

The LENSES Business and governance model framework for Nexus NBS

This section presents the proposed LENSES business and governance model framework, which seeks to consider socio-economic criteria and policy and governance aspects as fundamental criteria for the development of an NBS project to face the challenges of the WEFE Nexus. Furthermore, this methodology seeks to help prepare attractive NBS projects for different sources of financing, prepared under the logic of a potential investor or funder.

This framework comprises nine modules grouped into the traditional categories of a business model canvas: **1) value proposition**, **2) value creation and delivery**, and **3) value capture** (Figure 1). The modules within each of these categories consist of instructions that seek to collect the fundamental information for developing a business model for an NBS with the potential to be financed.

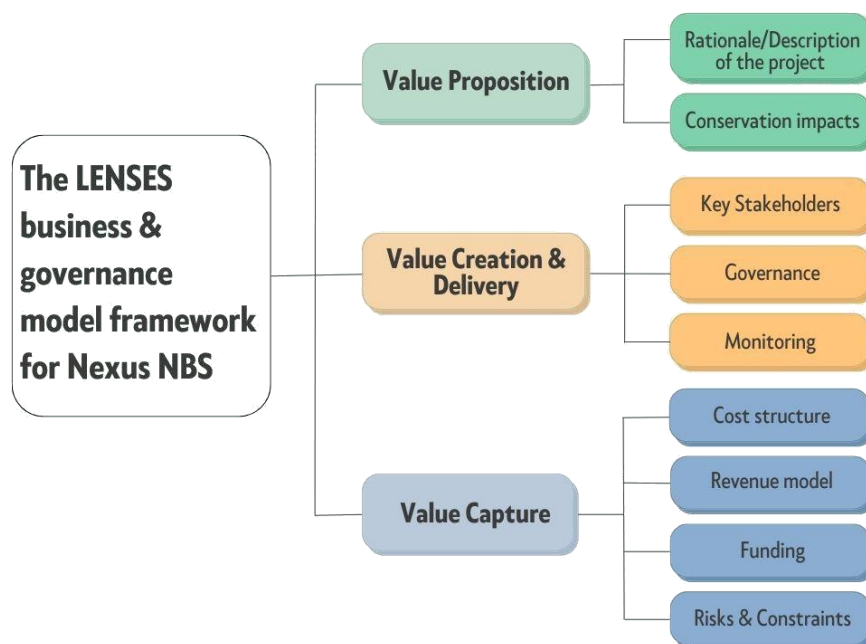


Figure 1. The LENSES Business and governance model framework.

The business and governance model development helps identify various elements to make possible the implementation of the solution: ranging from defining the necessary resources, the critical partners to collaborate with, the governance arrangements to maintain the solution, and the solution's cost structure up to the point to identify possible financing sources.

The objective of the modules is to be utilized by the user with different potential levels of detail, depending on the available information for the project, the user's profile (e.g., academic or business), and the type of funder to whom they want to propose the NBS project. In this sense, although going through all the modules is desirable, it is not considered strictly necessary.

Each of these modules is connected to important references and examples on different aspects of NBS project development (e.g., IUCN Global Standard for NBS), as well as to other documents developed in the LENSES project, such as:

- the socio-economic analysis of NBS, presented in greater detail in Deliverable 6.1

- the analysis of the policy environment for enabling NBS adoption from Deliverable 6.2
- the roadmap to navigate the available catalogs of Nature-based Solutions and finalized list of candidates NBS developed in deliverable 5.2.

It is essential to highlight that the development of each project varies according to multiple factors, such as its objectives, the requirements of the funding organization to which it is being applied, and the role and function of who is developing the project, among others. This variability implies that it is not possible to follow a unique and univocal methodology to develop an NBS project and seek its funding but that each proposal has its particularities.

Therefore, the objective of these modules is to provide guidance on the most critical issues to develop a project that can be funded and is not intended to be a formula whatsoever. The development of an NBS project can follow some or all the modules presented here, according to the needs of both the project writer and the funding organization.

Each module is explained in more detail below:

Value proposition

This component of the business model canvas consists of defining how, according to the identified Nexus challenges, the proposed NBS is offering value from the environmental (e.g., addressing droughts), social (e.g., increased food security), and economic (e.g., job creation) dimensions. Moreover, this step helps consider and prioritize trade-offs between these dimensions.

In our case, the value proposition is reflected in the project's rationale, explaining which challenges the NBS project wants to address through the enhancement of nexus-related ecosystem services and how the proposed solution could contribute to addressing such challenges, generating positive impacts on biodiversity conservation.

1. MODULE 1: Rationale and description of the project:

This module allows the user to describe the project's general objective and justify why it is important to develop it. This process begins by describing the current societal challenges related to the WEF Nexus in the project's area, identifying the ecosystem services that the NBS wants to improve, proposing the activities or bundles of NBS that are required to increase the provision of these services and describing the paths to scale the project and generate long-term impacts.

1.1 Describe the main challenges of the WEF Nexus present in the project's area at the scale the user can impact.

A starting point can be to classify the challenges in the project area based on the 12 societal challenges defined by the European Commission (Table 1). From these challenges, the user is asked to describe the ones the project will focus on.

Table 1. The societal challenges defined by the European Commission. Source: Dumitru & Wendling (2021)

N°	Societal challenges
1	Climate resilience
2	Water management

N°	Societal challenges
3	Natural and climate hazards
4	Green space management
5	Biodiversity enhancement
6	Air quality
7	Place regeneration
8	Knowledge and social capacity building for sustainable urban transformation
9	Participatory planning and governance
10	Social justice and social cohesion
11	Health and well-being
12	New economic opportunities and green jobs

1.2 Describe the ecosystem services the project aims to strengthen.

For this activity, the user is asked to select from the classification of ecosystem services presented in the Table 2 and describe those services the project will seek to strengthen.

Table 2. List of ecosystem services and categories equivalence from LENSES D5.1 and D6.2

Equivalent of Ecosystem Services in D6.1	Ecosystem service category
Water provision	Provisioning
Food provision	
Energy provision	
Materials Resources	
Genetic Resources	
Regulation of water flows	Regulation and maintenance
Climate regulation	
Water purification	
Moderation of extreme events (flood protection)	
Erosion prevention	
Biological control	
Lifecycle maintenance	Cultural
Opportunities for recreation and tourism	

1.3 Describe the solution the project provides to the previously mentioned challenges.

Based on the LENSES NBS categories (Table 3), this activity requires describing which NBS are selected for the current project and explaining how they contribute to strengthening ecosystem services, addressing the abovementioned challenges.

