setting specific targets for the reduction of GHG emissions or air pollutants, such as ammonia, odour, smoke, volatile organic compounds or other emissions associated with agricultural activities. However, KAEM has implemented several practices that support the progressive reduction of emissions. These include training on carbon footprint assessment and the use of tools for the systematic recording of agricultural operations, allowing farmers to assess emissions linked to irrigation, fertilization, plant protection and machinery use. These actions provide a relevant basis for

measuring and understanding the environmental footprint of agricultural activities, even though they have not yet been consolidated into a formal emission reduction plan.

In the STIV Sicily case study, the planning dimension appears more developed, as the case study is working on a sustainable framework aimed at reducing greenhouse gas emissions and improving environmental performance in viticulture. Strategies are also being developed to reduce air pollutants linked to vineyard management, particularly through the optimization of agrochemical applications and the promotion of environmentally friendly practices. Regarding implemented activities, STIV Sicily has introduced precision viticulture practices, including environmental sensors, remote sensing, data analytics and decision-support tools to optimize irrigation, fertilization and plant protection. These measures are complemented by sustainable soil and vineyard management practices, such as vegetation cover, reduced tillage, organic material incorporation, water-efficient irrigation and biodiversity-friendly management. Together, these practices contribute to lower input use, reduced GHG emissions, improved carbon sequestration and reduced emissions of air pollutants associated with pesticide and fertilizer applications.

Water

Regarding the water theme, KAEM and STIV Sicily case studies show a partial to positive alignment with the environmental objectives assessed through the SAFA guidelines. Both case studies include activities and practices that contribute to improving water efficiency and reducing pressures on water resources, although the level of planning and formalisation differs between them.

In the KAEM case study, no formal written plan has been identified setting specific objectives to reduce water consumption nor to improve the quality of water affected by agriculture activities. However, in the case study have been implemented practices that contribute to improve efficiency in the water use and reducing pressure on freshwater resources (e.g. the promotion of different smart schemes or protection of watercourse by not cultivating adjacent land).

In the STIV Sicily case study, the planning dimension is more developed. The case study has a written plan that addresses both the reduction of water consumption and the improvement of water quality affected by vineyard activities. The plan includes strategies to improve water efficiency through digital monitoring systems, irrigation management models and precision agriculture tools. These technologies allow farmers to monitor soil moisture, climatic conditions and plant water stress to support more efficient irrigation planning. In relation to water quality, the plan promotes sustainable vineyard management practices aimed at preventing water contamination, mainly through the reduction of agrochemical inputs and improved soil management practices.

Regarding implemented activities, STIV has introduced several practices that include the use of soil moisture sensors, meteorological monitoring and decision-support systems to optimise irrigation scheduling and reduce unnecessary freshwater consumption. In addition, precision irrigation technologies and data-driven vineyard management support more efficient water use. The case study also promotes reduced pesticide use, improved nutrient management and vegetation cover between vineyard rows, contributing to the limitation of runoff and reduces the risk of water pollution from agricultural activities.

Land

In term of land, KAEM and STIV Sicily case studies report different levels of alignment with the environmental objectives assessed through the SAFA guidelines. Both case studies include practices aimed at improving soil quality, fertility and resilience, although the degree of formalisation is higher in the STIV case study.

In the KAEM case study, the assessment shows a partial alignment. No formal written plan has been identified setting specific targets for the conservation of soil health or the rehabilitation of degraded soils. However, several activities and practices have been implemented that contribute to improving soil quality and fertility. These include the processing of olive mill residues to produce compost, as well as the use of biostimulants and local organic matter after composting.

In the STIV case study, the assessment shows a stronger level of alignment since soil conservation is promoted as a key pillar of sustainable viticulture. The case study has a written plan that promotes soil conservation through regenerative soil management practices, including the use of organic amendments and the monitoring of soil health indicators through digital technologies. The implemented practices include reduced tillage techniques and the incorporation of organic materials derived from agricultural residues. These measures contribute to maintaining soil fertility, reducing soil disturbance, increasing organic matter content and supporting the long-term resilience of vineyard soils.

Biodiversity

KAEM and STIV Sicily case studies demonstrate a partial alignment with the environmental objectives assessed through the SAFA guidelines. Both case studies include practices that contribute to habitat improvement, ecosystem services and ecological connectivity. However, no formal written biodiversity plan has been identified in either case study setting out specific objectives or measures for the conservation or rehabilitation of habitat diversity, nor for the conservation, protection or rehabilitation of rare, endemic or other species of particular conservation interest.

The KAEM case study has been implemented activities that improved biodiversity, including the creation of local habitats for wild fauna, the definition of buffer zones within cultivated areas and the recording of local fauna. In addition, monitoring activities have been implemented to support the protection, conservation and rehabilitation of rare, endemic or other species of interest.

In the STIV case study, biodiversity-friendly vineyard management practices are promoted, including vegetation cover, habitat creation for beneficial insects and sustainable vineyard management techniques that support ecosystem services and ecological balance. These practices can contribute to improved habitat conditions, enhanced functional biodiversity and better ecological performance within vineyard systems. However, as in KAEM case study, these actions are not supported by a formal written biodiversity plan with defined objectives, targets or monitoring indicators.

Regarding the animal health promotion criterion, it has been considered not applicable, as no animal production is involved in the economic activities covered by the case studies.

Resources and energy

The assessment of the KAEM and STIV case studies regarding the resources and energy theme shows a positive level of alignment with the environmental objectives assessed through the SAFA guidelines. Both case studies include planning elements and implement practices aimed at improving resource efficiency, reducing waste generation, promoting circular use of materials and improving energy performance.

In the KAEM case study, the assessment shows full alignment. The case study has written plans setting targets to increase the share of renewable energy and to reduce waste generation. Photovoltaic panels have been installed allowing the case study to both implement and demonstrate agricultural practices based on renewable energy. In addition, the KAEM case study has a written plan with strict policies on plastics and the practical prohibition of single-use plastic items.

Regarding implemented activities, KAEM case study has introduced practices aimed at replacing virgin non-renewable materials with recycled, reused or renewable materials, reducing energy requirements and reducing waste generation. These include the processing of olive mill residues to produce compost, the installation of photovoltaic panels and the implementation of measures to reduce waste generation and energy demand in agricultural operations. The case study is also re-engineering its standard operating procedures to reduce waste generation and intends to apply Cradle-to-Cradle principles across its operations, supporting a more circular and resource-efficient production model.

The STIV Sicily case study has a written plan that promotes energy efficiency and the reduction of unnecessary energy consumption in vineyard operations. It also promotes the replacement of non-renewable virgin inputs, such as synthetic fertilisers with natural inputs that improve soil fertility. Through the adoption of digital technologies and data-driven decision making, the case study supports more efficient use of machinery, irrigation systems and farm inputs.

STIV Sicily also promotes circular economy practices in the wine sector by encouraging the valorisation of vineyard and winemaking by-products. Organic residues such as vine pruning, grape pomace and other agricultural by-products can be reused as compost, biofertilizers or raw materials for new products. These practices contribute to reducing waste generation, improving nutrient circularity and decreasing dependence on external inputs.

