WHEN FORESTS BECOME STRATEGIC ASSETS

Linking nexus thinking, forest governance and security in the Baltic region

Alessandra Giolo

SÖDERTÖRN DOCTORAL DISSERTATIONS

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Alessandra Giolo

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Subject: Environmental Science
Research area: Environmental Studies
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Abstract

This thesis examines how forests in the Baltic–Nordic region are increasingly situated at the intersection of climate policy, natural resource governance, and emerging security concerns. Drawing on perspectives from multi-level governance, nexus thinking, and climate security, it analyses how forests are being reframed as strategic assets in a rapidly evolving geopolitical and environmental context. The thesis focuses on Estonia, Latvia, Lithuania, Finland, and Sweden - countries with extensive forest resources that play vital ecological, economic, and infrastructural roles. These forests are central to achieving EU climate targets, supporting energy transitions, and responding to growing geopolitical uncertainties. To place these national and regional perspectives in a broader governance context, the thesis also compares Baltic-Nordic forest governance with the case of Forest Europe, a voluntary pan-European soft law platform where states, experts, and organizations negotiate shared understandings of Sustainable Forest Management, reporting practices, and forest policy direction.

Drawing on 47 semi-structured interviews, participant observations, and policy analysis of EU strategies, national adaptation plans, national energy strategies, and Forest Europe processes, the thesis shows that EU ambitions often exceed national implementation capacities and lack mechanisms to support cross-sectoral coordination. Although EU-level policy frames climate security broadly through resilience and ecosystem protection, national perspectives emphasize forests as vital for energy independence, economic continuity, and societal stability. This misalignment leads to gaps between high-level objectives and local practice. The comparison with Forest Europe further shows how forest governance is also shaped through non-binding, consensus-based processes in which European forest authority is produced through knowledge-sharing, procedural legitimacy, and sustained negotiation rather than through legal enforcement.

Furthermore, the thesis shows that forest governance is increasingly shaped by interdependencies across water, energy, food, and forest systems. Geopolitical disruptions have intensified reliance on domestic biomass, reshaped roundwood markets, and elevated the role of forests as buffers against external shocks. However, policy integration remains fragmented, and securitization can further constrain public debate on forest use unless it is grounded in inclusive, transparent, and evidence-based governance. The Forest Europe case highlights both the potential and the limits of soft law governance: while voluntary platforms can strengthen coordination, shared learning, and policy coherence, their credibility depends on meaningful participation, openness, and durable institutional capacity.

Further research is needed to analyse how climate security framings evolve in response to geopolitical instability, how forest-based energy systems can balance short-term security needs with long-term ecological integrity, and how soft law governance platforms at EU and pan-European levels can reinforce their credibility and durability in an era of accelerating environmental and political change. The thesis

suggests that forests increasingly function as critical infrastructures for climate mitigation, biodiversity, energy stability, and national resilience. To move towards more coherent and legitimate forest governance in the Baltic–Nordic region and beyond, future work should further examine how cross-level coordination mechanisms can be strengthened, how stakeholder engagement can be made more inclusive, and how institutional capacities can be improved to support integrated, nexus-based approaches.

Keywords: Forest Governance; Climate Policy; Security; Bioeconomy; Policy Integration; Baltic Region

Sammanfattning (Abstract)
Titel: Skogen som strategisk resurs: samspelet mellan säkerhet, nexus-tänkande och skogsstyrning i Östersjöregionen.

Denna avhandling undersöker hur skogarna i den baltisk-nordiska regionen i allt högre grad hamnat i skärningspunkten mellan klimatpolitik, förvaltning av naturresurser och nya säkerhetsfrågor. Med utgångspunkt i perspektiv från flernivåstyrning, nexustänkande och klimatsäkerhet analyseras hur skogarna omdefinieras som strategiska tillgångar i ett snabbt föränderligt geopolitiskt och miljömässigt sammanhang. Avhandlingen fokuserar på Estland, Lettland, Litauen, Finland och Sverige – länder med omfattande skogslandskap som spelar en avgörande ekologisk, ekonomisk och infrastrukturell roll. Dessa skogar är centrala för att uppnå EU:s klimatmål, stödja energiomställningen och hantera växande geopolitiska osäkerheter. För att placera dessa nationella och regionala perspektiv i ett bredare styrningssammanhang jämför avhandlingen också skogsförvaltningen i Baltikum och Norden med Forest Europe, en frivillig paneuropeisk plattform för styrning där stater, experter och organisationer förhandlar fram gemensamma uppfattningar om hållbar skogsförvaltning, rapporteringspraxis och policyinriktning.

Med utgångspunkt i 47 semistrukturerade intervjuer, deltagande observationer och en policyanalys av EU-strategier, nationella anpassningsplaner, nationella energistrategier samt Forest Europe-processer visar avhandlingen att EU:s ambitioner ofta överstiger den nationella genomförandekapaciteten och att det saknas mekanismer för att stödja sektorsövergripande samordning. Även om politiken på EU-nivå i stort sett definierar klimatsäkerhet genom resiliens och skydd av ekosystem, betonar nationella aktörer och intressenter skogarnas avgörande betydelse för energioberoende, ekonomisk kontinuitet och samhällsstabilitet. Denna bristande samstämmighet leder till klyftor mellan högnivåmål och lokal praxis. Jämförelsen med Forest Europe visar vidare hur skogsförvaltningen också formas genom icke-bindande, konsensusbaserade processer där auktoritet skapas genom kunskapsdelning, procedurmässig legitimitet och ihållande förhandlingar snarare än genom rättslig tillämpning.

Vidare visar avhandlingen att skogsförvaltningen i allt högre grad präglas av ömsesidiga beroendeförhållanden mellan vatten-, energi-, livsmedels- och skogssystemen. Geopolitiska störningar har ökat beroendet av inhemsk biomassa, omformat marknaderna för rundvirke och förstärkt skogarnas roll som buffertar mot yttre chocker. Den politiska samordningen är dock fortfarande fragmenterad, och säkerhetspolitiska överväganden kan ytterligare begränsa den öppna debatten om de inte grundas på en inkluderande, transparent och evidensbaserad styrning. Exemplet med Forest Europe belyser både potentialen och begränsningarna med styrning genom icke-bindande rättsliga regler: även om frivilliga plattformar kan stärka samordningen, det gemensamma lärandet och den politiska samstämmigheten, beror deras trovärdighet på meningsfullt deltagande, öppenhet och hållbar institutionell kapacitet.

Det krävs ytterligare forskning för att undersöka hur synsättet på klimatsäkerhet utvecklas som svar på geopolitisk instabilitet, hur skogsbaserade energisystem kan balansera kortsiktiga säkerhetsbehov med långsiktig ekologisk integritet, och hur styrningsplattformar för icke-bindande rättsliga regler på europeisk och paneuropeisk nivå kan stärka sin trovärdighet och hållbarhet i en tid av allt snabbare miljö- och politiska förändringar. Avhandlingen visar att skogarna i allt större utsträckning framställs som kritisk infrastruktur för klimatbegränsning, biologisk mångfald, energistabilitet och nationell resiliens. För att gå mot en mer sammanhängande och legitim skogsförvaltning i den baltisk-nordiska regionen bör fortsatt forskning ytterligare undersöka hur samordningsmekanismer mellan olika nivåer kan stärkas, hur intressenters engagemang kan göras mer inkluderande och hur institutionella kapaciteter kan förbättras för att stödja integrerade, nexusbaserade förvaltningsmodeller.

Nyckelord: Skogsstyrning; Klimatpolitik; Säkerhet; Bioekonomi; Politisk integration; Östersjöregionen.

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Contents

List of papers 13

Figures and tables 15

Acronyms and Abbreviations 17

1. Introduction 21

1.2. Research gap: Forest governance in the Baltic States, nexus thinking, and the securitization of forest resources 23
1.3. Aim of the thesis 25
1.4. Research questions 27

2. State-of-the-Art 29

2.1. Forest governance in the EU and the Baltic Sea Region 29
2.2. Policy integration and fragmented implementation 30
2.3. Post-socialist forest governance in the Baltic Sea Region 32
2.4. Environmental and climate security 34

3. Analytical framework 37

3.1. Literature review 37
3.1.1. Multi-level Governance dynamics 37
3.2.2. Nexus Approaches for Integrated Resource Management 39
3.2.3. Climate security and securitization of natural resources 40
3.2. Theorizing Multi Level Governance in Baltic and Nordic forest governance 42

4. Case, methods and material 47

4.1. Case study context 47
4.1.1. Forest Governance in the Baltic Region 47
4.1.2. European geopolitics 48
4.1.3. Forests as assets for national security 49
4.2. Materials and methods 49
4.2.1. Semi-structured interviews 50
4.3. Policy analysis 52
4.3.1. EU and national forest-related policies 52
4.3.2. National Energy and Climate Plans 53
4.4. Framing analysis 53
4.5. Discourse analysis 54
4.5.1. Forest Europe dynamics 55
4.5.2. Participant observation 55
4.6. Ethical considerations 56

5. Results from the papers 57

5.1. Paper I – Implications of the European Green Deal for Forest Policy and Management across the Baltic States: A Nexus Perspective 57
5.1.1. Abstract 57
5.1.2. Key Findings and Insights 57
5.2. Paper II – Framing Forest Security: The Climate-Security Nexus and Policy Alignment in the EU and Baltic States 58
5.2.1. Abstract 58
5.2.2. Key Findings and Insights 59
5.3. Paper III – Adaptation of EU Policy during Geopolitical Changes: Impacts on Forest Use, Bioenergy, and Climate Security in the Baltic Region 60
5.3.1. Abstract 60
5.3.2. Key Findings and Insights 61
5.4. Paper IV – Forest Negotiations in Turbulent Times: Knowledge, Authority and Legitimacy within Forest Europe during the Swedish chairmanship 2025–2026 62
5.4.1. Abstract 62
5.4.2. Key Findings and Insights 63

6. Discussion 65

6.1. Implications of international environmental policies, cross-sectoral integration and MLG. 65
6.2. How (climate) security framing is evolving, and the role of forests in the new security paradigm 68
6.3. Effects of geopolitical disruptions on forest products market in the Baltic Region, and reflections on policy debates 69
6.4. Forests as interface resources: Nexus trade-offs, governance infrastructures, and the role of soft-law coordination 71

7. Conclusions 75

References 77

Generative AI statement 82

Paper I 83
Paper II 95
Paper III 123
Paper IV 161

List of papers

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Contributions to co-authored papers

I. A. G. conceptualised the study with inputs from V. B. and J. J.. A.G. performed the literature review and analysis, undertook the interviews, visualised the nexus framework and wrote the initial manuscript. All co-authors contributed to writing, reviewing and editing.

II. A. G. conceptualised the study with input from the co-author. A. G. performed the analysis and coding of the policies, data analysis and developed the methodology. A. G. wrote the initial manuscript and J. T. contributed to writing, reviewing and editing.

III. A.G. conceptualised the study with inputs from J.T. A.G. undertook the interviews in Sweden, Estonia, Latvia and Lithuania, and A.M. and S.K. undertook interviews in Finland. A.G. conceptualised the methodology, analytical framework and wrote the initial manuscript. All co-authors contributed to writing, reviewing and editing.

IV. A. G. conceptualised the study with input from J. T.. A. G. took part in all meetings and produced the minutes for analysis. A. G. conceptualised the framework, methodology, and wrote the initial manuscript. J. T. and members of Forest Europe´s Expert Group contributed with comments. J. T. contributed to writing, reviewing and editing.

Figures and tables

Figure 1: Thesis overview
Figure 2: Analytical Framework
Figure 3: Analytical contribution of thesis and papers

Acronyms and Abbreviations

BECCS	Bioenergy with Carbon Capture and Storage.
CHP	Combined Heat and Power.
CO_2	Carbon dioxide.
EEAS	European External Action Service.
EFI	European Forest Institute.
EU	European Union.
EUSBSR	EU Strategy for the Baltic Sea Region.
FAO	Food and Agriculture Organization (of the United Nations).
IPCC	Intergovernmental Panel on Climate Change.
IUFRO	International Union of Forest Research Organizations.
LULUCF	Land Use, Land-Use Change and Forestry.
MLG	Multi-Level Governance.
NECP/ NECPs	National Energy and Climate Plan(s).
NGO/ NGOs	Non-Governmental Organization(s).
SDGs	(UN) Sustainable Development Goals.
SFM	Sustainable Forest Management.
UNECE	United Nations Economic Commission for Europe.
WEF	Water-Energy-Food (Nexus)
WEFF	Water-Energy-Food-Forests (Nexus)

∴ Forests remember ∵

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1. Introduction

As rising temperatures, ocean acidification, mass extinction, and ecosystem degradation increasingly threaten both ecological systems and human societies, climate change has become a central focus of international environmental policy. These phenomena are driving global existential crises with far-reaching consequences, including food and water shortages, disruptions to energy infrastructure, migration, and conflict. Although climate change can occur naturally, human activities have undeniably intensified its scale and effects (IPCC 6, 2021). As part of this, forest degradation poses a significant global threat, contributing not only to loss of biodiversity but also to the decline of crucial ecosystem services that underpin long-term ecological stability and human well-being (Betts et al., 2017). Forests are essential for carbon storage, water security, biomass production, clean energy, and food systems, making them indispensable for long-term human survival and sustainable development (Brockerhoff, et al., 2017). Recognizing the interconnections between forest degradation, environmental change, and social vulnerability is therefore vital for maintaining ecological stability and addressing broader questions of security.

"Security" is used in this thesis in several related but distinct senses, clarifying that the emphasis given to each has shifted over time. Earlier EU documents framed security primarily in terms of how climate-related trade-offs could affect political stability and governance (European Council, 2008). Since then, both political and academic understandings have broadened considerably, extending the concept to economic, social, and environmental dimensions (Arnall, 2023; Scheffran et al., 2012), and giving rise to more specific notions such as energy security, national security, and human security that recur throughout the chapters that follow. Rather than using these terms interchangeably, this thesis applies each one to the dimension of security most relevant to the context being discussed.

Within this broader context, the European Union began formally acknowledging the links between climate change and security in 2008, when it released its first report on climate change and international security (European Council, 2008). This marked an important step in the institutional recognition of environmental change as something more than a purely ecological issue, suggesting that climate-related trade-offs could also have implications for political stability, conflict, and governance. However, despite this early recognition, environmental and climate security concerns remained secondary for many years. Economic crises, financial instability, and armed conflicts often took precedence in political agendas, making it difficult for member states to systematically address environmental security concerns or integrate them

meaningfully into broader policy frameworks (Scheffran et al., 2012). As a result, although the conceptual foundation for linking climate and security had been established, practical and political engagement with these issues developed only gradually.

Over time, however, both political and academic understandings of security began to evolve. As the fields of political and environmental sciences developed, the concept of security increasingly came to be viewed not only in military or territorial terms, but also through economic, social, and environmental lenses (Arnall, 2023). This broader interpretation reflects growing awareness that environmental degradation, resource scarcity, and ecological instability can have profound consequences for state resilience, economic stability, and societal well-being. Extreme weather events, for example, increasingly threaten human security and raise the possibility of tensions and conflicts over access to resources (Scheffran et al., 2012). In this context, climate change is now widely acknowledged as a security issue that affects both national and international stability (Arnall, 2023).

These concerns have become even more politically salient in recent years as climate-related disruptions have converged with energy insecurity and large-scale infrastructure disruption. Geopolitical tensions within and outside Europe, however, have complicated the global response to environmental challenges by diverting political attention and material resources, weakening multilateral cooperation, and increasing the vulnerability of already fragile energy and natural resource systems. As states increasingly prioritize strategic and military security interests, the coordination of climate goals has in many cases become more fragmented, slowing progress on emissions reductions, adaptation planning, and sustainable development initiatives (Dagar et al., 2025). Yet, these same dynamics have also reinforced the importance of environmental questions in security discourses. They have drawn greater attention to evolving dialogues on security, which increasingly incorporate the role of natural resources as fundamental components of national security strategies and human sustainment. This shift reflects a broader understanding that environmental stability, resource availability, and the resilience of ecological systems are not peripheral concerns, but core determinants of geopolitical power, economic stability, and societal well-being (Benrey Rodriguez et al., 2019). As a result, governments and international organizations are beginning to integrate climate risks into defence planning, foreign policy, and long-term security assessments, recognizing that environmental degradation and resource scarcity can amplify existing vulnerabilities, intensify regional tensions, and generate new forms of instability (Bosch et al., 2025).

This changing security landscape is particularly relevant in the Baltic states, where climate, natural resources, and geopolitics intersect in especially visible ways. In Estonia, Latvia, and Lithuania, geopolitical tensions with neighbouring countries may be intensified by climate-related pressures, including concerns over energy security and the availability of materials needed for industry and infrastructure development. A comparable dynamic is emerging in Sweden and Finland, where proximity to Russia and dependence on stable supply chains for critical resources create similar

vulnerabilities, though their stronger economic resilience and deeper integration with Western security structures have so far moderated the most acute crisis (Sivonen and Kivimaa, 2024). Russia ‘s large-scale invasion of Ukraine has underscored the dependence of the Baltic states on resource availability, trade networks, and secure access to energy, leading to increased demand for alternative energy sources as well as stronger natural resource protection (Malužinas, 2024). This is one of the reasons why the Baltic states are actively exploring opportunities to use these forests assets in ways that support both energy independence and natural resource protection (Krumins and Klavins, 2022). In this sense, forests are not only ecological assets but also increasingly strategic ones (Gordeeva et al., 2025).

Forest governance in Estonia, Latvia, and Lithuania has gone through several phases shaped by major political transformations, including Soviet occupation, transition to market economy and later accession to the European Union, and it is now facing new challenges arising from international environmental agreements and geopolitical uncertainty. Over the years, the Baltic states have developed forest policies that seek to align with EU regulations while addressing sustainable development, biodiversity conservation, and climate change mitigation (Krumins and Klavins, 2022), while maintaining historical legacies. A comparable tension between economic interests and EU environmental objectives is also evident in Sweden and Finland, where forests cover a dominant share of the land area and the forest sector is a major economic driver; in both countries, reconciling nationally important timber and bioeconomy interests with EU biodiversity and climate targets has emerged as a central governance challenge (Fridén et al., 2024). Forests in these countries play a crucial role in both national and regional economic and industrial sectors, making it difficult to balance domestic stakeholder interests with broader European objectives. These tensions, in turn, complicate policymaking and implementation. Despite these challenges, these countries also have important opportunities to strengthen the multifunctional role of forests and thereby enhance a wider range of ecosystem services (Krumins and Klavins, 2022).

