

Forest-based Circular Bioeconomy and the EU Policy Environment

Koli Forum Round Table - September 28, 2022

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EU Forest Policy Environment 1979-2007

Birds Directive

Habitats Directive

Water Framework Directive

Environment Action Programmes 1-6

FLEGT Action Plan

Packaging Directive I

CAP and rural development until 2006 and 2007-2013

State Aide Rules in the Agricultural Sector 2007-2013

> **Forestry Strategy Forest Action Plan** 2007-2011

Regulation for the protection of forests against forest fires Regulation for the protection of forests against atmospheric pollution

RTD Framework Programmes 1-6

7th RTD Framework Programme 2007-2013 Plant Protection Directive

Plant Protection **Products Directive**

Forest Reproductive **Material Directive**

Forest Focus LIFE Programme

> Territorial Cooperation Interreg

Climate Change Framework Convention

(incl. Protocols)

Biodiversity Convention

Combat Desertification Convention

Aarhus Convention (access to information and justice on environment matters)

UN Millennium Development Goals

Intergovernmental Panel/Forum on Forests

UN Forum on Forests

WTO Agreements

Convention on Longrange Transboundary Air Pollution/ICP Forest FOREST EUROPE (incl. Resolutions)

Alpine Convention

Carpathian Convention

Bern Convention (wildlife and natural habitats)

Ramsar Convention (wetlands)

Source: CEPF, mod.

DG AGRI DG ENV DG RTD DG REGIO DG SANTE

International

EU Forest Policy Environment 2022
a complex puzzle of sectoral policies Climate Change in preparation Framework Convention (incl. Protocols) CAP Horizontal State Aid Transitional provisions for Paris Agreement European Green Deal -Rules the CAP post 2020 Regulation **Biodiversity Convention** Other Actions **CAP Strategic Plan Regulation** Public Blueprint Forest-based CEN sustainability criteria New European Bauhaus (incl. Protocols) Agricultural Research bio-based products **Procurement Industries Built Environment Strategy** Bonn Challenge Circular Economy Action Plan **AGRI** and Innovation Directive Masterplan Energy-**Guidance Cascading Use Combat Desertification** Long-term Vision for Updated Industrial intensive Industries of Biomass **Effort Sharing** Convention **Rural Areas** Strategy 2050-Vision **Regulation Review** 2030 Climate and Energy **Aarhus Convention** Farm to Fork Strategy **Civil Protection Mechanism** Framework **LULUCF** review **Effort Sharing** (access to information and justice Renewable Energy Directive II Regulation 2030 Climate New Forest 3 Billion Tree on environment matters) (sustainability criteria for biomass) **Target Plan** Strategy Planting Roadmap Reporting and Data **LULUCF** UN Agenda 2030/SDGs **RED II review** Regulation Climate Pact **UN Forum on Forests Energy Union ILUC Regulation New Strategy on Birds Directive** Climate Law **Guidelines** on **WTO Agreements** Governance Renovation Adaptation to Primary and Old-growth Forests **Habitat Directive Energy Performance** Convention on Long-Regulation **Wave Strategy** Climate Change Close-to-nature Forestry **Biodiversity** of Buildings range Transboundary Sustainable **Territorial** European **Biodiversity friendly Afforestation** Strategy to 2030 Air Pollution/ICP Forest **Carbon Removals** Carbon Cycles Cooperation Urban **FLEGT Nature** Timber Invasive Alien Certification **Carbon Farming** Interreg **Initiative** Restoration Law Action Plan Regulation Species Regulation Initiative **FOREST EUROPE** Plant Health Mapping of Ecosystem Protect and Restore the Regulation on (incl. Resolutions) Regulation Horizon Europe Services (MAES) World's Forests Deforestation **Alpine Convention** Renewed Sustainable Plant Protection Bioeconomy Carpathian Convention Update Sustainable **Biodiversity** Strategy for Finance Strategy **Products Regulation** Strategy **Bern Convention** Guidance Natura **Products Directive** Sustainable Textiles Law Sustainable Finance **Forest Reproductive** (wildlife and natural habitats) **Bioeconomy** 2000 and forests Circular Economy Action Plan II Packaging Directive II Regulations (Taxonomy) Material Directive **Ramsar Convention** Strategy 8th Environment Roadmap to a Resource Plastics Single Use Taxonomy Delegated Acts **Forest Reproductive** (wetlands) **Progress Repor Action Programme** Efficient Europe Strategy Plastic Directive **Material Regulations** LIFE+ Programme Soil Strategy Soil Health Water Framework for 2030 Law Directive

