



LEARNFORCLIMATE

Learning to realize multiple forest policy objectives under climate related stress and disturbance

Brussels, October 14, 2025

LEARNFORCLIMATE

www.ltu.se/learnforclimate

Metodi Sotirov (UFR, Germany) & Karin Beland Lindahl (LTU, Sweden)





Project partners

- Luleå University of Technology (LTU), Sweden
- Swedish University of Agricultural Sciences (SLU), Sweden
- University of Freiburg (UFR), Germany
- European Forest Institute (EFI), Germany
- University of Ljubljana (UL), Slovenia
- Institute of Philosophy and Sociology of the Polish Academy of Sciences (IFiS), Poland
- University of Agriculture (UAK), Poland

+ forest owner associations, companies and E-NGOs in each country

Total project budget: 1 474 977 €

- Project start: May 9, 2022
- Project end date: October, 2025

LEARNFORCLIMATE (LFC)

Aim: to support learning that enables achievement of multiple forest related EU policy objectives while responding to climate change related forest disturbances

- 
- How do policymakers respond to policy and climate change? (WP2)
 - How do forest owners respond to policy and climate change? (WP3)
 - What synergies and trade offs between forest ecosystem services can be projected under different policy and management responses? (WP4)
 - How can policy-oriented learning support goal achievement? (WP5)

LFC: inter- and transdisciplinary assessment framework



LFC: Inter- and transdisciplinary conceptual framework

WP2: How do national policymakers respond to climate change?

	Germany	Poland	Slovenia	Sweden
Policy objectives	Multifunctionality in law since 1975 (<i>stability</i>) Close-to nature forestry since 1993/2019 and climate resilience since 2019-2023 (<i>change</i>)	Multifunctionality in law since 1991 (<i>stability</i>)	Close-to-nature forestry and multifunctionality in law since 1993 (<i>stability</i>) Biodiversity and climate since 2010 and 2020 (<i>revision</i>)	Production and environmental protection in law since 1993 (<i>stability</i>) Climate since 2007, and forest growth suggested in 2021 (<i>change</i>)
Policy means	Forest sector reforms with public administration and public enterprises 2000-2010 (<i>change</i>) Adjusted forest monitoring (<i>revision</i>) Public subsidies for climate disturbances and biodiversity benefits 2019-2022 (<i>change</i>)	Forest sector: dominant state management (<i>stability</i>) Regulation and administrative instruments (<i>stability</i>). Supervision of private forestry and social participation stressed in 2010 and 2022 (<i>revision</i>)	Forest sector reforms: from concession (1996) to state management (2016) of public forests (<i>change</i>) Regulation (2014, 2018) and economic incentives (2014, 2018) for climate disturbances (<i>change/revision</i>).	Forests as national economic priority with environmental responsibility since in 1993 (<i>stability</i>) From regulation to forest owners' 'freedom under responsibility' since 1993 (<i>revision</i>)
Supported practices	Proper forestry with obligation to reforest after clearcutting and forest disturbances (<i>stability</i>) Climate resilience of forests (mixed forests) since 2019-2022/23 (<i>revision</i>)	Clear-cut size limits and support to natural generation since 2003 (<i>revision</i>) Biodiversity (deadwood, extended regeneration) since 2012 to adapt to climate disturbances (<i>revision</i>)	Obligations of forest management planning and natural regeneration as well as prohibition of clear-cutting since 1993 (<i>stability</i>) Forest owners' responsibility for biodiversity of increased importance (since 2004); guidelines for climate-induced disturbances in plans, in 2021 (<i>revision</i>)	Rotation forestry (clearcutting, reforestation); no measures for climate adaption (<i>stability</i>). Timber production priority since 2007 ; Biodiversity conservation key in 1993 followed flexibility and voluntary protection (<i>revision</i>)

