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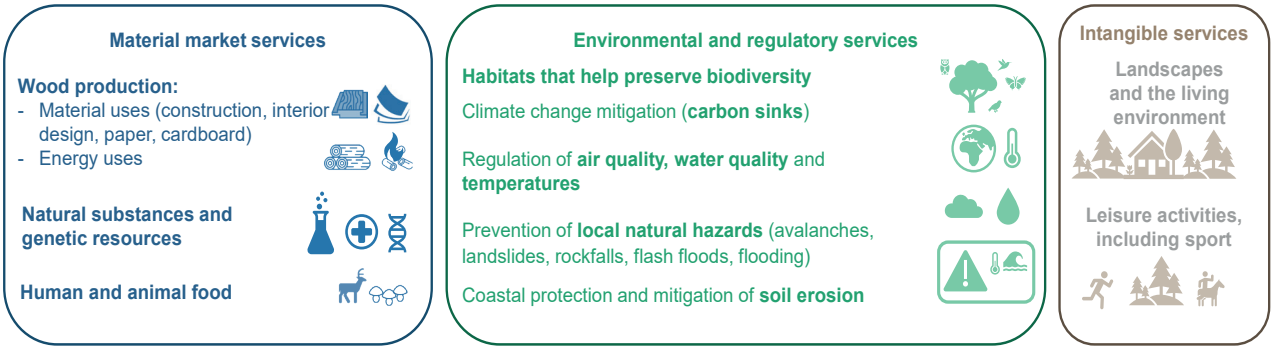
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Forests and the Wood Sector: Key Pillars of the Green Transition and Economic Resilience

Félix Bastit, Alice Grémillet and Etienne Pasteau

- French forests, which have been steadily expanding in terms of surface area since the 19th century, and the associated wood sector are strategic assets for the French economy. Although their contribution to value-added, linked to wood and energy production, is modest (0.6% of GDP in 2023), forests provide essential services for tourism and recreational activities, the preservation of biodiversity, and the regulation of numerous environmental processes. In particular, carbon storage by forest ecosystems and the development of wood-based alternatives as substitutes for fossil fuels and materials play a crucial role in achieving climate neutrality.
- These functions are coming under increasing threat. Natural and human-induced pressures, exacerbated by climate change, are damaging the health of French forests, threatening the services they provide. The fragmentation of privately-owned forests holds back their sustainable management and the utilisation of wood resources. Finally, the French wood processing industry is less competitive than its international counterparts, contributing to a trade deficit of €7.2 billion for wood products in 2025.
- In light of these challenges, public policies aim to balance the conservation of forest ecosystems, climate change mitigation and adaptation, and the economic development of the sector. Measures promoting sustainable management, forest renewal and the resilience of forest stands should allow for the increased use of wood to support the decarbonisation of the economy, whilst preserving biodiversity and the other functions of forests. Incentives for the development of long-lasting wood products, particularly in construction, also help to maintain carbon sinks through the carbon stored in these products. evelopment in wood processing technologies is critical to increasing the value-added of wood products.

An overview of the services forest ecosystems provide to the French economy



Source: DG Trésor.

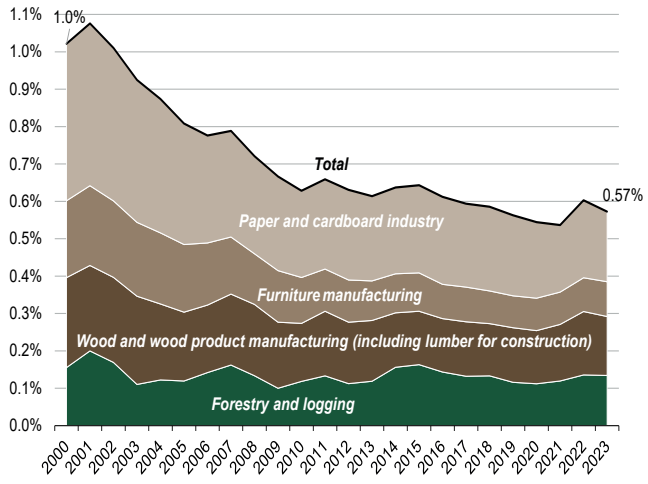
1. French forest ecosystems provide services with high socio-economic value

1.1 The forestry and wood sector provides market services, including wood and energy production

French forests now cover a third of the country's territory (17.6 million hectares).[1] Their surface area has been growing steadily since the mid-19th century, with an increase of 9% between 2010 and 2024, driven by agricultural decline and reforestation policies.