ENER ENV FISMA GROW REGIO RTD SANTE

International

AGRI

CLIMA

ECHO

Recent EU Initiatives relevant for the Forest-Based Sector

	Recent Legislation and Policy in	n Force					
Year	Legislative	Non-Legislative					
2019	Plant Health Delegated and Implementing Regulations	EU Action Plan on Protecting and Restoring the World's Forests					
2019	Taxonomy Regulation						
	Plant Health Delegated and Implementing Regulations	A New Industrial Strategy for Europe					
	2030 Climate Target Plan	New Circular Economy Action Plan					
2020	Delegated Regulation on Forest Reference Levels	A Farm to Fork Strategy					
	CAP Transitional Provisions	Biodiversity Strategy to 2030					
		A Renovation Wave for Europe					
	Horizon Europe	New EU Strategy on Adaptation to Climate Change					
	European Climate Law	Updating the 2020 New Industrial Strategy					
	Amending the Aarhus Regulation (better access to justice)	A long-term Vision for the EU's Rural Areas					
	CAP Horizontal Regulation	New EU Forest Strategy for 2030					
2021	CAP Strategic Plan Regulation	New European Bauhaus					
	Taxonomy Delegated Act on Climate Change Mitigation and Adaptation	Soil Strategy for 2030					
	Taxonomy Delegated Act on Disclosure	Restoring Sustainable Carbon Cycles incl. Carbon Farming Initiative					
	LIFE Regulation						
	LIFE Multiannual Work Programme 2021-2024						
	Vertical Block Exemption Regulation ('VBER') accompanied by the new Vertical Guidelines	Sustainable Products Policy Initiative					
2022	General Union Environment Action Programme to 2030	Strategy on Sustainable Textiles					
	Corporate Sustainability Reporting Directive	Bioeconomy Strategy Progress Report and Re-framing within the new Context					
	Co-Legislators currently working on Legislative Proposals	from the European Commission					
	Revision of the Effort Sharing Regulation						
	Revision of the LULUCF Regulation						
	Revision of the Renewable Energy Directive						
	Revision of the Energy Performance of Buildings Directive						
	Regulation on Social Climate Fund						
	Regulation on European Green Bonds						
	Directive on Corporate Sustainability Due Diligence	<u> </u>					
	Regulation on Carbon Border Adjustment Mechanism						
	Directive on Improving Environmental Protection through Criminal Law	<u> </u>					
	Regulation on Deforestation and Forest Degradation	<u> </u>					
	Revision of the Ecodesign Directive						
	Regulation on Nature Restoration (Restoration Law)						
	Update of EU Rules on Sustainable Use of Pesticides						