22/10/25

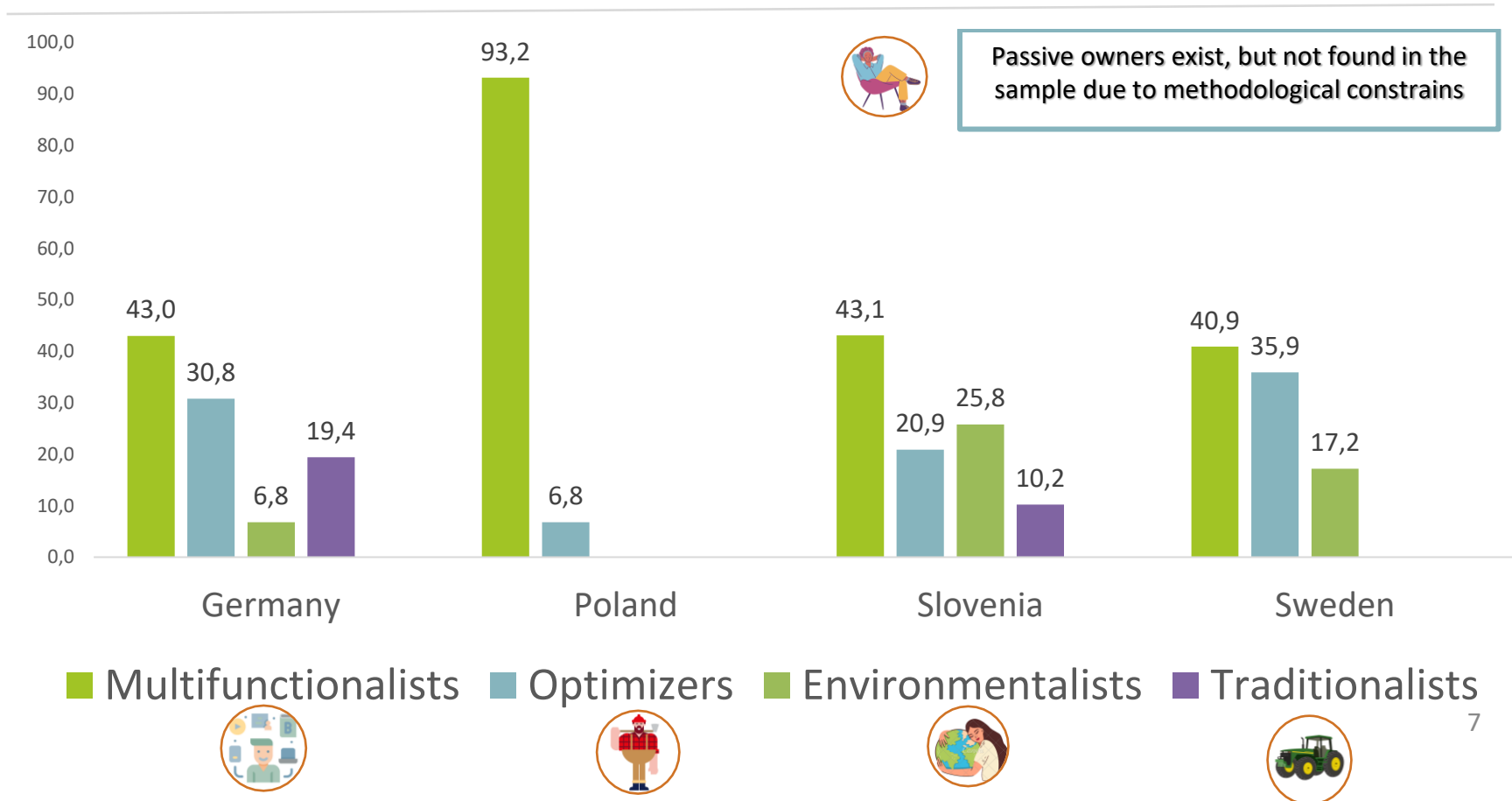
WP2: How do national policymakers respond to EU policy change?

National Subsystem			Reponses to EU policy
	Sweden	1 dominant <i>Timber Production Coalition</i> ; less dominant <i>Environment Coalition</i>	EU Biodiversity Strategy 2030 and EU Forest Strategy 2030 GENTLY REJECTED
		<i>Dominant Policy beliefs:</i> Increased timber production for bioeconomy and climate mitigation, national authority <i>Synergies:</i> production-climate mitigation-bioeconomy	
	Germany	3 dominant <i>Multifunctionality, Adaptive management and Environment Coalitions</i> + <i>Hunting and Recreation coalitions</i>	EU Forest Strategy 2030 NEUTRAL/DIVIDED
		<i>Policy beliefs:</i> Multifunctionality/close-to-nature forestry; production and conservation for climate mitigation/adaptation; carbon uptake + storage; divided on EU authority <i>Synergies:</i> Close to nature forestry-conservation-climate mitigation/adaptation	EU Biodiversity Strategy 2030 SUPPORTED
	Spain/ Catalonia	1 dominant <i>Environment Coalition</i> , less dominant <i>Forestry Coalition</i>	EU Biodiversity Strategy 2030 and EU Forest Strategy 2030 SUPPORTED
		<i>Policy beliefs:</i> Multifunctionality; conservation and sustainable use for climate mitigation/adaptation and rural development; EU authority welcome <i>Synergies:</i> conservation-sustainable use-climate mitigation/adaptation	



WP2: How do forest owners respond to policy and climate change?

Diversity of forest owners and managers in Europe



WP2: How do forest owners respond to EU biodiversity and climate policy?