4.6 Environmental alignment of fishery sector case studies

For the fisheries sector, the environmental assessment has been structured to analyse the alignment of the case studies with the EU environmental objectives, following the SAFA framework. The questionnaire provided to each case study is organized around five main environmental themes (atmosphere, water, land, biodiversity, materials and energy), with each theme divided into two complementary sections: plans and activities. The first section assesses whether the organisations have formal strategies, management plans or internal procedures in place, while the second examines the specific actions and measures implemented within each case study.

The analysis is presented separately for each case study due to the considerable differences in their institutional structure, geographical scope and role within the fisheries sector. The Ría de Arousa and Ría de Pontevedra case studies correspond to GALPs, which operate across several municipalities and bring together a broad range of stakeholders, including fishing

organisations, seafood-sector companies, local authorities and other actors connected to coastal development. In contrast, the Vlorë Municipality and COSVAP case studies have a more geographically and operationally defined scope, focusing on specific local territories, initiatives and stakeholder networks.

To allow a joint comparison of the four fisheries case studies, the results were harmonized into four common environmental criteria: atmosphere and climate, water, marine ecosystems and biodiversity, and materials, energy and waste. For COSVAP and Vlorë Municipality, the scores obtained through the SAFA-based assessment were aggregated within these broader categories by combining the corresponding sub-criteria and converting the alignment levels into numerical values (Aligned = 2, Partially aligned = 1 and Not aligned = 0). For Ría de Arousa and Ría de Pontevedra, the environmental contribution of the approved projects was mapped to the same four categories, using the previously assigned contribution levels to derive comparable numerical scores. This harmonization enables the results obtained through the two assessment approaches to be represented under a common structure.

The resulting scores are presented in **Figure 7** which provides a comparative visual representation of the environmental alignment of the four fisheries case studies across the harmonized criteria. The radar chart allows differences between case studies to be identified while also highlighting the environmental areas in which stronger or weaker alignment is observed.

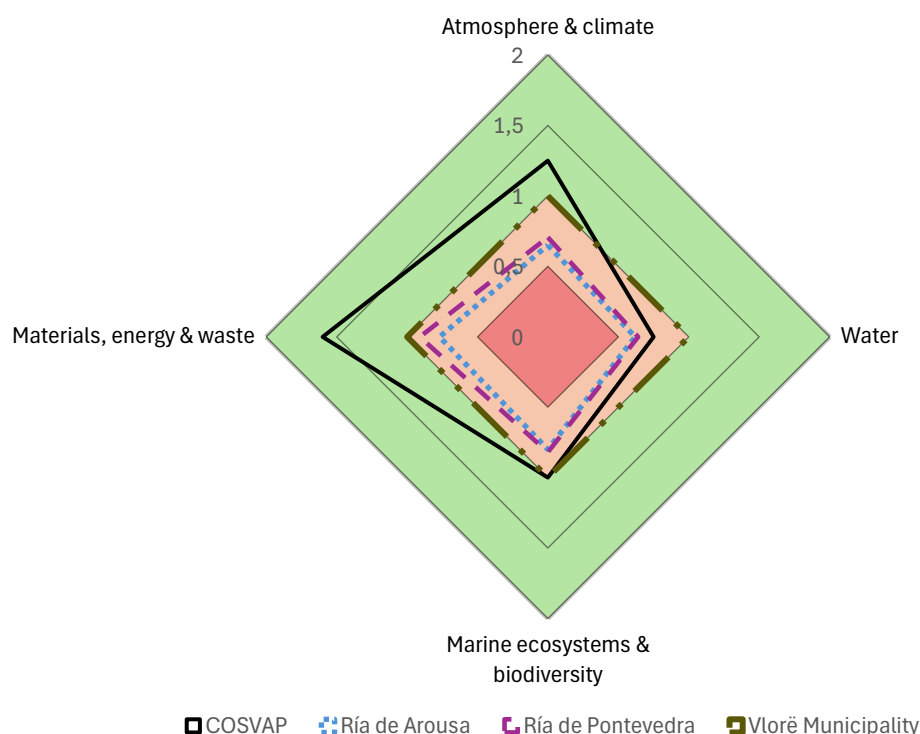


Figure 7. Harmonized environmental alignment of the FARCLIMATE fisheries case studies across common environmental criteria.

4.6.1 COSVAP

The COSVAP case study is located in western Sicily and focuses on the fisheries and seafood value chain. The case study adopts a territorial and multi-stakeholder approach rather than representing a single company, bringing together local operators and institutions to identify environmental challenges, assess existing practices and promote more sustainable and climate-resilient fisheries activities. Its environmental assessment therefore considers both the measures implemented by individual operators and the existence of shared plans, coordination mechanisms and strategic frameworks at territorial level.

Regarding atmospheric pollution, the COSVAP case study shows limited alignment in relation to formal planning. At the territorial level, there is no shared climate mitigation plan specifically addressing greenhouse gas emissions in the fisheries sector. Regional, national and European frameworks, including climate strategies, Common Fisheries Policy measures and the European Green Deal, provide an overall policy basis, but these have not yet been translated into an operational plan with defined targets and KPIs. The case study therefore intends to use stakeholder workshops to identify existing voluntary decarbonization initiatives and explore the development of a sector-level climate mitigation roadmap. Similarly, no coordinated written plan is currently available for reducing air pollutants, although maritime emission requirements, engine efficiency regulations and port environmental standards provide an indirect regulatory framework. Future activities are expected to gather information on existing practices and support the co-design of a plan template that may be adopted by interested fisheries operators.

Despite the absence of coordinated plans, several activities implemented by individual operators contribute to reducing greenhouse gas emissions and air pollutants. These include replacing older engines with more fuel-efficient models, improving vessel maintenance and fuel combustion, optimizing navigation and fishing operations, and using more selective fishing gear to reduce fishing effort and operational time. The modernization of refrigeration and processing equipment at landing facilities may also contribute to lower energy consumption and emissions. However, these measures appear to be implemented independently by certain operators and are not yet supported by common targets, systematic monitoring or documented evidence at case-study level. Consequently, the COSVAP case study can be considered partially aligned with the atmospheric pollution criteria, with stronger evidence for the implementation of individual practices than for formal planning and coordinated management.

Regarding water pollution, the COSVAP case study does not currently have a coordinated written plan establishing targets for reducing freshwater consumption or improving the quality of water affected by fisheries-related operations. Freshwater use in capture fisheries is relatively limited compared with other sectors, but it remains relevant in fish processing, vessel and equipment cleaning, and harbour operations. Future stakeholder workshops are expected to assess opportunities for improving water-use efficiency, including water reuse and recirculation systems. Similarly, no specific water quality management plan has been identified within the case study area. Nevertheless, fisheries and port activities are subject to European and national environmental legislation, including the Marine Strategy Framework Directive, which provides an indirect regulatory basis for protecting marine water quality.

The implementation of measures to reduce freshwater consumption remains at an early stage. No coordinated actions have yet been adopted across the case study territory, although some operators are considering organizational and technological improvements. These include the planned installation of closed-loop washing systems in fish-processing facilities, particularly in anchovy and tuna processing, which could reduce freshwater demand and wastewater

generation. More developed practices are identified in relation to the prevention of water pollution. These include compliance with regulations on waste disposal at sea, the availability of port reception facilities for fishing gear and marine litter, participation by fishers in marine litter recovery initiatives, the use of lower-impact antifouling paints, and the certified collection and management of waste oils in ports. Overall, the case study can be considered partially aligned with the water criteria, as relevant pollution-prevention measures are already in place, while formal planning, common targets and systematic monitoring of water use and water quality remain limited.