Announced EU Initiatives

	Proposals for EU Legislation and Strategies announced by the European Commission					
Announced for	Legislative	Non-Legislative				
Q1/Q2 2022	Horizon Europe Work Programmes 2023-2024					
Q2 2022	Policy Framework on biobased, biodegradable and compostable Plastics					
Q3/4 2022	Revision of the horizontal Block Exemption					
Q2 2022	Renewed Strategic Partnership with the outermost Regions					
Q3 2022	Revision of the Ambient Air Quality Directive					
Q4 2022	Regulation on Carbon Removal Certification					
Q4 2022	Revision of the Legislation on Forest Reproductive Material					
Q4 2022	GreenData4All - Revision of INSPIRE					
2022	Biodiversity Governance Framework (Biodiversity Law)					
2022	Taxonomy Delegated Acts on 4 Environmental Objectives					
2022-2023	Revision of Ecolabel Commission Decisions (on wood-based products)					
Q2 2023	EU Forest Observation, Reporting and Data Collection					
Q2-2023	Soil Health Law					
	Open public consultations					
	Aarhus Convention Compliance Committee case on State aid: implications/options	13 July 2022 - 05 October 2022				
	Soil Health Law (Soil health – protecting, sustainably managing and restoring EU soils)	01 August 2022 - 24 October 2022				
	EU forests – new EU Framework for Forest Monitoring and Strategic Plans	25 August 2022 - 17 November 2022				
	Interim evaluation of PRIMA	05 September 2022 - 03 October 2022				

New EU Forest Strategy for 2030

Planned Actions

40 to be led by the European Commission 8 to be led by the Member States

Discussions in the Working Group Forests and Nature

Guidelines for

- primary and old-growth forests
- biodiversity friendly afforestation and reforestation
- closer-to-nature-forestry practices
- > update of the Natura 2000 guidance on forests

Voluntary closer-to-nature forest management certification scheme

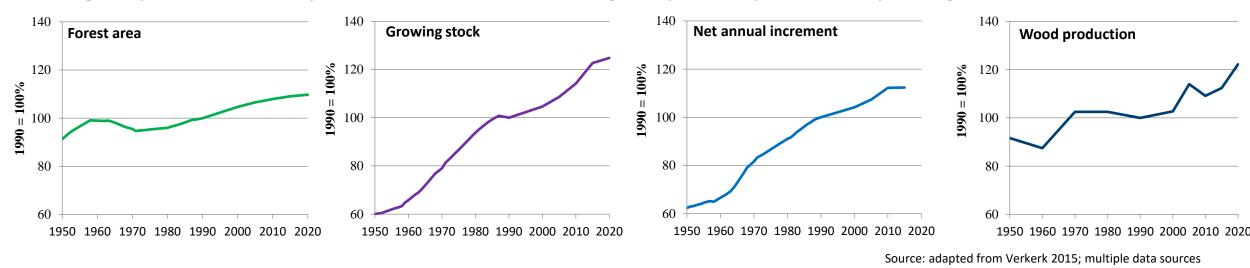
Additional indicators, thresholds, ranges for sustainable forest management concerning forest ecosystem conditions, such as health, biodiversity and climate objectives

Legislative proposal for a Forest Observation, Reporting and Data Collection framework

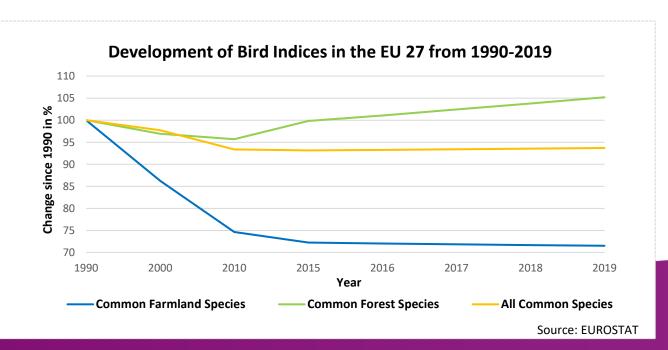
European Forest Science Partnership through JRC

Expansion of Forest Resources in the EU

large expansion of European forest resources during the past 70 years – unique at global level