Forest ecosystems provide material supply services. They produce wood as well as food resources, and natural substances and genetic resources that are useful for the pharmaceutical, chemical and cosmetics industries. In France, the production of "lumber", used in particular for construction, renovation and furniture, accounts for the bulk of the value created by the sector. Processing residues and lower-quality wood are used as "industrial wood" (panels, paper, cardboard) and "fuelwood" (for heat production in the residential sector, district heating and industry). France's forest resources, which consist predominantly of hardwood species (broadleaved trees,two-thirds of the total area), are currently used less for certain material applications compared with softwood (conifers) softwood, which is particularly sought after in construction. In total, the forestry, wood, paper and furniture sector's contribution to GDP stood at 0.6%[2] (€16.5 billion) in 2023 (see Chart 1), having fallen sharply between 2000 and 2010 and having remained virtually stable since then.

Chart 1: Value-added by the forestry, wood, paper and furniture sector in France, as a percentage of GDP (2000-2023)



Source: Observatoire de la forêt française, March 2026, "Formation de la valeur ajoutée du secteur forêt-bois-papier-ameublement", based on INSEE National Accounts.

How to read this Chart: Following a sharp decline between 2000 and 2010, the sector's contribution to GDP, which fell from 1.0% of GDP to 0.6% in 2010, has stabilised.

1.2 French forests provide intangible services that are essential to the French economy

Forests help regulate numerous environmental processes with no market value. They help improve air quality (by acting as windbreaks and filtering out particles and pollutants),[3] as well as ensuring the availability and quality of water resources (through their water-purifying capacity and their role in the water cycle, particularly via infiltration and storage). They also regulate temperatures (cooling effect) and mitigate some natural hazards (avalanches, landslides, rockfalls, and the reduction of flood peaks and volumes), limit soil erosion and protect the coastline by stabilising sand dunes.[4] For example, the socio-economic value of the flood regulation services provided by forests is estimated at €1.2 billion per year.[5] They provide habitats for a wide variety of living species, particularly through dead wood, which is home to nearly a quarter of forest biodiversity. Preserving this biodiversity is essential for maintaining all forest services, as it makes them more resilient to disruptions.

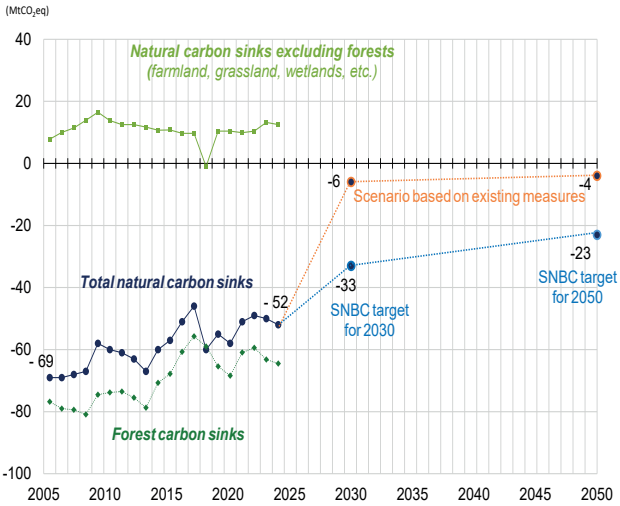
Forests are part of France's biological and cultural heritage and help to improve the quality of life of the French people and recreational activities. Some of

(1) The National Institute of Geographic and Forest Information (IGN) (2025), "Inventaire forestier 2025" (in French only).
(2) French Forest Observatory (2026), "Formation de la valeur ajoutée du secteur forêt-bois-papier-ameublement" (in French only). Field: mainland France (including Corsica).
(3) L. Baratgin, A. Eupherte and N. Taconet (2026), "Beyond Health Impacts: the Heavy Economic Toll of Air" *Trésor-Éco*, no. 380.
(4) Sustainable Development Agency (CGDD) (2018), "Les écosystèmes forestiers", Évaluation française des écosystèmes et des services écosystémiques (in French only).
(5) Council of Economic Analysis (CAE) (2025), "Compléter les comptes nationaux pour que l'arbre ne cache plus la forêt", *Les notes du CAE*, No. 86 (in French only).

these intangible services are monetised, primarily through tourism. For example, the value of recreational activities linked to French forests is estimated at between €3.5 and €45 billion per year,[6] depending on the methodology used.