1.2. Research gap: Forest governance in the Baltic States, nexus thinking, and the securitization of forest resources

While a substantial body of scholarship has examined forest governance systems in Finland and Sweden - often through comparative and longitudinal analyses of Nordic policy frameworks and institutional developments (e.g., Beland Lindahl et al., 2017; Fridén et al., 2024; Nebasifu et al., 2025) - comparatively limited academic attention has been directed towards forest governance in the Baltic states, thereby revealing a clear gap in the existing literature. Past research on forest governance in the Baltic states has produced valuable insights into post-socialist institutional change, state forest management reforms, and the composition of forest-policy networks, (Lazdinis, 2009; Teder et al., 2015; Lazdinis et al. (2004). Due attention to the legacies

of socialist period is essential for understanding forest governance in Estonia, Latvia, and Lithuania, where contemporary governance was shaped by the dismantling of Soviet regime (Lazdinis et al., 2004; Teder et al., 2015). Restitution and changing ownership patterns further transformed governance by creating new coordination challenges across state and private actors (Lazdinis et al., 2004), as well as post-socialist reforms which produced uneven state capacities, making current forest governance challenges by discrepancies in implementation, coordination, and enforcement (Lazdinis, 2009; Sotirov et al., 2018). These legacies continue to matter because EU climate, biodiversity, and bioeconomy goals are filtered through historically specific institutions, ownership structures, and administrative path dependencies in the Baltic (Wolfslehner et al., 2020; Gordeeva, 2025), as well as Nordic states, and across Europe.

A key gap is therefore that much of this work remains "intra-sectoral" as it tends to treat forestry as a relatively bounded policy arena, emphasizing forest agencies, forest owners, and forest industries, while offering more limited empirical data on how forest decisions are routinely shaped by governance in water management, industry and bioeconomy policy, land-use planning, and security policy. In parallel, European scholarship and policy analysis increasingly frames forests as embedded in cross-cutting agendas (e.g., Green Deal, biodiversity, bioeconomy). But these discussions often operate at an EU-level and do not sufficiently resolve the Baltic-specific coordination challenges created by distinctive ownership patterns, administrative capacities, and political-economic historical path dependencies (Wolfslehner et al., 2020; Gordeeva, 2025). As a result, there are still few studies that look closely at national forest governance in each Baltic state (Estonia, Latvia, Lithuania) and at the Baltic region as a connected whole. Some research do cover the early post-Soviet transition and the first big changes in institutions and policy networks, but there is less work that follows how national forest governance has continued to develop since the 1990s, including who has power, how decisions are made, and how rules are enforced today (Makrickiene et al., 2019; Teder, M., 2016; Linkevičius et al., 2019) This matters because forests are tied to industry, exports, jobs, and state revenue, and these economic links can strongly shape policy priorities (Teder et al., 2015). There is also a clear lack of research on forests as part of national resilience, meaning how countries prepare for and respond to shocks. We have limited empirical work showing how forest resources and forest-based supply chains (e.g. wood energy) are treated in resilience planning in peaceful times, and how governance changes during crises such as energy shocks or wider security tensions (Forest Europe, 2005; Malužinas; 2024).

This gap also concerns cross-sectoral coordination in relation to nexus approached and nexus thinking – explained in-depth in Section 3, especially water-energy-food-ecosystems and national security linkages, and the way these nexuses affect stakeholder inclusion and policy coherence. EU-focused research shows that, for example, forest and water are frequently governed in separate systems with parti-

ally conflicting goals, and that integration is uneven across instruments and actor networks (Wolfslehner et al., 2020). Meanwhile, comparative work on policy integration across European forest governance contexts identifies persistent tensions among climate, conservation, and energy/bioeconomy objectives (Beland Lindahl et al., 2023), and, consequently, existing scholarship still gives a limited picture of how cross-sector coordination works in practice, particularly in the Baltic states. Many studies acknowledge that forestry is linked to areas like water protection, industrial development, and national resilience, but fewer trace the governance processes through which these links are managed, including aspects of which institutions are involved (e.g. forest administrations, water/environment authorities, industry and energy bodies), what coordination mechanisms are used (inter-ministerial working groups, joint strategies, consultation rounds), and how conflicts are handled when policy goals collide (Forest Europe, 2005; Wolfslehner et al., 2020). As a result, there is still a research gap of where coordination is effective, where it fails, and how these coordination dynamics shape both policy outcomes and who has influence in forest-related decision-making (Baulenas et al., 2021).

A third, underdeveloped area of studies is the intersection of forest governance with security politics and securitization, including the securitization of natural resources and what it does to participation, accountability, and cross-sector coordination. Securitization theory highlights how issues become framed as existential threats that can legitimize exceptional measures, shift authority and narrow down deliberation (Buzan et al., 1998). Past research on environmental securitization and forest regimes exists, but it is typically global or general rather than grounded in country-specific forest governance (or any natural resource) institutions and stakeholder arenas (Gordeeva, 2022). Recent contributions on securitization of natural resources and crisis escalation provide conceptual ideas, but rarely connect to the politics of forest planning, enforcement, supply-chain regulation, or the multi-level EU governance context that forest governance operate within (Etchells, 2021). The research gap, therefore, lies not only in whether forests are discussed in security terms, but in how such security framings reshape governance. This includes questions about whether they bring in new actors, redefine what counts as "critical" forest functions, such as energy security, strategic materials, and resilience to hybrid threats, alter norms of transparency, and transform stakeholder engagement by prioritizing urgency over long-term planning.

1.3. Aim of the thesis

This thesis examines how forests are governed within Europe 's transition toward a sustainable and climate-resilient society. It focuses on how forest landscapes are shaped by intersecting climate, natural resource, and security pressures, as well as by policy frameworks such as the European Green Deal and the National Energy and Climate Plans (NECPs). Anchored in a rapidly transforming geopolitical and envi-

ronmental context, the thesis pays particular attention to the shifting nature of climate and environmental security narratives. Specifically, this thesis aims to analyse how expanded security concerns shape the governance of forest resources in Estonia, Latvia, and Lithuania (Paper I, Paper II and III). These countries offer a strong regional case due to their shared biophysical characteristics, interconnected energy systems, common historical land-use legacies, and strategic position at the intersection of EU environmental ambitions and regional security dynamics. Sweden and Finland are included as comparative cases in Paper III and Paper IV, where a broader European perspective is used to contextualize forest governance across the Baltic region. Forests in this region are subject to intense policy debates involving aspects of biodiversity protection, bioenergy expansion, carbon sequestration, and rural development, all of which have been heightened by the growing politicization of natural resources within European climate governance. Therefore, the thesis includes a critical assessment of how EU-level strategies interact with national forest policies (Paper II and Paper III), as well as how governance tensions emerge during implementation (Paper I) and within forest-related negotiations (Paper IV). In the Baltic-Nordic region, these negotiations are deeply shaped by multi-level governance complexities and divergent national priorities, reflecting broader struggles over natural resource sovereignty, bioeconomy ambitions, and environmental protection norms.

To analyse this empirically, the thesis applies an integrated Nexus and Multi-Level Governance (MLG) framework, supplemented by the analytical concept of security. The Nexus perspective allows for an integrative analysis of how forest-related decisions resonate across interconnected systems (e.g., water, food and energy), influence resource dependencies, and generate trade-offs or synergies. The MLG lens captures how authority, decision-making, and conflict resolution are distributed across EU institutions, national governments, regional authorities, civil society, and industry actors. Integrating climate security concerns adds an additional layer of analysis, enabling the thesis to explore how environmental risks, ranging from wildfire threats to energy dependencies, reshape governance priorities and stakeholder perceptions.

Methodologically, the thesis draws on multiple qualitative methods and sources to identify potential gaps between policy ambitions and capacity for implementation. Central to this is an emphasis on the perspectives and knowledge of diverse stakeholder groups, including forest owners, policymakers, environmental organizations, and industry. Through comparative case studies in Estonia, Latvia, Lithuania, Finland, and Sweden, the thesis illustrates how governance approaches vary across different geographical, political, environmental, and socio-cultural contexts, while also identifying common challenges and opportunities for more integrated resource governance.

Finally, the thesis seeks to contribute both theoretically and empirically to emerging scholarship on nexus thinking, natural resource security, and climate-related transformations in European policy frameworks. In doing so, it places particular emphasis on how forests are understood, framed, and negotiated across

diverse policy arenas. By analysing forests through the combined lenses of nexus thinking, multi-level governance, and security studies, the thesis offers nuanced insight into how discursive framings, actor perceptions, and negotiation processes shape evolving approaches to forest governance. It thereby highlights how these dynamics influence the positioning of forest resources in ways that aim to enhance resilience, support ecological integrity, and advance Europe's long-term sustainability ambitions.

1.4. Research questions

- Why do supranational environmental and climate policy goals produce divergent outcomes in forest governance across European and national levels, and with what implications for policy coordination? (Paper I, Paper IV)
- How are forests being re-framed within evolving climate, environmental, and geopolitical security discourses? (Paper I, Paper II)
- How do geopolitical disruptions affect forest-related markets, and how are these disruptions incorporated into governance debates on resilience and security in the Baltic–Nordic region? (Paper II, Paper III)
- How can an expanded nexus perspective inform trade-offs, synergies, and governance requirements in forest management under conditions of climate and geopolitical uncertainty? (Paper I, Paper IV)

2. State-of-the-Art

2.1. Forest governance in the EU and the Baltic Sea Region

Forest governance in Europe has become increasingly complex as forests are expected to fulfil multiple and partly competing roles at once. Across the EU, forests are no longer understood only as ecological systems or sources of timber, but as spaces governed through overlapping climate, biodiversity, energy, industrial, and rural development priorities. This shift is especially visible in the Baltic Sea region, where forests occupy a central place in national economies, political debates, and cultural identities. As past research by Korosuo et al. (2023), Gordeeva et al. (2025), and Hermanson (2018) shows, forests have become embedded in broader debates on resource governance, climate mitigation, and security. They are increasingly treated as strategic infrastructures linked to Europe's climate ambitions, industrial resilience, and geopolitical concerns.

At the EU level, this changing role of forests is reflected in the growing number of policy instruments that shape forest outcomes, even though forest policy itself is not an exclusive EU competence. The updated Land Use, Land Use Change and Forestry (LULUCF) framework sets an EU-level target of -310 million tonnes of CO2 net removals by 2030**,** confirming that forests are central to the Union's land-based climate strategy, while the EU Forest Strategy for 2030 explicitly links forest protection and restoration to the EU's broader climate targets and Green Deal priorities (European Commission, 2021; European Union, 2023; European Environment Agency, 2025). Forest governance is therefore increasingly structured through indirect European-level policies. Even without a binding, unified EU forest law, climate legislation, biodiversity directives, renewable energy targets, and trade-related regulation increasingly shape how forests are managed and valued nationally (Gordeeva et al., 2025).

This broader inclusion of forests into EU policymaking has also intensified governance tensions. As Gordeeva et al., (2025) argue, forests have become indispensable to multiple climate-economic ambitions, but forest governance at the European level remains fragmented. Member states retain substantial control over forest management, resulting in a patchwork of national practices that do not always align with supranational goals. This patchwork is particularly visible in countries with strong forest sectors, such as in the Nordic and Baltic regions, where forests are not only important ecological resources but also major economic assets and politically sensitive sectors (Korosuo et al., 2023). These countries often resist what they perceive as Brussels' intrusion into domestic governance, especially when European bio-

diversity and climate initiatives are seen to challenge established national forestry models (Annetorp and Johansson, 2025; Gordeeva et al., 2025). This is also one of the reasons why forests have moved to the centre of EU debates on resource governance. The Baltic region's forest-based industries and bioeconomy strategies depend on reliable biomass and roundwood supply, creating recurring tensions between harvesting, biodiversity, and climate goals (Krūmiņš & Kļaviņš, 2022). Forest governance in the Baltic Sea region is therefore marked by an unresolved tension between supranational steering and national sovereignty. On the one hand, EU policy increasingly treats forests as crucial to climate mitigation, biodiversity protection, and the green transition. On the other hand, national governments and forest sector actors defend active forest use, economic competitiveness, and domestic decision-making authority. In practice, forest governance becomes a site where ecological goals, resource extraction, industrial development, and political authority are negotiated simultaneously. Existing literature therefore suggests that contemporary European forest governance is best understood as a contested field rather than a coherent policy domain (Sotirov et al., 2021; Winkel et al., 2016). Forests are governed through multiple institutions, scales, and objectives, and the Baltic Sea region offers a particularly clear example of how these tensions become politically salient. Thus, forest governance in the region increasingly concerns not just how forests are protected, but how competing claims on forests are prioritized and legitimised.

2.2. Policy integration and fragmented implementation

Across Europe, forests are expected to deliver climate mitigation, biodiversity protection, renewable energy, rural development, and industrial supply simultaneously. A major strand of scholarship explains these developments through the lens of policy integration, such as Högl et al., (2016), Winkel et al., (2016), and Sotirov et al., (2018), who each show, from different angles, that forest-related policy integration in Europe remains partial, conflictual, and structurally constrained.

Högl et al., (2016) demonstrate that forests sit at the intersection of several major policy sectors, particularly climate, energy, agriculture, and biodiversity, each with its own institutional histories, actor constellations, and policy logics. While integration is often presented as a remedy to fragmentation, their work shows that integration is neither politically neutral nor administratively straightforward. The problem is that different sectors approach forests for different reasons and with different expectations. Climate policy values forests for carbon sequestration. Energy policy values them as a source of biomass. Biodiversity policy emphasizes habitat protection and ecological integrity. Rural development and industrial policy, meanwhile, stress employment, competitiveness, and wood supply. Each of these policy fields brings its own regulatory instruments, monitoring requirements, and performance criteria. The result is not integrated governance in any simple sense, but a layered and often

contradictory governance landscape in which forestry actors must navigate multiple and at times incompatible policy pressures.

Winkel et al., (2016) deepen this discussion through what they describe as the "integration paradox." Their argument is especially important for understanding why more EU involvement in forest-related policy does not automatically produce more coherent governance outcomes. As forest issues are increasingly drawn into broader EU frameworks such as climate policy, biodiversity strategy, and renewable energy legislation, they become more integrated at the level of formal policy ambition. Yet this same process may generate new forms of conflict and disintegration in practice. Because forest policy remains largely a national competence, EU attempts to steer forest outcomes indirectly through adjacent policy fields often trigger political resistance. In countries with strong forest industries, such as Sweden and Finland, these indirect interventions are frequently interpreted as external interference in domestic governance systems and long-standing forestry traditions (Annetorp and Johansson, 2025; Winkel et al., 2016). Sotirov et al. (2021) demonstrate that this resistance is organizationally structured, showing how ideologically divided coalitions of national actors, particularly in forest-rich member states such as Finland, Sweden, Germany, and Poland, actively mobilize to defend national sovereignty over forest policy against EU-level encroachment. This paradox helps explain why forest governance in Europe remains fragmented despite an increasingly dense web of overlapping regulation. Integration at the EU level does not dissolve national differences; instead, it often reveals or intensifies them.

Sotirov et al., (2018) reinforce this point by bringing attention to the domestic level. Their research shows that even when policy integration is formally embraced, the practical uptake of EU goals differs significantly across member states. Some countries internalize climate, biodiversity, and bioenergy objectives in more substantive ways by adapting legislation, planning instruments, and management approaches. Others adopt these goals more superficially, changing discourse or administrative terminology while maintaining established forestry practices. Their work suggests that integration depends not only on formal policy design, but also on national political cultures, administrative capacities, and the relative power of sectoral interests. As a result, the same EU objective may produce very different governance outcomes depending on where and how it is translated into practice. Sotirov et al., (2021) show that this pattern has persisted across successive EU Forest Strategies, none of which have produced consistent cross-national coordination, raising questions about whether the European Green Deal represents a genuine structural opening or simply a new framing layered onto existing fragmentation. Beland Lindahl et al. (2023) extend this finding in a more recent cross-national study, arguing that integration outcomes depend critically on whether anticipated synergies between policy goals are genuine or merely rhetorical, and warning that failures to safeguard biodiversity within integration processes may carry particularly far-reaching and irreversible consequences.

A particularly important contribution of Sotirov et al., (2018) is their insistence that integration is not merely a technical exercise. It is a political process shaped by competing narratives about what forests are for and how trade-offs should be managed. Forestry actors often promote "win-win" narratives that present wood production, climate mitigation, and renewable energy as mutually reinforcing, thereby downplaying tensions with biodiversity goals. Environmental organizations, by contrast, warn that an excessive emphasis on climate and bioenergy may erode ecological integrity and weaken conservation objectives. These competing narratives matter because they shape how integration is interpreted and implemented. Furthermore, Sotirov et al., (2021) show that narrative conflicts reflect fundamentally different worldviews among EU and national forest policy actors - divergences that are not resolvable through technical coordination alone but require deliberate engagement with underlying value conflicts. They determine whether new policy goals lead to genuine changes in forest governance or are absorbed into existing forestry paradigms with limited transformation.

This literature therefore identifies the central problem as the uneven, conflictual, and politically charged nature of integration processes. Forest governance in Europe is fragmented because governance processes are simultaneously shaped by too many agendas, each backed by different institutions, interests, and forms of authority. Elomina and Pülzl (2021) reinforce this point through a systematic frame analysis of EU policy documents, identifying competing forest frames in which dominant ones consistently prioritize wood production and utilization, while biodiversity and cultural ecosystem service frames remain marginalized in the policy process.

As climate pressures intensify, biodiversity decline accelerates, and demand for renewable resources grows, forests will continue to be positioned as solutions to multiple policy challenges at once. Yet unless the structural and political roots of fragmented integration are addressed, governance frameworks will struggle to produce coherent and sustainable outcomes. The challenge is therefore not only to call for more integration, but to recognize that integration itself requires political negotiation, institutional adaptation, and trust-building across sectors and levels of governance.

2.3. Post-socialist forest governance in the Baltic Sea Region

The Baltic Sea region is marked by significant governance heterogeneity. It contains Nordic member states with long-established forestry institutions and strong forest industries, but also post-socialist states such as Estonia, Latvia, and Lithuania, whose contemporary governance systems have been shaped by post-Cold War restructuring, EU accession, and changing relations with Russia (Lazdinis et al., 2005). This matters because forest governance in these states is not only shaped by current EU climate and biodiversity agendas, but also by historical transformations in state authority, property regimes, energy dependencies, and administrative coordination

(Lazdinis et al., 2009). In this sense, the region's forest governance must be understood through both Europeanisation and post-socialist transition.