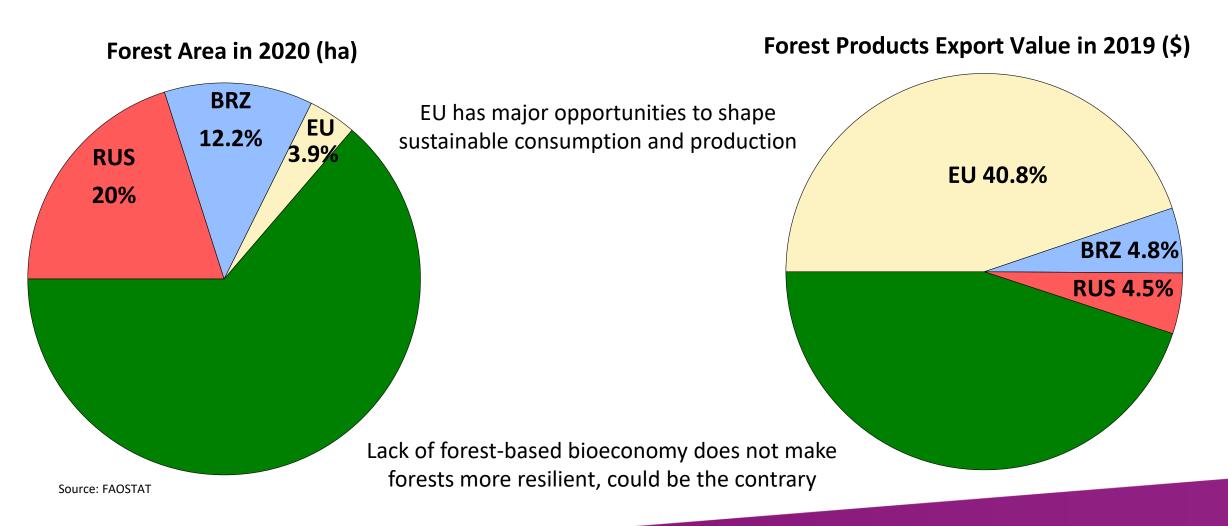
- more mixed and structured forests
- higher amount of deadwood
- rising share of natural regeneration
- more protected forest areas



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Global Role of EU Forests and Forest-based Products

EU - not a huge forested region, but a huge forest products producer



New Forest-based Bio-Products – Examples

Forest biomass



Viscose fibre





Increasing demand in textile markets to replace e.g. cotton and polyester

Biofuels





Increasing demand in transportation sector

noreriols to

- -Platform chemicals
- -(plastic) Packaging
- -Cosmetics
- -Food additives
- Pharmaceuticals





Increasing demand for low CO₂, healthy and cost competitive construction material

Multiple Roles Forests play for Society

... protect you against natural hazards like avalanches. flooding or rock-falls





... support people's livelihoods, by providing employment and income

... help provide your water, by regulating quantity and quality of supply



... moderate your local climate, helping regulate wind, humidity and temperature



.. provide shelter for wildlife and biodiversity, by offering favourable habitats and microclimates



... allow you to build and furnish your home with wood, cork and wood-based products



... heat your house and power your car via biofuels and bioenergy



... provide an enormous range of benefits to EU citizens

Forests...



... are beautiful, an existential part of the landscape where you can connect with nature, experience wildlife and find peace



... keep you healthy with natural medicinal products and space for mental well-being



... help to mitigate our changing

climate, by storing carbon in forests

... nourish your body with berries, mushrooms, fruits and nuts, honey and game meat



... feed your soul, offering spiritual inspiration in a haven of nature



... bring good cheer with products like resins, tanins, decorative materials, Christmas trees