Forest ecosystems play a part in mitigating climate change: they account for a significant proportion of France's natural carbon sinks through the annual net CO_2 storage in soils and biomass. The value of these services is estimated at €2.7 billion per year.[7] Given the decline in forest health and the rise in the number of fires (Section 2.1), these sinks have been declining sharply since 2005 (see Chart 2), a trend that the third National Low-Carbon Strategy (SNBC 3) aims to put a stop to.

Chart 2: Changes in natural carbon sinks in France (2005-2024), and SNBC 3 targets for 2030 and 2050



Sources: DG Trésor, based on SNBC 3, and Citepa data (2026) Rapport Secten (in French only).

How to read this Chart: Natural carbon sinks fell from –69 $MtCO_2eq$ in 2005 to –52 $MtCO_2eq$ in 2024. A negative value indicates net carbon storage; a positive value indicates carbon release.

2. The forestry and wood sector is under pressure across all the services it provides

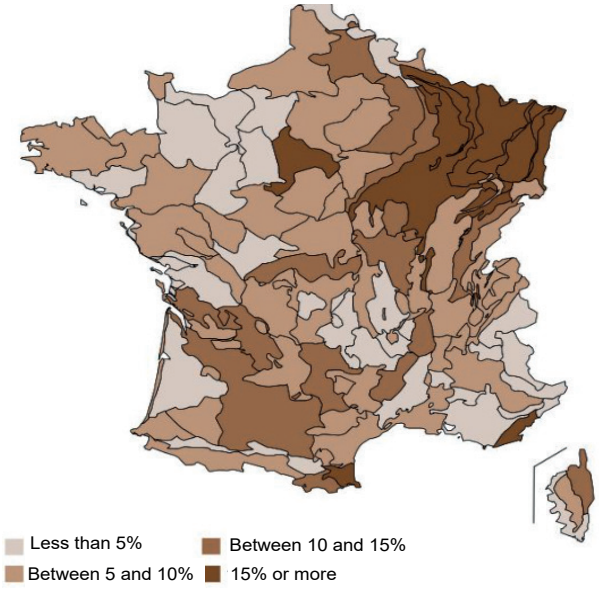
2.1 The health of French forest ecosystems is deteriorating, putting associated ecosystem services at risk

Climate change is damaging forests and the ecosystem services they provide. The average annual mortality rate has more than doubled in ten years,[8] and 8% of trees in French forests showed signs of deterioration over 2021-2024 (see Figure 1). This severe deterioration is largely due to the increased frequency and intensity of climate-related, human-induced and health-related hazards (droughts, storms, fires and pathogens). More than 137,900 hectares of forest were burnt in France in 2022-2025, representing a 51% increase compared with 2018-2021 and a 262% increase compared with 2014-2017.[9] The summer of 2026 saw burning on an unprecedented scale, with 96,000 hectares burnt by mid-August.[10] The growth in the population of large ungulates (stags, deer and wild boar) is also putting pressure on young trees, 15% of which show signs of damage.[11] The vulnerability of the forest stands is exacerbated by certain silvicultural practices (dense forest stands or monoculture)[12] and, in some cases, by a lack of forest management.

This degradation reduces the services provided by forests, such as wood production.[13]

(6) *Ibid.*
(7) *Ibid.*
(8) IGN (2025), op. cit.
(9) DG Trésor calculations, based on EFFIS Annual Statistics for France.
(10) EFFIS Annual Statistics for France.
(11) IGN (2025), op. cit.
(12) Areas comprising fewer than two species account for 10^ of the total. IGN (2025), op. cit.
(13) IGN (2025), op. cit. Tree growth fell from 5.8 m³/ha/year between 2005 and 2013 to 5.3 m³/ha/year between 2015 and 2023.

Figure 1: Percentage of damaged forest trees in France in 2021-2024



Source: IGN (2025), "Inventaire forestier 2025", Mémento (in French only).

How to read this Chart: Between 2021 and 2024, the percentage of damaged forest trees varied by region, ranging from less than 5% in Les Landes to more than 15% in Lorraine, in line with the bark beetle crisis. Damage is characterised by the presence of dead branches and a lack of needles or branches.