Table 3. Nature-based solutions categories used for the LENSES analysis.

NBS category	Type
Protection and conservation strategies in terrestrial, marine, and coastal areas ecosystems	Type 1 Better use of protected/natural ecosystems
Agricultural landscape management	Type 2 NBS for sustainability and multi-functionality of managed ecosystems
Monitoring	Type 2 NBS for sustainability and multifunctionality of managed ecosystems
Ecological restoration of degraded terrestrial ecosystems	Type 3 Design and management of new ecosystems
Restoration and creation of semi-natural water bodies and hydrographic networks	Type 3 Design and management of new ecosystems

1.4 Describe the path to scaling the project.

This step requires reflecting on and describing the possible strategies to increase the project's impact or sustainability over time. To illustrate to the user, the three approaches suggested by Salafsky et al. (2021) to scale NBS projects are proposed:

- **Scaling Out - Replicating an Initial Pilot Strategy:** This type of scaling can be carried out in three ways: 1) expanding the current scope of the pilot to include more actions or a longer time horizon; 2) replicating the pilot in several new pilots in the area of interest, transforming it into a program with several local projects or; 3) Promote innovation in the area of interest by offering the knowledge generated by the pilot to other actors so that they can adopt these practices in other projects.
- **Scaling Up - Developing System-Level Strategies:** This scaling path consists of engaging with key stakeholders (e.g., public authorities or big companies) to take the pilot's actions to a larger scale and with higher leverage.
- **Scaling Deep - Transforming System Intent:** This path to scaling consists of developing a long-term vision for the area of interest through actions to change the underlying values, goals, and mental models of the actors causing the problems in the overall system.

Optional instructions:

1.5 Describe how the most pressing societal challenge(s) for rights-holders and beneficiaries are prioritized.

This activity consists of verifying and explaining how the definition of the challenges that the project seeks to address has been decided in agreement with the project stakeholders, following an inclusive and transparent consultation process.

1.6 Describe the Synergies and Trade-offs with other ongoing projects in the landscape.

This activity describes how the project can create synergies with other projects, programs, and policies at the landscape level and the potential trade-offs or overlaps it can generate with these actions.

2. MODULE 2: Conservation impacts

This module helps the user discuss how the NBS project contributes to ecosystem integrity and biodiversity net gain. This aspect is essential to consider since the design and implementation of an NBS project must place improving functionality and connectivity of the ecosystem at the centre of its strategy. Furthermore, a

project that considers biodiversity conservation and enhancement can access different funding sources for biodiversity.

2.1 Describe the identified opportunities to enhance ecosystem integrity and connectivity through the NBS strategy.

This step requires to describe how the proposed project contributes to increase biodiversity in the implementation area. Options to achieve this objective include improving the connectivity of the project area with surrounding natural ecosystems or the introduction through the project of lost elements of an ecosystem, such as plant or animal species.

2.2 Explain how the NBS actions directly respond to an evidence-based assessment of the current state of the ecosystem and its degradation drivers (C3.1).

This step requests a justification of how the planned NBS project responds to the challenges of ecosystem degradation in the area of interest. It is desirable at this point to have studies on the key ecological functions of the area that have been lost and those that are being maintained, as well as information on existing threats that jeopardize the integrity of the ecosystem. These documents will help establish the baseline and define project objectives that effectively respond to the main ecological challenges of the area, generating a net biodiversity gain.

Value creation and delivery

This component of the business model canvas, building on what is defined in the value proposition part, consists of establishing which key partners are needed to effectively implement the value proposition and identifying the main beneficiaries of it. Furthermore, this component is fundamental to define the best governance arrangements to involve stakeholders in a participatory way, considering the opinions of all the variety of actors involved in the NBS project. Monitoring is also crucial to delivering value, as it allows to measure in quantitative terms the benefits produced by the NBS and enables the avoidance of negative consequences for ecosystems, thus ensuring the long-term sustainability of the NBS project.

3. MODULE 3: Key stakeholders

This module allows the user to describe the key actors involved in the entire process of design and implementation of the NBS project. This goes from the identification of possible implementers devoted to carrying out the project and sponsors required to provide the necessary resources for the implementation of the NBS, to the identification of the main beneficiaries affected by the project's impacts.

Key partners and key beneficiaries are here considered within this same category to reflect the overlap which sometimes exists between partners and beneficiaries involved in the implementation of NBS projects. For example, the community is often a key beneficiary but is also usually an important partner. Local business may be a beneficiary and also a key partner.

3.1 Describe the potential project implementers and explain why they are the right person for their role.

This step requires identifying the right people to implement the project, thus the key partners required to deliver the activities identified in the value proposition component. It is important to make sure they have the appropriate expertise and management soft skills, that they cover all fields of expertise and that they come from different geographical and legal levels, depending on the level in which the NBS is being

implemented. The involvement of so many stakeholders can be justified by the equally large number of goals and co-benefits the NBS may have.

3.2 Identify key stakeholders who are directly and indirectly affected by the NBS.

This step allows an understanding of all the possible beneficiaries of the activities, i.e., those affected by the challenges. It is important to identify both direct end-user beneficiaries, namely those who benefit most directly from the NBS and who have a higher level of interaction with it and co-beneficiaries (i.e., those who are somewhat affected by the benefits generated by the NBS, whether on different spatial or temporal scales). Equally important is to consider all the environmental, social, and economic impacts that an NBS may have and consequently the categories of stakeholders that may be affected by them.

3.3 Assess if the project has Stakeholder Endorsement

This step allows to assess whether the NBS project is supported and accepted by the community, as this is a critical element for a successful implementation of NBS, as extensively discussed in the literature (Martin et al., 2021).

4. MODULE 4: Governance

This module allows the user to define what type of governance model is most appropriate for the NBS project given the different activities defined in the value proposition and the key stakeholders involved in the process. Good governance has been identified as one of the biggest challenges to the successful implementation of NBS as it enables the NBS policy progress, therefore its identification is crucial from the very steps of the planning process implementation of the project. NBS are often very complex with many different partners and beneficiaries involved: it is important to consider early in the planning process how different stakeholders will be engaged in ongoing management and operations, and what governance structures are needed to facilitate this.

4.1 Involve the stakeholders in all the process of the NBS intervention.

This step requires the involvement of relevant stakeholders in all the process of the intervention given the proven importance of using participatory approaches in decision-making in all the phases of NBS intervention (Figure 2). Instead of just informing or consulting relevant stakeholders, an equal collaboration should be established so that local stakeholders play an integral role in both the problem definition and problem solving.