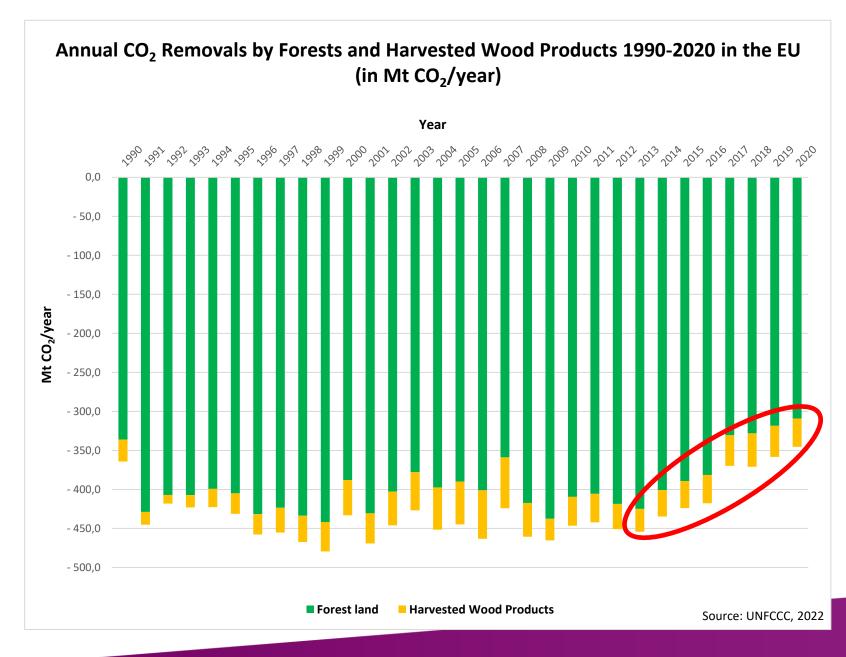
... offer an inspirational setting for leisure, recreation, adventure and hunting

... offer sustainable alternatives to non-renewable, fossil-based materials used in

construction, textiles, packaging and other products, originating from wood and cork



Forest-related Carbon Sink in the EU



2013-2020

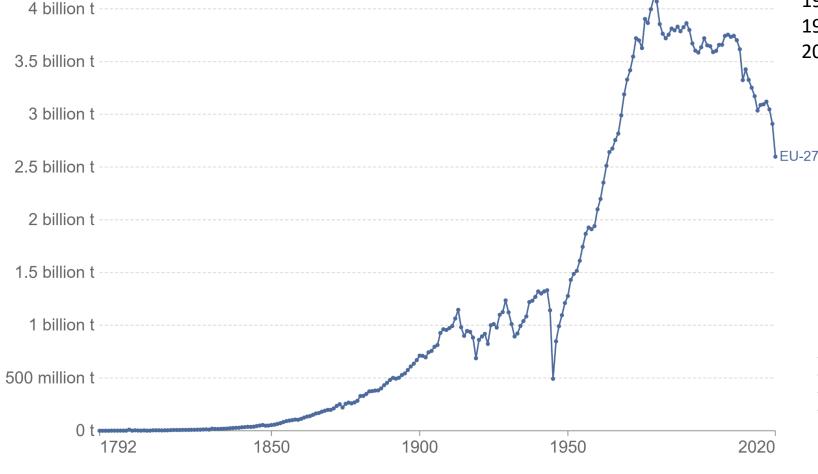
Sink: -24%

Roundwood Production: +11%

Development of Fossil-based CO₂-Emissions in the EU

Annual CO₂ emissions

Carbon dioxide (CO₂) emissions from the burning of fossil fuels for energy and cement production. Land use change is not included.





1950: 1,28 billion t

1990: 3,86 billion t +288% to 1950

2020: 2,60 billion t +103% to 1950, -33% to 1990

Data Source:

https://ourworldindata.org/explorers/co2?time=earliest..latest&facet=none&country=EU-

