





BIOFIN Virtual Workshop
18.3.2025

**Sustainable Finance and Forestry
Investment Criteria: an overview of EU
regulations and civil society initiatives**



Davide Pettenella



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Outline

- Why to invest in forests and biodiversity?
- The EU initiatives on sustainable forest finance: the EU Taxonomy
- The EFI Guidelines «Sustainable Finance and Forestry Biodiversity Criteria»
- The recent developments



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Outline

- **Why to invest in forests and biodiversity?**
- The EU initiatives on sustainable forest finance: the EU Taxonomy
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- The recent developments

A changing financial landscape

Historically, the financial sector has allocated little capitals to forestry: limited profits from raw material production (wood) and relevance of services non-rival, non-excludable services (public goods)
→ Relatively few and often philanthropic investments (donations)

Recent developments have changed this landscape: two major drivers of an increased demand for environmental services by forests

Demand side: an informed civil society

Supply side: values awareness and threat of potential erosion of reputational value by companies

An increasing number of organizations are committed to some forest-related good practices

In the field of climate

- Carbon neutral(ity)
- Zero carbon
- Climate neutral
- Zero emissions
- GHG neutral(ity)
- Climate positive
- Carbon negative
- 1.5°C target

In the field of biodiversity protection

- Nature positive
- Biodiversity neutral(ity)
- Nature neutral(ity)

In the environmental field in general

- Net zero
- Net negative
- Science-Based Targets Network (SBTN) Compliance

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a push for investments including biodiversity protection, climate change mitigation and adaptation and, more recently, land restoration



Sustainable investments/finance

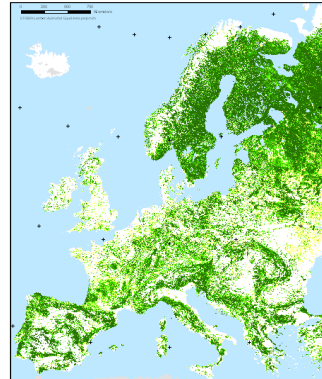
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Source: EFI

Forests: the «green infrastrucure» of Europe

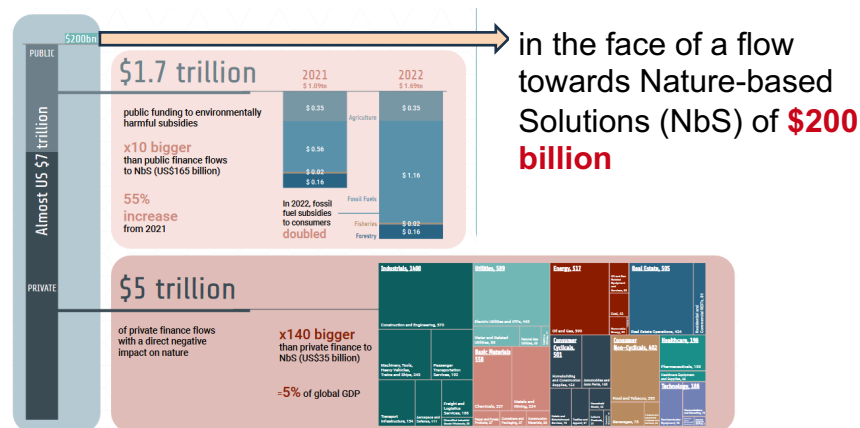


- Forests are the **first ecosystem** at the heart of sustainable development as **provider of multiple ES**
- To meet, at global level, targets related to climate change, biodiversity and land degradation, **investments in NBS must triple in by 2030**, and quadruple by 2050. For the EU: annual investment of at least **€90 billion by 2030** in afforestation, reforestation, forest management, agroforestry and peatland restoration

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Current cash flows with negative impacts on nature:
nearly **\$7 trillion** (1.7 from public and 5 from private agents) ...