Hermanson´s (2018) analysis of Baltic Sea regional energy governance situates the region within complex multi-level governance structures shaped by historical dependencies and geopolitical vulnerability. It shows that the region's energy system has relied heavily on Russian natural gas for a long time, and because of this, changing energy sources is not just an economic issue but also a political one. This is especially important in post-socialist countries, where concerns about national sovereignty, independence, and reliance on foreign infrastructure have been particularly strong. Following Russia's invasion of Ukraine, these historical dependencies took on renewed urgency. In such a context, domestic forest resources gained strategic significance because they could be seen as stable, renewable, and comparatively secure energy sources. Particularly in Sweden, Finland, and the Baltic states, forest biomass has increasingly been presented as part of national and regional resilience strategies (Hermanson, 2018).

This regional context also sharpens the political meaning of fragmented forest governance. Gordeeva et al., (2025) note that EU influence over forests has expanded gradually through indirect channels rather than through a single common forest policy. In post-socialist member states, this can interfere with domestic governance trajectories in specific ways. The importance of national control over forests, the diversity of implementation practices, and the patchwork character of European forest governance all suggest that the incorporation of EU goals into domestic forest policy is challenged by local institutional histories and political priorities (Sotirov et al., 2018). Sotirov et al., (2018) show that member states vary considerably in how they internalise biodiversity, climate mitigation, and bioenergy objectives. In post-socialist contexts, where administrative capacity, policy coordination, and sectoral balances may differ from those found in older member states, this is particularly complex. At the same time, the Baltic states are not only post-socialist states; they are also forest-rich economies whose forests matter for employment, energy, land use, and export-oriented production. This means that their governance cannot be reduced to a legacy issue as it is actively reproduced through present-day struggles over how EU priorities can be translated into national practice (Annetorp and Johansson, 2025). Forests in Estonia, Latvia, and Lithuania are shaped by the same broad EU pressures (Lazdinis et al., 2005; Giolo et al., 2026), but these issues are filtered through governance systems marked by transition, external dependence, and the continuing importance of sovereignty and resilience (Sotirov et al., 2018).

When investigating forest governance in the Baltic states, the post-socialist´s perspective is useful because it makes visible inequalities that are often overlooked in broader EU governance debates. Discussions of policy integration tend to treat EU member states as broadly similar, assuming they respond in different ways to the same European objectives. However, in the Baltic Sea region, governance capacity and strategic priorities are strongly shaped by different historical experiences, parti-

cularly related to state transformation and geopolitical vulnerability. Hermanson's (2018) focus on historical path dependency and the security dimensions of energy governance helps to explain why forest biomass can become especially important in countries that face stronger concerns about external dependence and real risks of geopolitical turmoil. Post-socialist forest governance should, therefore, be considered as more than a geographical subset of EU forest governance. Rather, it is a regional feature that helps explain why similar EU policies may be translated differently in the Baltic states than in older western or Nordic member states, and why forest resources may be invested with strategic and political meanings. In the Baltic Sea region, forest governance is therefore shaped not only by general EU-level dynamics of integration and fragmentation, but also by post-socialist trajectories of institutional transformation, geopolitical dependence, and resilience-building.

2.4. Environmental and climate security

In recent years, forests have moved closer to the centre of EU security debates because climate and environmental pressures are now more explicitly treated as security-relevant risks. EU security strategy documents increasingly acknowledge the destabilizing implications of climate change and environmental degradation, while regional policy debates in the Baltic Sea area place growing emphasis on resilience, energy security, and reduced vulnerability under geopolitical volatility (EEAS, 2023). This shift does not mean that forests are traditionally securitized in a narrow military sense. Rather, it means that forests are increasingly discussed as resources and infrastructures essential to stability, resilience, and strategic autonomy.

The work by Korosuo et al., (2023) is central here since they show how forests in EU climate policy are burdened with a double expectation. Forests are expected to act as carbon sinks that compensate for emissions from hard-to-decarbonise sectors, while also supplying renewable materials and energy. This double role makes forests central to the EU's climate neutrality project but also exposes contradictions at the heart of current policy. On the one hand, forests are valued for their ability to sequester carbon and maintain the land sink under the LULUCF regulation. On the other hand, growing demand for biomass, especially wood-based bioenergy, risks undermining this sink function. Korosuo et al., (2023) note that EU accounting rules often underestimate the temporal gap between carbon released through harvesting and carbon reabsorbed through regrowth, thereby raising doubts about whether forest-based bioenergy can deliver the climate benefits often attributed to it. Forests are therefore not simply environmental assets; they are also sites where competing climate-security logics collide.

These tensions are particularly pronounced in the north of Europe, including Sweden, Finland, Estonia, Latvia, and Lithuania, where forests hold major economic, cultural, and political importance (Korosuo et al., 2023). In these settings, forests are increasingly framed not just as part of climate mitigation, but as part of broader

national resilience. More recently, Gordeeva et al., (2025) note a significant shift in EU forest politics whereby forests are increasingly understood as strategic and security resources. Jonsson and Sotirov (2025) demonstrate how these dynamics intersect concretely: the EU's push for renewable energy through RED III increases demand for domestic wood biomass, while the Ukraine war - by triggering an import ban on Russian and Belarusian timber – has sharply reduced external supply, intensifying pressure on European forests as strategic domestic resources. As Europe seeks to accelerate the energy transition and reduce dependence on external suppliers, domestic biomass has gained renewed political appeal. Forests, in this sense, are tied not only to climate mitigation but also to energy autonomy, economic resilience, and geopolitical stability. Hermanson (2018) makes this connection particularly clear in relation to the Baltic Sea region. Her work on regional energy governance shows that energy systems in the region are deeply shaped by historical dependencies and security concerns. Because reliance on Russian energy has long been understood as a strategic vulnerability, the diversification of energy sources became part of wider national security strategies. Following Russia's invasion of Ukraine, this logic intensified. Under such conditions, domestic forest resources could be presented as comparatively secure and nationally controllable energy flows. In Sweden, Finland, and the Baltic states, forest biomass thus emerged as part of resilience thinking, further blurring the boundary between environmental governance and security policy (Hermanson, 2018).

Securitization is a concept developed by the Copenhagen School of security studies, associated principally with Buzan, Wæver and de Wilde (1998). It outlines the political nature of "doing" security and challenges traditional approaches concerned with identifying self-evident threats, introducing instead a social-constructivist perspective that considers how problems are transformed into security issues. Securitization is the successful process of labelling an issue a security issue, resulting in a transformation of the way it is dealt, as problems are turned into existential threats that require exceptional emergency measures. Securitization does not necessarily appear here as an explicit declaration of existential threat followed by emergency measures. Rather, it manifests as the elevation of forests to strategic priority status. Forests are increasingly treated as essential not only to environmental sustainability, but also to political stability, industrial continuity, energy autonomy, and resistance to external coercion (Gordeeva et al., 2025; Korosuo et al., 2023; Annetorp and Johansson, 2025; Hermanson, 2018). At the same time, the environmental and climate security literature also highlights that these roles are not naturally compatible (Jonsson and Sotirov, 2025). The use of forests for energy security may undermine their long-term carbon sequestration capacity. The mobilization of forests as climate policy instruments may come into conflict with biodiversity goals and ecological integrity. National economic interests in active forestry may clash with supranational conservation objectives. Security framings may intensify political pressure to prioritize domestic resource use at the expense of long-term environmental sustainability.

In this sense, environmental and climate security do not simply add another perspective to forest governance; they intensify existing tensions by reframing forests as resources whose value is measured not only ecologically or economically, but geopolitically. The Baltic Sea region is especially important in this regard because it concentrates several of these pressures at once. It is a region of abundant forests, heightened geopolitical sensitivity, and strong concern with resilience and energy autonomy. As Europe moves further into an era shaped by climate uncertainty, decarbonisation pressures, and geopolitical instability, the strategic importance of forests in this region is likely to grow. The environmental and climate security literature helps explain why forests now sit at the centre of some of the most pressing debates shaping the future of EU natural resource governance.

3. Analytical framework

3.1. Literature review

3.1.1. Multi-level Governance dynamics

Multi-Level Governance (MLG) refers to the way authority, financial resources, and problem-solving responsibilities are shared across multiple territorial levels and among a variety of public and private actors (Maggetti & Trein, 2019; Piattoni, 2010). Rather than seeing governance as a fixed hierarchy, recent scholarship emphasizes that MLG works through dynamic interactions, including negotiation, coordination, conflict, and policy learning, between institutions operating at different scales and in different policy sectors (Stephenson, 2013; Hooghe & Marks, 2001). A central distinction in the literature is between Type I and Type II forms of MLG. Type I MLG refers to stable, general-purpose, and mostly non-overlapping jurisdictions such as municipalities, regions, states, and supranational bodies like the European Union (Hooghe & Marks, 2003; Bache & Flinders, 2004). In contrast, Type II MLG captures more flexible, task-specific, and overlapping forms of organization, for example river-basin authorities, or cross-border regional initiatives (Hooghe & Marks, 2003; Peters & Pierre, 2004). These bodies often emerge to address specific policy problems that cut across traditional territorial boundaries. The contemporary governance landscape typically blends these two types. Empirical research shows that most policy fields, from environmental management to economic development, operate through a combination of stable governmental tiers and flexible, problem-oriented networks (Treib et al., 2007; Maggetti & Trein, 2019). As a result, MLG is best understood as an evolving system of overlapping jurisdictions and continuous interaction across levels and sectors.

A research strand of MLG literature looks at how power moves across levels and actors, both vertically and horizontally. Instead of seeing policymaking as a simple top-down process, scholars emphasize interdependence (Peters & Pierre, 2001). Subnational governments try to shape decisions at higher levels through the strategic selection of decision-making arenas, while supranational bodies influence national and local actors through regulation, funding and soft power. At the same time, private transnational rules, such as standards, certification schemes, and financial regulations, affect what public authorities can realistically do (Peters & Pierre, 2001). This shift has led MLG research to focus more on policy mixes and instrument interactions: how laws, financial incentives, planning rules, data systems, and voluntary standards work together across levels. These tools can strengthen each other, but they

can also work at cross-purposes (Peters & Pierre, 2001). Another key strand concerns legitimacy and accountability in systems where authority is widely shared (Peters & Pierre, 2004). When decisions emerge from networks and many different actors, it becomes harder to see who is responsible, creating challenges of accountability and transparency. This raises concerns about democratic control and fairness, especially when some actors have more resources to influence decisions across scales (Peters & Pierre, 2004). The literature highlights clear trade-offs: MLG can improve problem-solving for complex, cross-border issues, but it can also make political accountability less clear and give more influence on well-positioned, well-resourced actors (Peters & Pierre, 2004).

Recent research shows also that MLG is increasingly shaped by political conflict, public debate, and disagreements about expertise. Climate and energy policies often create tensions about who should pay and who benefits, which is well documented in studies of European and climate governance (Hooghe & Marks, 2009; Dupuis & Biesbroek, 2013; Heinen et al., 2022). These conflicts also link to identity and territorial politics, as regions and cities may defend their autonomy or challenge national and EU decisions (Keating, 2013). At the same time, climate governance frequently involves disputes about knowledge and expertise, because actors may trust different forms of evidence or challenge scientific assessments (Jasanoff, 2004; Jasanoff, 2004). In this context, monitoring, reporting, and evidence-based reports, used by the EU and UNFCCC, play a major role in steering policy. These systems shape what is seen as good performance or compliance by focusing on measurable indicators (Merry, 2016). Moreover, crises, such as energy shortages, extreme weather, or geopolitical shocks, can quickly change how authority is organized. Sometimes power becomes more centralized during emergencies (Boin et al., 2016), but in other situations local governments gain more influence because they are the first to deal with the impacts (Boin et al., 2016) and so to gather evidence. Together, these developments show that MLG is increasingly influenced by politics, data practices, and crisis pressures, not just formal institutions.

These dynamics are particularly prominent in European forest governance, where formal competence remains largely national, yet EU-level goals and market rules strongly shape domestic choices. The EU Forest Strategy for 2030 frames forests as central to biodiversity and climate objectives, encouraging coordinated action while interacting with other EU policy pillars (European Commission, 2021). Forest governance is also highlighted through climate accounting and targets in the LULUCF framework, including the 2023 amendment setting out 2030 targets and compliance rules, which changes incentives for harvest levels, afforestation, and restoration strategies within Member States (European Union, 2023). Biodiversity policies likewise drive re-scaling via the Nature Restoration Regulation and its binding restoration targets, which may require new coordination between national forest agencies, regions, and landowners (European Commission, 2024). Meanwhile, the EU's deforestation-free products regulation extends governance "sideways" into

global supply chains through due diligence and traceability requirements. Across these layers, private certification (e.g., FSC/PEFC) and national forest models mediate EU pressures, illustrating European MLG pattern, including limited formal EU forestry competence, strong indirect steering through climate/biodiversity/market instruments, and persistent contestation over subsidiarity, rural livelihoods, and the meaning of sustainability (Keating, 2013).

3.2.2. Nexus Approaches for Integrated Resource Management

Before examining nexus approaches as governance and decision-support tools, it is worth distinguishing *nexus thinking* from *nexus approaches* as such. Nexus thinking refers to the analytical recognition that water, energy, food, and ecosystems are interdependent, a conceptual orientation that draws attention to cross-sector linkages, trade-offs, and co-benefits, without necessarily prescribing a particular method or governance architecture (Simpson & Jewitt, 2019; Özcan et al., 2024). It is a mode of problem framing rather than a method as it asks practitioners and policymakers to move beyond siloed management and consider how interventions in one domain propagate through others (Estoque, 2023). Nexus *approaches*, by contrast, operationalize this thinking into structured analytical and governance frameworks, defining system boundaries, quantifying flows, identifying leverage points, and guiding policy coordination (FAO, 2014; UNECE, 2021). The transition from *thinking* to *approach* requires agreed metrics, institutional mandates, and political will to act on cross-sector interdependencies (Simpson & Jewitt, 2019). This section of the thesis focuses on this latter, operational dimension, while recognizing that the quality of any nexus approach depends on the depth of nexus thinking it embeds. Nexus approaches for Integrated Resource Management (IRM) treat critical resources, most commonly water, energy and food, and increasingly ecosystems, land, climate and biodiversity, as interdependent systems rather than separable sectors (FAO, 2014; IPCC, 2022). Within IRM, the "nexus" is not just a descriptive label for interconnection; it is a governance and decision-support approach that aims to reveal cross-sector dependencies, manage trade-offs transparently, and design interventions that deliver co-benefits under physical constraints and political realities (FAO, 2014; IPCC, 2022).

Early Nexus work was often criticized for being conceptually appealing but methodologically uneven. Recent research push towards practical steps by defining system boundaries, mapping flows and causal links, identifying leverage points, and building scenarios that compare portfolios of measures across sectors (Albrecht et al., 2018). The UNECE "nexus assessment" exemplifies this by providing a structured, participatory process for diagnosing intersectoral linkages and prioritizing policy-relevant actions, particularly useful where resources across borders and administrative responsibilities are fragmented (UNECE, 2022). Moreover, research has advanced in integrating risk, uncertainty, and climate impacts into IRM (Hogeboom et al., 2021; Albrecht et al., 2018). IPCC Sixth Assessment Report explicitly discusses

nexus approaches to manage synergies and trade-offs, especially because climate change alters hydrological regimes, shifts energy-system reliability, and changes agricultural water demand (IPCC, 2022). This has accelerated the use of robust decision-making, stress-testing, and search for options that perform acceptably across climate and socio-economic futures, rather than optimizing for a single expected scenario (FAO/UFM, 2022). Nexus-based IRM is also increasingly framed as WEFE (Water-Energy-Food-Ecosystems) to avoid treating nature as an externality. UNESCO and partners present WEFE to increase security in water, energy and food without compromising ecosystem services, and to align interventions with multiple SDGs simultaneously (UNESCO, 2021; FAO/UFM, 2022). In practice, this reframing has encouraged IRM projects to build explicit ecological constraints (environmental flows, soil health, habitat connectivity) into planning, not merely as "impacts" but as determinants of long-term system viability. Finally, a related frontier is data and accountability: integrated monitoring and indicators can enable coordination, but they also shape whose knowledge counts, and which outcomes are prioritized (UNESCO, 2021; FAO/UFM, 2022).

In Europe, nexus approaches for IRM are now widely used to deal with challenges such as water shortages, decarbonization, changes in agriculture, and ecosystem restoration, especially in governance systems where many rules and decisions are shared across levels of government (Özcan et al., 2024; JRC, 2019). The European Commission actively promotes the Water-Energy-Food-Ecosystems (WEFE) nexus in its external and cooperation policies, stressing how water, land and soils, energy, food security, and ecosystems depend on each other (JRC, 2019). At the same time, European studies show that infrastructure and policy decisions can create new pressures in other sectors or regions, which makes cross-sector coordination a practical requirement rather than just a theoretical idea (NEXOGENESIS, 2024; Özcan et al., 2024).

For IRM in Europe, the key challenge is therefore not just to "add more sectors" to planning processes. Instead, it is about building decision-making systems that can balance climate and biodiversity goals with resource needs, link ecological limits at basin and landscape scale with energy and food strategies, and create transparent ways to manage trade-offs across EU, national, and subnational levels, especially in places where land and forests connect water regulation, bioenergy demand, rural livelihoods, and ecosystem health (NEXOGENESIS, 2025; JRC, 2019).

3.2.3. Climate security and securitization of natural resources

Climate security research examines how climate change and environmental degradation shape the conditions for peace and insecurity, not as deterministic "causes" of conflict but as risk multipliers that interact with political exclusion, weak institutions, livelihood shocks, and armed group strategies (UNFCCC, 2021; EEAS, 2023; Le Billon et al., 2025). In contemporary scholarship and policy, *climate security* has also become a governance frame by linking climate impacts to strategic priorities, such as

stability, migration governance, critical infrastructure protection, military readiness, and it increasingly informs foreign, development, and defence planning (UNFCCC, 2021; EEAS, 2023).

Securitization describes how an issue is transformed into a security matter through narratives and institutional practices that present it as an existential threat, thereby legitimizing extraordinary measures and reordering political priorities (Buzan et al., 1998). While climate change is often portrayed in security terms, current work stresses that securitization is not even. Instead, it is uneven across arenas (defence vs. development), scales (local vs. international), and objects of protection (the state, communities, or ecosystems) (Arnall, 2023; Nanthini and Nair, 2021). It also varies by audience acceptance, i.e., what persuades the UN Security Council may not persuade domestic publics, and vice versa (UN, 2021; Security Council Report, 2021).