2.2 The fragmentation of privately-owned forests complicates the widespread adoption of sustainable management

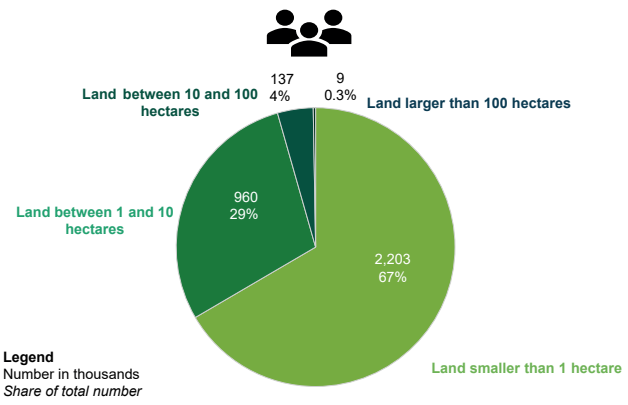
Public forests account for 25% of France's total forest area.[14] They are divided between national forests, which are government-owned (9%), and forests owned by local authorities (16%). They are mainly managed by the National Forestry Commission (ONF), which is responsible for balancing wood production, ecosystem conservation and public access.

Private forests – which account for 75% of France's forested area – are characterised by a high degree of fragmentation: two-thirds of private forest owners hold areas smaller than 1 hectare (see Chart 3).[15] Apart from large commercial forests, many forest holdings are under-utilised or even lack active management. Wood harvests from private estates larger than 100 hectares are twice as high as those from estates smaller than 100 hectares.[16]

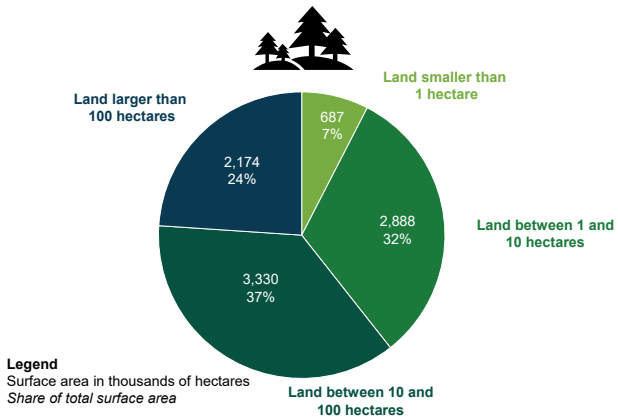
Sustainable forest management ensures a steady supply of wood whilst preserving biodiversity by safeguarding habitats, species and ecological balance, in line with the National Biodiversity Strategy 2030.[17] This also helps to improve forests' adaptation to climate change through the resilient management of forest stands.[18]

Chart 3: Private forest ownership structure in France in 2021

3.a By number of private forest owners



3.b By forest surface area



Source: DG Trésor calculations, based on CNPF (2021), "Chiffres clés de la forêt privée française" (in French only).

How to read these Charts: In 2021, 67% of private forest owners in France held areas smaller than 1 hectare, accounting for 7% of the total surface area of private forests.

(14) IGN (2025), op. cit.
(15) CNPF (2021), "Chiffres clés de la forêt privée française" (in French only).
(16) IGF, CGAAER, IGEDD (2024), "Mise en gestion durable de la forêt française privée" (in French only).
(17) French government (2024), "Stratégie nationale biodiversité" (in French only).
(18) In line with the third National Climate Change Adaptation Plan (PNACC): French government (2025), "PNACC 3" (in French only).

Only 27% of private forests are covered by a sustainable management plan,[19] which is largely due to the limited short-term financial profitability of forestry. Investments are made over very long-term timeframes and are subject to significant uncertainties, particularly regarding fluctuations in wood prices and natural hazards.[20] The fragmentation of private forests limits the creation of forest units large enough to be managed profitably, resulting in proportionally high fixed costs for drawing up sustainable management plans or carrying out the necessary work. Logging conditions can also be difficult due to the characteristics of the terrain (hills and lack of access tracks).