Source: UNEP, 2023

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... in the face of a flow towards NbS of **\$200 billion** (2023)



Source: UNEP, 2023

A significant role for forestry activities

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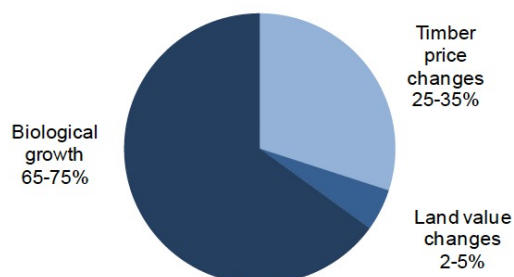


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Investments in all types of forests have unique challenges compared to other forms of investment (Binkley et al., 2001; Carroll, 2003; Hua et al., 2022; Lundgren, 2005; Lutz, 2004; Mortimer, 2009; Toppinen et al., 2012)

Positive aspects:

- **Diversified components** of the revenue: increasing **real prices** of wood and of forest land, **biological growth** (even if generally very slow)



Source: The International Woodland Company, 2009

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Investments in all types of forests have unique challenges compared to other forms of investment

(Binkley et al., 2001; Carroll, 2003; Hua et al., 2022; Lundgren, 2005; Lutz, 2004; Mortimer, 2009; Toppinen et al., 2012)

Positive aspects:

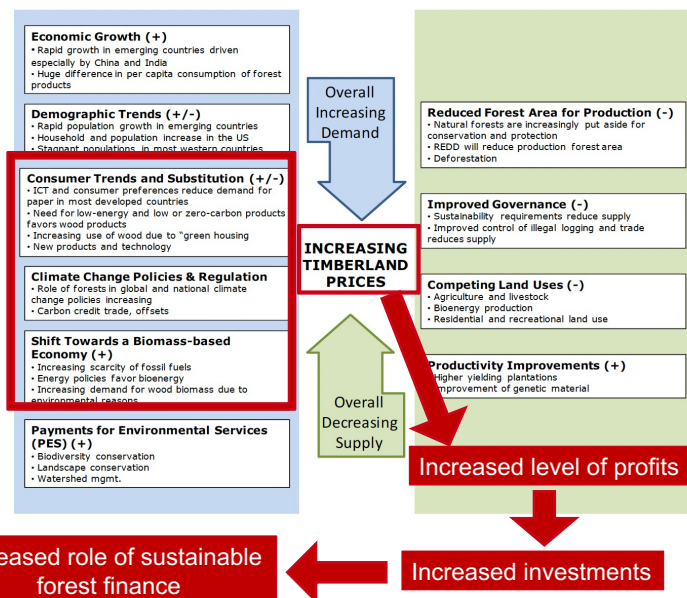
- **Diversified components** of the revenue: increasing **real prices** of wood and of forest land, **biological growth** (even if generally very slow)
- **Inflation hedging forest returns** are generally **positively correlated with inflation**
- **Returns** on forest investments are **less correlated** with returns on other financial assets → portfolio strategies
- Presence of generally **positive environmental externalities**; forest investments can improve green credentials → reputational value for investors

Negative aspects:

- Relatively **long-term** investments (return is linked to the growth cycle of trees)
- Presence of **disruptive factors** (e.g. storms, fires, pests, floods) ← more frequent extreme events
- Presence of local and international **stakeholders** → transaction costs

Demand and supply trends and related drivers influencing forest investments

(Dasos Capital, 2020)



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Two set of tools for solving the global biodiversity finance gap

- **Financing green** for increasing private investments into environment conservation:
 - Implementation strategies of EU Restoration Law
 - Biodiversity offsets
 - Nature-based carbon offsets
 - Biodiversity credits
 - Environmental impact bonds
 - Natural flood management
- **Greening finance** to increase the incentives and the attractiveness in the economy so that investors modify their patterns of investment:
 - EU taxonomy
 - CSRD
 - TNFD

Lots of mechanisms try to do both greening finance and financing green activities

Source: WWF, 2023

https://wwf.panda.org/discover/our_focus/finance/green_financial_solutions/

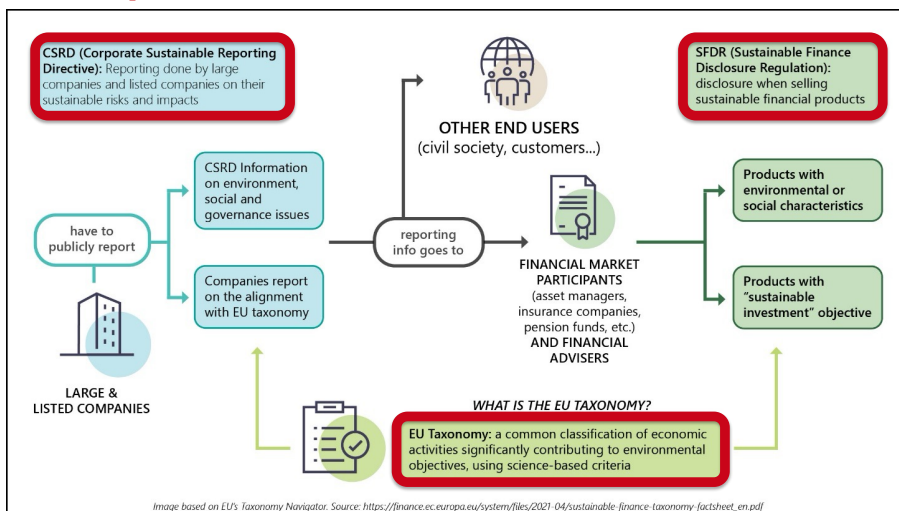
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Overview of relevant sustainable finance documents of the EU