27~EU~EU&Gas=CO%E2%82%82&Accounting=Production-

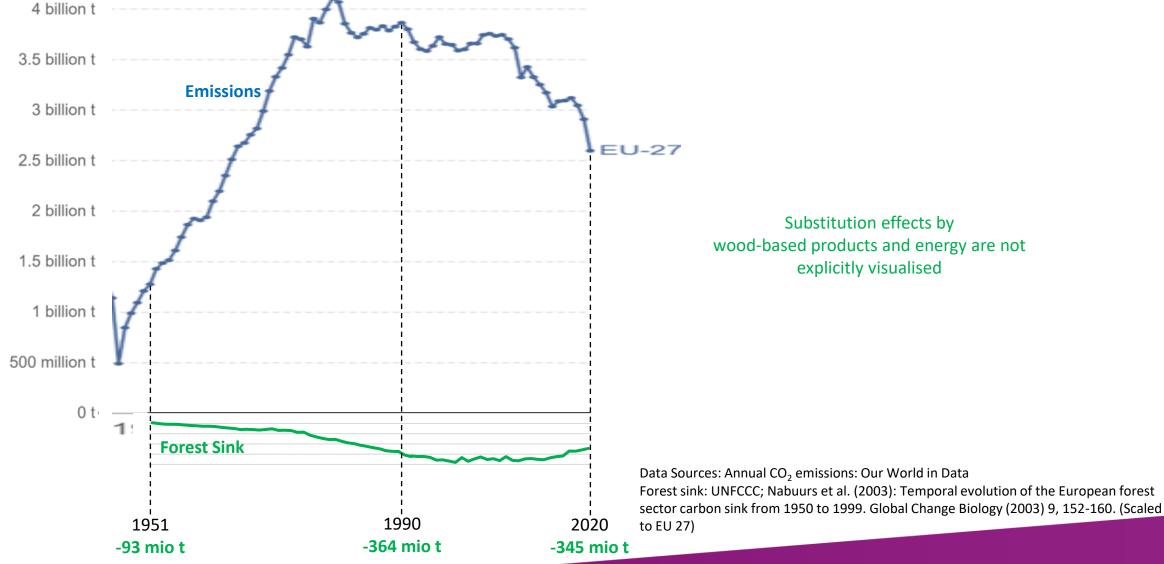
 $\underline{based\&Fuel=Total\&Count=Per+country\&Relative+to+world+total=false}$

Source: Our World in Data based on the Global Carbon Project

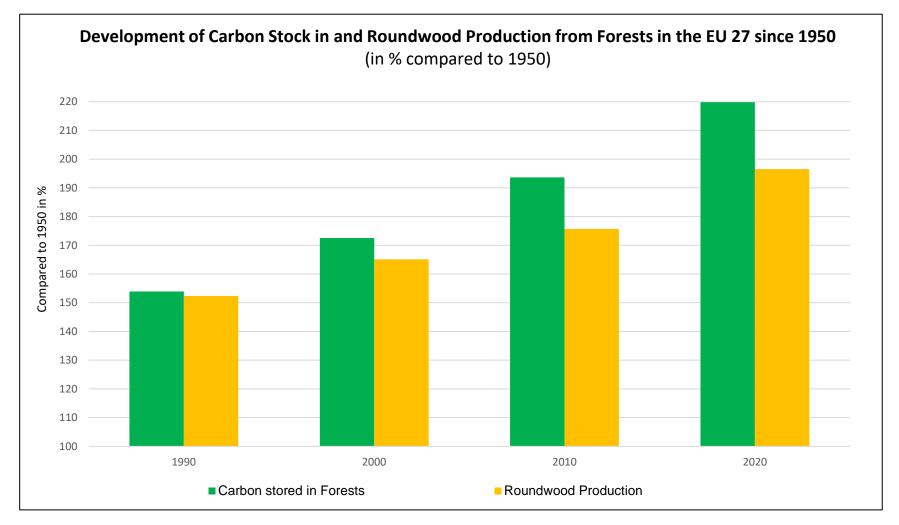
Our World In Data org/co2-and-other-greenhouse-gas-emissions/ • CC BY

Note: CO₂ emissions are measured on a production basis, meaning they do not adjust for emissions embedded in traded goods.