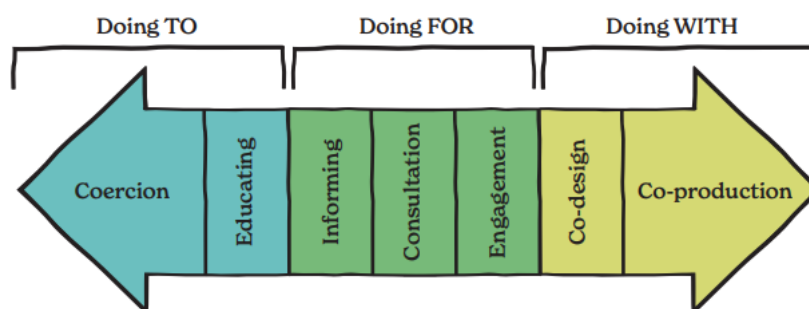


Figure 2. An adaptation of the participation ladder. Source: Connecting Nature (2022)

4.2 Guarantee participation based on mutual respect and equality, regardless of gender, age or social status, and upholds the right of Indigenous Peoples to Free, Prior and Informed Consent (FPIC)

This step requires ensuring an effective participation of all stakeholders, where they get the right information at the right time and the inputs they provide is meaningfully addressed. In doing so, a conscious effort is required to ensure that traditionally excluded groups are actively brought into the process in a manner that upholds their dignity and encourages their participation. This is particularly the case when an NBS intervention operates or impacts on the lands and territories of indigenous peoples, where their right to self-determine interventions and outcomes should follow established FPIC protocols.

4.3 Ensure that the regulatory environment is adequate/appropriate for the intervention.

This step requires to assess that the regulatory environment allows the adoption of NBS. Therefore, the actors in charge of designing and implementing the NBS intervention must consider different opportunities for NBS integration and address systemic barriers.

Key policy elements to be evaluated can be:

- land use regulation and zoning, intended as the presence of documents defining the land use of the area (e.g., maps, regulations) useful in defining areas for NBS implementation.
- permitting, intended as the presence of needed authorizations to implement the selected NBS;
- safety and performance codes and standards, intended as the presence of a comprehensive set of interconnected standards that aim to regulate that the design and construction of NBS are sound and withstand the rigors of nature and time;
- procurement policies, intended as core policies and standards that define the procedures to follow to ensure effective and compliant procurement practice;
- land rights, so that the NBS implementation does not infringe on anyone's rights, but can produce benefits for different stakeholders in the area involved by the intervention;
- environmental protection regulation, intended as ensuring real effectiveness in terms of environmental improvement and protection through the NBS adoption.

4.4 Explain the roles and responsibilities of each actor involved within the project.

This step requires clarifying the roles and tasks of each actor involved in the NBS project. This refers to the need for the presence of dedicated actors for each NBS implementation phase (planning, implementation, and maintenance) and the predisposition of well-defined actors' responsibilities for each NBS phase.

Optional instructions (these are guidelines that contribute to having a more robust exercise but are not considered essential within the module):

4.5 Share the NBS design, implementation and lessons learnt to trigger transformative change.

This step requires the sharing of knowledge that has been acquired during the project implementation. This requires capturing, documenting, and ultimately making the lessons learnt from the project available to individuals and stakeholders who may be interested in replicating the process. This includes decision makers, investors and other NBS users from the public and the private sectors.

4.6 Define a feedback and grievance resolution mechanism available to all stakeholders before an NBS intervention is initiated.

This step includes providing a feedback and grievance resolution mechanism characterised by its acceptance among different stakeholders, transparency, accessibility, and adherence to rights-based approaches. This mechanism should operate in a predictable and equitable manner, according to a clear set of procedures, roles and rules and be based on engagement and dialogue.

4.7 Describe the mechanisms established to enable joint decision-making of the stakeholders, where the scale of the NBS extends beyond jurisdictional boundaries.

Managing NBS design and implementation is complex because NBS often involve multiple actions and effects that cross jurisdictional boundaries requiring active cooperation and coordinated actions among stakeholders whose priorities, interests, or values may not be aligned.

5. MODULE 5: Monitoring

This module allows the user to create a monitoring framework for the NBS project. NBS must deliver tangible and substantive benefits to human well-being, enhance biodiversity, and avoid the production of adverse consequences for ecosystems. For NBS to be successfully adopted, a framework for their monitoring is needed to ensure the long-term sustainability of NBS interventions in a specific context.

5.1 Describe how human well-being outcomes arising from the NBS are identified, benchmarked, and periodically assessed.

This step requires that specific, measurable, attainable, realistic and timely (SMART) targets should be defined and used to assess how well the NBS project is helping to achieve tangible and substantive benefits to human well-being. To carry out this activity, key performance indicators for human well-being identified in LENSES 5.1 “Report on the review of existing frameworks” might be helpful.

5.2 Describe how clear and measurable biodiversity conservation outcomes are identified, benchmarked, and periodically assessed (C3.2)

This step requires that specific, measurable, attainable, realistic, and timely (SMART) targets should be defined and used to assess how well the NBS project is helping to enhance biodiversity. For each NBS project, the type of target may differ; for example, the target could be the percentage of ecosystem area restored or the return of a keystone species.

To carry out this activity, key performance indicators for biodiversity identified in LENSES 5.1 “Report on the review of existing frameworks” (section 9 and 10) might be helpful.

Optional instructions:

5.3 Carry out periodic assessments of the project’s unintended adverse consequences.

This step requires that a periodic assessment to be carried out to identify unintended adverse consequences that may occur in the NBS implementation process. Since ecosystems are complex with interdependent components and processes, there will always be a level of uncertainty in how they will react to specific interventions or other external changes. Therefore, NBS should be designed and monitored to minimise and mitigate unanticipated risks that might undermine the ecological foundations of the solution itself.

Value capture

This component of the business model canvas focuses on describing the cost structure of the project and the potential revenue model, detailing how project services flow from the supply side to the demand side and identifying possible risks.

The following modules seek to help the user formulate the financial part of the NBS project to apply to potential funding mechanisms.

6. MODULE 6: Cost structure

This module allows the user to describe the cost structure of the NBS project and provide an estimate of the costs associated with its implementation.