Within climate security literature, a major advance in research is the increasingly fine-grained analysis of resource pathways (UNFCCC, 2021). Rather than treating "scarcity" as the master mechanism, the literature highlights multiple channels through which natural resources become conflict-relevant, including livelihood disruption (droughts, floods, heat) that raises grievance and reduces coping capacity; (2) elite competition over control of land, water, forests, and subsoil assets; armed group financing and territorial strategies linked to resource rents; and state responses (e.g., emergency rules, coercive conservation, or militarized border management) that can heighten tensions (UNFCCC, 2021). The policy-facing articulation of this view is visible in the repeated characterization of climate change and environmental mismanagement as risk multipliers, especially where institutions are fragile and historical conflicts persist (UNFCCC, 2021).

A second frontier concerns the securitization of natural resources specifically, including water, land, forests, critical minerals, and energy carriers, under conditions of climate stress and geopolitical competition (UN, 2021; Security Council Report, 2021). Here, securitization can operate through three logics. First, strategic resource protection implies that governments may classify certain resources (or supply chains) as vital to national security, enabling rapid permitting, stockpiling, or strategic infrastructure investment. Second, resource access control means that securitized framing can justify surveillance and coercion in resource frontiers, often with distributional consequences for local communities and Indigenous and rural land users. Third, externalization and border logics occur when resource pressures are linked to migration or instability narratives, policy may prioritize containment and deterrence rather than adaptation and equitable development. Contemporary debates in and around the UN Security Council show these tensions when proponents argue securitization mobilizes attention and resources, whilst critics worry it militarizes climate action, narrows solutions, and sidelines climate justice and development priorities (UN, 2021; Security Council Report, 2021).

Current climate security research increasingly combines risk assessments, early-warning tools, and scenario analysis with political-economy and governance

perspectives (Scheffran et al., 2012; Arnall, 2023; Bosch et al., 2025). This involves examining how environmental shocks, such as droughts, floods, or storms, interact with existing social contracts, land-tenure arrangements, and revenue systems, particularly in places where state legitimacy depends heavily on natural resources (Security Council Report, 2021). The field also places strong emphasis on how knowledge is created, selected, and communicated. It looks at which indicators are treated as relevant for security analysis, how thresholds for action are set, and how uncertainty is translated into policy processes. These practices shape how policy-makers interpret risks and can significantly influence security planning, crisis responses, and long-term governance strategies (Security Council Report, 2021).

In Europe, climate security is becoming more firmly embedded in foreign and defence policy. The EU now clearly describes climate change and environmental degradation as factors that can increase risks to peace, stability, and security in its 2023 joint communication on the climate–security nexus and links these risks to defence preparedness and wider resilience goals (EEAS, 2023). At the same time, European discussions increasingly connect climate security with resource security, including water scarcity, ecosystem decline, and strategic supply chains. In these areas, framing issues as "security" can help drive coordination across sectors, but it can also intensify debates about trade-offs and who bears the costs (EEA, 2025). Because of this, securitization is seen as a mixed governance tool. It can speed up action and help align priorities across different policy fields, but it also carries risks. If used without attention to justice, participation, or long-term ecological limits, securitization can lead to more coercive approaches and deepen existing vulnerabilities instead of reducing them (Arnall, 2023; Etchells, 2021).

3.2. Theorizing Multi Level Governance in Baltic and Nordic forest governance

This thesis employs a layered analytical framework for examining forest governance under conditions of climate change, cross-sectoral interdependence, and geopolitical uncertainty. Rather than applying multi-level governance, nexus thinking, security, and securitization approaches with equal weight across all four papers, the framework functions as a shared conceptual architecture for the thesis as a whole. Each paper mobilizes components of this framework according to its empirical focus and research question, while contributing to an aggregate argument about how forest governance is being transformed in the Baltic and Nordic context.

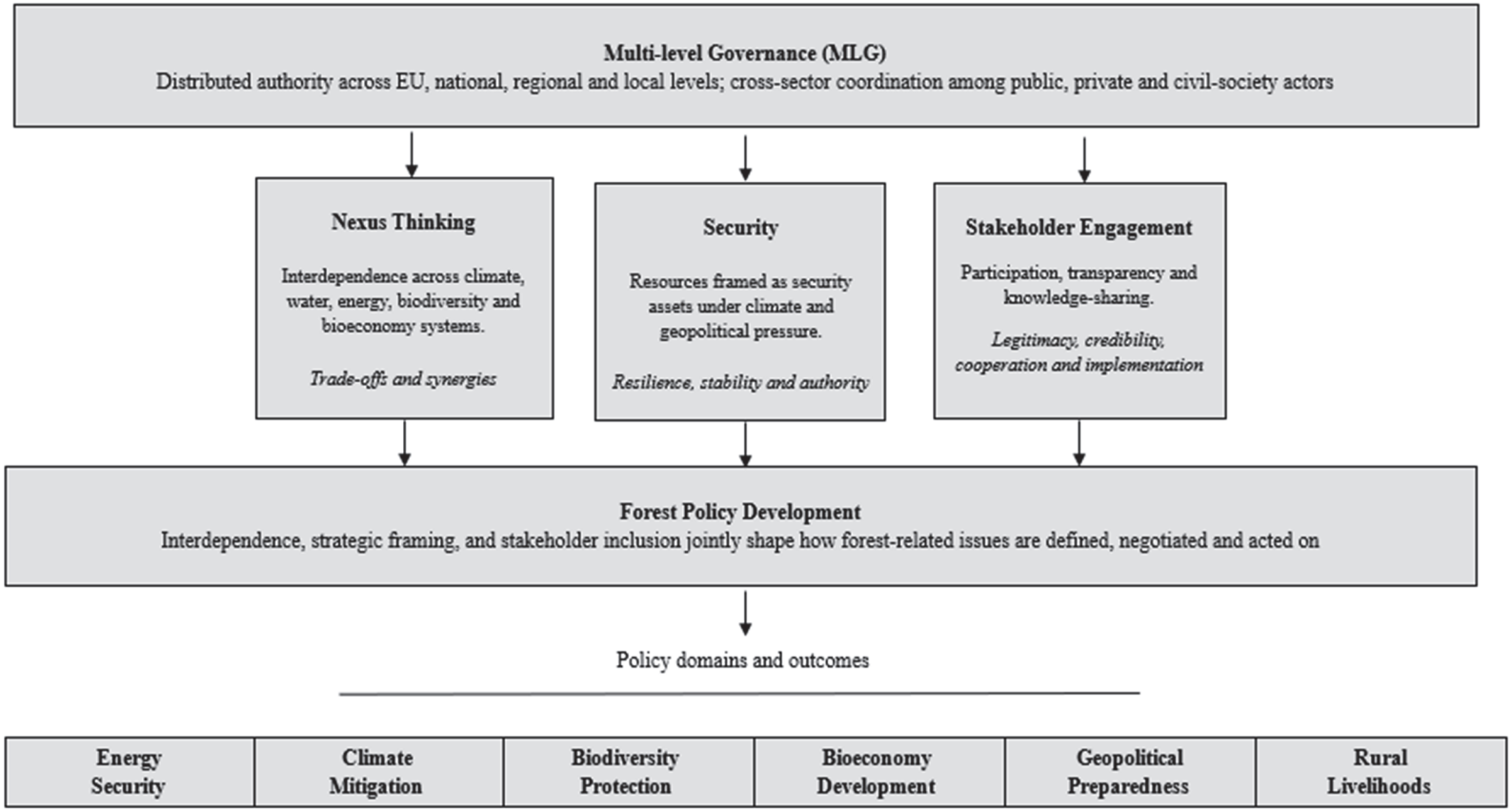

Figure 1. Analytical Framework for forest governance, integrating multi-level governance, nexus thinking and stakeholder engagement.

Multi-level governance provides the overarching governance lens. It captures how authority, responsibility, coordination, and legitimacy are distributed across EU, national, regional, local, and transnational arenas, as well as among public, private, and civil-society actors (Hooghe & Marks, 2001; Piattoni, 2010). This perspective is particularly relevant for understanding how broad European environmental and climate policy goals are translated into national forest governance contexts, and how tensions arise when supranational ambitions encounter domestic priorities, administrative capacities, and stakeholder interests. However, multi-level governance alone does not fully explain why forest governance is increasingly conflictual, and the framework therefore incorporates *nexus thinking*, which draws attention to the interdependencies between forests and other policy domains, including energy, water, biodiversity, food systems, climate mitigation, bioeconomy development, and rural livelihoods (Bazilian et al., 2011; Simpson et al., 2019). Nexus thinking helps identify the trade-offs, synergies, spillovers, and unintended consequences that arise when forests are expected to fulfil several roles at once. In this sense, forests are not treated as a single-sector policy object, but as part of broader ecological, economic, and political systems. *Security* and *securitization* approaches add a third analytical layer. They explain how climate risks, energy dependence, geopolitical disruption, and concerns about resilience and stability can reframe forests as strategic resources (Buzan et al., 1998; Balzacq, 2011; Trombetta, 2008). This perspective is important because security-oriented framings can elevate forests within policy debates, but they may also reshape governance priorities by introducing urgency, narrowing deliberation, or shifting authority. Finally, *stakeholder engagement* is treated as a core dimension of governance rather than as a secondary procedural concern. Participation, transparency, and knowledge-sharing influence whether cross-level and cross-sectoral coordination is perceived as legitimate, credible, and implementable in practice (Schmidt, 2012; Schmidt, 2019).

Paper I places strongest emphasis on the relationship between nexus thinking and multi-level governance. It examines how the European Green Deal and related environmental policy goals are translated into forest governance in the Baltic states, and how this process exposes coordination problems across sectors and levels. Nexus thinking functions as a diagnostic tool for identifying interconnections between forest management, biodiversity protection, climate mitigation, energy use, and water-related concerns. Multi-level governance explains why these interdependencies are difficult to manage in practice. This includes an analysis of how responsibilities are distributed across EU, national, and local levels, while implementation depends on administrative capacity, stakeholder inclusion, and coordination between policy sectors. Paper I thus identifies a central challenge of the thesis by demonstrating that, although forest governance is increasingly shaped by integrated policy objectives, its implementation remains fragmented in practice.

Paper II shifts the focus from implementation to framing. Here, nexus thinking is used primarily as an interpretive lens for understanding why forest governance

cannot be separated from broader resource and security concerns. Security and securitization concepts are therefore more central than multi-level governance. The paper examines how forests are represented within climate-security and natural-resource-security discourses at EU and national levels. It shows how forests are gradually reframed not only as ecological or economic resources, but also as assets connected to resilience, energy independence, and societal stability. At the same time, the analysis identifies variation across governance levels. EU-level documents tend to emphasize climate resilience and systemic risk, whereas national-level framings often connect forests more directly to energy, economy, and territorial vulnerability. Paper II thus contributes to the thesis by showing how forests acquire new political meanings through security-oriented narratives.

Paper III develops the strongest connection between nexus thinking and security. It examines how geopolitical disruption, particularly after Russia's invasion of Ukraine, has affected forest-related markets, energy planning, and governance debates in the Baltic–Nordic region. Forests are analysed as part of a broader security nexus in which energy security, climate policy, biomass demand and market disruption interact. Nexus thinking is used to trace the trade-offs that emerge when forests are expected to support energy-system resilience while also contributing to biodiversity protection, carbon sequestration, and long-term sustainability. Security concepts explain why these trade-offs become politically urgent under crisis conditions. As in Paper II, Multi-Level Governance remains relevant as the institutional context in which these pressures are managed, particularly through EU energy and climate planning, national adaptation strategies, and stakeholder responses. Paper III thereby shows how geopolitical shocks intensify the strategic importance of forests while exposing governance weaknesses.

Paper IV adopts a pan-European perspective and although it does not focus empirically on the Baltic states, it contributes to the thesis by situating Baltic-Nordic forest governance within the broader multi-level governance architecture that shapes national policy choices. The paper examines Forest Europe as a soft-law arena where competing claims around sustainable forest management, biodiversity, climate mitigation, bioeconomy, and resilience are negotiated. It shows how authority, knowledge, and legitimacy are constructed at the European level, influencing the policy environment in which Baltic and Nordic forest governance operates. In this paper, security is treated primarily as a contextual pressure linked to resilience, supply stability, and geopolitical uncertainty, rather than as the central analytical concept.

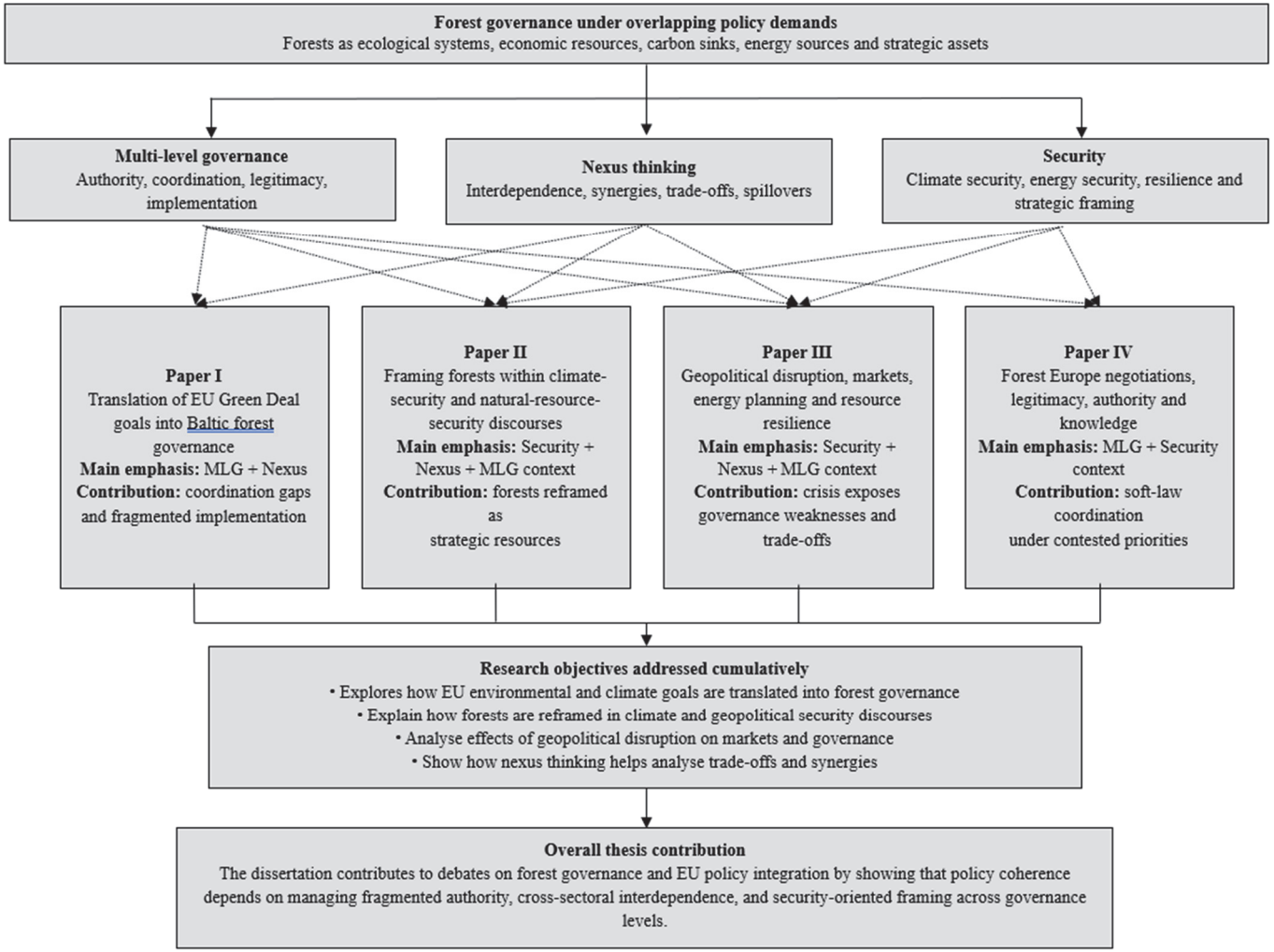

Figure 2. Analytical contribution Paper I–IV.

4. Case, methods and material

4.1. Case study context

4.1.1. Forest Governance in the Baltic Region

The Baltic States, including Estonia, Latvia, and Lithuania, have a unique history compared to many other European Union countries, having faced particularly challenging transitions throughout their history and their integration into the EU (Stern, 1997). They experienced forced integration and repression by the authoritarian regime of the Soviet Union in 1940, followed by occupation by Nazi Germany, and Soviet reoccupation before finally gaining independence in 1991 (Harrison, 2011). These prolonged occupations left legacies of centrally planned economies, state-controlled industries, and collectivized resource management practices (Estrin and Uvalic, 2023; Tan, 2020). This historical and political context of overcoming authoritarian legacies and aligning with Western economic and political realities shaped their transitions to privatization, liberalization, and the establishment of democratic institutions (Estrin and Uvalic, 2023). European integration has marked and continues to mark economic and institutional reforms, political and cultural alignment, and radical transformation of natural resource governance in these countries (Pridham, 2018). The transition from a centrally planned to a market-oriented economy affects natural resource governance in several ways, from ownership structures to revenue management (Brukas et al., 2014). Governance strategies and long-term economic and cooperation initiatives were crucial during these social and economic transitions to ensure resources contribute to economic and social development within the country and the EU at large (Grönholm, 2019).

The Baltic states transition from authoritarian governments to independent governance and European integration makes it a relevant and timely case study for understanding natural resource governance in transitioning economies. It also provides a valid comparison with the Nordic countries of Finland and Sweden, where forest governance has followed different pathways (Fridén et al., 2024). The different political and social histories of these regions have influenced their forest governance patterns. Governance provides the enabling conditions for forest practice and forestry, which consequently differ across regions (Mansourian, 2016). Forestry practices in these regions differ in terms of ownership and governance structures, management practices, use of resources for economic development and the wood industry, the shape and goals of environmental policies, responsibilities, and influence. While the Baltic and Nordic regions share geographical proximity in Northern

Europe and have proportional similarities in the extent of forestry resources (size-percentage of forests) (FAO, 2000), they differ significantly in geographical size, population, and historical usage of natural resources. The Nordic countries also have a long history of international cooperation in resource management, environmental initiatives, and sustainable development practices, both within the countries and internationally. They have historically been seen as proactive in implementing and aligning environmental policies and international efforts to address climate change and environmental protection, while also trying to satisfy market demands (Lindstad, 2015).