CO₂-Emissions and Forest-based Carbon Sink in the EU



Forest Carbon Stock Development in the EU since 1950



	Carbon stored	Roundwood					
Year	in Forests	Production					
	GT	Mill m ³					
1950	4,88	254,08					
1961	no data	283,78					
1990	7,51	387,07					
2000	8,41	419,51					
2010	9,44	446,47					
2019	10,64	508,47					
2020	10,72	499,40					
Comp	Compared to 1950 in %						
1990	153,9%	152,3%					
2000	172,5%	165,1%					
2010	193,7%	175,7%					
2019	218,3%	200,1%					
2020	219,9%	196,6%					

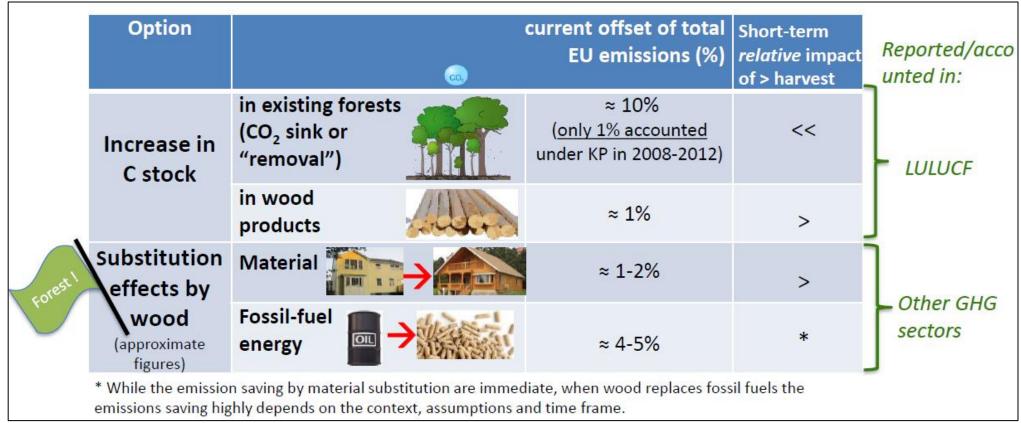
Source:

Carbon stored 1950: Nabuurs, 2003. EU countries scaled to EU 27 with FAO FRA data on growing stock 1990.

Carbon stored 1990-2020: FAO STAT. 2020 data from FAO FRA 2020.

Round wood production: FAOSTAT. 1950 data from Kuusela (1994), upscaled to EU 27 by FAOSTAT 1992 data on roundwood production.

Mitigating GHG Emissions by Forests... and Use of Wood!



Source: Grassi 2017

CEPI study presented on 19. June 2020: 20% offset in 2018

Source: Peter Holmgren, 2020: Climate effects of the forest-based sector in the European Union. FutureVistas AB.

Component	Climate effect Mt CO₂e/year	Note
1. Net sink in forest	-406	= LULUCF 4.A
2. Harvested Wood Products, HWP	-41	= LULUCF 4.G
3. Fossil emissions in value chain	51	Estimate. Input goods not included
4. Substitution effect, industry products	-394	Conservative calculation based on available literature
5. Substitution, traditional bioenergy	-16	
Total climate effect	-806	= 20% of EU emissions

Main Drivers for the Development of EU Forest Resources

natural forest expansion



age class effects



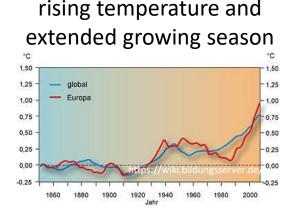
recovery of forest soils



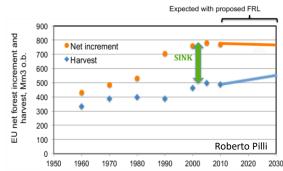
increased nitrogen depositions increased CO₂ concentration in the atmosphere







harvesting rate below increment



improved forest management and tree breeding



demand for wood-based products



How will the Forest Carbon Sink in the EU develop?