The land management objective is not relevant to the COSVAP case study, as the activities assessed are primarily related to capture fisheries, fish processing and port operations and do not involve the direct use, management or rehabilitation of agricultural or terrestrial soils. Consequently, no written plans have been established for soil conservation or the restoration of degraded soils, and no practices aimed at improving soil quality, fertility or conservation have been identified. This theme is therefore classified as not applicable rather than not aligned, since soil-related impacts fall outside the operational scope of the fisheries case study.

Regarding biodiversity management, the COSVAP case study operates within a well-established regulatory and planning framework for the conservation of marine habitats and protected species. Fisheries activities are subject to the Marine Strategy Framework Directive, the Common Fisheries Policy and the management provisions applicable to Marine Protected Areas and Natura 2000 sites. In Sicily, the management plans established for these protected areas include specific protocols and restrictions governing fishing activities. Measures targeting vulnerable species are also implemented through European, national and project-level frameworks, including action plans aimed at reducing the incidental capture of sea turtles and sharks, such as those developed under the Life Elife project³. These frameworks establish defined conservation objectives, implementation measures and, where applicable, monitoring periods.

Several operational practices also contribute to protecting marine ecosystems, maintaining ecosystem services and reducing pressures on sensitive habitats and species. These include the adoption of selective fishing gear in certain fisheries, compliance with closed seasons and restricted fishing areas, the use of Turtle Excluder Devices, and the application of fishing techniques designed to reduce impacts on the seabed and sensitive habitats such as *Posidonia oceanica* meadows. The conservation of rare and protected species is further supported through compliance with EU species protection regulations, the use of selective fishing methods in certain fisheries, rapid release protocols for protected species and monitoring by on-board observers.

The criterion relating to animal health, reduced use of veterinary medicines and prevention of losses from diseases or injuries is primarily applicable to aquaculture and is therefore of limited relevance to capture fisheries. Available information indicates that some aquaculture operators are considering or implementing measures related to stocking density and vaccination. Overall, the COSVAP case study can be considered aligned with the biodiversity planning criteria and partially aligned with the related operational practices, while the animal-health criterion should be classified as not applicable to capture fisheries and assessed separately where aquaculture activities are included.

³ [ELife project](#)

Regarding materials and energy criteria, the COSVAP case study shows emerging alignment, although most measures have not yet been implemented through a coordinated territorial strategy. A vision plan has been identified for installing solar photovoltaic panels on the roofs of fish auction facilities and ice houses, but it is not yet operative. Waste management is more developed, particularly through protocols established under the *Salvamar* Act, which support “Fishing for Litter” activities and enable fishers to collect and deliver marine litter recovered during fishing operations.

The replacement of non-renewable and synthetic materials remains at an early stage. Some companies are already exploring alternatives, while there are plans to test recyclable or bioplastic fish crates. Energy efficiency improvements have already been implemented through pilot initiatives, including the modernisation of cold stores in local fish markets. Waste reduction is also supported by initiatives for recycling discarded fishing nets, such as the *Risacca* initiative in Mazara del Vallo. Overall, the COSVAP case study can be considered partially aligned with the materials and energy criteria, as relevant pilot projects and waste-management practices are in place, while renewable energy deployment, material substitution and common monitoring systems remain limited.

4.6.2 Ría de Pontevedra

The assessment of the 80 projects supported by the Ría de Pontevedra case study during the 2021–2025 period shows a broad integration of economic, environmental, social and governance objectives within the local development strategy. The projects were grouped according to the main intervention areas of the GALP: added value and competitiveness, diversification, environmental protection, sociocultural development and governance. Each project was then individually reviewed and classified according to the strength of its relationship with the criteria considered in the environmental assessment, distinguishing between direct, medium and indirect relationships. This classification captures not only projects whose main purpose is explicitly environmental or social, but also those in which sustainability aspects form a relevant secondary component.

The results show that the social dimension has the strongest direct presence, with 44 of the 80 projects presenting a direct relationship with employment, social inclusion, working conditions or the continuity and development of local fishing communities. Environmental criteria also show a relevant presence across the projects. Marine ecosystem management is directly addressed by 13 projects, while 14 projects are directly related to the efficient use of materials and energy and waste management. Climate change and air pollution are directly addressed by 8 projects, whereas 3 projects present a direct relationship with water use and pollution. Governance and financing criteria are directly reflected in 14 projects. In addition to these direct relationships, a considerable number of projects were classified as having a medium relationship, indicating that environmental considerations are frequently incorporated into actions primarily focused on competitiveness, diversification, infrastructure or social development.

Several projects illustrate the different ways in which these environmental criteria are addressed. *Adquisición vehículo isotermico para comercio menor de peixe (2021)* contributes to reducing the environmental footprint associated with fish distribution through the acquisition of a vehicle intended to improve the efficiency of the activity. *Formación do sector marisqueiro sobre a problemática das algas de arribazón e os sistemas de recollida de lonxa de Campelo EAI (2022)* focuses on training the shellfish sector to improve its capacity to respond to the

accumulation of stranded algae and to strengthen the management of the marine environment. Similarly, *Divulgación e promoción da actividade da praza de abastos de Portonovo e mellora da súa eficiencia enerxética (2023)* incorporates improvements in energy efficiency, water consumption and lighting, showing how sustainability measures can be integrated into facilities supporting the local seafood value chain.

Circular economy and resource efficiency are also represented among the projects assessed. *Economía circular Gomezuña (2024)* introduces circular economy practices aimed at optimising resource use and improving waste collection and management. In a broader sense, *RCNS sostenible (2025)* seeks to improve the sustainability of facilities and nautical activities, contributing to the environmental performance of activities linked to the coastal territory. These projects show that environmental improvements are not limited to ecosystem restoration actions, but also include operational efficiency, resource management and changes in the way facilities and services associated with the maritime economy are managed.

The projects were also classified according to their contribution to broader fisheries and sustainability policy priorities. Of the 80 projects assessed, 13 were directly associated with the Common Fisheries Policy, 45 with Blue Growth, 18 with climate change, the energy transition and the development of a low-carbon economy, and 19 with job creation and social integration. The particularly high number of projects associated with Blue Growth reflects the strong orientation of the Ría de Pontevedra case study towards combining economic development with the sustainable use of marine and coastal resources. Overall, the assessment indicates that the projects integrate environmental objectives across several areas, particularly marine ecosystem management, resource and energy efficiency and governance, while maintaining a strong social and economic development component.

4.6.3 Ría de Arousa

The assessment of the 83 projects supported by the Ría de Arousa case study during the 2021–2025 period shows that the funded actions cover a broad range of economic, environmental, social and governance objectives. The projects were initially organised according to the main intervention areas of the GALP strategy: added value and competitiveness, diversification, environmental protection, sociocultural development and governance. Each project was then individually reviewed and classified according to the strength of its relationship with the criteria considered in the environmental assessment, distinguishing between direct, medium and indirect relationships. This approach made it possible to identify projects whose main objective explicitly addresses an environmental or sustainability criterion, while also recognising projects where these aspects are relevant but are not the primary purpose of the intervention.