Joining the European Union has facilitated cooperation and support for the Baltic states in implementing and addressing international standards for sustainability, including resource management (Grönholm, 2019). Although EU accession in 2004 is widely regarded as marking the completion of the Baltic states' institutional transition to mature market economies, their post-socialist institutional legacies continue to shape how natural resource governance is negotiated and implemented today. It is therefore relevant to investigate the forces that shape natural resource governance in these post-socialist Baltic countries. As the role of forests is increasingly recognized globally not only for climate mitigation but also for sustainable economic development, the Baltic countries retain some room to shape their own resource management practices, albeit within the constraints imposed by EU regulatory frameworks and multi-level governance structures. Therefore, this PhD thesis investigates the role of resource policies through a Nexus approach, from local to international levels of society, focusing on forest resources. Forestry involves complex interactions of states, governmental and non-governmental organizations, and actors connecting local and international levels of society and politics. To better design and implement current forest governance approaches, understanding the structure of EU natural resource governance from local to international levels, and among different actors, is fundamental (Piattoni et al., 2010).

4.1.2. European geopolitics

European geopolitics is now strongly shaped by the overlap of security concerns (war, sanctions, strategic autonomy), geo-economic competition (industrial policy, critical supply chains), and the green transition (climate neutrality, biodiversity protection) (Herranz-Surrallés et al., 2024). In this context, legitimacy becomes essential as geopolitical strategies only work when states, companies, experts, and the public are willing to accept costs, follow rules, and share risks (Jerzyniak and Herranz-Surrallés, 2024). Past research therefore treats geopolitics not just as rivalry between states, but as contested governance across multiple levels, where authority is exercised through regulation, standards, finance, and data systems, and where actors constantly judge whether decision-making is fair, effective, and accountable (Schmidt, 2019). To understand these legitimacy pressures, researchers often use the familiar distinctions of input, output, and throughput legitimacy. Input legitimacy relates to participation

and responsiveness; output legitimacy concerns whether policies actually solve problems; and throughput legitimacy focuses on the quality of the decision-making processes, transparency, accountability, and fairness (Schmidt, 2012; Schmidt, 2019). This is particularly relevant because many European geopolitical and green policies rely on complex regulations, delegated agencies, and expert bodies, where distributional trade-offs and technical decisions can easily become politically sensitive (Schmidt, 2012; Schmidt, 2019).

These dynamics are especially visible in European forest governance, where geopolitical pressures, legitimacy concerns, and multi-level authority come together. The EU Forest Strategy for 2030 promotes an EU-wide approach to protection and restoration, yet forestry remains largely a national competence, leading to debates over subsidiarity and the balance between EU and member-state authority (Gordeeva, 2022). New proposals for EU-level forest monitoring illustrate how harmonized data systems can indirectly steer national policy through metrics and comparability, raising questions of transparency, accountability, and local inclusion (Niklas, 2025). Geopolitical tensions add further complexity as sanctions and supply disruptions have increased scrutiny of timber flows, while reports of sanctioned wood entering supply chains have challenged the credibility of private certification systems widely used in Europe (FSC, 2025; Herranz-Surrallés et al., 2024; Jerzyniak and Herranz-Surrallés, 2024). In this setting, legitimate forest governance increasingly depends on balancing needs and outputs, e.g., climate, biodiversity secure supply, meaningful involvement of owners, communities, industry and NGOs, and transparent, reliable monitoring and enforcement that can withstand political pressure and market fluctuations.

4.1.3. Forests as assets for national security

Across the thesis, forests are presented as *security assets*, as strategic systems that help keep societies stable. They do this by buffering shocks, sustaining essential resources, and reducing the risk of cascading failures across interconnected sectors. This understanding aligns with climate-security research that views climate change as a systemic stress multiplier rather than just an environmental problem (Barnett & Adger, 2007). It also connects to work on securitization, which shows how framing an issue as a security concern can raise its political priority and reshape what kinds of governance responses become acceptable or urgent (Buzan et al., 1998; Balzacq, 2011; Trombetta, 2008). In this combined perspective, forests matter for security because they support resilience in different ways, such as ecological stability (risk buffering and recovery), economic continuity (industries and rural livelihoods), and infrastructural reliability (material and energy substitution when supply chains are stressed).

4.2. Materials and methods

This thesis draws on a qualitative, mixed-method research design combining semi-structured interviews, policy analysis, framing analysis, discourse analysis, and parti-

cipant observation. These methods were selected to examine forest governance not only as a formal policy field, but also as a set of practices, interpretations, negotiations, and conflicts through which forests are increasingly linked to climate action, resource governance, and security. Rather than relying on one type of material, the thesis brings together stakeholder perspectives, official policy documents, and observed negotiation processes. This multi-method design was chosen because the research questions require examining governance both as it is formally constructed in policy texts and institutional documents and as it is practically enacted by actors navigating competing pressures across levels. This makes it possible to compare how forests are framed, governed, and contested across EU, national, regional, and pan-European levels.

4.2.1. Semi-structured interviews

Semi-structured interviews are a qualitative data collection method in which the researcher uses a prepared set of open-ended questions as a guide, while retaining the flexibility to probe, follow up, and allow the conversation to develop according to the participant's responses (Kvale and Brinkmann, 2015). Unlike fully structured interviews, which follow a rigid script, or unstructured interviews, which are entirely open-ended, the semi-structured format ensures that key themes are consistently addressed across all participants while also creating space for unexpected insights, contextual elaboration, and the kind of nuanced knowledge that is difficult to capture through surveys or document analysis alone (Kvale and Brinkmann, 2015). This approach is particularly well-suited to research concerned with how actors interpret complex policy processes, how institutional knowledge is distributed, and how different stakeholders understand and experience governance changes from within their own organizational and professional contexts.

Semi-structured interviews constitute one of the central empirical materials of the thesis. In total, the thesis draws on 47 interviews with actors involved in forest governance, climate and energy policy, bioenergy, environmental protection, forest industry, public administration, research, and civil society. The interviews were used to access the practical and institutional knowledge of actors who work with forest policy and management in different national and organizational contexts (Kvale and Brinkmann, 2015). The interviews were not designed to produce statistically representative data. Instead, they were used to identify how stakeholders understand ongoing policy changes, how they interpret EU and national governance processes, and how they perceive the changing role of forests under climate and geopolitical uncertainty.

4.2.1.1. First round: Baltic forest governance and the European Green Deal

The first interview round consisted of 25 semi-structured interviews with forestry stakeholders in Estonia, Latvia, and Lithuania. These interviews focused on the implementation of the European Green Deal, the EU Forest Strategy (European

Commission, 2021), the Biodiversity Strategy, LULUCF-related regulations, climate adaptation, stakeholder participation, and cross-sectoral coordination. Interviewees were asked how European sustainability policies affect national forestry practices; how policymaking processes include or exclude different stakeholder groups; how partnerships are formed or disrupted; and how responsibilities are divided between EU, national, and local levels. The interviews also explored whether forests were understood in relation to water, energy, food, and broader resource governance, and whether the concept of a Water-Energy-Food-Forests nexus could help explain conflicts or synergies between policy sectors (Melo et al., 2020; FAO, 2014; Simpson and Jewitt, 2019). In addition, interviewees were asked about the growing relevance of security after Russia's full-scale invasion of Ukraine, including questions of energy dependence, biomass use, resource self-sufficiency, and the strategic role of domestic forests (Malužinas, 2024; Hermanson, 2018).

4.2.1.2. Second round: bioenergy, resource use, and geopolitical disruption

The second interview round consisted of 22 semi-structured interviews in Estonia, Latvia, Lithuania, Finland, and Sweden. These interviews focused more directly on bioenergy, resource use, forest-based energy systems, and the effects of geopolitical disruption on forest governance and energy security. Interviewees were asked about current forest policy priorities, how policies are developed, how recent EU forest-related policies are understood, and what expectations stakeholders have of the European Commission and future EU policy development. The interview questions also addressed bioenergy sources, policy support or resistance, economic contributions of forest biomass, environmental concerns, and whether the energy and material uses of wood are seen as competing or complementary. Further questions explored stakeholder involvement, EU-level cooperation, trade disruptions, and cross-sectoral collaboration between forestry actors, NGOs, industry, public authorities, and other societal actors.

4.2.1.3. Analysis of interview material

Across the thesis, the interviews were analysed through thematic content analysis (Kvale and Brinkmann, 2015). The transcripts were analysed to identify recurring patterns, shared narratives, and points of disagreement among stakeholder groups. This was guided by the analytical framework of the thesis, especially multi-level governance (Hooghe and Marks, 2001; Piattoni, 2010), nexus thinking (FAO, 2014; Simpson and Jewitt, 2019), and security (Buzan et al., 1998; Arnall, 2023). Other themes emerged inductively from the interviews themselves, including regulatory uncertainty, implementation gaps, mistrust between stakeholder groups, market risks, unclear policy definitions, competing interpretations of carbon sinks, and the perceived strategic importance of forests. This approach made it possible to compare how actors from different sectors and countries described similar policy pressures,

and to identify where official policy narratives aligned or diverged from practical experience.

4.3. Policy analysis

Policy document analysis is a systematic approach for examining the content, context, and consequences of public policies and governance documents (Rein and Schön, 1996). As a research approach, it involves the close reading and interpretation of official texts, including legislation, strategies, plans, and institutional communications, to understand how problems are defined, how responsibilities are allocated, and how governance priorities are constructed and communicated. Policy analysis is also concerned with revealing the assumptions, values, and power relations embedded in official documents (Van Hulst and Yanow, 2016). In qualitative research, policy texts are treated as sites of meaning-making rather than neutral sources of information since they actively shape what counts as a legitimate problem, who is recognized as an actor and what solutions appear viable (Rein and Schön, 1996). Combining policy analysis with interview-based approaches therefore offers a more comprehensive perspective, as it allows researchers to examine the formal dimensions of governance alongside the perspectives of those who interpret and implement policy in practice.

Policy document analysis was used throughout the thesis to examine how forests are governed through formal documents, strategies, and planning instruments. The policy material includes EU-level strategies (European Commission, 2021; EEAS, 2023), national forest and climate documents, national climate adaptation plans, and National Energy and Climate Plans. The purpose of the policy analysis was to identify how forests are positioned within broader policy objectives, including climate mitigation, biodiversity protection, renewable energy, bioeconomy development, energy security, and national resilience (Gordeeva et al., 2025; Korosuo et al., 2023). The analysis examined not only what policies say about forests, but also how they distribute responsibility, define problems, identify risks, and connect forest governance to other policy sectors.

4.3.1. EU and national forest-related policies

In the analysis of the European Green Deal and related forest-relevant policies, EU policy documents were read alongside Baltic national forest and environmental strategies. The aim was to examine how EU ambitions are translated into national governance contexts and where tensions emerge between supranational objectives and domestic implementation capacities (Sotirov et al., 2018; Winkel et al., 2016). Particular attention was given to the European Green Deal, the EU Forest Strategy for 2030 (European Commission, 2021), the EU Biodiversity Strategy, LULUCF requirements (Regulation (EU) 2023/839), and national forestry and climate-related documents in Estonia, Latvia, and Lithuania (Lazdinis et al., 2005; Giolo et al., 2026).

These documents were analysed in relation to stakeholder accounts in order to understand how formal goals are interpreted by actors expected to implement or respond to them.

4.3.2. National Energy and Climate Plans

Policy analysis was also used to examine the updated National Energy and Climate Plans of Estonia, Latvia, Lithuania, Finland, and Sweden. These plans were treated as formal expressions of national strategies for decarbonisation, energy efficiency, energy security, internal energy markets, and research and innovation (Krumins and Klavins, 2022; Hermanson, 2018). The analysis focused on how forests, forest industries, biomass, bioenergy, carbon sinks, resource availability, and trade disruptions are addressed in national energy and climate planning. The NECPs were coded to identify dominant themes, policy assumptions, and cross-sectoral linkages. Particular attention was given to how energy security was connected to domestic biomass, how forest carbon sinks were framed in relation to climate targets, and how geopolitical disruptions were incorporated into national planning. The policy analysis was then compared with the interview material to identify convergence and divergence between official policy framings and stakeholder perceptions.

4.4. Framing analysis

Framing analysis is a method for examining how social and political actors construct the meaning of problems, risks, and situations through the selective use of language, concepts, and narratives (Van Hulst and Yanow, 2016). Drawing on the foundational work of Rein and Schön (1996), framing analysis proceeds from the premise that policy actors do not simply describe reality but actively organize it through frames - interpretive structures that highlight certain features of a situation while placing others in the background. Frames shape what appears as a problem, whose knowledge is considered relevant, and what types of response seem appropriate or legitimate. In policy research, framing analysis is used to compare how different actors and institutions construct the same issue in divergent ways, and to trace how competing frames come to dominate or recede within governance processes over time (Van Hulst and Yanow, 2016). This approach is particularly valuable for studying contested policy fields, such as forest governance at the intersection of climate, biodiversity, and security, where the same resource can be framed simultaneously as a carbon sink, an energy source, a biodiversity habitat, or a strategic national asset, with significant implications for how governance responsibilities are defined and distributed (Rein and Schön, 1996).

Framing analysis was used to examine how climate security and forest security are constructed in EU and Baltic policy documents. This method treated policy documents not only as sources of information, but as texts that actively define problems, prioritize risks, and shape what counts as a legitimate policy response (Van Hulst and

Yanow, 2016; Rein and Schön, 1996). The analysis focused on how climate security, resilience, adaptation, energy independence, economic stability, ecosystem protection, and national security were articulated across different governance levels. It examined whether forests appeared as ecological resources, economic assets, energy resources, carbon sinks, biodiversity sites, or strategic infrastructures. The framing analysis proceeded by identifying key terms and phrases related to climate risks, resilience, adaptation, security, energy, ecosystems, food security, health, and economic stability. These terms were then analysed in context to determine how they were connected to broader narratives. Related concepts were grouped into thematic frames, which made it possible to compare how EU-level and national documents construct climate-security problems differently. The framing analysis therefore helped reveal not only the presence or absence of forests in security narratives, but also how forests are differently positioned across governance levels.

4.5. Discourse analysis

Discourse analysis is a qualitative research method that examines how language, meaning, and knowledge are produced within specific social and institutional settings (Sotirov et al., 2021). Unlike methods that treat texts or speech as transparent reflections of reality, discourse analysis proceeds from the premise that language does not simply describe the world but actively constitutes it: it constructs categories, authorizes certain speakers, naturalizes particular assumptions, and marginalizes alternative interpretations. In the context of policy and governance research, discourse analysis examines not only the content of what is said but also how it is said, by whom, under what institutional conditions, and with what effects (Schmidt, 2012). This includes attention to the genres of communication - formal documents, speeches, negotiation minutes, procedural rules — through which governance authority is exercised and contested. Discourse analysis is particularly well-suited to the study of voluntary and consensus-based settings, where authority cannot be derived from legal mandate but must instead be continuously constructed through legitimate speech, shared terminology, and negotiated meaning-making (Bernstein, 2005; Schmidt, 2012). Discourse analysis was used in the Forest Europe case to study forest governance as an enacted and negotiated practice (Sotirov et al., 2021). Unlike the interview and policy analysis, this part of the thesis focused on how forest policy meaning is produced through meetings, drafting processes, procedural choices, and repeated negotiations. The empirical material included participant observations from the Forest Europe 2025-2026 Liaison Group cycle under the Swedish chairmanship, including Expert Level Meetings, General Coordinating Committee meetings, High-Level Policy Dialogue, expert groups, workstreams, meeting minutes, drafting documents, consultation materials, and other documents produced during the process.

4.5.1. Forest Europe dynamics

The discourse analysis examined how actors mobilize knowledge, claim legitimacy, and exercise authority in a voluntary, non-binding governance setting. The analysis followed how specific issues entered the agenda, how they were discussed across different arenas, how contested terms were revised or softened, and how compromises were eventually stabilized in official documents. Knowledge was analysed through debates over indicators, reporting methods, evidence standards, and technical expertise. Legitimacy was analysed through discussions of participation, transparency, accountability, inclusiveness, and whether different actors had meaningful opportunities to influence the process. Finally, authority was analysed through agenda-setting, control over drafting, procedural decisions, institutional memory, and the ability of the Forest Europe process to produce coordination despite lacking binding legal force.

4.5.2. Participant observation

Participant observation is a qualitative fieldwork method in which the researcher is present within the setting being studied, observing events, interactions, and practices as they unfold in real time (Bernstein, 2005). Unlike retrospective methods such as interviews or document analysis, participant observation enables the researcher to access the immediate dynamics of social and institutional life – the informal exchanges, procedural micro-decisions, tonal shifts, and interpersonal negotiations that shape outcomes but rarely appear in written records. The method is particularly valuable for research into governance processes, where the gap between formal rules and actual practice is often significant, and where what matters is not only what decisions are formally taken but how they are reached, by whom, and through what kinds of interaction (Schmidt, 2012). Participant observation allows the researcher to trace these processes directly, capturing the lived texture of governance rather than only its documented outputs. In practice, the degree of participation varies: the researcher may take on an active role within the setting or adopt a more observational stance, attending meetings and events as a non-participating witness. What defines the method is its commitment to direct, situated access to the phenomena under study – an approach that makes it especially well-suited to studying voluntary and consensus-based arenas where authority is produced through process rather than formal mandate (Bernstein, 2005; Schmidt, 2012).

Participant observation complemented the discourse analysis by providing insight into how negotiations unfolded in real time. Observations made it possible to follow not only final policy outputs, but also the interactions, disagreements, and procedural practices through which those outputs were produced. This was important because Forest Europe operates through soft law, consensus-building, and voluntary cooperation rather than legal enforcement. The method therefore helped show how authority

can be generated through process, expertise, continuity, and legitimacy rather than through formal coercive power (Schmidt, 2012; Bernstein, 2005).

4.6. Ethical considerations

All data collection involving human participants adhered to the ethical principles outlined in the Swedish Research Council's *Good Research Practice* (2024). Ethical considerations were integrated throughout the entire research process, from study design and data collection to analysis and publication. An ethical permit was granted by the Swedish Ethical Review Authority (no. 2023-05279-01). Participation was voluntary and based on informed consent.

In the analysis of quantitative data, all participant information was pseudonymmized to prevent identification. Participation in this study posed no physical or psychological risks, either in the short or long term. Although the interviews may have prompted reflections on future concerns, such as energy availability and supply, and changes in forest landscapes, participants were informed that they could decline to answer any questions they found uncomfortable. Additionally, participants retained the right to withdraw from the study at any time, including after providing initial consent. Informed consent was obtained prior to each interview. Once consent had been secured, participants received introductory materials along with preliminary questions and key topics to support their preparation.