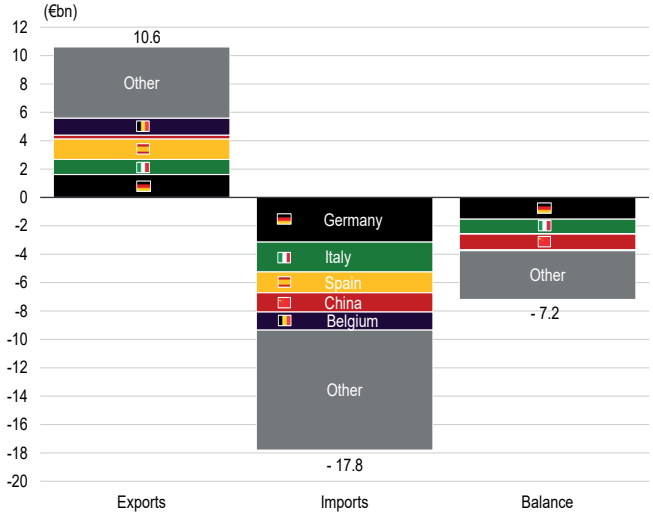
2.3 Downstream, the trade balance is in deficit, reflecting the low average competitiveness of the national production base by international standards

France's trade deficit for wood products, which stood at €6.0 billion in 2016,[21] peaked at €9.5 billion in 2022,[22] against a backdrop of rising prices for wood products and energy. Although it has declined since 2023, it remained at a high level of €7.2 billion[23] in 2025, representing 10.4% of the national trade deficit,[24] and is worsening for wood used for energy production (see Section 3.2). France is only a net exporter of unprocessed wood (Chart 4.b, surplus of €254 million), particularly softwood to Italy and Germany, but imports large quantities of processed products (deficit of €7.4 billion), notably furniture from Italy, China and Germany, and pulp and paper from the Nordic countries.

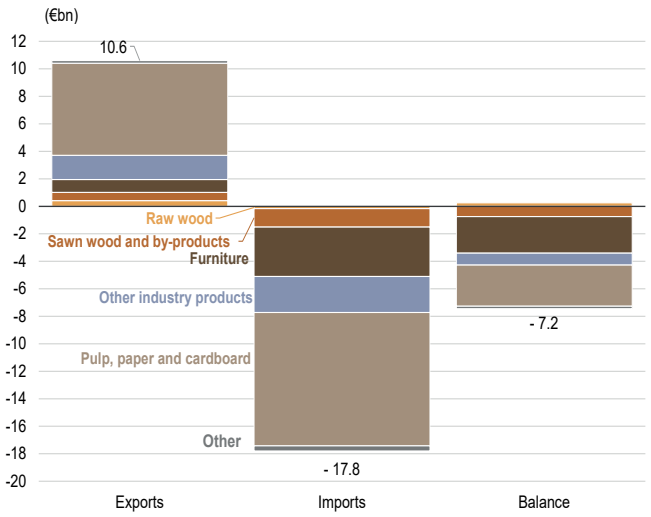
Leading European countries have optimised their value chains by specialising in specific segments.[25] For example, Germany specialises in sawn wood and panels. It is Europe's leading exporter, largely due to vertical integration (from the forest to the industry). Although its forest area is 35% smaller than that of France, it processes 2.5 times as much wood, as a result of the modernisation of its sawmills and its specialisation in the export of sawn wood, panels and paper, enabling it to generate a trade surplus. Finland and Sweden are world leaders in paper pulp and cardboard, with automated factories and efficient logistics.

Chart 4: France's 2025 trade balance for the wood sector

4.a By main trading partners



4.b By products



Source: DG Trésor caluclations, based on Agreste (2026), "Commerce extérieur de bois et dérivés en 2025" (in French only).

How to read these Charts: Imports of wood and wood products totalled –€17.8 billion in France in 2025, of which –€3.1 billion came from Germany.

(19) The simplified management plan, which is compulsory for forests covering more than 20 hectares, provides a plan for the work to be carried out over at least ten years (choice of tree species, regeneration, thinning, felling), in accordance with the guidelines set out in regional forestry management plans.
(20) H. Rakotoarison and P. Loisel (2017), "The Faustmann model under storm risk and price uncertainty: A case study of European beech in Northwestern France", *Forest Policy and Economics.*
(21) Agreste (2018), "Bois et dérivés. Le déficit de la filière bois se creuse en 2017" (in French only).
(22) Agreste (2023), "Le déficit extérieur des bois se creuse en 2022" (in French only).
(23) Agreste (2026), "Commerce extérieur de bois et dérivés en 2025" (in French only).
(24) Directorate General of Customs and Excise (DGDDI) (2026), "Résultats du commerce extérieur de la France pour le mois de décembre et pour l'année 2025" (in French only).
(25) European Commission (2021), "New EU Forest Strategy for 2030".