The results show that the strongest direct contribution is associated with the social dimension, with 49 of the 83 projects presenting a direct relationship, reflecting the importance of employment, working conditions, social inclusion and the continuity of fishing communities within the GALP strategy. Governance and financing criteria also have a significant presence, with 18 projects directly related to strengthening local governance, stakeholder participation or the role of fisheries organisations in territorial development. Regarding the environmental criteria, 11 projects were directly related to marine ecosystem management, 9 to the efficient use of materials and energy and waste management, 4 to climate change and air pollution, and 2 to water use and pollution. Although the number of projects with a direct relationship is more limited for some environmental criteria, additional projects were classified as having a medium or indirect relationship, indicating that environmental considerations are also incorporated as

secondary or complementary elements in actions primarily focused on competitiveness, diversification or social development.

Several projects illustrate these direct environmental contributions. *O Grove sostible: economía circular para o coidado do mar (2021)* focuses on the recovery and valorisation of plastic waste and includes environmental awareness activities, providing a clear link with circular economy and waste management objectives. Similarly, *Boiro libre de plásticos (2022)* addresses plastic reduction and circular economy principles, with a strong educational component. Actions directly affecting the marine environment are represented by *Adquisición de maquinaria para restauración de ecosistemas mariños e mellora das condición de traballo d@s mariscador@s (2023)*, which supports marine ecosystem restoration while simultaneously improving working conditions for shellfish harvesters. These examples show how some projects combine environmental improvements with social and economic benefits for local fishing communities.

Energy efficiency is also addressed through specific investments in fisheries-related infrastructure. *Reforma enerxética de cuberta e reforma interior da casa do mar (2024)* involves the energy rehabilitation of an existing building, contributing to reduced energy consumption. Likewise, *Eficiencia enerxética e modernización sostible para a dinamización social do local histórico da confraría de Rianxo (2025)* combines improvements in energy efficiency with the modernisation of a local fisheries organisation facility, reducing energy consumption and associated emissions while supporting its social function. These projects show how interventions initially linked to infrastructure or community facilities can also contribute directly to climate and energy objectives.

The projects were additionally classified according to their contribution to four broader policy and sustainability areas. Of the 83 projects assessed, 3 were directly associated with the Common Fisheries Policy, 13 with Blue Growth, 33 with climate change, the energy transition and the development of a low-carbon economy, and 29 with job creation and social integration. Overall, the analysis indicates that the Ría de Arousa projects have a particularly strong social and territorial development component, while environmental considerations are integrated through a smaller but relevant group of projects focused on ecosystem restoration, circularity, waste reduction and energy efficiency. The results also indicate that climate and low-carbon transition considerations are present across a relatively broad range of interventions, including projects whose primary objectives are not exclusively environmental.

4.6.4 Vlorë Municipality

The Vlorë Municipality case study is located in Albania and focuses on supporting the adaptation of the fisheries sector to climate change. The municipality coordinates a collaborative group that bring together fisheries, public authorities, universities, technical experts, local organisations and other relevant stakeholders to identify the main climate-related risks affecting fisheries and coastal areas and to define suitable adaptation measures. Activities include the identification and assessment of climate risks, participatory workshops and stakeholder consultations, analysis of the vulnerability of marine ecosystems and fishing communities, and the development of proposals to strengthen the resilience of the sector. The case study also promotes sustainable fishing practices, the protection of marine activities and the integration of environmental considerations into local planning and future EU-funded actions. The area covered includes the coastline of Vlorë Municipality, including Triport, Zvërnec and other fishing areas involved in the case study, with all activities implemented in collaboration with FARCLIMATE partners and representatives of the local fisheries sector.

The environmental assessment of the Vlorë Municipality case study shows a consistent pattern across the different criteria analysed: relevant environmental objectives have been identified and incorporated into the planning process developed within FARCLIMATE, but most of the proposed measures have not yet reached the implementation stage. The case study is currently focused on the preparation and validation of a Local Climate Change Adaptation Plan through a participatory process involving the municipality, fisheries representatives, technical experts, researchers and other local stakeholders. Consequently, the results mainly reflect planned actions and strategic commitments rather than demonstrated environmental improvements resulting from measures already implemented.

Regarding climate change and air pollution, the case study has identified measures aimed at improving the environmental performance of fisheries activities, particularly through greater energy efficiency, progressive modernisation of the fishing fleet, cleaner technologies and more sustainable fishing practices. These measures are expected to contribute to reducing greenhouse gas emissions and other atmospheric pollutants generated by fishing activities. However, no specific practices aimed at achieving measurable reductions in GHG emissions or air pollutants have yet been implemented. The assessment therefore indicates that this area is currently supported by a planning framework, while evidence of effective emission reductions will depend on the future implementation of the measures under development.

A similar situation was identified for water management and coastal areas. The adaptation planning process includes measures intended to promote the sustainable use of water resources, improve water efficiency and prevent the deterioration of coastal water quality. Proposed actions also address waste generated by fisheries, accidental releases in ports and landing areas, and the adoption of good environmental practices by fishing operators. In relation to coastal and seabed management, the case study is assessing measures to reduce pressures from fishing activities, protect sensitive marine habitats and strengthen the resilience of coastal ecosystems to climate-related impacts. Nevertheless, no specific measures resulting in demonstrated reductions in water consumption, pollutant releases or impacts on coastal areas and the seabed have yet been implemented. Conservation and restoration activities are likewise still at the planning and stakeholder-validation stage.

Biodiversity is an important component of the adaptation approach being developed in Vlorë. The case study is identifying marine and coastal habitats considered vulnerable to climate change and assessing the pressures affecting species and ecosystem functions. Planned measures aim to protect vulnerable habitats and species, promote fisheries management compatible with biodiversity conservation, maintain ecosystem services and improve ecological connectivity. These measures are being developed in coordination with competent authorities, the scientific community and representatives of the fisheries sector. At present, however, there is no evidence of implemented activities that have already resulted in the restoration of habitats, improved ecosystem connectivity or the effective conservation or rehabilitation of species of ecological interest. Animal health is less directly applicable to the scope of the case study, as no specific actions concerning veterinary medicines or disease management are foreseen; the contribution in this area is instead indirect, through the promotion of healthier marine ecosystems and the reduction of environmental pressures affecting marine organisms.

Resource efficiency, energy use and waste management also form part of the measures considered within the Local Adaptation Plan. The case study envisages reducing energy

requirements through improved vessel efficiency, operational optimisation and the gradual adoption of lower-energy technologies, while also exploring opportunities for more sustainable energy sources. In parallel, circular economy principles are being considered through the prevention and improved management of fisheries-related waste, including fishing gear, and through the potential reuse, repair and recycling of materials and the substitution of non-renewable materials where technically and economically feasible. As in the other environmental areas assessed, these measures remain in the planning, assessment and validation phase and no effective reductions in energy consumption, waste generation or use of virgin non-renewable materials have yet been demonstrated. Overall, the Vlorë Municipality case study presents a broad environmental planning framework covering most of the criteria assessed, but its current alignment is primarily based on planned actions rather than implemented practices and verified environmental outcomes.