6.1 Describe the direct and indirect costs associated with the NBS project.

To carry out this activity, estimate the approximate costs of the project and classify them into the following categories:

- **Capital costs:** These include the initial costs to implement the NBS project, comprising labour, materials, and machinery expenses needed to develop the NBS. They also contain the financial costs incurred when initial investment support is required.
- **Operation and maintenance costs:** These refer to the management and monitoring costs of the NBS project to ensure its implementation over time. They may include, e.g., ecosystem management and restoration costs such as pest control, landowner payments, and enforcement.
- **Opportunity costs:** These include the costs of excluding or limiting the previous activities in place by implementing the proposed project. A way to calculate this cost is

Opportunity cost = Return of the desired NBS project – Return on second preferred investment choice

- **Transaction costs:** These are the costs associated with time, resources, and efforts to initiate, negotiate, and enforce the NBS, thus making the context ready for their implementation (e.g., stakeholder involvement, permissions request, workers' training, knowledge sharing, etc.).

Optional instructions:

6.2 Describe if a cost-effectiveness study has been conducted to support the choice of the NBS project, including the likely impact of any relevant regulations and subsidies.

This step helps the user to consider the project's long-term vision, including calculations of the operational costs and the possible impacts of regulations and subsidies on the project's sustainability.

7. MODULE 7: Revenue model

This module helps the user to define the potential revenue streams of the NBS project. It is important to note that NBS projects do not necessarily generate marketable services or products, which poses a challenge in this kind of project to create revenues. Examples of revenues in NBS projects include fees for providing services such as carbon credits, sustainable commodities, or ecotourism (Baralon et al., 2022). Another possible revenue channel from an NBS project includes the avoided costs NBS can generate in relation to natural disasters such as droughts or floods, mainly encouraging public authorities to invest in these projects.

Therefore, this module seeks to facilitate the disaggregation and identification of potential revenue streams from public and private actors for the different phases of project financing.

7.1 Describe and quantify the products/services generated by the project, both marketable and non-marketable.

This activity consists of identifying and quantifying the ecosystem services related to the WEFE Nexus that the NBS project generates to estimate its economic benefits, even if not all these benefits can be translated into tradable products and services.

The first step for quantifying the benefits consists of the biophysical estimation of the services provided by the NBS with respect to a baseline scenario (i.e., without the project). Said estimation is made through the

following *provision indicators* (Table 4). The second step consists of assigning an economic value to said biophysical estimate through the presented *economic value indicators*.

Table 4. Provision and economic indicators to estimate ecosystem services provided by the project.

Ecosystem Service	Provision indicators	Economic value indicators
Water provision	Fresh and/or process water availability per water use (m ³ /ha per year)	Market price per sector: water (€/m ³ per year)
Food provision	Average production yield (kg/ha)	Market price per crops (€/kg per year)
Energy provision	Converted energy (kWh/m ³ per year) Produced electricity (kWh/m ³ per year)	Market price: energy (€/kWh per year)
Materials Resources	Natural resources extracted (kg/ha per year)	Market price: natural resources (€/kg per year)
Genetic Resources	Number of crop varieties and livestock breed species living in a region/surface	Restoration costs (€/ha per year)
Regulation of water flows	Water storage capacity per land use (m ³ /ha per year) Groundwater recharge rate (m ³ /ha per year)	Replacement costs: (€/m ³ of construction material)
Climate regulation	Carbon sequestration rate per land use (tons CO ₂ /ha per year)	Market price: carbon credit (€/ton CO ₂)
Water purification	kg of pollutant retained from soil per soil type	Replacement costs (€/ton of pollutant removed)
Moderation of extreme events (flood protection)	Water storage capacity per land use (m ³ /ha per year) groundwater recharge rate (mm/ha per year)	Replacement costs (€/m ³ of construction material)
Erosion prevention	Amount of soil retained, or sediment captured (m ³ /ha per year)	Replacement costs (€/ton of soil retained)
Biological control	Populations of pest control agents (n/ha)	Replacement costs (€/l of pesticides)
Lifecycle maintenance	Native vegetation or high nature value farmland; Biodiversity index; Structural changes in habitats and other ecosystem characteristics	Restoration costs (€/ha of habitat restored)
Opportunities for recreation and tourism	Number of facilities (e.g., hotels, restaurants, hiking paths, parking lots; n/ha) Results from questionnaires on nature and leisure preferences (wildlife-viewing, hiking, fishing, sports)	Visitors' total expenditure (€)

7.2 Describe for whom the project can create value. Who would want to pay for it?

Based on the services identified in the previous step, this activity consists of determining the stakeholders for whom the project may be interesting (i.e., for whom the project creates value) and who might be interested in contributing to its financing. Some of the possible categories of stakeholders are presented below:

- Citizens through donations and crowdfunding
- NGOs and public foundations
- Private companies (e.g., real estate, utilities, insurance) through corporate social responsibility (CSR) and private foundations
- Governments, international cooperation, EU funds
- Private equity impact funds, development finance institutions
- Traditional investors (e.g., pension funds, commercial banks)

7.3 Describe how this project will generate cash flows.

This step seeks to determine the different ways the project could generate cash flows. Examples of cash flows include reducing costs of current programs or policies (e.g., fire prevention, agricultural irrigation) or creating revenues from the provision of new products or services (e.g., agricultural commodities, forest products, energy, ecotourism).

Optional instructions:

7.4 Conduct a cost-benefit analysis (CBA) of the project based on the estimated costs and benefits.

This step involves using the estimated costs and benefits of the NBS project to assess its financial sustainability, using a defined time horizon and discount rate. The CBA's main economic indicators include the net present value (NPV), the Internal Rate of Return (IRR), the benefit/cost ratio (B/C), and the payback period (PB).

8. MODULE 8: Funding

This module allows the user to establish how much financing the project requires, identify potential funding sources, and clearly describe how these resources will be used during the different phases of the project. The module considers recommendations mainly from the interviews with financial actors and relevant literature on investments in NBS and biodiversity.

8.1 Estimate how much funding the project requires.

This activity requires establishing the amount of financing needed for the project in each of its phases and its distribution over time. The different phases of the NBS project include:

- **Initial upfront/readiness investment:** this phase refers to the initial feasibility investments of an NBS project, which include capital and transaction costs. These investments support activities such as stakeholder coordination, capacity building, project planning, and design. The funding sources in this phase are usually grants from public organizations and NGOs, crowdfunding campaigns, as well as soft loans to pave the way to high-risk commercial investments.
- **Implementation-related investment:** this phase refers to investments that mainly cover the project's operational and maintenance costs. In this phase, funding sources usually include Corporate Social Responsibility commitments from private companies, private foundation and philanthropy resources, allocations from government budget items, or investments from local banks offering below-market capital.
- **Self-sustaining financing:** this phase covers the project's long-term running costs. In this phase, project costs are expected to be lower than initial investments. In contrast, project services are more mature and ready to generate revenue (e.g., commodity supply chains, recreational services, avoided costs of disasters). Funding sources in this phase mainly comprise market mechanisms such as new commodity markets, ecotourism fees, or payments for ecosystem services (PES).