3. Complementary public policies are being rolled out to combine the objectives of the forestry and wood sector whilst safeguarding its economic value

3.1 Economic instruments are being used to preserve ecosystem services and maintain forest carbon sinks

Several public policy instruments are designed to encourage sustainable management. Firstly, simple management plans – which are compulsory for areas larger than 20 ha – include an environmental assessment. Secondly, two tax arrangements designed to encourage investment in forestry are conditional upon the implementation of sustainable management measures. On the one hand, investments by private individuals in forests (acquisitions, works, insurance) entitle them to an income tax credit (the tax incentive scheme for investment in forests) – with an estimated cost to the public purse of €22 million in 2025. On the other hand, certain forest assets benefit from partial exemptions from duty on transfers without valuable consideration for inheritance and gifts (€50 million in 2025), and property wealth tax (€49 million in 2025). Finally, the French government funds the work of the ONF (*Office National des Forêts*), the French national forest management body, and the National Centre for Forestry Property, which is responsible for supporting private forest owners to promote sustainable forest management.

Public funding is provided to help forests adapt to climate change and improve the resilience of the forest carbon sinks. Between 2021 and 2025, the French government allocated €410 million in grants for forest regeneration, enabling the regeneration of approximately 90,000 ha. With regard to protecting forests against fires,[26] the French government funds management measures, prevention and monitoring initiatives for forest areas (€23 million in 2025), support for local authorities (€15 million committed via the national Green Fund in 2025) and support for public interest missions carried out by the ONF (€25 million in 2025). In addition, the French government funds civil protection resources to enable intervention in the event of fires, and budgetary allocations for these have risen sharply in recent years. Local authorities, which provide the bulk of the funding for *département* fire and rescue services, also receive support from the French government, particularly to modernise their equipment.

In addition, carbon credits help attract private funding for projects that support forests as carbon sinks.[27] Managed by the French government, the low-carbon certification scheme (*Label bas-carbone*), for example, certified reforestation projects covering 11,700 ha in France between 2019 and 2025, representing potential carbon removals of 2.5 million tonnes of CO_2 equivalent, whilst mobilising approximately €78 million in funding, largely from private sector stakeholders. At European level, the Carbon Removals and Carbon Farming Regulation (CRCF), adopted in 2024, is gradually establishing quality standards for carbon credits, including tree planting.

3.2 The National Low-Carbon Strategy (SNBC 3) provides for increased use of wood resources for decarbonisation, whilst preserving carbon sinks

The SNBC 3 calls for an increase in wood harvesting,[28] with a view to enhancing carbon storage in wood products (Section 3.3) and substituting wood for carbon-based energy sources and materials. Between 2019 and 2030, national production of solid biomass for energy purposes is projected to rise by 5%, whilst its consumption is expected to increase by 11%. This increase would be offset by the preservation of the carbon sink, through the protection of forests against the increased risk of wildfires, the regeneration and adaptation of 10% of France's forests by 2032, and the expansion of afforestation outside existing forest areas.

However, the national and European supply of wood remains limited by land-use constraints and the age structure of forests. The SNBC forecasts a moderate increase in national production, mainly by using wood from private forests, in order to preserve ecosystems and thereby ensure long-term production and carbon storage in forests. The scope for imports from the EU

(26) In June 2025, the French government published the National strategy for forest and non-forested area fire protection, following the Act of 10 July 2023 on the prevention and control of fire risk.
(27) E. Pasteau, N. Krakovitch and A. Hebert (2025), "The Role of Carbon Credits in Financing Global Climate Goals", *Trésor-Economics*, No. 375
(28) The SNBC 3 (in French only) forecasts an increase in wood harvests from 52 to 60 mm³ per year between 2024 and 2030.

is limited: France already accounts for a significant share of European supply, and other Member States are also using their biomass for decarbonisation and to maintain their carbon sinks. Finally, increased reliance on imports – which are already on the rise for fuelwood, particularly wood pellets, the majority of which are imported from non-EU countries[29] (see Chart 5) – could increase the risk of deforestation outside the EU, which goes against the intended climate objective.[30]

For these reasons, and with a view to achieving energy independence, the third Multiyear Energy Plan (PPE3) sets a target for a national balance between biomass resources and uses. It establishes a hierarchy of uses for biomass, including wood. Non-energy uses, such as material applications and carbon sinks, are given priority, followed by certain energy uses (high-temperature industrial heat, energy consumption within the forestry and wood sector). Other energy uses should be limited (electricity generation from wood, inefficient heating in the residential and commercial sectors).[31]