Research

article

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The European forest carbon budget under future climate conditions and current management practices

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Sustaining the sequestration efficiency of the European forest sector

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https://efi.int/sites/default/files/files/publication-bank/2022/efi fstp 14 2022.pdf

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Assessment of the Conservation Status of Habitats 1

4 Parameters

Range

Area

Structure and Functions (Habitat Condition)

Future prospects

Parameter Status

FV Favourable

U1 Unfavourable-inadequate

U2 Unfavourable-bad

X Unknown

Conservation Status of Habitats - Rules for combining the 4 Parameter Statuses

FV Favourable All green OR three green and one unknown

U1 Unfavourable-inadequate One or more amber BUT no red

U2 Unfavourable-bad One or more red

X Unknown Two or more unknown combined with green OR all unknown

Assessment of the Conservation Status of Habitats 2

Possible Combinations of the 4 Parameter Statuses for the Assessment of the Conservation Status of Habitats															
Conservation Status Favourable			Conservation Status Unfavourable-inadequate			Conservation Status Unfavourable-bad			Conservation Status Unknown						
Range	Area	Condition	Future prospects	Range	Area	Condition	Future prospects	Range	Area	Condition	Future prospects	Range	Area	Condition	Future prospects
FV	FV	FV	FV	FV	FV	FV	U1	FV	FV	FV	U2	Х	Х	FV	FV
Х	FV	FV	FV	FV	FV	U1	FV	FV	FV	U2	FV	Х	FV	Χ	FV
FV	Х	FV	FV	FV	U1	FV	FV	FV	U2	FV	FV	Χ	FV	FV	X
FV	FV	Х	FV	U1	FV	FV	FV	U2	FV	FV	FV	FV	Х	FV	X
FV	FV	FV	Х	FV	FV	U1	U1	FV	FV	U2	U2	FV	FV	X	X
				FV	U1	FV	U1	FV	U2	FV	U2	FV	Х	X	FV
				FV	U1	U1	FV	FV	U2	U2	FV	X	X	X	FV
				U1	U1	FV	FV	U2	U2	FV	FV	X	X FV	FV X	X
				U1	FV	FV	U1	U2	FV	FV	U2	FV	X	X	X
				U1	FV	U1	FV	U2	FV	U2	FV	V	, Х	X	^ V
				E\/	111	1.11	1.11	EV	112	112	1.12	_ ^	^	^	۸

Conservation Status o	f Habitats - Rul	es for combining	the 4 Parameter Statuses
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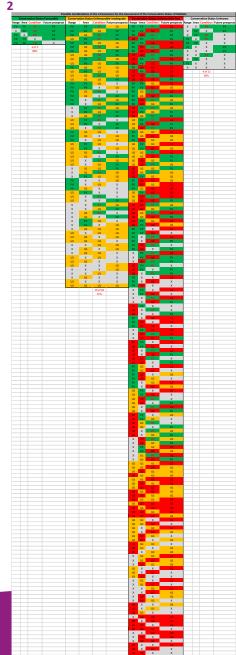
FV Favourable All green OR three green and one unknown

U1 Unfavourable-inadequate One or more amber BUT no red

U2 Unfavourable-bad One or more red

X Unknown Two or more unknown combined with green OR all unknown

	Results						
All Cases Condition=F							
242		63					
	100%	26%					
FV	2%	6%					
U1	26%	30%					
U2	66%	57%					
Х	5%	6%					

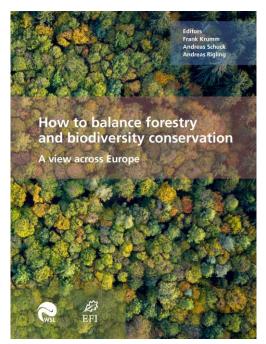


Transition to a sustainable and climate-friendly Economy



facilitated by EFI

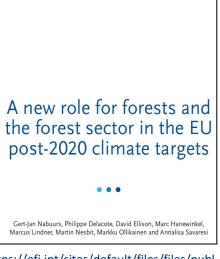
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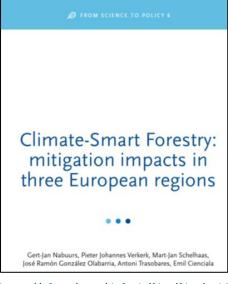
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