CONSERVATION MANAGEMENT OF FORESTS

- Expanding forest protection and restoration by protecting at least **30% of the (forest) land** in the EU by 2050, of which at least **10% should be strictly protected areas** of high biodiversity and climate value (**forest set asides**), as well as by strict protection of all remaining **primary and old-growth forests**.
- Better conservation and restoration management in the EU-wide network of **Natura 2000 sites** (ca. **25% of all forests in EU**).

CLOSE-TO-NATURE FOREST MANAGEMENT AND CLIMATE RESILIENT FORESTS

- Increase in the quantity, quality and resilience of managed forests and protected forests by **biodiversity-friendly afforestation, reforestation and tree planting, closer-to-nature-forest management, avoidance of clear cuts, integration of biodiversity and restoration objectives** in forest management plans of forest owners.
- Restoration of terrestrial (forest) ecosystems, landscapes, and forest-related water bodies degraded due to **climate change impacts** and unsustainable **intensive forestry practices** (e.g., **clear cutting, monocultures**).

SUSTAINABLE FOREST MANAGEMENT

- Sustaining **biodiversity** and **ecosystem services** while ensuring **sustainable forest management**.
- Creating **jobs**, reconciling **economic activities (forestry)** and **biodiversity objectives**, and ensuring **long-term productivity** and **value** of the natural capital.

WP2: How do forest owners respond to EU biodiversity and climate policy?

Country	Forest owner type (FOT)	Objectives 1–2 (Conservation management)	Objectives 3–4 (Close-to-Nature, Resilience)	Objectives 5–6 (Sustainable Management)
Germany	Multifunctionalists	▲	▲▲	▲
	Environmentalists	▲▲	▲	►
	Optimizers	▼	►	▲
	Traditionalists	▼▼	▼▼	▼▼
Poland	Multifunctionalists	▲	▲▲	▲
	Optimizers	▼▼	▼▼	▼
Slovenia	Multifunctionalists	▲▲	▲▲	▲▲
	Environmentalists	▲	►	►
	Optimizers	▼	▼	►
	Traditionalists	▼▼	▼▼	▼▼
Sweden	Environmentalists	▲▲	▲	▼
	Multifunctionalists	►	►	►
	Optimizers	►	►	►

- Response to EU biodiversity and climate policy objectives:
 - *Support*: ‘Multifunctionalists’ and ‘Environmentalists’
 - *Resistance*: ‘Traditionalists’ and ‘Optimizers’
- FOT responses to climate disturbances:
 - Salvage logging with planting - > no change
 - Salvage logging with planting - > natural regeneration
 - Salvage logging with natural regeneration -> salvage logging with planting
 - No post-disturbance management -> no change

▲▲ Strong support ▲ Slight support
 ▼▼ Strong Opposition ▼ Opposition ► Divided/Neutral

WP 4: How do different responses affect biodiversity and ecosystem service synergies and trade-offs?

	 BIODIVERSITY FIRST			 MULTIFUNCTIONALITY		 WOOD BIOECONOMY FIRST	
LANDSCAPE MANAG. APPR.	land sparing	land sparing	land sharing	TRIAD	land sharing	land sparing	land sharing
REST./ ADAPT. APPROACH	passive	active --> passive	passive	passive and active	passive and active	passive and active	active
MANAGEMENT INTENSITY	low	low	low	low/ medium/ high	medium	high/ medium	medium/ high
 BULGARIA	★★	★★★★★	★★★	★★★★★	★	★★	★★★★★
 GERMANY	★ ¹	★★	★★★	★★★	★★★★★ ¹	★ ¹	★★★
 POLAND	★	★★★★ ¹	★★	★★★★★	★★★	★★★★★	★★★★ ¹
 SLOVENIA	★★ ¹	★★★★ ¹	★★★	★★★★ ¹	★★★	★★ ¹	★★★
 SPAIN	★★	★★★	★★	★★★★★	★★★★★	★★★★★	★★★
 SWEDEN	★★ ¹	★★★★	★★★	★★★	★★★★	★★★	★★
IMPLEMENTATION STRATEGY1 STRATEGY2 STRATEGY3 STRATEGY4 STRATEGY5 STRATEGY6 STRATEGY7							