5 Conclusions and further prospects

In the current context of the climate crisis, significant efforts have been made to move towards a production and consumption system more in line with sustainable development. In this sense, the role played by the EU in terms of policymaking is particularly noteworthy, in which the Green Deal stands out as one of its main proponents in this regard. However, on the way to achieve such a goal, some difficulties emerge, some of them being the lack of real accessibility and applicability when it comes to climate-resilient actions. It is in this situation that the FARCLIMATE project is framed, with the purpose of reversing this situation. Therefore, one of its main actions is to propose comprehensible procedures for the environmental assessment of a series of case studies to be defined through different EU countries in the form of living labs.

This deliverable constitutes the methodological basis and presents the application of the proposed procedure to carry out the environmental analysis of the case studies, in the form of living labs, of the FARCLIMATE project. To this end, the EU Taxonomy is the main reference, providing specific criteria to be analysed in order to assess the alignment of forestry case studies with the implementation of both adaptation and mitigation measures to climate change, along with four additional environmental objectives: (i) protect and restore biodiversity and ecosystems, (ii) sustainable use and protection of water and marine resources, (iii) pollution prevention and control, and (iv) transition to a circular economy. However, the current scope of the EU Taxonomy does not provide equivalent technical screening criteria for all the agricultural and fisheries activities represented within FARCLIMATE. Consequently, the SAFA framework was used to assess the agriculture and fisheries case studies.

Both methodologies, the EU Taxonomy and the SAFA guidelines, were adapted to the specificities of the FARCLIMATE project, i.e., the assessment of living labs and the expected primary data to be obtained from the partners. In this sense, this initial stage was rethought in the sense of facilitating the understanding of the required data (e.g., some criteria were considered too technical), apart from limiting the amount of data to be collected, in order to avoid the overburdening of living labs participants. Consequently, straightforward and easily comprehensible questionnaires were developed and are appended to this report as Annex A for the EU Taxonomy and Annex B for the SAFA guidelines. The information collected through

these questionnaires was subsequently used to characterise the selected cases and assess their environmental performance according to the applicable criteria.

For the forestry sector, the assessment of the Alcornocales Natural Park, Rebollo, Marin Drăcea and Gorenjska case studies shows an overall positive contribution to environmental sustainability, particularly through sustainable forest management, ecosystem conservation, restoration activities and measures aimed at maintaining forest resilience. The strongest performance is generally associated with biodiversity protection and the preservation of ecosystem functions, supported by practices of habitat conservation, restoration of degraded forest areas and management approaches intended to reduce pressures on sensitive species and ecosystems. The case studies also show relevant progress in pollution prevention, with limited or controlled use of pesticides, fertilisers and other potentially hazardous substances. Greater variability is observed in relation to climate change adaptation, where the degree of formalisation of climate risk and vulnerability assessments, adaptation plans and monitoring procedures differs between case studies. Overall, the forestry cases demonstrate a relatively strong level of alignment with the environmental principles of the EU Taxonomy, although further progress would require more systematic climate-risk assessment, clearer documentation of management measures and stronger monitoring of their environmental outcomes.

For the agriculture sector, the assessment of the KAEM and STIV Sicily case studies shows that both have implemented a broad range of practices that contribute to improved environmental performance and climate resilience. The most relevant actions include the use of digital monitoring and precision agriculture tools, more efficient irrigation systems, soil conservation and regenerative practices, biodiversity-supporting measures, renewable energy deployment and the reduction or valorisation of agricultural inputs and residues. STIV generally presents a more structured and formalised approach, particularly in relation to planning, monitoring and digital management, while KAEM demonstrates significant practical implementation across several environmental areas. Overall, both case studies show a positive level of environmental performance, although their alignment remains partially limited by the lack of formal management plans, quantified targets and systematic monitoring for some criteria. Further progress should therefore focus on consolidating existing practices within more structured management frameworks and strengthening the use of measurable indicators to monitor environmental performance over time.

For the fisheries sector, the assessment of the COSVAP, GALP Ría de Pontevedra, GALP Ría de Arousa and Vlorë Municipality case studies shows a diverse range of approaches to environmental sustainability and climate resilience, reflecting differences in territorial context, governance structures and implementation stages. COSVAP combines an established regulatory framework for marine biodiversity protection with operational practices such as selective fishing gear, marine litter collection, energy-efficiency improvements and waste-management initiatives, although coordinated planning, common targets and monitoring systems remain limited in several areas. The Ría de Pontevedra and Ría de Arousa case studies demonstrate how environmental considerations are integrated into local development

strategies through funded projects addressing aspects such as marine ecosystem protection, circular economy, waste reduction, energy efficiency and low-carbon transition, while also maintaining a strong focus on social and economic development within fishing communities. In contrast, the Vlorë Municipality case study is currently more strongly oriented towards planning, with a broad Local Climate Change Adaptation Plan being developed to address energy efficiency, waste management, coastal and marine ecosystem protection, biodiversity and sustainable fisheries, but with most measures still awaiting implementation. Overall, the fisheries case studies show relevant progress in incorporating environmental objectives into fisheries management and territorial development, although stronger alignment will depend on further implementation of planned measures, more systematic monitoring and the definition of common, measurable environmental targets.

Overall, the application of the methodology confirms that the environmental performance of the FARCLIMATE case studies cannot be represented solely by the existence of individual good practices, but also depends on the degree to which these practices are supported by formal planning, measurable objectives, monitoring procedures and documented evidence. The results obtained in the present deliverable provide a baseline for following the environmental progress of the case studies during subsequent stages of the project.

Annex A. Questionnaire for compiling information about the EU Taxonomy

Climate adaptation - substantial contribution (applicable to all economic activities of the forestry sector)

Alignment

Criteria	Yes	No
The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.	☐	☐
The physical climate risks that are material to the activity have been identified by performing a robust climate risk and vulnerability assessment with the following steps: - screening of the activity to identify which physical climate risks from this list may affect the performance of the economic activity during its expected lifetime; - where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity; - an assessment of adaptation solutions that can reduce the identified physical climate risk.	☐	☐
The climate risk and vulnerability assessment is proportionated to the scale of the activity and its expected lifespan, such that: - for activities with a lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale; - for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios consistent with the expected lifetime of the activity, including, at least, 10 to 30 years climate projections scenarios for major investments.	☐	☐
The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports , scientific peer-reviewed publications and open source or paying models.	☐	☐
Provide the results of the climate risk and vulnerability assessment, including: a) Identified physical climate risks: b) Materiality on the economic activity: c) Identified adaptation solutions that reduce risk:		
The adaptation solutions implemented complies with the following statements: - do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; favour nature-based solutions or rely on blue or green infrastructure to the extent possible; - are consistent with local, sectoral, regional or national adaptation plans and strategies; - are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met; - where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.	☐	☐
Criteria for enabling activities Does the economic operator demonstrate, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with at least one of the following primary objectives: - increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; - contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.	☐	☐
Observations:		

Do Not Significant Harm (DNSH) – climate change mitigation
a) Group assessment (applicable to all economic activities of the forestry sector)