8.2 Explain how this funding will be spent.

This step describes how the requested funding will be spent throughout the project, detailing the cost for each activity and the time horizon of the expenses. Likewise, it should describe the methodology to track the costs throughout the project.

8.3 Provide information about the project's potential portfolio of funding options.

This step allows the user to reflect on the type of funding source required for developing the NBS project. These financing options can be public or private, and their relevance to financing the project varies according

to the project phase, the services provided by the project, and the potential stakeholders. Funding options include:

- Grants from public and private organizations
- Public finance instruments (e.g., taxes and subsidies, charges, and tradable permits)
- Equity investment
- Bonds (e.g., green and resilience bonds)
- Loans
- Market development for specific products
- Payment for ecosystem services (PES)
- Certification and other sustainability standards
- Ecotourism

9. MODULE 9: Risks and constraints

This module allows the user to identify the potential risks associated with the project, evaluate them in terms of probability and severity and determine the corresponding mitigation measures. Risk analysis is a fundamental component in project development since it helps to decide which financing mechanisms are most appropriate while assisting potential funders in feeling more comfortable with the investments.

9.1 Explain the main risks that may affect the project's development.

This activity consists of identifying and classifying the main risks associated with the project's development, considering both those that may affect the revenues and cash flows of the project, as well as the potential risks of the project inside and outside the implementation area.

Risks can be classified into several categories. The approach of this methodology proposes to classify risks as internal and external.

Internal risks: includes risks that the project organization can control, for example

- technical and operational risks
- communication and management risks

External risks: including risks due to external factors beyond the control of the project organization

- legal risks (e.g., political, currency, corruption and legality)
- economic and market risks (e.g., price volatility and access to markets)
- environmental risks (e.g., natural disasters, pests)
- social risks (e.g., unclear property rights, social conflicts, vandalism)

9.2 Analyse the identified risks in terms of their probability of occurrence and the severity of their impact.

This activity consists of evaluating each of the risks identified in terms of the possibility of their occurrence and the severity of their impact if they happen. This activity is traditionally carried out through a risk matrix (Table 5) and allows prioritizing the principal risks of the project to define mitigation measures.

Table 5. Risk matrix for the NBS project under development

Risk event	Probability of occurrence (P) (Low, medium, high)	Severity of impact (S) (Low, medium, high)	Score
Technical risks	1, 2, 3	1, 2, 3	PxS
Management risks	1, 2, 3	1, 2, 3	PxS
Economic and market risks	1, 2, 3	1, 2, 3	PxS
...	1, 2, 3	1, 2, 3	PxS

9.3 Describe the mitigation strategies for the identified risks and who is in charge of implementing them.

This step consists of explaining the mitigation measures proposed for each identified risk and assigning the responsible actor for carrying them out (Table 6). Possible mitigation measures include technological tools, knowledge (e.g., technical assistance), and financial tools (e.g., insurance, guarantees), among others.

Table 6. Example of a mitigation measure table

Risk event	Mitigation measure	Measure responsible
Technical risks	<u>Example:</u> Capacity building programs and partnerships with experts in the project's field	Project officer
Economic and market risk	<u>Example:</u> Project insurance against fluctuations in the prices of commodities and other materials.	Project manager
Management risks	<u>Example:</u> Development of a project communication strategy	Communications office
...		

An overview of the modules, including the expected results per module, is presented below in Table 7.

Table 7. Expected results by module.

Business model component	Module	Expected results	More information can be found in
Value capture	1. Rationale and description of the project:	<p>A project document that describes its general idea, specifying:</p> <ul style="list-style-type: none"> • What type of solutions are proposed in the project, and what is its area of implementation? • The justification of the project through the context and current challenges around implementation • The pathways to scale the project • The process of involving stakeholders in the construction of the project • Potential synergies with other programs at the landscape level 	<ul style="list-style-type: none"> • LENSES D5.1 “Critical review of existing NBS evaluation frameworks”, page 16 • Evaluation the Impact of Nature-based: EU Handbook for practitioners Solutions (Dumitru & Wendling, 2021) • LENSES D6.1 “Socio-economic indicators and framework for Nexus-relevant NBS”, page 12 • LENSES D5.1 “Critical review of existing NBS evaluation frameworks”, pages 27 to 34. • Investing in Nature: Financing Conservation and Nature-based Solutions, page 7 (EIB, 2018) • Taking Nature-based Solutions Programs to Scale (Bierbaum et al., 2021) • The IUCN Global Standard for Nature-based solutions, Criteria C1.1 and C2.2 (IUCN, 2020)
	2. Conservation impacts	<p>A complement to the project’s document explaining:</p> <ul style="list-style-type: none"> • How the proposed NBS project contributes to the net gain of biodiversity in the implementation area • The specific ways to achieve this objective 	<ul style="list-style-type: none"> • The IUCN Global Standard for Nature-based solutions, Criteria C3.1. and C3.4 (IUCN, 2020)
Value creation and delivery	3. Key stakeholders	<p>A complement to the project’s document explaining:</p> <ul style="list-style-type: none"> • Who are the project implementers and their expertise relevant to the project? • Who are the key stakeholders and how they are affected directly and indirectly by the project? 	<ul style="list-style-type: none"> • Connecting Nature: Nature-Based Solutions Business Model Canvas Guidebook, pages 17, 18 (Connecting Nature, 2019) • The IUCN Global Standard for Nature-based Solutions, Criteria C5.3 (IUCN, 2020) • Lenses D6.2 “Policy indicators and framework for Nexus-relevant NBS”, page 23