Title	Key Focus	Theories	Case	Methods	Results
Paper I	Local impacts of European policies	Nexus, MLG	Latvia, Lithuania, Estonia	Policy Analysis, Interviews	Understanding of shortcomings in governance practices
Paper II	Frames of climate security and natural resources	Nexus, Security	Latvia, Lithuania, Estonia	Framing Analysis, Interviews	Role of forests in national security issues
Paper III	EU policy changes on roundwood market in the Baltic Sea Region	Nexus, Security	Latvia, Estonia, Lithuania, Finland, Sweden	Policy Analysis, Interviews	Changes in market dynamics and impacts on forestry
Paper IV	Forest negotiations in turbulent times	MLG, Soft-power, Security	Pan-European	Discourse Analysis; Observations	Identify recurring mechanisms that stabilize outcomes in a consensus-based setting

Figure 3: Thesis overview.

5. Results from the papers

5.1. Paper I – Implications of the European Green Deal for Forest Policy and Management across the Baltic States: A Nexus Perspective

5.1.1. Abstract

Nexus approaches to resource management have gained significant attention in recent years, emphasizing the integration of sectors and stakeholders to achieve sustainability goals. Similarly, the European Green Deal aims to guide the EU in meeting the climate objectives of the Paris Agreement, targeting net-zero emissions by 2050, and stressing the need for broad policy and stakeholder support across Europe. Essential for biodiversity conservation and carbon sequestration, forests play a crucial role in this effort. Previous research has identified several challenges associated with the Green Deal, particularly concerning forest management and cross-sectoral collaboration; however, pathways for implementing EU sustainability targets related to forest management remain largely unexplored, especially in countries undergoing post-Soviet transitions and European integration. This paper analyses the local impacts of the Green Deal in the Baltic States and the challenges of integrating international sustainability guidelines, with a focus on the forest sector. Through 25 semi-structured interviews with stakeholders, four primary challenges were identified: (1) perceptions of the Green Deal as overly ideological; (2) lack of clarity in definitions, timelines, and responsibilities for member states; (3) insufficient tools and resources for cross-sectoral collaboration; and (4) the absence of policy discussions addressing the importance of forests for security concerns, particularly in relation to external events such as wars and climate instability. These findings highlight the need for a comprehensive approach to forest policy and management that recognizes forests' diverse benefits and involves local stakeholders in implementing international environmental agreements.

5.1.2. Key Findings and Insights

Stakeholders across the Baltic forestry sectors expressed a broadly shared view that, although the European Green Deal provides an important and necessary framework for addressing climate and biodiversity challenges, its implementation in Estonia, Latvia, and Lithuania is hindered by several structural and conceptual obstacles. Interviewees described the policy package as increasingly perceived through an ideological lens. While environmental NGOs welcomed its strong conservation focus,

actors from industry, forest ownership, academia, and public agencies worried that the balance between ecological goals and economic or practical forest management needs had been lost. Many felt that EU-level processes insufficiently considered the knowledge of forest practitioners, who saw their experience sidelined in favour of broader political narratives. This disconnect contributed to a sense of mistrust and the perception that highly forested countries were being governed by distant decision-making that did not fully reflect their realities. Ambiguity emerged as a second major theme. Stakeholders repeatedly pointed to unclear definitions, especially regarding carbon storage expectations and protected or old-growth forest categories, as well as vague timelines and poorly specified divisions of responsibility between EU institutions and member states. These uncertainties compounded existing complexity in countries already navigating dense layers of post-Soviet and EU regulatory frameworks. Many respondents described this as a credibility gap as high-level goals were seen as laudable, but the means to achieve them remained opaque or unrealistic, risking disengagement among those expected to implement the changes on the ground. The interviews also revealed that cross-sectoral collaboration remains weak despite widespread recognition of the interdependencies between forests, water, energy, biodiversity, and rural development. While the principles of a nexus approach resonated with many respondents once explained, few had encountered the concept formally, and most underscored the absence of institutional mechanisms to support integrated planning. Frictions between environmental organisations and industrial or forestry actors persisted, reflecting divergent values, uneven access to resources, and the lack of shared platforms for negotiation. Finally, the paper found that EU-level forest and climate policies insufficiently acknowledge the security dimension that has become central in the Baltic States after Russia's invasion of Ukraine. Forests were described as essential to regional resilience, particularly through the rapid expansion of biomass-based heating to reduce reliance on Russian energy. Stakeholders argued that this strategic role is largely absent from EU policy debates, reinforcing the perception that local contexts and vulnerabilities are poorly captured in Brussels. Together, these findings suggest that realising the Green Deal's objectives in the Baltic region will require clearer guidance, greater recognition of local expertise, and governance arrangements that better integrate sectors, levels of authority, and geopolitical realities. The paper concludes that strengthening participatory, cross-level, and cross-sectoral coordination is essential for translating high-level ambitions into workable and legitimate forest policy on the ground.

5.2. Paper II – Framing Forest Security: The Climate-Security Nexus and Policy Alignment in the EU and Baltic States

5.2.1. Abstract

This paper investigates how climate security is framed in official European Union policy documents and national climate adaptation plans in the Baltic States – Estonia,

Latvia and Lithuania. It also examines the perspectives of stakeholder involved in forest governance to understand how policy narratives align with perceived local risks and security concerns. The study adopts a multi-level frame analysis to investigate the new EU Strategy on Adaptation to Climate Change and the Political Guidelines for the Next European Commission 2024-2029, complemented by 25 semi-structured interviews with forestry stakeholders across the Baltic States. The findings show a discrepancy between EU-level framing, which emphasizes climate resilience, energy, and ecosystems broadly, and national strategies that highlight forests in relation to energy independence, economic stability, and regional security. However, forests are not consistently linked to security in either level of policy. This gap contrasts with stakeholder views, which see forests as central to national self-sufficiency and socio-environmental stability. The study concludes with a call for stronger integration of natural resource governance in EU-level security frameworks and improved stakeholder engagement in climate-security planning.

5.2.2. Key Findings and Insights

The analysis of EU policy documents, national climate adaptation plans, and stakeholder interviews reveals that climate security is framed very differently across governance levels, and that forests occupy an increasingly important yet inconsistently articulated place within these narratives. At the EU level, security is largely conceptualised through two complementary lenses: geopolitical resilience and systemic climate-risk governance. The Political Guidelines emphasise sovereignty, competitiveness, and reduced dependence on external energy and raw materials, while the Adaptation Strategy frames climate security through cross-border risk management, disaster preparedness, and the need for coordinated adaptation across sectors. In these documents, forests appear as both vulnerable ecosystems threatened by fires, pests, and droughts, and as essential components of Europe's resilience infrastructure, providing carbon storage, water regulation, and ecosystem stability. Yet their role remains mostly implicit within broader ecological and economic framing. In the Baltic States' national adaptation plans, forests are framed far more concretely and materially. Lithuania highlights forests as strategic assets linked to sovereignty, energy independence, and climate neutrality. Estonia emphasises their vulnerability to changing climate conditions while also recognizing their centrality to the bioeconomy. Latvia foregrounds risks such as storms, pests, and fires, associating forest resilience with economic stability and rural livelihoods. Across all three countries, security is understood not only in military or geopolitical terms but also as societal resilience, protecting infrastructure, food and water systems, and public well-being. Interviewed stakeholders reinforced this perspective, repeatedly noting that Russia's invasion of Ukraine had reshaped their understanding of security, making energy independence an immediate priority. Many described forests and biomass as essential for reducing dependence on Russian natural gas, stabilizing local economies, and ensuring domestic supply of renewable resources. The discussion highlights a clear

misalignment between EU-level framings and national or stakeholder perspectives. While the EU situates forests symbolically within a broader climate-resilience agenda, Baltic strategies present them as tangible, multi-functional resources vital to national security. Stakeholders go further, portraying forests as key to energy security, economic continuity, and community stability, concerns that remain largely absent in EU policy language. This discrepancy underscores a broader tension between abstract, high-level framings of climate security and locally grounded understandings of material risk, sovereignty, and resource dependency. The paper concludes that forests are increasingly recognised as central to climate security but remain unevenly integrated into security frameworks at different governance levels. It calls for stronger alignment between EU and national policies, improved recognition of forests' strategic functions, and more meaningful stakeholder engagement. It argues that coherent, nexus-based governance, bridging ecological, economic, and security considerations, is essential for ensuring resilience in a climate-challenged and geopolitically unstable future.

5.3. Paper III – Adaptation of EU Policy during Geopolitical Changes: Impacts on Forest Use, Bioenergy, and Climate Security in the Baltic Region

5.3.1. Abstract

Current geopolitical dynamics are having a significant impact on the forest products market in the Baltic Sea region, including Estonia, Latvia, Lithuania, Finland, and Sweden. The ongoing large-scale invasion of Ukraine, coupled with global economic uncertainties, has disrupted supply chains, reshaped trade patterns, and heightened the strategic importance of resource security and self-sufficiency. In response, the forest sector across Europe is re-evaluating its energy production strategy. There is a much greater focus on diversifying supply sources, strengthening domestic production capabilities, and fostering international collaboration. Alongside these business and security concerns runs the growing awareness of climate change and sustainability. This paper analyses the latest updates to the National Energy and Climate Plans (NECPs) of Estonia, Latvia, Lithuania, Sweden, and Finland. A requirement of EU membership, these plans set out how each Member State intends to meet the EUs 2030 energy and climate targets. This paper examines in particular the issue of climate security and the role that forests, forest industries, and bioenergy play within each country's NECP. To do this it adopts a "nexus thinking" analytical approach. In addition, it examines national projections for future wood use – both for material and energy purposes – and explores the strategies these countries employ to address uncertainties and risks arising from current geopolitical and economic challenges. The policy analysis is supported by perspectives from 22 semi-structured interviews with key stakeholders in the region. The results show that, amid rising geopolitical

tensions, countries across the Baltic region are turning to bioenergy, often through the use of residues and low-grade wood, as a way to increase their energy security. Forests are increasingly recognized as essential to energy adequacy, climate, and human security. However, the NECPs are not fully aligned with current needs: adjustments are often made at the operational level which suggests a mismatch between policy and front-line requirements. However, neither climate security considerations nor nexus-based approaches to natural resource management have been fully incorporated into routine EU environmental policymaking. While the national implementation of current EU climate and biodiversity objectives constrains forest use, increasing instability in cross-border wood and biofuel supplies is prompting a shift toward domestic resource exploitation in the demand for higher heating efficiency and security.

5.3.2. Key Findings and Insights

Across the Baltic and Nordic states, the updated National Energy and Climate Plans reveal a region during a profound strategic shift, where forests, bioenergy, and energy security have become tightly interwoven in response to Russia's invasion of Ukraine and increasingly unstable global markets. The results show that all five countries, Estonia, Latvia, Lithuania, Finland, and Sweden, have intensified their focus on energy sovereignty, accelerating the transition away from Russian fuels while expanding domestic renewable energy systems. In the Baltic States, this manifests as rapid efforts to modernize district heating, expand wind and solar capacity, and use sustainably sourced forest biomass as a controllable transitional fuel. Lithuania and Latvia position biomass as a central element of energy independence, even as interviewees highlight supply constraints created by new conservation rules and the loss of Russian and Belarusian imports. Estonia faces the added challenge of replacing its oil-shale-based controllable capacity, prompting short-term reliance on biomass alongside storage and electricity grid reinforcements. Across the Nordic countries, national energy and climate plans converge in treating forests as economic, ecological, and geopolitical assets, even as their specific role varies from country to country. In Sweden, forests are increasingly framed through competitiveness and innovation, with bioenergy integrated into industrial processes and future negative-emission strategies such as BECCS. Finland similarly emphasises the integration of bioenergy with forest industries, but recent data showing the LULUCF sector shifting from a carbon sink to a source has made forest use politically contentious. Both countries acknowledge forest residues as vital for system stability, while also debating how to reconcile industrial, climate, and biodiversity demands. In the Baltic states, forests are linked more explicitly to energy adequacy and rural employment, though stakeholders consistently caution against overreliance on burning primary wood and highlight the need to prioritise residues and higher-value timber uses. The discussion shows that the NECPs have adapted only partially to the geopolitical shifts reshaping the region. While the policy rhetoric strongly reflects security concerns, energy con-

trollability, domestic resource use, interconnector expansion, many substantive adjustments are occurring outside the NECPs themselves, through market responses, new sustainability rules, and ad-hoc national measures. Trade disruptions, especially the collapse of Russian and Belarusian biomass imports, have exposed vulnerabilities in heating and CHP systems and accelerated a move toward domestic sourcing, stricter traceability, and efficiency measures such as building renovation. Interviewees emphasise that energy security now depends less on how much biomass is burned and more on whether that biomass is domestically available, verifiable, and sustainably managed. The study concludes that forests are increasingly regarded as components of national security infrastructure, essential not only for energy stability but also for climate mitigation and human well-being. Yet nexus-based, cross-sector policy integration remains incomplete. To align with the new risk landscape, the NECPs will need clearer sustainability criteria, coordinated adequacy planning, and stronger governance mechanisms capable of balancing decarbonisation, biodiversity protection, and energy resilience. For now, the region is moving toward a security–nexus perspective in which forests are strategic but contested resources whose governance will shape both climate and energy futures

5.4. Paper IV – Forest Negotiations in Turbulent Times: Knowledge, Authority and Legitimacy within Forest Europe during the Swedish chairmanship 2025–2026

5.4.1. Abstract

European forest governance is increasingly shaped by intertwined ecological disruption, rising societal demands on forests, and heightened geopolitical uncertainty. In this context, Forest Europe remains a central yet voluntary and non-legally binding platform through which pan European states, experts, and organisations coordinate understandings of Sustainable Forest Management (SFM) and share reporting practices. This article examines forest governance practice as enacted within Forest Europe, focusing on how policy meaning and organizational direction are co-produced through everyday negotiation rather than through formal legal authority. Drawing on an interpretive qualitative case study of the Forest Europe Liaison Group cycle 2025-2026, the study applies an analytical framework integrating multi-level governance, security framing and soft power as operationalized through the interrelated dimensions of knowledge, legitimacy, and authority. The findings identify recurring mechanisms that stabilize outcomes in a consensus-based setting: (1) consensus is created mostly through writing tools that turn arenas of disagreement into dynamic practice; (2) evidence are shared and organised to help countries work together even when they have different levels of resource availability or when circumstances are uncertain; (3) authority comes from the process itself rather than from any power to enforce rules; (4) legitimacy depends on real openness and mean-

ingful participation, not just by presence; and (5) as the process is voluntary, there is an ongoing tension between having authority and being seen as legitimate. Finally, the study examines whether Forest Europe's soft-law mechanisms constitute adaptive governance innovations that enable resilience and cross-level policy integration under turbulent conditions. It concludes that strengthening their durability and legitimacy is essential for Europe's forest governance.

5.4.2. Key Findings and Insights

The analysis of the 2025–2026 Forest Europe negotiation cycle shows that, in a voluntary and consensus-based setting, forest policy is co-produced less through formal authority than through continuous interaction, drafting, and the organization of evidence. The results reveal that consensus is typically achieved not by resolving disagreements outright but by transforming them into text that all parties can accept. Drafts, summaries, "takeaways", and roadmaps function as negotiation tools that absorb conflicting positions and allow actors to move forward without forcing substantive convergence. This modular and iterative writing practice stabilizes collective direction by gradually narrowing options while maintaining enough ambiguity for diverse national interpretations. A second major insight is the central role of evidence infrastructures. Across meetings, debates over Sustainable Forest Management indicators, reporting cycles, and the State of Europe's Forests process show that evidence is mobilized to make coordination possible amid ecological uncertainty and uneven national capacities. Technical questions, how many indicators, how often to report, what level of specificity, carry political implications because they shape what becomes visible, comparable, and governable. Consultations with expert bodies such as UNECE, FAO, EFI, and IUFRO highlight how feasibility, neutrality, and continuity are used as criteria for deciding who should coordinate data systems and how methodological harmonization can be achieved across diverse countries. Evidence, then, functions as a shared anchor that allows collective work to continue even when priorities diverge. Authority, in turn, derives not from enforcement capacity but from process control, agenda-setting, drafting, sequencing of decisions, and coordination. Recurrent debates about institutional reform, secretariat arrangements, outsourcing options, and funding structures illustrate how authority is continually negotiated through procedure. Signatories defend Forest Europe's country-led character while acknowledging the need for technical capacity and continuity, creating repeated tensions around who coordinates work and how far to institutionalise support structures. Legitimacy emerges as another negotiated dimension. Stakeholder and observer interventions consistently demand greater transparency, clearer communication, and more meaningful participation. These concerns resurface across working-group materials and formal negotiations, showing that legitimacy requires demonstrating that participation affects outcomes, that funding arrangements do not imply unequal influence, and that reporting and decision-making remain publicly defensible. Together, these findings reveal a structural dilemma of voluntarism:

strengthening continuity and capacity is necessary for effective coordination but formalising financial contributions or institutional roles risks undermining the voluntary ethos that gives Forest Europe its legitimacy. Crisis narratives, whether tied to climate impacts, energy insecurity, or geopolitical instability, further intensify these tensions by elevating resilience and supply concerns while also reinforcing sensitivities around sovereignty and fairness. The discussion shows that Forest Europe's influence lies in its soft-law capacities: stabilising shared evidence, shared language, and shared procedures that circulate into domestic policies, EU debates, and global forums. The paper argues that if Europe is to meet growing demands on forests in an era of climate and geopolitical turbulence, it must reinforce these soft-law infrastructures, strengthening evidence systems, procedural clarity, and legitimacy mechanisms, so that voluntary cooperation can remain credible, durable, and capable of guiding forest governance under uncertainty.

6. Discussion

6.1. Implications of international environmental policies, cross-sectoral integration and MLG

International environmental policies, in the context of Europe and the EU Green Deal, do not get translated on local levels as one, coherent guideline. Instead, those policies show up as multiple and partly overlapping as forests are simultaneously asked to support climate mitigation through carbon sequestration, protect biodiversity, secure rural livelihoods and economic value, and, in times of crisis, provide energy security and strategic autonomy (Paper I, Paper III). The results of this thesis show that supranatural climate and environmental goals are therefore translated into forest governance through indirect, fragmented and often contested processes, rather than through a coherence and integrated framework (Paper I, Paper IV). The divergence between supranational ambitions and local outcomes may be understood through three interrelated dynamics. First, the absence of a binding EU forest policy framework forces climate and biodiversity goals to enter national systems indirectly through adjacent sectors. Second, institutional path dependencies shape how member states, especially post-socialist ones, absorb external regulatory pressures, while uneven actor capacities can advantage public agencies in nature conservation and forestry over other actors, such as private owners and the broader public, in governance arenas (Paper I, Paper IV). Stakeholders describe policies as difficult to translate into practical action because they are perceived as unclear, unevenly communicated, and overall, not supported by strong accountability structures across levels of governance (Paper I). These findings extend and empirically ground existing scholarship on the integration paradox in European forest governance. Where Winkel and Sotirov (2016) show theoretically that increased EU involvement can intensify rather than reduce fragmentation, and Sotirov et al. (2021) demonstrate how ideologically divided coalitions resist supranational encroachment, this thesis shows how those dynamics operate concretely in post-socialist contexts marked by specific institutional path dependencies and actor capacity asymmetries. The finding that coordination failures reflect structural misalignments rather than political will responds directly to the thesis aim of understanding how EU forest governance interacts with national implementation capacities and contributes to MLG theory by shifting attention from actor preferences to institutional architecture (Hooghe and Marks, 2001; Piattoni, 2010). EU ambitions linked to the European Green Deal, LULUCF, biodiversity strategies and climate neutrality targets enter national forest governance

mainly through adjacent policy domains such as climate, energy and biodiversity, rather than through a unified forest policy framework (Paper I).