Alignment

Criteria	Yes	No
At which level is checked the compliance with the DNSH criteria?	☐	☐
- at the level of the forest sourcing area as defined by Directive (EU) 2018/2001; - at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that: - all those holdings have a durable relationship between them; - participate in the activity; - the group of those holdings remains the same for all subsequent audits.	☐	☐
Observations:		

Do Not Significant Harm (DNSH) – climate change mitigation
b) Afforestation plan and subsequent forest management plan or equivalent instrument (applicable to afforestation economic activities)

Alignment

Criteria	Yes	No
The area on which the activity takes place is covered by an afforestation plan of a duration of at least five years, or the minimum period prescribed in national law , developed prior to the start of the activity, and continuously updated until this area matches the definition of forest as set out in national law or where not available, is in line with the FAO definition of forest.	☐	☐
The afforestation plan contains all elements required by the national law relating to environmental impact assessment of afforestation	☐	☐
Preferably through the afforestation plan, or if information is missing, through any other document, detailed information is provided on the following points: description of the area according to its gazetting in the land registry; - site preparation and its impacts on pre-existing carbon stocks, including soils and above-ground biomass, in order to protect land with high carbon stock; management goals, including major constraints; - general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle; - definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution; - compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions; measures deployed to establish and maintain the good condition of forest ecosystems; - consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law); assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks; - assessment of impact on food security; - all DNSH criteria relevant to afforestation.	☐	☐

Criteria	Alignment	
	Yes	No
When the area becomes a forest, the afforestation plan is followed by a subsequent forest management plan or an equivalent instrument, as set out in national law or, where national law does not define a forest management plan or equivalent instrument, as referred to in the FAO definition of 'forest area with long-term forest management plan'. The forest management plan or the equivalent instrument covers a period of 10 years or more and is continuously updated.	☐	☐
Information is provided on the following points that are not already documented in the forest management plan or equivalent system: management goals, including major constraints; - general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle; - definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution; definition of the area according to its gazetting in the land registry; - compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions; measures deployed to maintain the good condition of forest ecosystems; - consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law); - assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks	☐	☐
The sustainability of the forest management systems is ensured by alignment of the forest management matches with one of the following approaches: - the national definition of sustainable forest management; - the Forest Europe definition of sustainable forest management and compliance with the Pan-European Operational Level Guidelines for Sustainable Forest Management; the forest sustainability criteria laid down in Article 29(6) of Directive (EU) 2018/2001, and as of the date of its application with the implementing act on operational guidance for energy from forest biomass adopted under Article 29(8) of that Directive.	☐	☐
The activity does not involve the degradation of land with high carbon stock .	☐	☐
The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010 .	☐	☐
The forest management plan or equivalent instrument provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.	☐	☐
Observations:		

Do Not Significant Harm (DNSH) – climate change mitigation
b) Forest management plan or equivalent instrument (applicable to conservation forestry, forest management, and rehabilitation of forests, including reforestation and natural forest regeneration after and extreme event, economic activities)

Alignment

Criteria	Yes	No
The activity takes place in an area that is subject to a forest management plan or an equivalent instrument in accordance with either: National law or FAO definition of 'forest area with long-term forest management plan '.	☐	☐
The forest management plan or the equivalent instrument covers a period of 10 years or more and is continuously updated .	☐	☐
Information is provided on the following points not yet documented in the forest management plan or equivalent system: management goals, including major constraints; - general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle; definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution; definition of the area according to its registration in the land registry; - compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions; measures deployed to maintain the good condition of forest ecosystems; - consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law); assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks; - all DNSH criteria relevant to forest management.	☐	☐
The sustainability of the forest management systems is ensured by alignment of the forest management matches with one of the following approaches: - the national definition of sustainable forest management; - the Forest Europe definition of sustainable forest management and compliance with the Pan-European Operational Level Guidelines for Sustainable Forest Management; - the forest sustainability criteria laid down in Article 29(6) of Directive (EU) 2018/2001, and as of the date of its application with the implementing act on operational guidance for energy from forest biomass adopted under Article 29(8) of that Directive.	☐	☐
The activity does not involve the degradation of land with high carbon stock .	☐	☐
The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010 .	☐	☐
The forest management plan or equivalent instrument provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.	☐	☐
Observations:		

***Do Not Significant Harm (DNSH) – climate change mitigation
c) Audit (applicable to all economic activities of the forestry sector)***

Criteria	Alignment	
	Yes	No
Within two years after the beginning of the activity and every 10 years thereafter: - the activity complies with the substantial contribution to climate change mitigation criteria; DNSH criteria are verified by either of the following: - the relevant national competent authorities; - an independent third-party certifier, at the request of national authorities or the operator of the activity.	☐	☐
The independent third-party certifier has no conflict of interest with the owner or the funder and is not involved in the development or operation of the activity .	☐	☐
Observations:		

***Do Not Significant Harm (DNSH) – water
(applicable to all economic activities of the forestry sector)***

Criteria	Alignment	
	Yes	No
Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving: good water status and good ecological potential as defined in Regulation (EU) 2020/852; - a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders. [Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed]	☐	☐
The activity does not hamper the achievement of good environmental status of marine waters or does not deteriorate marine waters that are already in good environmental status as defined in Article 3(5) of Directive 2008/56/EC 762.	☐	☐
Observations:		

***Do Not Significant Harm (DNSH) – circular economy
(applicable to conservation forestry, forest management & rehabilitation and
restoration of forests, including reforestation and natural forest regeneration after
and extreme event economic activities)***

Alignment

Criteria	Yes	No
The silvicultural change induced by the activity on the area covered by the activity is not likely to result in a significant reduction of sustainable supply of primary forest biomass suitable for the manufacturing of wood products with long-term circularity potential.	☐	☐
Observations:		

***Do Not Significant Harm (DNSH) – pollution prevention
(applicable to afforestation economic activities)***

Alignment

Criteria	Yes	No
The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured , in accordance with Directive 2009/128/EC , with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases.	☐	☐
The activity minimises the use of fertilisers and does not use manure . The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.	☐	☐
Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in: Annex I, part A, of Regulation (EU) 2019/1021(35), - the Rotterdam Convention on the Prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, - the Minamata Convention on Mercury, - the Montreal Protocol on Substances that Deplete the Ozone Layer, - as classification la ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard. The activity complies with the relevant national law on active ingredients.	☐	☐
Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.	☐	☐
Observations:		

Do Not Significant Harm (DNSH) – pollution prevention
(applicable to conservation forestry economic activities)

Alignment

Criteria	Yes	No
The activity does not use pesticides or fertilisers .	☐	☐
Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in: Annex I, part A, of Regulation (EU) 2019/1021(35), - the Rotterdam Convention on the Prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, - the Minamata Convention on Mercury, - the Montreal Protocol on Substances that Deplete the Ozone Layer, - as classification la ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard. The activity complies with the relevant national law on active ingredients.	☐	☐
Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.	☐	☐
Observations:		

Do Not Significant Harm (DNSH) – pollution prevention
(applicable to forest management and rehabilitation and restoration of forests,
including reforestation and natural regeneration after and extreme event economic
activities)