Business model component	Module	Expected results	More information can be found in
			<ul style="list-style-type: none"> • OECD's Nature-based solutions for adapting to water-related climate risks, page 15 (OECD, 2020)
	4. Governance	<p>A robust governance framework relevant to the project, with:</p> <ul style="list-style-type: none"> • Explanation of stakeholder involvement and their responsibilities in the process of the NBS intervention • Review of the regulatory environment • Good practices and lessons learnt from the project • Feedback and grievance resolution mechanisms • Strategy enabling joint decision-making in the case of transnational areas 	<ul style="list-style-type: none"> • Connecting Nature: A practical guide to using co-production for nature-based solutions (Connecting Nature, 2022) • Lenses D6.2 "Policy indicators and framework for Nexus-relevant NBS", page 23 • The IUCN Global Standard for Nature-based Solutions, Criterion C5.2 (IUCN, 2020) • OECD's Nature-based solutions for adapting to water-related climate risks, page 24 (OECD, 2020) • The IUCN Global Standard for Nature-based Solutions (IUCN, 2020)
	5. Monitoring	<p>Project's monitoring strategy aimed at:</p> <ul style="list-style-type: none"> • Assess human well-being benefits arising from the project. • Assess biodiversity conservation outcomes resulting from the project. • Monitor unintended adverse consequences resulting from the project. 	<ul style="list-style-type: none"> • LENSES D5.1 "Report on the review of existing frameworks" • The IUCN Global Standard for Nature-based Solutions, Criterion C1.3 (IUCN, 2020) • LENSES D5.1 "Report on the review of existing frameworks" • The IUCN Global Standard for Nature-based Solutions, Criterion C3.2 (IUCN, 2020) • The IUCN Global Standard for Nature-based Solutions, Criterion C3.3 (IUCN, 2020)
Value capture	6. Cost structure	<ul style="list-style-type: none"> • A complement to the project's document where the total costs of the project are described. 	<ul style="list-style-type: none"> • LENSES D6.1 "<i>Socio-economic indicators and framework for Nexus-relevant NBS</i>", page 15.

Business model component	Module	Expected results	More information can be found in
		<ul style="list-style-type: none"> An excel file where the different costs associated with the NBS project are specified and quantified. 	<ul style="list-style-type: none"> The IUCN Global Standard for Nature-based solutions, Criterion C4.2 and C4.3 (IUCN, 2020)
	7. Revenue model	<p>A complement to the project's document where its possible gain channels are explained, specifying:</p> <ul style="list-style-type: none"> Estimation of project benefits in terms of ecosystem services The definition of the potential funding sources of the project The type of cash flows generated by the project. An excel file with a cost-benefit analysis of the project, providing economic indicators based on the estimation of costs and benefits. 	<ul style="list-style-type: none"> LENSES D6.1 <i>"Socio-economic indicators and framework for Nexus-relevant NBS"</i>, page 14. Local financing mechanisms for forest and landscape restoration (FAO, 2021b) The IUCN Global Standard for Nature-based solutions, Criterion C4.4 (IUCN, 2020) Common success factors for bankable nature-based solutions (Baralon et al., 2022) LENSES D6.1 <i>"Socio-economic indicators and framework for Nexus-relevant NBS"</i>, page 15.
	8. Funding	<p>A complement to the project's document explaining:</p> <ul style="list-style-type: none"> What is the amount of funding required to implement the project? How will that funding be spent over the project's life, and how will it be monitored? What are the potential financing sources and mechanisms for the project? 	<ul style="list-style-type: none"> Local financing mechanisms for forest and landscape restoration, page 8 (FAO, 2021b) Investing in Nature: Financing Conservation and Nature-based Solutions (EIB, 2018) Developing bankable business plans A learning guide for forest producers and their organizations (FAO, 2021a) Local financing mechanisms for forest and landscape restoration, page 9 (FAO, 2021b) The Little Book of Investing in Nature (Tobin-de la Puente, J. and Mitchell, 2021) BIOFIN Catalogue of Finance Solutions (UNDP Biodiversity Finance Initiative, 2021) Investing in Nature: Financing Conservation and Nature-based Solutions (EIB, 2018)
	9. Risks and constraints	<p>A complement to the project's document explaining:</p> <ul style="list-style-type: none"> What are the main risks of the project 	<ul style="list-style-type: none"> Developing bankable business plans: A learning guide for forest producers and their organizations, page 59 (FAO, 2021a)

Business model component	Module	Expected results	More information can be found in
		<ul style="list-style-type: none"> • What are the mitigation measures for those risks and who is responsible for implementing them? 	<ul style="list-style-type: none"> • Investing in Nature: Financing Conservation and Nature-based Solutions (EIB, 2018) • The IUCN Global Standard for Nature-based solutions, Criterion C2.3 (IUCN, 2020) • Developing bankable business plans: A learning guide for forest producers and their organizations, page 61 (FAO, 2021a) • Investing in Nature: Financing Conservation and Nature-based Solutions (EIB, 2018) • Developing bankable business plans A learning guide for forest producers and their organizations, page 60 (FAO, 2021a)

References

- Associació Sèlvans. (2018). *Conservamos el «núcleo antiguo» de los bosques*. <https://selvans.org/preservacion/?lang=es>
- Baralon, J., Hinojosa, G., Larina, M., & Stadelmann, M. (2022). *Common success factors for bankable nature-based solutions* (Issue August). <https://www.southpole.com/common-success-factors-bankable-nbs>
- Bazzana, D. ;, Comincioli, N., Khoury, E., Nardi, C. ;, Vergalli, F. ;, Bazzana, D., Comincioli, N., Khoury, C. El, Nardi, F., & Vergalli, S. (2023). WEF Nexus Policy Review of Four Mediterranean Countries. *Land* 2023, Vol. 12, Page 473, 12(2), 473. <https://doi.org/10.3390/LAND12020473>
- Bierbaum, R., Clarke, E., Smith, M. S., Gef, C. W., Gordon, R. M., & Foundation, B. M. (2021). *Taking Nature-Based Solutions Programs to Scale*. January.
- Blarel, B., Ruta, G., Gavryliuk, O., Poisson, P., Stewart, F., Power, S., Guillon, B., Likhachova, I., & Choux, L. (2019). Mobilizing private finance for Nature. *World Bank Group*.
- Brears, R. C. (2022). *Financing Nature-Based Solutions Finance Models and Case Studies*.
- Castellari, S., Zandersen, M., Davis, M., Veerkamp, C., Förster, J., Marttunen, M., Mysiak, J., Vandewalle, M., Medri, S., & Picatoste, J. R. (2021). Nature-based solutions in Europe: Policy, knowledge and practice for climate change adaptation and disaster risk reduction. In *European Environment Agency*. <https://doi.org/10.2800/919315>
- Christoforidi, I., Kollaros, D., Manios, T., & Daliakopoulos, I. N. (2022). Drought- and Salt-Tolerant Plants of the Mediterranean and Their Diverse Applications: The Case of Crete. *Land*, 11(11), 2038. <https://doi.org/10.3390/land11112038>
- Connecting Nature. (2019). *Nature-Based Solutions Business Model Canvas Guidebook Challenges of financing and business models for NBS*. <http://strategyzer.com>.
- Connecting Nature. (2022). *A practical guide to using for nature-based solutions A practical guide to using co-production for nature-based solutions*.
- Dumitru, A., & Wendling, L. (2021). *Evaluating the impact of nature-based solutions. A handbook for practitioners*. <https://op.europa.eu/en/publication-detail/-/publication/d7d496b5-ad4e-11eb-9767-01aa75ed71a1/language-en/format-PDF/source-206665393>
- EIB. (2018). *Investing in Nature: financing conservation and nature-based solutions*. 40. <https://www.eib.org/attachments/pj/ncff-invest-nature-report-en.pdf>
- FAO. (2014). The Water-Energy-Food Nexus - A new approach in support of food security and sustainable agriculture. *Food and Agriculture Organization of the United Na*, 1–11.
- FAO. (2021a). Developing bankable business plans. In *Developing bankable business plans*. <https://doi.org/10.4060/cb4520en>