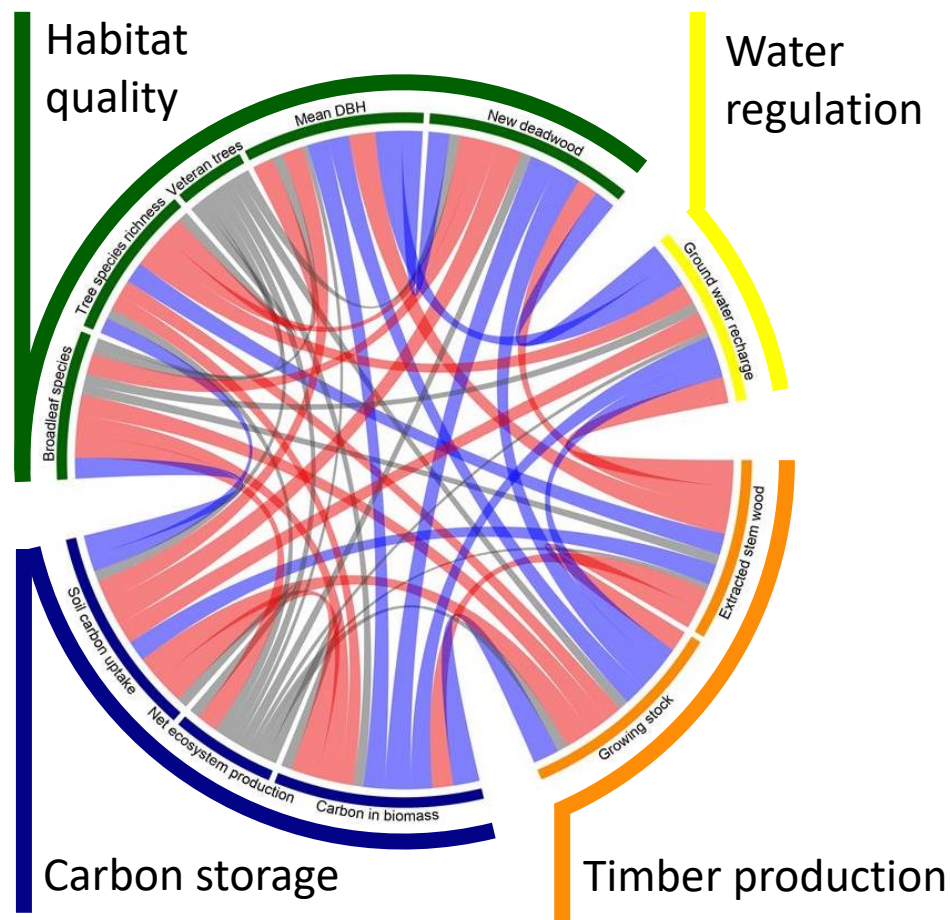
WP 4: How do different responses affect biodiversity and ecosystem service synergies and trade-offs?

LANDSCAPE MANAG. APPR.	BIODIVERSITY FIRST			MULTIFUNCTIONALITY			WOOD BIOECONOMY FIRST		
	land sparing	land sparing	land sharing	TRAD	land sparing	land sparing	land sparing	land sparing	land sparing
REF. / ADAPT. APPROACH	passive	active → passive	passive	passive and active	passive and active	passive and active	passive and active	active	active
MANAGEMENT INTENSITY	low	low	low	low/ medium/ high	medium	high/ medium	medium/ high		
BULGARIA	**	*****	***	*****	*		**	*****	
CZECHIA	*	**	***	***	*****	**	***		
POLAND	*	***	**	*****	***	*****	***		
SLOVENIA	**	***	***	***	***	**	***		
SPAIN	**	***	***	*****	*****	*****	*****		
SWEDEN	**	***	***	***	***	***	***		
STRATEGY1	STRATEGY2	STRATEGY3	STRATEGY4	STRATEGY5	STRATEGY6	STRATEGY7			



1. Implementation strategy + forest owner behavior

2. Model-based assessment of ecosystem services and biodiversity under climate change



3. Analysis of ecosystem services and biodiversity synergies and trade-offs

Synergy
Trade-off

WP5: Conclusions for policy-oriented learning

- Uneven policy adaptation: stability and change across countries
- Context rules: national institutions and coalitions shape response to EU policy and climate change
- Alignment counts: supportive coalitions drive EU goals forward, while misaligned ones resist and contest EU authority
- Forest owners display varying responses to EU policy and climate change -> need for different policy mixes
- Diversity of spatial implementation strategies under contrasting policy scenarios: land sharing vs land sparing vs TRIAD approaches
- United in diversity?: multifunctional approaches help bridge divides and sustain learning -> but danger of “wishful thinking”
- Need to anticipate and manage tradeoffs and synergies between forest ecosystem goods and services: timber vs biodiversity vs carbon vs ...





Thank you!

metodi.sotirov@ifp.uni-freiburg.de (deputy project coordinator)

karin.beland.lindahl@ltu.se (project coordinator)

ForestValue

Website: <https://forestvalue.org/>

Twitter: <https://twitter.com/ForestValue2017>

LinkedIn: <https://www.linkedin.com/groups/12110816/>