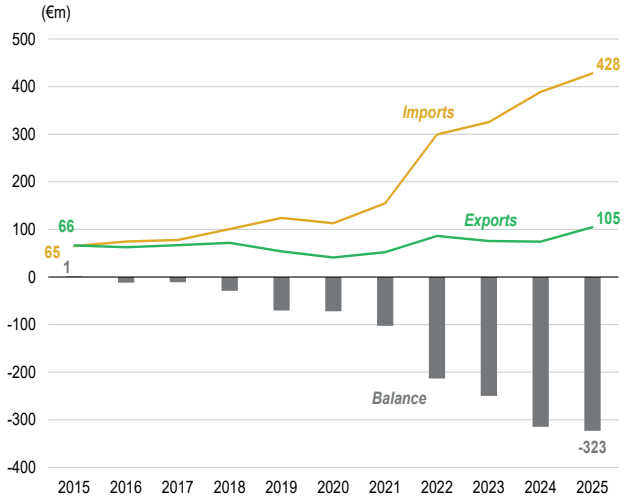
3.3 The SNBC 3 also promotes the use of wood as a building material, particularly wood with a long service life, especially in the construction sector

Long-life wood applications (construction, furniture, panels) contribute more significantly to climate change mitigation by combining their use as a substitute for materials that generate higher emissions with the long-term carbon storage in the wood.[32] They are given priority in the hierarchy of biomass uses, as defined in the third Multiyear Energy Plan PPE3.

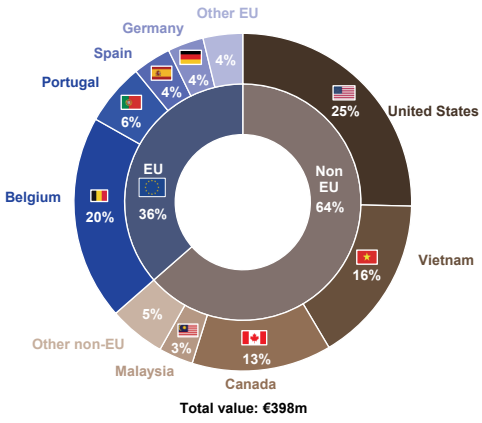
The RE2020[33] environmental regulations, which set out the energy and environmental performance requirements for new buildings, encourage the use of bio-based materials, including wood. The CO_2 emission limits across the building's entire life cycle promote carbon storage in these products. Initiatives to share knowledge, raise awareness and provide training for stakeholders in the sector also help to remove barriers to its adoption, particularly regarding wood's resistance to fire.

Chart 5: Commercial aspects of the fuelwood sector in France

5.a Imports and exports of fuelwood in France (2015-2025)



5.b Main countries of origin for wood pellet imports into France in 2025



Sources: DG Trésor calculations, based on SDES (2026), "Bilan énergétique de la France en 2025, données provisoires" [6.A] and Eurostat, online, "EU Trade since 1988 by HS2-4-6 and CN8", Wood pellets (440131) [6.B].

How to read these Charts: Imports of fuelwood into France rose from €65 million in 2015 to €428 million in 2025 [6.A]. In 2025, 25% of the wood pellets imported into France came from the United States [6.B].

(29) I. Arto et al. (2022), "A new accounting framework for assessing forest footprint of nations", *Ecological Economics*.
(30) The EU regulation on imported deforestation, adopted in 2023, aims to ensure the sustainability of imported biomass.
(31) French government (2026), "Programmation pluriannuelle de l'énergie (2026-2035)" (in French only).
(32) N. Winchester and J. M. Reilly (2020), "The economic and emissions benefits of engineered wood products in a low-carbon future", *Energy Economics*.
(33) Décret n°2021-1004 du 29 juillet 2021 (in French only).

Developing and improving competitiveness in the wood-processing industries is also a key driver. To support these sectors, in 2024 and 2025, the "High-Performance Industrialisation of Wood Products" (*Industrialisation performante des produits en bois* – IPPB) call for projects, managed by the Environment and Energy Management Agency (ADEME), raised €125 million in government aid for 88 projects.

Finally, the European Commission has announced the development of a certification methodology for carbon storage in buildings, under the CRCF Regulation (Section 3.1), with a view to attracting further private funding through carbon credits.

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