- FAO. (2021b). Local financing mechanisms for forest and landscape restoration. In *Local financing mechanisms for forest and landscape restoration*. <https://doi.org/10.4060/cb3760en>
- GEF. (2021). *How the GEF's blended finance is helping environmental innovators*. <https://www.thegef.org/newsroom/blog/how-gefs-blended-finance-helping-environmental-innovators>
- Hidden Mediterranean. (n.d.). *New sustainable ways to discover the Mediterranean*. Retrieved March 8, 2023, from <https://www.hiddenmediterranean.net/en/>
- IUCN. (2016). Nature-based solutions to address global societal challenges. In *Nature-based solutions to address global societal challenges*. IUCN International Union for Conservation of Nature. <https://doi.org/10.2305/iucn.ch.2016.13.en>
- IUCN. (2019). *What does Nature give us? Towards Nature-based Solutions in the Mediterranean*.
- IUCN. (2020). IUCN Global Standard for Nature-based Solutions. In *Guidance for using the IUCN Global Standard for Nature-based Solutions: first editions*. <https://doi.org/10.2305/iucn.ch.2020.09.en>
- Markantonis, V., Reynaud, A., Karabulut, A., El Hajj, R., Altinbilek, D., Awad, I. M., Bruggeman, A., Constantianos, V., Mysiak, J., Lamaddalena, N., Matoussi, M. S., Monteiro, H., Pistocchi, A., Pretato, U., Tahboub, N., Tunçok, I. K., Ünver, O., Van Ek, R., Willaarts, B., ... Bidoglio, G. (2019). Can the implementation of the Water-Energy-Food nexus support economic growth in the Mediterranean region? The current status and the way forward. *Frontiers in Environmental Science*, 7(JUL), 84. <https://doi.org/10.3389/FENV.S.2019.00084/BIBTEX>
- Mayor, B., & et al. (2021). State of the art and latest advances in exploring business models for Nature-based solutions. *Sustainability*, 13, 7413.
- Mayor, Beatriz, Benítez, C., Angulo, M., Nanu, F., Groza, I., Schrieu, A., Marchal, R., Le Coent, P., Graveline, N., Marouner, A., Matthews, J., Altamirano, M., & López Gunn, E. (2019). *Nature Insurance value: Assessment and Demonstration*.
- Mayor, Beatriz, Zorrilla-Miras, P., Le Coent, P., Biffin, T., Dartée, K., Peña, K., Graveline, N., Marchal, R., Nanu, F., Schrieu, A., Calatrava, J., Manzano, M., & Gunn, E. L. (2021). Natural assurance schemes canvas: A framework to develop business models for nature-based solutions aimed at disaster risk reduction. *Sustainability (Switzerland)*, 13(3), 1–21. <https://doi.org/10.3390/su13031291>
- Mcquaid, S., Kooijman, E., Rizzi, D., Andersson, T., & Schanté, J. (2022). *the Vital Role of Nature-Based Solutions in a Nature Positive Economy*. <https://doi.org/10.2777/307761>
- OECD. (2020). *Nature-based solutions for adapting to water-related climate risks* (Issue 21). https://www.oecd-ilibrary.org/environment/nature-based-solutions-for-adapting-to-water-related-climate-risks_2257873d-en;jsessionid=M-JBZ8FCnpjo1cCD5zQdV1N9QvCynVDqIzQCREz5.ip-10-240-5-116
- Rainforest Alliance. (2022). *Project Profile: Mobilizing Türkiye's Hazelnut Villages to Act on Child Labor and Poor Working Conditions*. <https://www.rainforest-alliance.org/in-the-field/mobilizing-turkey-hazelnut-villages-project-profile/>

- Saladini, F., Betti, G., Ferragina, E., Bouraoui, F., Cupertino, S., Canitano, G., Gigliotti, M., Autino, A., Pulselli, F. M., Riccaboni, A., Bidoglio, G., & Bastianoni, S. (2018). Linking the water-energy-food nexus and sustainable development indicators for the Mediterranean region. *Ecological Indicators*, 91, 689–697. <https://doi.org/10.1016/J.ECOLIND.2018.04.035>
- Somarakis, G., Stagakis, S., & Chrysoulakis, N. (2019). Think Nature Handbook_NATURE-BASED SOLUTIONS. In *Think Nature* (Issue 730338).
- Terrapon-Pfaff, J., Ortiz, W., Dienst, C., & Gröne, M. C. (2018). Energising the WEF nexus to enhance sustainable development at local level. *Journal of Environmental Management*, 223, 409–416. <https://doi.org/10.1016/J.JENVMAN.2018.06.037>
- Tobin-de la Puente, J. and Mitchell, A. . (2021). *The Little Book of Investing in Nature*. 224.
- UNDP Biodiversity Finance Initiative. (2021). *BIOFIN Catalogue of Finance Solutions*. <https://www.biofin.org/finance-solutions>
- UNECE. (2018). Methodology for Assessing the Water-Food-Energy-Ecosystem Nexus in Transboundary Basins and Experiences from its Application. In *Methodology for Assessing the Water-Food-Energy-Ecosystem Nexus in Transboundary Basins and Experiences from its Application*. <https://doi.org/10.18356/99251fa3-en>
- United Nations. Economic Commission for Europe, & United Nations. (2021). Solutions and investments in the water-food-energy-ecosystems nexus : a synthesis of experiences in transboundary basins. In *Book*:

Annexes

Annex 1. Examples of financing mechanisms for NBS project with a Nexus approach in the Mediterranean

Financing instruments vary widely in nature and do not apply to all types of NBS (Table 8). For example, some instruments support agricultural landscape management projects, while others focus on the Ecological restoration of degraded ecosystems.