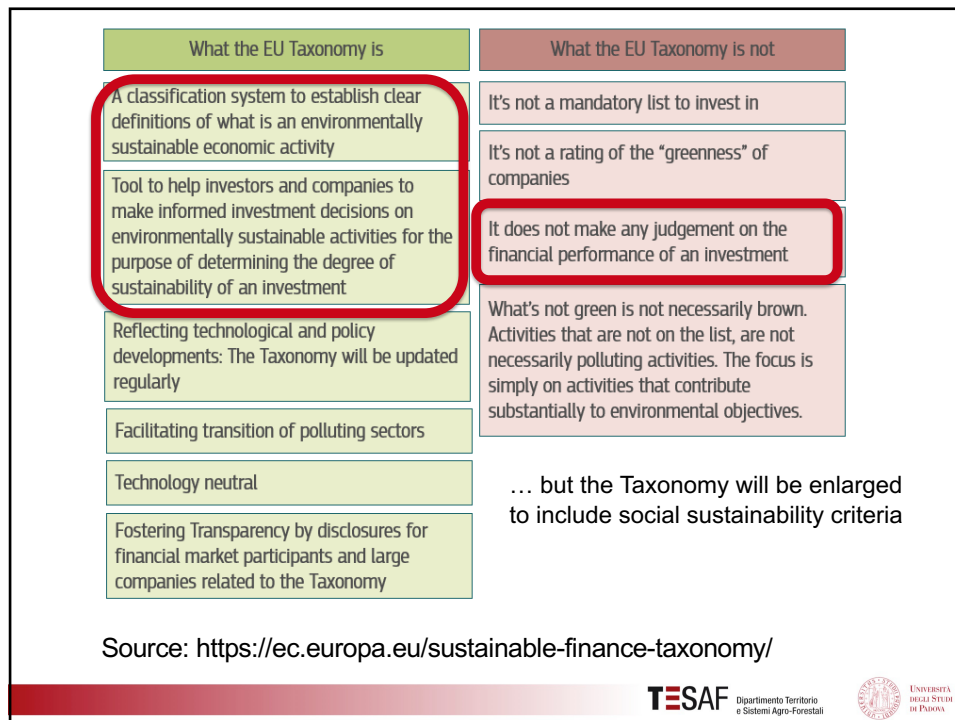
Publication date	Relevant policy/legislation	Description
March 2018	Action Plan on Financing Sustainable Growth (EU 2018) (COM/2018/097)	Includes ten reforms in three areas: 1) reorient capital flows towards sustainable investments, 2) mainstreaming sustainability into risk management, 3) foster transparency and long-termism in financial and economic activity.
December 2019	Sustainable Finance Disclosure Regulation (SFDR) (EU 2019) (2019/2088)	Outlines disclosure requirements to enhance transparency in sustainable investment markets; additional Regulatory Technical Standards (RTS) specify the content, methodology and presentation of the information to be disclosed.
June 2020	Taxonomy Regulation (EU 2020a) (2020/852)	Presents overarching regulation to establish the taxonomy objectives, the roles and responsibilities within the development process.
July 2021	Strategy for Financing the Transition to a Sustainable Economy (EU 2021a) (COM/2021/390)	Builds on and refines measures proposed in the 2018 Action Plan and includes transition finance activities in an enlarged taxonomy.
December 2021	Commission Delegated Regulation supplementing Article 8 of the Taxonomy Regulation (EU 2021b) (2021/2178)	Specifies the content and presentation of disclosure required in accordance with the Article 8 of the Taxonomy Regulation.
December 2021	First Delegated Act on sustainable activities for climate change adaptation and mitigation (EU 2021c) (2021/2139)	Includes TS and DNSH for the first two TR objectives; see both Annexes: climate change mitigation (Annex I) and climate change adaptation (Annex II).
December 2022	Corporate Sustainability Reporting Directive (CSRD) (EU 2022) (2022/2464) Including European Sustainability Reporting Standards (ESRS)	Strengthens reporting requirements on social and environmental information that companies have to report and revises the requirements of the Non-Financial Reporting Directive (NFRD). With the publication of the EDA in June 2023, the EU COM has provided new reporting standards under the CSRD called the European Sustainability Reporting Standards (ESRS) that further elaborate disclosure requirements.
June 2023	Environmental Delegated Act Regulation covering four environmental objectives (EU 2023) (2023/3851)	Includes TS and DNSH for the remaining four TR objectives; the forestry criteria have been excluded from objective 6 (protection and restoration of biodiversity and ecosystems).