Alignment

Criteria	Yes	No
The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured , in accordance with Directive 2009/128/EC , with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases.	☐	☐
The activity minimises the use of fertilisers and does not use manure . The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.	☐	☐
Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in: Annex I, part A, of Regulation (EU) 2019/1021(35), - the Rotterdam Convention on the Prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, - the Minamata Convention on Mercury, - the Montreal Protocol on Substances that Deplete the Ozone Layer, - as classification la ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard. The activity complies with the relevant national law on active ingredients.	☐	☐
Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.	☐	☐
Observations:		

***Do Not Significant Harm (DNSH) – biodiversity
(applicable to all forestry economic activities)***

Alignment

Criteria	Yes	No
The activity is in accordance with the conservation objectives for areas: - designated by the national competent authority for conservation; - in habitats that are protected.	☐	☐
There is no conversion of: - habitats specifically sensitive to biodiversity loss or with high conservation value, - areas set aside for the restoration of such habitats in accordance with national law.	☐	☐
The forest management plan or equivalent instrument includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: - ensuring the good conservation status of habitat and species, maintenance of typical habitat species; - excluding the use or release of invasive alien species; - excluding the use of non-native species unless it can be demonstrated that: - the use of the forest reproductive material leads to favourable and appropriate ecosystem conditions (such as climate, soil criteria, and vegetation zone, forest fire resilience); - the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions; - ensuring the maintenance and improvement of physical, chemical and biological quality of the soil; promoting biodiversity-friendly practices that enhance forests' natural processes; excluding the conversion of high-biodiverse ecosystems into less biodiverse ones; - ensuring the diversity of associated habitats and species linked to the forest; - ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.	☐	☐
Observations:		

***Minimum safeguards
(applicable to all forestry economic activities)***

Alignment

Criteria	Yes	No
The minimum safeguards shall be implemented by an undertaking that is carrying out an economic activity to ensure the alignment with: - the OECD Guidelines for Multinational Enterprises, - the UN Guiding Principles on Business and Human Rights, - the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work, - the International Bill of Human Rights.	☐	☐
When implementing the procedures, undertakings shall adhere to the principle of 'do no significant harm' referred to in Article 2(17) of Regulation (EU) 2019/2088 .	☐	☐
Observations:		

Annex B. Questionnaire for compiling information about the SAFA guidelines

Criteria	Answer (choose only one)
Has the company a plan that sets a target for achieving a decrease in greenhouse gas (GHG) emissions?	☐ There is a written plan, available to all stakeholders, with GHG emissions reduction targets, and steps have been already implemented towards achieving this objective
	☐ There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders
	☐ There is not a written plan
If your company has a written plan for reducing GHG emissions, describe it briefly:	
Criteria	Answer (choose only one)
Which activities and practices have the company implemented that have effectively reduced GHG emissions ?	☐ Some activities/practices have been implemented with the aim of reducing GHG emissions, such as: Cropland management - Soil fertility management with organic materials - Reduced/zero tillage and incorporation of residues Fisheries and aquaculture - Switch to more efficient vessels or gears, such as from single to twin trawls, sails - Expansion of the farming of mollusks and the culture of seaweed to increase carbon sequestration
	☐ No activities/practices have been implemented yet for reducing GHG emissions, but there is a plan to do it
	☐ No activities/practices have been implemented yet for reducing GHG emissions and there is not a plan to do it
If your company has carried out activities/practices for reducing GHG emissions, describe them briefly:	
Criteria	Answer (choose only one)
Has the company a plan that sets a target for achieving a decrease of air pollutants (e.g., volatile organic compounds, odor, smoke, emissions of pathogens, ammonia, carbon monoxide, nitrous oxides, etc.)?	☐ There is a written plan, available to all stakeholders, with air pollutants reduction targets, and steps have been already implemented towards achieving this objective
	☐ There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders
	☐ There is not a written plan
If your company has a written plan for reducing air pollution, describe it briefly:	

Criteria	Answer (choose only one)
Which activities and practices have the company implemented that have effectively reduced air pollutants?	<i>Some activities/practices have been implemented with the aim of reducing air pollutants, such as:</i> Cropland management - Soil fertility management with optimized fertilizer application rates and timing - Maintenance of permanent and dense soil coverage to prevent wind erosion Fisheries and aquaculture - Switching to more efficient engines and motors (for boats, pumps, etc.) - Low emission post-harvest and fish transformation buildings
	No activities/practices have been implemented yet for reducing air pollutants, but there is a plan to do it
	No activities/practices have been implemented yet for reducing air pollutants and there is not a plan to do it
If your company has carried out activities/practices for reducing air pollution, describe them briefly:	
Criteria	Answer (choose only one)
Has the company a plan that sets a target for reducing water consumption or water withdrawals?	<i>There is a written plan, available to all stakeholders, with water conservation targets, and steps have been already implemented towards achieving that objective</i>
	<i>There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders</i>
	<i>There is not a written plan</i>
If your company has a written plan for reducing water consumption or water withdrawals, describe it briefly:	

Criteria	Answer (choose only one)
Which activities and practices have the company implemented that have effectively increased efficiency or reduced the amount of freshwater in the operations?	<i>Some activities/practices have been implemented with this aim, such as:</i> Cropland management - Minimization of irrigation water - Use of soil moisture and rainfall sensors to optimize irrigation schedules Fisheries and aquaculture - Reduction of pond water losses, such as minimization of seepage through lining - Implementation of re-circulating aquaculture systems
	<i>No activities/practices have been implemented yet for increasing efficiency or reduce freshwater consumption, but there is a plan to do it</i>
	<i>No activities/practices have been implemented yet for increasing efficiency or reduce freshwater consumption and there is not a plan to do it</i>
If your company has carried out activities/practices for increasing efficiency or reducing freshwater consumption, or it has a plan to do it, describe it briefly:	
Criteria	Answer (choose only one)
Has the company a plan that sets a target for improving the quality of the water affected by the operations?	<i>There is a written plan, available to all stakeholders, with water affected improving targets, and steps have been already implemented towards achieving that objective</i>
	<i>There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders</i>
	<i>There is not a written plan</i>
If your company has a written plan for improving the quality of the water affected by the operations, describe it briefly:	

Criteria	Answer (choose only one)
Which activities and practices have the company implemented that have effectively reduced or prevented the release of water pollutants ?	Some activities/practices have been implemented with this aim, such as: Cropland management - Non-use of highly hazardous chemicals (persistent organic pollutants) - Protecting water courses or wells by not cultivating adjacent to them Fisheries and aquaculture - Use of non-chemical methods of managing aquatic weeds - Sitting of aquaculture cages in high-water exchange areas
	No activities/practices have been implemented yet for reducing or preventing the release of water pollutants, but there is a plan to do it
	No activities/practices have been implemented yet for reducing or preventing the release of water pollutants and there is not a plan to do it
If your company has carried out activities/practices for reducing or preventing the release of water pollutants, or it has a plan to do it, describe it briefly:	
Criteria	Answer (choose only one)
What activities and practices have the company implemented that have effectively increased the quality and fertility of soils ?	Some activities/practices have been implemented with the aim of covering problematic aspects of soil quality by effective measures in all areas concerned
	No activities/practices have been implemented yet with the aim of covering all problematic aspects for soil quality by effective measures in all areas concerned, but there is a plan to do it
	No activities/practices have been implemented yet with the aim of covering all problematic aspects for soil quality by effective measures on all areas concerned and there is not a plan to do it
If your company has carried out activities/practices for increasing soil quality or fertility soils, or it has a plan to do it, describe it briefly:	