Table 8. The LENSES Nature-based solutions categories and their acronyms.

NBS category	Acronym
Protection and conservation strategies in terrestrial, marine, and coastal areas ecosystems	PCS
Agricultural landscape management	ALM
Monitoring	M
Ecological restoration of degraded terrestrial ecosystems	ER
Restoration and creation of semi-natural water bodies and hydrographic networks	RCWB

Another feature on which these instruments may differ is the phase of the NBS project they are interested in financing. Some financial institutions specialize in readiness projects and seed capital for initial project stages, while others provide funding to well-defined initiatives already underway. Similarly, some institutions finance small, local-scale projects, while others seek higher-scale solutions. These characteristics may influence whether investors decide to finance the project or not.

The main characteristics used in this report to classify financial instruments for NBS with a Nexus approach are presented below.

Phase of the NBS: Three main stages of the NBS project are identified to describe how mature the NBS project is (FAO, 2021b).

- **Initial upfront/readiness:** this phase refers to activities such as opportunity identification, stakeholder engagement, and other transaction costs and capital costs.
- **Implementation-related:** the project or initiative is underway but in early stages, and the costs are primarily capital and operational.
- **Self-sustaining financing:** the project is well established, and the costs are primarily operational, and maintenance related.

Scale of the NBS: According to the funding request, different financial sectors would be interested or not in investing in the project.

- Small: from 0 to 500.000 euros
- medium: from 500.000 to 5M
- Big: over 5M euros

Type of investor: It refers to the actors that manage these potential funding sources, which might have different expected returns, e.g., purely financial vs. financial and environmental (FAO, 2021b).

- Crowdfunding
- NGOs and public foundations
- Corporate social responsibility
- Governments, international cooperation
- Private equity impact funds, development finance institutions
- Traditional investors, including pension funds and commercial banks.

Region: Funding from different sources might be available depending on the region of interested of the financing body. Some cooperation institutions fund initiatives solely in developing countries, while others to at the European level.

- Global
- Europe
- Mediterranean
- Specific countries
- ODA countries, including Jordan and Türkiye
- Developing countries, including Jordan

#	Potential financing instruments	NBS category	Type of mechanism	Phase of the NBS	Scale of the NBS project	Type of investor	Region	References
1	Green Climate Fund (GCF)*	PCS ER	Grant Loan	Initial upfront/readiness Implementation-related	Big	Governments, international cooperation	Developing countries (Jordan)	https://www.greenclimate.fund/ * How to access the Green Climate Fund?
2	Global EbA Fund	PCS M ER RCWB	Grant	Initial upfront/readiness	Small	Governments, international cooperation	ODA countries (Jordan, Türkiye)	https://globalebafund.org/
3	Global Environment Facility (GEF)**	PCS ALM ER	Grant Loan	Initial upfront/readiness Implementation-related	Small Medium Big	Governments, international cooperation	ODA countries (Jordan, Türkiye)	https://www.thegef.org/ ** Small grants programme and Non-grant instruments available
4	Adaptation Fund	PCS ALM M ER RCWB	Grant	Initial upfront/readiness Implementation-related	Small Medium	Governments, international cooperation	Developing countries (Jordan)	https://www.adaptation-fund.org/
5	Climate Investment Funds (CIF)	PCS ALM ER	Grant Loan	Initial upfront/readiness Implementation-related Self-sustaining financing	Small Medium Big	Governments, international cooperation	ODA countries (Jordan, Türkiye)	https://www.cif.org/

#	Potential financing instruments	NBS category	Type of mechanism	Phase of the NBS	Scale of the NBS project	Type of investor	Region	References
6	Mirova - Investing in sustainability	PCS ALM ER	Equity investment	Implementation-related Self-sustaining financing	Medium Big	Private equity impact funds, development finance institutions	Global	https://www.mirova.com/en
7	International Fund for Agricultural Development (IFAD)	ALM	Grant Loan	Initial upfront/readiness Implementation-related Self-sustaining financing	Small Medium	Governments, international cooperation	ODA countries (Jordan, Türkiye)	https://www.ifad.org/en/
8	International Climate Initiative (IKI)	PCS ALM M ER RCWB	Grant	Initial upfront/readiness Implementation-related	Small Medium Big	Governments, international cooperation	ODA countries (Jordan, Türkiye)	https://www.international-climate-initiative.com/en/
9	Hellenic Green Fund	PCS ALM ER	Grant	Initial upfront/readiness Implementation-related	Small Medium	Governments, international cooperation	Greece	http://www.lifetaskforce.gr/el/
10	Cassa Depositi e Prestiti (CDP)	ER RCWB	Loan	Initial upfront/readiness Implementation-related	Small Medium Big	Governments, international cooperation	Italy	https://www.cdp.it/sitointernet/page/it/prestito_green?contentId=PRD41845
11	Instituto de Crédito Oficial	PCS ER RCWB	Loan	Initial upfront/readiness Implementation-related	Medium Big	Governments, international cooperation	Spain	https://www.ico.es/programa-ico-vivienda-y-

#	Potential financing instruments	NBS category	Type of mechanism	Phase of the NBS	Scale of the NBS project	Type of investor	Region	References
								regeneraci%C3%B3n-urbana-y-rural
12	Rewilding Europe Capital***	ER RCWB	Loan	Initial upfront/readiness Implementation-related	Small	Private equity impact funds, development finance institutions	Europe	https://rewilding-europe.com/rewilding-europe-capital/ *** More information
13	LIFE Programme	PCS ALM M ER RCWB	Grant	Initial upfront/readiness Implementation-related	Medium	Governments, international cooperation	Europe	https://cinea.ec.europa.eu/programmes/life_en
14	Piraeus Bank****	ALM	Loan	Initial upfront/readiness Implementation-related	Small	Traditional investors (e.g., pension funds, commercial banks)	Greece	https://www.piraeusbank.gr/en/agrotes *** More information
15	Bamboo Capital Partners	ALM	Equity investment	Implementation-related Self-sustaining financing	Medium Big	Private equity impact funds, development finance institutions	ODA countries (Jordan, Türkiye)	https://bamboocp.com/investees/
16	Endangered Landscapes Programme	PCS M ER RCWB	Grant	Initial upfront/readiness Implementation-related	Small Medium	NGOs and public foundations	Europe	https://www.endangeredlandscapes.org/about/funding-opportunities/



This publication reflects only the author's view and the PRIMA Foundation is not responsible
for any use that may be made of the information it contains