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Greening finance: the 3 pillars of EU action



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The EU Taxonomy

The Taxonomy aims to create **a common set of indicators** to classify sustainable economic activities.










The Regulation establishes **6 environmental objectives**:

1. climate change mitigation,
2. adaptation to climate change,
3. sustainable use and protection of water and marine resources,
4. transition to a circular economy,
5. pollution prevention and control,
6. protection and restoration of biodiversity and ecosystems.

The Regulation **does not specify these criteria**: the indicators were subsequently defined by the climate and environmental delegated acts.

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3 out of 6 criteria are significant for all forest investments

EU Taxonomy regulation	
Chapter 1 Climate Delegated Act	Chapter 2 Environmental Delegated Act
 1. Climate change mitigation 	 3. Sustainable use and protection of water and marine resources
 2. Climate change adaptation 	 4. Transition to a circular economy
<p>Forest-related activities have been included under climate change mitigation and adaptation criteria, but they have been excluded from biodiversity protection and restoration criteria.</p>	 5. Pollution prevention and control
	 6. Protection and restoration of biodiversity and ecosystems 

Source: EU Taxonomy Navigator

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Types of forest investments according to the Taxonomy

Forest investments have been classified into 4 categories (EU Taxonomy compass):

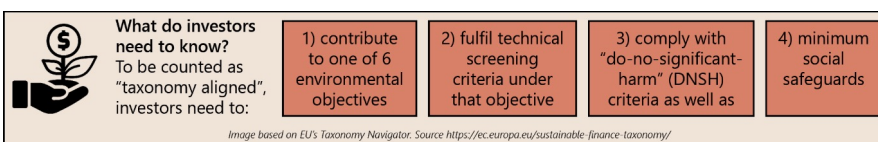
- 1. Afforestation**
- 2. Forest restoration**, including reforestation and natural regeneration of forests after an extreme event
- 3. Forest management**
- 4. Conservation forestry**

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The procedures for implementing the Taxonomy technical standards

- The EC (**DG FISMA**), with the support of an advisory body, has decided to develop indicators related to the 6 objectives for **13 economic activities**, including forestry investments
 - A **Technical Expert Group (TEG)** was established consisting of 35 experts who worked with different consultation tables
- A **consensus** on specific criteria and indicators related to forestry **was not reached**

What obligations must a (forest) investment undergo to be sustainable?



- 1) & 2) Contribute substantially to **at least one of the 6 objectives** by complying with the indicators defined in the delegated acts
- 3) Comply with the general **Do Not Significant Harm (DNSH) criteria for the other 5 objectives**
- 4) Comply with minimum criteria of **social protection** (not yet defined)

DNHS for forestry investments

(source: Climate Delegated Act)

Detailed information for maintaining, and possibly enhancing, biodiversity:

ensuring the good **conservation** status of **habitat and species**, maintenance of typical habitat species;

a) **excluding** the use or release of **invasive alien species**;

b) **excluding the use of non-native species** unless it can be demonstrated that:

- i) the use of the forest reproductive material leads to favourable and appropriate ecosystem condition (such as climate, soil criteria, and vegetation zone, forest fire resilience);
- ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions;

c) ensuring the maintenance and improvement of physical, chemical and biological **quality of the soil**;

d) promoting biodiversity-friendly practices that **enhance forests' natural processes**;

e) **excluding the conversion of high-biodiverse ecosystems** into less biodiverse ones;

f) ensuring the **diversity of associated habitats and species** linked to the forest;

g) ensuring the diversity of stand structures and **maintenance or enhancing of mature stage stands and dead wood**.