Further, the policy coordination implications are substantial. Cross-sectoral integration remains limited, accountability is dispersed across multiple actors and levels, and the practical implementations are held primarily by national and local authorities (Paper I). The principal tensions in cross-sectoral cooperation do not derive solely from competing understandings of the primary functions of forests, but also from more fundamental governance challenges. A recurrent conclusion is that international and EU-level policy frameworks are often perceived as ideologically driven or insufficiently attuned to local socio-ecological and institutional contexts. Such perceptions can entrench existing positions and reduce the scope for constructive cooperation rather than facilitating compromise (Paper I).

These challenges are further complicated by uneven access to resources and decision-making arenas. Although civil society organizations may be formally included in participatory processes, their ability to engage effectively is often constrained by limited time, funding and personnel. This picture of constrained civil-society influence is not uniform, however. In some national contexts, ENGOs have become highly visible and effective actors in forest-related debates, at times shaping public discourse and drawing sustained political attention to environmental concerns in ways that place forestry actors in a comparatively defensive position (Paper I). The extent of this influence appears to vary considerably across the Baltic states, and the present study does not capture this variation in full; a more fine-grained account of how ENGO capacity and influence differ between countries, and from the Nordic cases, would be a valuable direction for further research (Paper I). Industry actors and public agencies, by contrast, generally possess greater organizational capacity to participate in meetings, respond to consultations and shape policy outcomes (Paper I). These asymmetries complicate the forms of integration envisioned in nexus and multi-level governance approaches. As such, integration is also a political process shaped by unequal capacities to participate, claim expertise, maintain visibility and sustain engagement over time (Paper I). At the pan-European level, forest-related negotiations further demonstrate that supranational coordination depends largely on soft-law instruments, procedural authority and shared knowledge infrastructures, rather than on binding regulatory mechanisms (Paper IV). Taken together, the papers show that the translation of international environmental policy into forest governance is mediated by political negotiation, institutional path dependencies and uneven actor capacities. These dynamics contribute to persistent coordination gaps across European, national and local governance systems (Paper I, Paper IV).

The findings nevertheless point to several opportunities for strengthening policy coordination. First, multi-level governance should be approached not only as an analytical concept, but also as a practical design principle for policy-making. This would require the creation of substantive cross-level forums and coordination mechanisms, clearer allocation of responsibilities across governance levels, and more

systematic collaboration between sectors such as forestry, energy, agriculture, climate policy and biodiversity governance (Paper I). Second, nexus thinking offers methodological value as a tool for identifying trade-offs at an early stage, before they become implementation conflicts. By combining scientific evidence, stakeholder dialogue and cross-sectoral assessment, potential disagreements can be made explicit and addressed transparently, rather than surfacing later as blame, delays, ad hoc exemptions or implementation failures (Paper I).

Across the five countries studied, a common pattern emerges alongside important national variations. All five - Estonia, Latvia, Lithuania, Finland, and Sweden - have intensified their reliance on domestic forest biomass in response to geopolitical disruption and share a broadly similar governance challenge of reconciling EU climate and biodiversity obligations with strong national forest sector interests and, more recently, energy security imperatives. In the Baltic states, forests are linked most directly to energy adequacy, rural employment, and economic continuity, and governance responses to geopolitical shocks have been rapid and often informal, occurring outside or ahead of official planning documents. Lithuania and Latvia position biomass as a central element of energy independence, while Estonia faces the additional challenge of replacing oil-shale-based capacity, making it more reliant on short-term biomass solutions. In Sweden and Finland, forests are framed more prominently through competitiveness, industrial integration, and long-term negative-emission strategies such as BECCS. Both country groups face intense, and at times highly confrontational, domestic debate over reconciling commercial forestry with biodiversity and climate objectives; if anything, this debate appears more polarized in the Baltic states, where it intersects with energy security concerns (Paper III). Furthermore, the Baltic states carry distinct post-socialist governance legacies, including fragmented ownership structures and historical experience of externally imposed regulation, which continue to shape how EU environmental goals are politically received and contested domestically. This does not necessarily translate into weaker or slower implementation: in some respects, national authorities in the Baltic states have applied EU environmental directives more directly and assertively than in Finland or Sweden. Rather, the post-socialist legacy appears to manifest less in the pace of formal implementation than in the intensity of political contestation and mistrust surrounding it, and in the increasingly prominent role played by ENGOs in shaping that contestation. These differences do suggest that governance solutions cannot be uniform, i.e., what is institutionally feasible in Sweden or Finland may be politically or administratively unreachable in Estonia, Latvia, or Lithuania without targeted capacity support and more differentiated EU implementation frameworks (Paper I, Paper III).

6.2. How (climate) security framing is evolving, and the role of forests in the new security paradigm

The results of this thesis show that contemporary security framings are expanding beyond conventional military concerns to encompass resilience, climate vulnerability, infrastructure disruption, resource dependencies and cascading risks across interconnected socio-ecological and socio-technical systems (Paper II). Within this broader understanding, climate change is increasingly conceptualised not only as an environmental challenge, but also as a security issue with implications for economic stability, energy systems, rural livelihoods and geopolitical preparedness. At the same time, the concept of securitization itself is undergoing transformation. Framing a policy area as a matter of security can reorder political priorities, accelerate decision-making and legitimize exceptional forms of intervention. While such framings may reflect genuine and urgent threats, they may also restrict public deliberation and shift governance away from ordinary democratic procedures (Paper II, Paper III, Paper IV).

In this growing climate-security context, forests are becoming more important, but their role is still not clearly defined. The thesis shows that forests are being rearticulated from primarily ecological or economic resources into strategic assets associated with resilience, stability and self-sufficiency (Paper I, Paper II). They contribute to climate mitigation, support bioenergy production, sustain rural economies and provide material resources that may become more strategically significant when external dependencies are perceived as uncertain or insecure (Paper III). Stakeholder perspectives further reinforce this shift, particularly in the Baltic context, where forests are often understood as buffers against energy shocks, market disruptions and geopolitical instability, especially in the aftermath of Russia's full-scale invasion of Ukraine (Paper I, Paper II). However, this reframing remains uneven and only partially institutionalised. At the EU level, forests are generally situated within broader climate-security narratives that emphasize systemic risk, resilience and long-term environmental stability, while their specific security functions often remain implicit rather than clearly articulated (Paper II). At the national level, particularly in the Baltic states, forests are more directly associated with energy independence, economic continuity, rural livelihoods and regional preparedness, although explicit linkages between forests and security remain inconsistent (Paper II). This produces a gap between policy discourse and governance practice. Local and national actors may already understand and manage forests as components of resilience, national stability and self-sufficiency, while formal governance frameworks have not yet systematically incorporated these connections (Paper I, Paper II).

The thesis therefore suggests that security-oriented discourses are increasingly influencing forest governance, but that their institutional and democratic implications remain unclear. On the one hand, recognizing forests as part of climate and geopolitical security may strengthen preparedness and draw attention to their stra-

tegic significance. On the other hand, governing forests through security logic may have consequences for democratic accountability, public participation and long-term ecological priorities. The emerging security paradigm consequently generates both opportunities and risks. It may render forest governance more responsive to climate and geopolitical instability, but it also requires careful institutionalization to ensure that security framings do not override ecological sustainability, deliberation or democratic oversight (Paper II). Taken together, these findings suggest that the reframing of forests as security assets has tangible consequences for governance design, including who participates, what counts as legitimate knowledge, and how trade-offs between short-term security and long-term ecological integrity are prioritized (Paper II, Paper III). This finding advances the securitization literature in an important direction. Where Buzan et al. (1998) and Trombetta (2008) conceptualise securitization as a discrete speech act raising existential threat and emergency measures, the thesis shows that the securitization of forests operates through a more gradual and diffuse process, the progressive promotion of forests to strategic priority status across governance documents, energy plans, and stakeholder narratives without a formal declaration of emergency. This softer securitization dynamic is particularly relevant in the Baltic context and constitutes an empirical contribution to how securitization theory is applied to natural resource governance (Etchells, 2021; Gordeeva et al., 2025)

6.3. Effects of geopolitical disruptions on forest products market in the Baltic Region, and reflections on policy debates

Geopolitical disruptions have materially reconfigured forest-related markets in the Baltic-Nordic region and have become important reference points in governance debates concerning resilience, energy security and strategic autonomy (Paper II, Paper III). This is particularly evident in relation to recent shocks affecting roundwood trade, wood biomass, pellets and forest residues. Russia's full-scale invasion of Ukraine, together with the sanctions and trade restrictions that followed, disrupted established trades. This was especially significant because Russia and Belarus had previously been important suppliers of roundwood, wood chips, pellets and other forest-based products to the region (Paper III), and their abrupt exclusion from regional markets contributed to supply shortages, reoriented trade flows and generated considerable price volatility. Rising prices for industrial pellets and wood residues through 2023 placed additional pressure on energy systems and wood-based industries, while intensifying competition over domestic forest resources (Paper III).

These material disruptions also reshaped policy debates. Paper III shows that the collapse of imports from Russia and Belarus elevated the role of forests in energy and climate policy discussions by framing them as controllable, domestically available resources that could reduce dependence on unstable external suppliers. In this context, biomass and forest residues are increasingly understood as strategic inputs

for energy security, particularly in relation to district heating and combined heat and power systems (Paper III). The crisis therefore strengthened arguments for domestic sourcing and greater strategic autonomy, positioning forests not only as economic and ecological resources, but also as assets within broader security-oriented governance debates (Paper II, Paper III). At the same time, this security framing does not translate straightforwardly into unrestricted demands for increased wood use, but on the contrary, governance responses indeed increasingly emphasize control, legitimacy and sustainability. Recent policy debates stress the importance of traceable and certified biomass, compliance with sustainability criteria, and the prioritization of residues, low-quality wood and by-products over primary wood (Paper III). This reflects an attempt to reconcile short-term energy security concerns with longer-term EU climate and biodiversity obligations. Geopolitical disruption therefore intensifies debates over how forests should be managed, protected and utilized under EU regulatory frameworks, while also increasing the political salience of resilience and security (Paper I, Paper III).

The thesis further shows that these dynamics are reflected unevenly in formal policy documents such as the Green Deal and the National Energy and Climate Plans. While security narratives are present, practical adaptations to market disruption often occur outside strategic agendas or are incorporated only indirectly within them (Paper I, Paper III). This mismatch between formal policy documents and actual governance responses reveals that geopolitical shocks are incorporated through both formal institutionalised channels - such as revised NECPs and EU sustainability criteria - and non-institutionalised ones, including market-driven adjustments, bilateral arrangements and sector-level strategic communication. Understanding both channels is essential, as the informal incorporation of security rationales may anticipate or diverge from official policy, with significant implications for transparency and democratic oversight. At the same time, they expose persistent tensions between emergency responses, market pressures and sustainability commitments (Paper I, Paper II, Paper III). However, informal channels tend to advantage actors with existing access to policymakers and markets, primarily industry and public agencies, while community groups and environmental organizations, who lack the same networks, are more likely to be bypassed. Strengthening the formal documentation of how geopolitical shocks enter governance decisions is therefore not only a matter of transparency, but of equity. These findings contribute to emerging scholarship on geopolitics and natural resource governance. While Jonsson and Sotirov (2025) show how RED III and the Russia-Belarus import ban are reshaping wood availability projections across Europe, this thesis extends this by examining how those material changes enter governance debates and with what distributional consequences. This means that geopolitical shocks travel through both formal and informal channels, which responds to the thesis aim of understanding how disruptions are reflected in governance frameworks, and adds an accountability dimension that is largely absent from existing market-focused analyses.

6.4. Forests as interface resources: Nexus trade-offs, governance infrastructures, and the role of soft-law coordination

The nexus perspective contributed analytically in ways that neither MLG nor security approaches alone could have achieved. While MLG explains how authority is distributed across levels, and securitization theory explains how urgency reshapes governance priorities, neither framework makes visible the material interdependencies, between biomass use, water regulation, biodiversity, and energy systems, that structure the trade-offs actors must navigate. The nexus lens made those structural connections clear, showing that many governance conflicts are not simply political disagreements but reflect systemic misalignments between sectors that are ecologically and economically coupled but institutionally separated. This gives the nexus perspective its analytical value under conditions of climate and geopolitical uncertainty since it clarifies where trade-offs and synergies arise, and what kind of governance capacity is required to manage them once they do (Paper I, Paper IV).

A key contribution of the thesis is its inclusion of an expanded nexus perspective for analysing forest governance under conditions of climate and geopolitical uncertainty. The thesis suggests that forests should not be understood as a discrete sectoral resource, but rather as cross-sectoral resources that connect energy systems, biodiversity objectives, climate mitigation, rural economies and wider security concerns (Paper I, Paper III). As such, effective nexus governance depends on vertical coordination across governance levels and horizontal coordination across sectors - not as a self-resolving fix, but as an inherently political and contested undertaking, one that can as easily deepen fragmentation as resolve it (Winkel et al., 2016; Sotirov et al., 2018), and that Multi-Level Governance identifies as both necessary and difficult to sustain (Hooghe and Marks, 2001; Piattoni, 2010). However, making interdependencies visible, as the WEFF framework does, is not equivalent to reconciling them. Surfacing a trade-off between energy security and biodiversity protection, for instance, does not by itself tell actors how to resolve it, and in some cases naming the interdependence more clearly can sharpen rather than soften the underlying conflict (Paper I, Paper IV). The thesis therefore suggests that the WEFF framework can function as a governance design principle, making legible the interdependencies that must be managed across levels and actors if forest governance is to be coherent rather than fragmented (Paper I, Paper IV). This perspective is particularly relevant in the Baltic and Nordic context, where forests are increasingly expected to contribute simultaneously to energy security, carbon sequestration, biodiversity protection, economic development and societal resilience. Doing so, the thesis shows how climate change, geopolitical instability, energy insecurity and institutional fragmentation actively shape forest-related trade-offs and governance choices (Paper I, Paper III). Conversely, developments in these sectors affect how forests are valued, used and governed, particularly during periods of crisis or heightened urgency (Paper III).

The institutional dimension of nexus governance becomes most clearly visible in the Forest Europe case (Paper IV). Forest Europe is a voluntary, non-binding pan-European platform through which states, experts, and organisations coordinate understanding of Sustainable Forest Management and maintain shared reporting practices. It operates without legal enforcement capacity, relying instead on procedural authority, shared evidence infrastructures, and negotiated legitimacy. The thesis shows that Forest Europe sustains coordination across highly diverse national contexts not by resolving substantive disagreements, but by managing them procedurally through phased drafting tools, shared indicator systems, reporting cycles, and expert consultation structures that create common reference points without forcing convergence on contested questions (Paper IV). This finding has direct implications for WEFF nexus governance. It demonstrates that effective cross-sectoral and cross-level coordination requires what Paper IV calls "governance infrastructures", the shared evidence systems, procedural routines, and legitimacy mechanisms through which disagreements can be made manageable and cooperation sustained over time. Nevertheless, this account of Forest Europe's procedural achievements should not be read as an a priori assumption that the process has been, or remains, straightforwardly effective. The platform's strength is to produce shared language, but it coexists with limitations since its non-binding character means that procedural convergence does not reliably translate into substantive changes in national forest practice, and the thesis does not claim otherwise (Paper IV; Lindstad, 2015; Wolfslehner et al., 2020). There are also reasons to think Forest Europe's relative influence has diminished over time rather than remained constant, as EU forest-related policy instruments have become more prominent and legally consequential, offering actors a more binding alternative for pursuing forest-related interests. Moreover, the process's reliance on continuity of leadership and sustained participant commitment makes it structurally vulnerable since shifts in chairmanship arrangements and uneven willingness among member states to sustain long-term engagement have, at points, put the process's near-term continuation in question, illustrating that the governance infrastructures described here require ongoing political investment and are not self-sustaining once established (Paper IV).

From an MLG perspective, Forest Europe illustrates both the potential and the structural limits of soft-law coordination. The platform's influence flows from its capacity to produce shared language, comparable data, and legitimate procedures that circulate into domestic policies, EU debates, and global forums (Paper IV, Hooghe and Marks, 2001). At the same time, efforts to strengthen coordination through greater institutional capacity and continuity may also lead to more formal roles and authority, which could challenge the voluntary character that underpins Forest Europe's legitimacy. This tension may intensify under conditions of geopolitical uncertainty and climate urgency, when crisis narratives raise resilience and supply concerns while simultaneously heightening sensitivities around sovereignty and fairness (Paper IV). From an MLG perspective, Forest Europe illustrates both the

potential and the structural limits of soft-law coordination. The platform's influence flows from its capacity to produce shared language, comparable data, and legitimate procedures that circulate into domestic policies, EU debates, and global forums (Paper IV, Hooghe and Marks, 2001). At the same time, efforts to strengthen coordination through greater institutional capacity and continuity may also lead to more formal roles and authority, which could challenge the voluntary character that underpins Forest Europe's legitimacy. This tension may intensify under conditions of geopolitical uncertainty and climate urgency, when crisis narratives raise resilience and supply concerns while simultaneously heightening sensitivities around sovereignty and fairness (Paper IV). This extends earlier assessments of Forest Europe and comparable pan-European forest regimes, which have similarly questioned whether voluntary, consensus-based coordination can deliver substantive policy effects without formal enforcement capacity (Lindstad, 2015; Wolfslehner et al., 2020); Paper IV adds to this by showing empirically *how* legitimacy and authority are produced and contested at the procedural level, rather than only noting the regime's non-binding character The Forest Europe case therefore shows that governance infrastructures must be actively maintained, and their credibility depends on meaningful participation, transparent evidence systems, and durable negotiation routines.