Criteria	Answer (choose only one)
Has the company a plan that sets a target for conserving soil health or rehabilitating degraded soils ?	☐ There is a written plan, available to all stakeholders, with soil health conserving or degraded soils rehabilitating targets, and steps have been already implemented towards achieving that objective
	☐ There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders
	☐ There is not a written plan
If your company has a written plan for conserving soil health or rehabilitating degraded soils, describe it briefly:	
Criteria	Answer (choose only one)
Which effective soil conservation techniques or rehabilitation measures have the company implemented or regularly practiced in the operation?	☐ Some conservation techniques are in place in sites threatened by soil degradation, and rehabilitation practices are in place in degraded sites
	☐ No conservation techniques are in place in sites threatened by soil degradation, and rehabilitation practices are in place in degraded sites, but there is a plan to do it
	☐ No conservation techniques are in place in sites threatened by soil degradation, and rehabilitation practices are in place in degraded sites and there is not a plan to do it
If your company has carried out conservation practices for reducing soil degradation or rehabilitated degraded soils, or it has a plan to do it, describe it briefly:	
Criteria	Answer (choose only one)
Has the company a plan that sets a target for describing how to conserve or rehabilitate a diversity of habitats within its sphere of influence?	☐ There is a written plan, available to all stakeholders, with conserving or rehabilitating diversity habitats targets, and steps have been already implemented towards achieving this objective
	☐ There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders
	☐ There is not a written plan
If your company has a written plan for conserving or rehabilitating diversity of habitats, describe it briefly:	

Criteria	Answer (choose only one)
What activities and practices have the company implemented that have effectively enhanced the functioning of ecosystem services , as well as the connectivity of ecosystems ?	<i>Some activities/practices have been implemented with the aim of enhancing ecosystem services and connectivity of ecosystems, such as:</i> Cropland management - Diversity-enhancing crop and grassland management - Creation and maintenance of habitat networks that facilitate exchange between populations Fisheries and aquaculture - Use of selective fishing gear and methods (e.g., turtle-excluding devices) - Promotion and implementation of the ecosystem approach to fisheries management and aquaculture development
	<i>No activities/practices have been implemented yet for enhancing ecosystem services and connectivity of ecosystems, but there is a plan to do it</i>
	<i>No activities/practices have been implemented yet for enhancing ecosystem services and connectivity of ecosystems and there is not a plan to do it</i>
If your company has carried out activities/practices for enhancing ecosystem services and connectivity of ecosystems, describe them briefly:	
Criteria	Answer (choose only one)
Has the company a plan that sets a target for the conservation, protection and rehabilitation of the population of rare, endemic and other species of particular interest in its sphere of influence?	<i>There is a written plan, available to all stakeholders, with exact objectives and time-frames, and steps have been already implemented towards achieving these targets</i>
	<i>There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders</i>
	<i>There is not a written plan</i>
If your company has a written plan conserving, protecting and rehabilitating the population of rare, endemic and other species of particular interest, describe it briefly:	

Criteria	Answer (choose only one)
Which activities and practices have the company implemented that have effectively conserved , protected and rehabilitated the population of rare, endemic and other species of particular interest in its sphere of influence?	☐ Some conservation, protection and rehabilitation activities/practices are in place for rare, endemic and other species of particular interest ☐ No conservation, protection and rehabilitation activities/practices are in place for rare, endemic and other species of particular interest, but there is a plan to do it ☐ No conservation, protection and rehabilitation activities/practices are in place for rare, endemic and other species of particular interest and there is not a plan to do it
If your company has carried out activities/practices for conserving, protecting and rehabilitating rare, endemic and other species of particular interest, describe them briefly:	
Which activities and practices have the company implemented that effectively replaced virgin non-renewable materials by recycled/reused/renewable ones in the operation and replaced synthetic inputs with natural inputs?	☐ Some activities/practices have been implemented with the aim of replacing virgin non-renewable materials and synthetic inputs ☐ No activities/practices have been implemented with the aim of replacing virgin non-renewable materials and synthetic inputs, but there is a plan to do it ☐ No activities/practices have been implemented with the aim of replacing virgin non-renewable materials and synthetic inputs and there is not a plan to do it
If your company has carried out activities/practices for replacing virgin non-renewable materials and synthetic inputs, describe them briefly:	
Has the company a plan that sets a target for the share of renewable and sustainable energies in its total direct energy use?	☐ There is a written plan, available to all stakeholders, for the share of renewable and sustainable energies used, and steps have been already implemented towards achieving this objective ☐ There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders ☐ There is not a written plan
If your company has a written plan for the share of renewable and sustainable energies used, describe it briefly:	
Which activities and practices have the company implemented that effectively reduced the energy requirements in its operation?	☐ Some activities/practices have been implemented with the aim of reducing the energy requirements ☐ No activities/practices have been implemented with the aim of reducing the energy requirements, but there is a plan to do it

No activities/practices have been implemented with the aim of reducing the energy requirements and there is not a plan to do it

If your company has carried out activities/practices for reducing energy requirements, describe them briefly:

Criteria
Answer (choose only one)

Has the company a **plan** that sets a **target** for **reducing** the generation of **waste**, as well as the **hazardousness** of this waste, in or by its operations?

There is a written plan, available to all stakeholders, with reduction targets, and steps have been already implemented towards achieving this objective

There is a written plan, but no steps have been yet made, this has not been put into writing or there is not available for all the stakeholders

There is not a written plan

If your company has a written plan for reducing the generation of waste, as well as the hazardousness of this waste, in or by its operations, describe it briefly:

Criteria
Answer (choose only one)

What **activities** and **practices** have the company implemented that have effectively **reduced waste** generation?

Some activities/practices have been implemented with the aim of reducing waste generation

No activities/practices have been implemented yet for reducing waste generation, but there is a plan to do it

No activities/practices have been implemented yet for reducing waste generation and there is not a plan to do it

If your company has carried out activities/practices for reducing waste generation, describe them briefly:

Criteria	Answer (choose only one)
Which activities and practices have the company implemented that have effectively promote the health of animals , while reducing the use of veterinary drugs and preventing animal losses due to disease and injuries ?	☐ Some activities/practices have been implemented with the aim of promoting the health of animals, while reducing the use of veterinary drugs and preventing animal losses due to disease and injuries
	☐ No activities/practices have been implemented with the aim of promoting the health of animals, while reducing the use of veterinary drugs and preventing animal losses due to disease and injuries, but there is a plan to do it
	☐ No activities/practices have been implemented with the aim of promoting the health of animals, while reducing the use of veterinary drugs and preventing animal losses due to disease and injuries and there is not a plan to do it
If your company has carried out activities/practices for promoting the health of animals, while reducing the use of veterinary drugs and preventing animal losses due to disease and injuries, describe them briefly:	

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