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To support the effort by the EC in defining specific criteria and indicators for the biodiversity protection and restoration in forestry sector (2024)

Source:
<https://doi.org/10.36333/fs16>



Sustainable finance and forest biodiversity criteria
 Scoping for an EU Taxonomy

• • • From Science to Policy 16

Gert-Jan Nabuurs, Anna Begemann, Stefanie Linser, Yoan Paillet, Davide Pettenella, Sophus zu Ermgassen

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Main proposals of the report

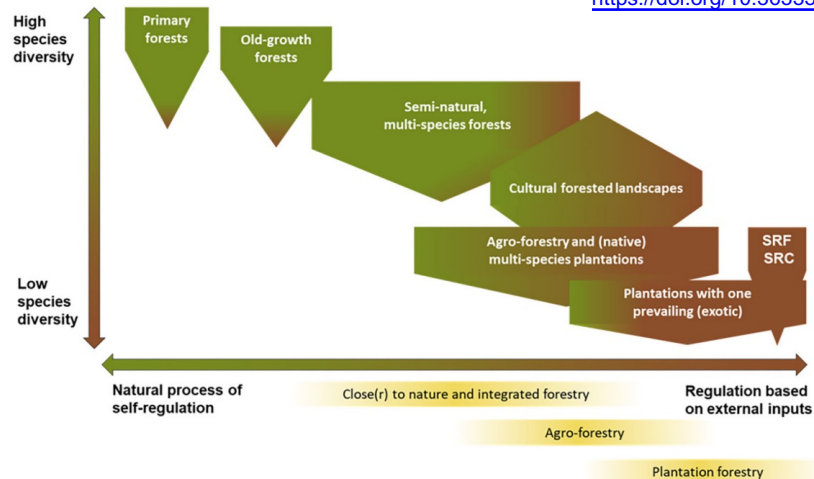
- One size-fits-all global approach should be avoided to define thresholds

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Indicative levels of species diversity in relation to types of forest management

Source:

<https://doi.org/10.36333/fs16>



SRF-SRC: Short Rotation Forestry-Coppices; GMO: Genetically Modified Organism; NBT: New Breeding Techniques

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Main proposal of the report

- One size-fits-all global approach should be avoided to define thresholds
- A **biogeographical-specific approach** should be used
- **Too ambitious targets and thresholds** may lead to a selective flow of investments only and **will discourage potential investors**
- **Avoid dual approach** (for investments in renewable energy and agriculture, much less stringent and selective have been selected)
- **Do not exclude** from sustainable finance the “**early comers**”
- Other **integrative policies** are needed: disincentivise financing deforestation and forest degradation.

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Indicators (at landscape level and at stand level) are structured according to the EU Taxonomy Compass (4 types of investments)

For example, afforestation

Source:
<https://doi.org/10.36333/fs16>

Indicators for afforestation investments

Indicator & measurement units	Monitoring options	Biodiversity-friendly direction	Links and alignments to international strategies, laws, goals, targets, indicators.
Forest area [ha]	Administrative documentation, part of management plan or remote sensing.	Maintain or enhance the forest area of forest holdings. Forest area is a basic indicator; on its own it does not indicate a state of biodiversity.	EU Forest Strat. for 2030, UNSPF target 11, SDG target 15.2, CGS Ind. 2, Forest Europe Ind. 11, EU Reg on deforestation-free products, Indicator proposed by the EU Framework for Forest Monitoring.
Forest area by forest type [ha]	Forest types (conifer, broadleaved, mixed) or the EEA forest types, according to management plan inventory, or remote sensing.	Maintain or enhance the forest area per forest type, preferably in direction of forest types with high biodiversity values.	Part of Forest Europe Ind. 11, Indicator proposed by the EU Framework for Forest Monitoring.
Regeneration type (natural, seeded, planted, coppice) incl. share of site-resilient regeneration (better adapted to climate change) [%]	Management plan inventory.	Preference for natural regeneration but facing climate change, seeding and planting more site-adapted tree species is possible.	Part of Forest Europe Ind. 4.2, Proposal for a Regulation of the EP & Council on Nature Restoration. Climate Delegated Act 6: promoting biodiversity-friendly practices that enhance forests' natural processes.
Diversity or regenerated tree species (Forest area with 1, 2-3, 4-5, ≥6 young tree species occurring (below 5m height) [ha], and diversity of tree species in main stand [%])	Management plan inventories, to some degree by remote sensing.	Maintain a high level of species diversity or increase species diversity to a higher level.	Part of Forest Europe Ind. 4.2 Proposal for a Regulation of the EP & Council on Nature Restoration. Act 6e: promoting biodiversity-friendly practices that enhance forests' natural processes; and 6g: ensuring the diversity of associated habitats and species linked to the forest. DNSH criteria 'promote biodiversity friendly practices'.

A set of 26 quantitative indicators

[illegible]

Source:
<https://doi.org/10.36333/fs16>

(seg.) A set of 26 quantitative indicators

[illegible]

Source:

<https://doi.org/10.36333/fs16>

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An European Forest Institute report (2022) defining concept, a providing a checklist for flexible European-wide implementation and 7 guiding principles:

1. Retention of habitat trees, special habitats, and dead wood
2. Promoting native tree species as well as site adapted non-native species
3. Promoting natural tree regeneration
4. Partial harvests and promotion of stand structural heterogeneity
5. Promoting tree species mixtures and genetic diversity
6. Avoidance of intensive management operations
7. Supporting landscape heterogeneity and functioning

Source: <https://efi.int/publications-bank/closer-nature-forest-management>

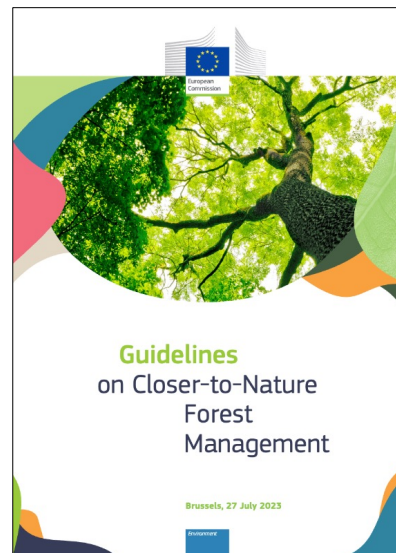
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EC Guidelines on Closer-to-Nature forest management (2023)

Implementing a decision of the EU Forest Strategy for 2030 and the EU biodiversity strategy, the Commission (DG ENV) developed some Guidelines on Closer-to-Nature (CTN) forest management.



Source: European Commission: Directorate-General for Environment, Guidelines on closer-to-nature forest management, Publications Office of the European Union, 2023, <https://data.europa.eu/doi/10.2779/731018>

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The CTN Guidelines aim «to promote biodiversity-friendly and adaptive forest management» and to «showcase the benefits of these practices for forest multifunctionality and climate change resilience without neglecting socioeconomic benefits»

A regional approach

Potential Next Steps for Implementation


Drawing on the key findings of the five main chapters of the report, three potential pathways have been identified for the establishment of CNF-aligned certification in the EU:

- 1. Collaboration with existing schemes (FSC, PEFC, or Ekoskog) to align their international benchmarks and national standards with CNF principles.** This leverages existing infrastructure and market recognition but may result in compromises.
- 2. Establishing a new EU-level voluntary scheme directly linked to CNF guidelines.** This provides the European Commission with full quality control over the standard's development, but faces challenges in market uptake, requiring substantial investment.
- 3. Creating an EU standard for certifying existing certification schemes as CNF-aligned.** This combines the advantages of working with existing schemes while maintaining control over the ultimate ambition of the standards.




International

Certified area: 297




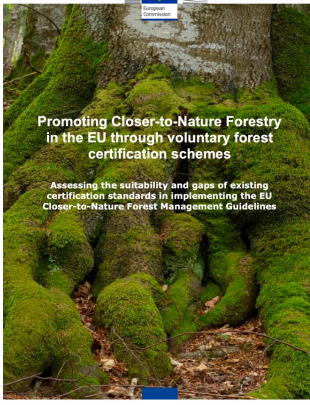
Only in Sweden

Certified area: 161 Mha



Only in Sweden

Certified area: n.a.

Promoting Closer-to-Nature Forestry in the EU through voluntary forest certification schemes

Assessing the suitability and gaps of existing certification standards in implementing the EU Closer-to-Nature Forest Management Guidelines

Sources: Geraci M. et al., 2025. Promoting closed-to-nature forestry in EU through voluntary forest certification schemes. Publication Office of the European Union. Luxembourg
<https://www.pefc.org> ; <https://www.fsc.org> ; <https://www.ekoskog.org>

**Question for written answer E-000610/2025
to the Commission**

Rule 144

Christine Schneider (PPE), Angelika Winzig (PPE), Alexander Bernhuber (PPE)

Subject: Closer-to-nature forestry initiative and the planned EU certification framework

The aim of the Commission's closer-to-nature forestry initiative is to promote sustainable forest management; but it could have far-reaching consequences because of linking in with an EU-wide certification framework. Critics see in this approach **a possible circumvention of national competences in the forestry sector** plus creeping centralisation. The planned **certification framework might also weaken** established standards such as PEFC and FSC, create additional bureaucratic burdens for businesses and make access to funding more difficult.

1. What are the Commission's objectives with regard to the planned certification framework, and how will it be ensured that the **subsidiarity principle** is observed?
2. What institutions or organisations are to carry out certification, and how will incorporation of existing voluntary standards such as PEFC and FSC be ensured?
3. Does the Commission plan to link certification in with EU funding programmes, and how will it be ensured that that does not involve an additional burden for forest holdings?

Submitted: 11.2.2025

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Parallel initiative (1)



Brussels, 27.7.2023
SWD(2023) 285 final

COMMISSION STAFF WORKING DOCUMENT

Guidance on the Development of Public and Private Payment Schemes for Forest Ecosystem Services

**No reference to the EU
Taxonomy or to CTN
Guidelines**

Source:

https://agriculture.ec.europa.eu/system/files/2023-07/guidance-dev-public-private-payment-schemes-forest_en.pdf

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Parallel initiative (2)

RED (Renewable Energy Directive) **standards for the certification of wood biomass** for energy of sustainable origins already approved by the EC


Source:

https://energy.ec.europa.eu/topics/renewable-energy/bioenergy/voluntary-schemes_en

Austrian Agricultural Certification Scheme (AACS)
Better Biomass
Biomass Biofuels voluntary scheme (ZBSvs)
Bonsucro EU
Certify
International Sustainability and Carbon Certification (ISCC EU)
KZR INIG system
Programme for the Endorsement of Forest Certification (PEFC)
REDcert
Red Tractor Farm Assurance Combinable Crops & Sugar Beet Scheme (Red Tractor)
Round Table on Responsible Soy EU RED (RTRS EU RED)
Roundtable on Sustainable Biomaterials (RSB)
Scottish Quality Farm Assured Combinable Crops (SQC)
Sustainable Biomass Program (SBP)
Sustainable Resources (SURE) voluntary scheme
Trade Assurance Scheme for Combinable Crops (TASCC)
Universal Feed Assurance Scheme (UFAS)

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Parallel initiative (3) The Carbon Removal and Carbon Farming (CRCF) Regulation

	Official Journal of the European Union	EN L series
	2024/3012	6.12.2024
REGULATION (EU) 2024/3012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL		
of 27 November 2024		
establishing a Union certification framework for permanent carbon removals, carbon farming and carbon storage in products		

A key issue in the ongoing discussion on setting standards is that of **co-benefits**: how to reconcile carbon sequestration with the provision of other ecosystem services.

Next BIOFIN virtual meeting introduced
by Nicola Andrighetto

Source: https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en

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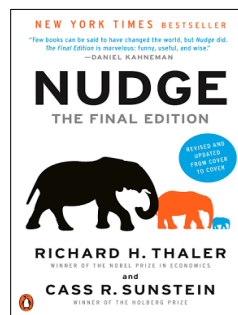


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Final remarks

- **Sustainable finance in the forestry sector: a growing sector** due to a push that comes from public institutions, but also due to a spontaneous development of the market
- A growth in 2 directions: **more production for** the development of **bioeconomy** (decarbonization: bioenergy, bioplastic, biotextiles and in general new bio-chemicals) and **more protection of biodiversity** (the «30 x 30» Kunming-Montreal Global Biodiversity Framework, EU Biodiversity Strategy, EU NRL)
- Many **parallel EC initiatives**, not always coordinated and coherent
- **Sustainable forest management standards**: a serious risk of crowding out civil society initiatives (supported also by state and local authorities) such as FSC and PEFC: **subsidiarity**?

Sustainable forest finance: an approach consistent with the principles of "Nudges economics"?



Maybe, having so many elephants, they should be better organized!