7. Conclusions

This thesis set out to examine how forests in the Baltic–Nordic region are governed at the intersection of climate policy, natural resource governance, and emerging security concerns, and how this national and regional picture compares with pan-European coordination through Forest Europe. The argument developed across the thesis is that supranational climate and environmental goals translate unevenly into forest governance because authority over forests is exercised without enforcement. At national level this produces fragmented, indirect implementation, and at the pan-European level it produces procedural rather than binding coordination. Within this fragmented landscape, forests are increasingly being re-framed from primarily ecological and economic resources toward strategic assets tied to resilience and energy independence. This geopolitical disruption, particularly the loss of Russian and Belarusian roundwood and biomass supply, has reshaped markets and clarified the role of domestic forests as buffers against external shocks, even as these adjustments remain unevenly institutionalized in formal planning. Taken together, the thesis shows that an expanded nexus perspective is most valuable as a lens on governance capacity itself, showing whether trade-offs remain unresolved or whether synergies can be identified and acted on, as in the case of residue-based biomass policy, where energy-security and biodiversity goals can be pursued together.

Strengthening cross-level and cross-sectoral coordination in forest governance appears to depend less on harmonising substantive policy goals, on which national, EU, and pan-European actors are unlikely to fully converge, than on building and sustaining the procedural and institutional capacities needed to manage persistent fragmentation. The Forest Europe case shows that shared evidence systems, durable negotiation routines, and mechanisms of legitimacy is possible, but also that it is fragile since there is a limit to how far it can institutionalise the very capacities that legitimacy depends on. These conclusions are limited by the scope of the thesis. The thesis focuses on only a few countries, one Forest Europe negotiation cycle, and uses a qualitative approach. Therefore, the findings help explain how and why certain dynamics occur, but they cannot show how common these patterns are or whether they apply in other contexts. Looking ahead, there are three important areas for future research and practice. First, more research is needed on how forests are increasingly discussed in relation to climate change and security as global instability continues. Second, it is important to examine how voluntary international platforms can remain credible and effective over time and across several rounds of negotiations. Third, there is a need to explore better ways to coordinate actions across different levels of

governance and involve a wider range of stakeholders to support forest governance in uncertain conditions.

References

Albrecht, T. R., Crootof, A., Scott, C. A., 2018. The Water-Energy-Food Nexus: A systematic review of methods for nexus assessment. *Environ. Res. Lett.* 13, 043002.

Annetorp, A., & Johansson, J. 2025. Dismiss, ignore or integrate – The Swedish parliamentary parties' arguments on the new EU Forest strategy for 2030. *Forest Policy and Economics*, 178, 103581

Arnall, A., 2023. Climate change and security research: Conflict, securitisation and human agency. *PLOS Clim* 2, e0000072.

Bache, I., & Flinders, M. (2004). *Multi-level Governance*. Oxford University Press.

Balzacq, T. (ed.) (2011) *Securitization Theory: How Security Problems Emerge and Dissolve*. London: Routledge.

Barnett, J. and Adger, W. N. (2007) 'Climate change, human security and violent conflict', *Political Geography*, 26(6), pp. 639–655.

Bazilian, M., Rogner, H., Howells, M., Hermann, S., Arent, D., Gielen, D., Steduto, P., Mueller, A., Komor, P., Tol, R. S. J., Yumkella, K. K., 2011a. Considering the energy, water and food nexus: Towards an integrated modelling approach. *Energy Policy* 39, 7896–7906.

Beland Lindahl, K., Söderberg, C., Lukina, N., Tebenkova, D., Pecurul, M., Pülzl, H., Sotirov, M. and Widmark, C. (2023) 'Clash or concert in European forests? Integration and coherence of forest ecosystem service-related national policies', *Land Use Policy*, 129, p. 106617.

Beland Lindahl, K., Sténs, A., Sandström, C., Johansson, J., Lidskog, R., Ranius, T., & Roberge, J. M. (2017). The Swedish forestry model: More of everything? *Forest Policy and Economics*, *77*, 44–55.

Béland, D., 2016. Ideas and Institutions in Social Policy Research. *Soc Policy Adm* 50, 734–750.

Benrey Rodriguez, L., Chen, C., Misch, D. & Saha, S. (2019) Rethinking National Security: The Effects of Climate Change on Conflict and Geopolitics. JSTOR.

Bernstein, S. (2005). *Legitimacy in Global Environmental Governance.* Journal of International Law and International Relations, 1(1–2), 139–166.

Betts, M. G., Wolf, C., Ripple, W. J., Phalan, B., Millers, K. A., Duarte, A., Butchart, S. H. M., Levi, T., 2017. Global forest loss disproportionately erodes biodiversity in intact landscapes. *Nature* 547, 441–444.

Boin, A., 't Hart, P., Stern, E. and Sundelius, B. (2016) *The Politics of Crisis Management: Public Leadership Under Pressure*. 2nd edn. Cambridge: Cambridge University Press.

Bosch, T., Thornton, F. and Vinke, K., 2025. Climate Change is Affecting Geopolitics-Not Just the Other Way Around.

Brockerhoff, E. G., Barbaro, L., Castagneyrol, B., Forrester, D. I., Gardiner, B., González-Olabarria, J. R., Lyver, P. O., Meurisse, N., Oxbrough, A., Taki, H., Thompson, I. D., Van Der Plas, F., Jactel, H., 2017. Forest biodiversity, ecosystem functioning and the provision of ecosystem services. *Biodivers Conserv* 26, 3005–3035. https://doi.org/10.1007/s10531-017-1453-2

Brukas, V., Mizaras, S., Mizaraitė, D., 2014. Economic Forest Sustainability: Comparison between Lithuania and Sweden. Forests 6, 47–64.

Buzan, B., Wæver, O. and de Wilde, J. (1998) *Security: A New Framework for Analysis*. Boulder, CO: Lynne Rienner.

Chazdon, R. L., Brancalion, P.H.S., Laestadius, L., Bennett-Curry, A., Buckingham, K., Kumar, C., Moll-Rocek, J., Vieira, I. C. G., Wilson, S. J., 2016. When is a forest a forest? Forest concepts and definitions in the era of forest and landscape restoration. *Ambio* 45, 538–550.

Dagar, V., Rao, A., Dagher, L., Kagzi, M. and Acevedo-Duque, Á., 2025. Geopolitical instability and environmental sustainability. Environmental Economics and Policy Studies, pp.1–27.

Dupuis, J. and Biesbroek, R. (2013) 'Comparing apples and oranges: the dependent variable problem in comparing and evaluating climate change adaptation policies', *Global Environmental Change*, 23(6), pp. 1476–1487.

Estoque, R. C., 2023. Complexity and diversity of nexuses: A review of the nexus approach in the sustainability context. Science of The Total Environment 854, 158612.

Estrin, S., Uvalic, M. (Eds.), 2023. Collected Works of Domenico Mario Nuti, Volume II: Economic Systems, Democracy and Integration, Studies in Economic Transition. Springer International Publishing, Cham.

Etchells, O., 2021. The Securitisation of Natural Resources: A Post-structural Policy Analysis of the United Nations Environmental Peacebuilding Programme.

European Commission (2021). *EU Forest Strategy for 2030* (COM(2021) 572). Available at: EUR-Lex.

European Commission (2021). *EU Forest Strategy for 2030*.

European Commission (2021). *Understanding the climate-water-energy-food nexus and streamlining water-related policies* (news item, 19 March). European Commission – Research and Innovation.

European Commission (2024). *Nature Restoration Regulation*. Available at: European Commission Environment.

European Commission Joint Research Center (2019). *Water Energy Nexus in Europe* (Science for Policy report). European Commission JRC.

European Council. (2008). *Climate Change and International Security: Paper from the High Representative and the European Commission to the European Council.*

European Environment Agency (EEA) (2025). *Europe's environment 2025* (reported summary). Reuters, 29 September.

European External Action Service (EEAS) (2023). 'Enhancing climate security and defence' (overview of the 2023 Joint Communication on the climate–security nexus). Available via the EEAS website.

FAO (2014) *The Water–Energy–Food Nexus: A new approach in support of food security and sustainable agriculture*. Rome: Food and Agriculture Organization of the United Nations.

FAO and Union for the Mediterranean (FAO/UFM) (2022) *Water–Energy–Food–Ecosystems (WEFE) Nexus to increase resilience and sustainability in the Mediterranean region* (report). Rome: FAO.

Fridén, A., D'Amato, D., Ekström, H., Iliev, B., Nebasifu, A., May, W., Thomsen, M. and Droste, N. (2024) Mapping two centuries of forest governance in Nordic countries: An open access database. *Forest Policy and Economics*, 160, 103142.

FSC (2025) 'FSC Statement on World Forest ID Report' (25 April).

Giolo, A., Brukas, V. and Johansson, J., 2026. Implications of the European green deal for forest policy and management across the Baltic States: A nexus perspective. *Forest Policy and Economics*, 186, 103763.

Gordeeva, E. (2022) 'The New EU Forest Strategy for 2030—An analysis of major interests', *Forests*, 13(9), 1503.

Gordeeva, E., Wolfslehner, B. and Weber, N. (2025) '25 years of EU forest policy — an analysis', *Forests*, 16(2), p. 256.

Grönholm, S., Jetoo, S., 2019. The potential to foster governance learning in the Baltic Sea Region: Network governance of the European Union Strategy for the Baltic Sea Region. *Env Pol Gov* 29, 435–445.

Harrison, M., 2011. The Soviet Union after 1945: Economic Recovery and Political Repression. *Past & Present* 210, 103–120.

Heinen, D., Arlati, A. and Knieling, J., 2022. Five dimensions of climate governance: a framework for empirical research based on polycentric and multi-level governance perspectives. *Environmental policy and governance*, *32*(1), pp.56–68.

Hermanson, A.-S. (2018). Energy security in a multi-level governance perspective. *Marine Policy*, 98, 301–308.

Herranz-Surrallés, A. (2024) 'The EU energy transition in a geopoliticizing world', *Geopolitics*, 29(5), pp. 1882–1912.

Hogeboom, R. J., Borsje, B. W., Deribe, M. M., Van Der Meer, F. D., Mehvar, S., Meyer, M. A., Özerol, G., Hoekstra, A. Y., Nelson, A. D., 2021. Resilience Meets the Water–Energy–Food Nexus: Mapping the Research Landscape. *Front. Environ. Sci.* 9, 630395.

Hooghe, L. and Marks, G. (2003) 'Unraveling the central state, but how? Types of multi-level governance', *American Political Science Review* , 97(2), pp. 233–243.

Hooghe, L., & Marks, G. (2001). *Multi-level Governance and European Integration*. Rowman & Littlefield.

IPCC (2022) *Climate Change 2022: Impacts, Adaptation and Vulnerability* (AR6 WGII), Chapter 4: Water (incl. Box on WEF nexus approaches). Geneva: Intergovernmental Panel on Climate Change.

IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change[Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J. B. R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, In press

Jasanoff, S. (ed.) (2004) *States of Knowledge: The Co-Production of Science and Social Order*. London: Routledge.

Jerzyniak, T. and Herranz-Surrallés, A. (2024). 'EU geoeconomic power in the clean energy transition', *Journal of Common Market Studies*, 62(4), pp. 1028–1045.

Jonsson, R., & Sotirov, M. (2025). Future wood availability in Europe in light of climate and energy policy and geopolitical developments – A wood resource balance-based assessment. *Sustainability*, 17(3), 1291.

Keating, M. (2013). *Rescaling the European State: The Making of Territory and the Rise of the Meso*. Oxford: Oxford University Press.

Korosuo, A., Pilli, R., Abad Viñas, R., Blujdea, V. N. B., Colditz, R. R., Fiorese, G., Rossi, S., Vizzarri, M., & Grassi, G. (2023). The role of forests in the EU climate policy: are we on the right track? *Carbon Balance and Management*, 18, 15.

Krūmiņš, J., Kļaviņš, M., 2022. The Baltic States' Move toward a Sustainable Energy Future. *Energies* 15, 8230.

Kvale, S. and Brinkmann, S., 2015. Interviews. Sage.

Lazdinis, M., Carver, A. & Schmithüsen, F. (2005). Forest-sector concerns in the Baltic States: Implications for an expanded European Union. *Society & Natural Resources*, 18(9), 839–848.

Lazdinis, M., Carver, A. and Schmithüsen, F. (2004) 'Forest policy networks in changing political systems: case study of the Baltic States', *Journal of Baltic Studies*, 35(4), pp. 402–419.

Lazdinis, M., Carver, A., Lazdinis, I. & Paulikas, V.K. (2009). From union to union: forest governance in a post-soviet political system. *Environmental Science and Policy*, 12, 309–320.

Lazdinis, M., Carver, A., Tõnisson, K. & Silamikele, I. (2005). Innovative use of forest policy instruments in countries with economies in transition: Experience of the Baltic States. *Forest Policy and Economics*, 7(4), 527–537.

Le Billon, P., Deberdt, R., & Trombetta, J. (2025). From resource security to resource securitisation: materialities, latent securitisation, and the politics of (in) security in low-carbon transitions. *Critical Studies on Security*, 1–32.

Lim, C.-H., 2021. Water-Centric Nexus Approach for the Agriculture and Forest Sectors in Response to Climate Change in the Korean Peninsula. Agronomy 11, 1657.

Lindstad, B. H., 2015. Changes in Norwegian forest policies: what are the effects of the international forest regime complex? Scandinavian Journal of Forest Research 30, 246–254.

Linkevičius, E., Borges, J. G., Doyle, M., Pülzl, H., Nordström, E. M., Vacik, H., … & Garcia-Gonzalo, J. (2019). Linking forest policy issues and decision support tools in Europe. *Forest Policy and Economics*, *103*, 4–16.

Maggetti, M., & Trein, P. (2019). "Multilevel governance: Concepts, measurement, and causal mechanisms." In *Oxford Research Encyclopedia of Politics*. Oxford University Press.

Makrickiene, E., Brukas, V., Brodrechtova, Y., Mozgeris, G., Sedmák, R., & Šálka, J. (2019). From command-and-control to good forest governance: A critical interpretive analysis of Lithuania and Slovakia. *Forest Policy and Economics*, *109*, 102024

Malużinas, M.-, 2024. The security and deterrence policy of the Baltic states in 2014–2024. Przegląd Nauk o Obronności 59–69.

Mansourian, S., 2016. Understanding the Relationship between Governance and Forest Landscape Restoration. *Conservat Soc* 14, 267.

Teder, M. (2016). *The role of institutional innovation in the development of the Estonian forest sector* (Doctoral dissertation, Eesti Maaülikool).

Melo, F. P. L., Parry, L., Brancalion, P. H. S., Pinto, S. R. R., Freitas, J., Manhães, A. P., Meli, P., Ganade, G., Chazdon, R. L., 2020. Adding forests to the water–energy–food nexus. Nat Sustain 4, 85–92.

Mena, S., de Leede, L., Baumann, D., Black, N., Lindeman, S., & McShane, L. (2012). Advancing the Business Case for Consulting Stakeholders. *Journal of Business Ethics*, 105(1), 19–33.

Merry, S. E. (2016). *The Seductions of Quantification: Measuring Human Rights, Gender Violence, and Sex Trafficking*. Chicago: University of Chicago Press.

Nanthini, S., Nair, T., 2021. Framing Climate Change: The Need for a Human Security Perspective.

Nebasifu, A. A., D'Amato, D., Ekström, H., Pietarinen, N., Fridén, A., Harrinkari, T., Iliev, B., Brownell, H., May, W., Brockhaus, M., Thomsen, M. and Droste, N. (2025). *Comparing Nordic forest governance: Key informant perspectives*. Forest Policy and Economics, 170, 103368

NEXOGENESIS Project. (2024). *NEXOGENESIS newsletter and policy brief on WEFE nexus*.

NEXOGENESIS. (2025). *Policy Brief: Lessons from 5 case studies to scale-up smart WEFE Nexus Policies for a green and digital world*

Niklas, J. (2025). 'Negotiating sovereignty over data and forest in Europe', *Environmental Science & Policy* .

Özcan, Z., Willaarts, B., Klessova, S., Caucci, S., Prista, L., Adamos, G., & Laspidou, C. (2024). *From nexus thinking to nexus implementation in South Europe and beyond*. Sustainability Nexus Forum.

Peters, B. G., & Pierre, J. (2004). "Multi-level Governance and Democracy: A Faustian Bargain?" In Bache & Flinders (Eds.), *Multi-level Governance*. Oxford University Press.

Peters, B. G. and Pierre, J. (2001). 'Developments in intergovernmental relations: towards multi-level governance', *Policy & Politics* , 29(2), pp. 131–135.

Piattoni, S. (2010). *The Theory of Multi-level Governance: Conceptual, Empirical, and Normative Challenges*. Oxford University Press.

Pridham, G., 2018. Latvia's eastern region: international tensions and political system loyalty. *Journal of Baltic Studies* 49, 3–20.

Regulation (EU) 2023/839 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2018/841

Rein, M., Schön, D. Frame-critical policy analysis and frame-reflective policy practice. *Knowledge and Policy* 9, 85–104 (1996).

Scheffran, J., Brzoska, M., Kominek, J., Link, P.M., Schilling, J., 2012. Climate Change and Violent Conflict. *Science* 336, 869–871. https://doi.org/10.1126/science.1221339

Schmidt, V. A. (2012). Democracy and Legitimacy in the European Union Revisited: Input, Output and Throughput. *Political Studies*, 61(1), 2–22.

Schmidt, V. A. (2019). Politicization in the EU: Between National Politics and EU Political Dynamics. *Journal of European Public Policy*, 26(7), 1018–1036.

Schmidt, V. A. (2019). 'Conceptualizing throughput legitimacy: Procedural mechanisms of accountability, transparency, inclusiveness and openness in EU governance', *Public Administration* , 97(4), pp. 727–740.

Security Council Report (2021). *The UN Security Council and Climate Change* (Research Report). New York: Security Council Report.

Simpson, G. B., Jewitt, G. P. W., Becker, W., Badenhorst, J., Masia, S., Neves, A. R., Rovira, P., Pascual, V., 2022. The Water-Energy-Food Nexus Index: A Tool to Support Integrated Resource Planning, Management and Security. *Frontiers in Water* 4, 825854.

Simpson, Gareth B, Jewitt, G. P., 2019. The water-energy-food nexus in the anthropocene: moving from 'nexus thinking' to 'nexus action.' Current Opinion in Environmental Sustainability 40, 117–123.

Simpson, Gareth B., Jewitt, G. P. W., 2019. The Development of the Water-Energy-Food Nexus as a Framework for Achieving Resource Security: A Review. *Front. Environ. Sci.* 7, 8.

Sivonen, M.H. and Kivimaa, P. (2024). 'Securitization of energy transitions in Estonia, Finland and Norway', *International Political Sociology*, 18(3), olae017.

Sotirov, M., & Arts, B. (2018). Integrated forest governance in Europe: An introduction to the special issue on forest policy integration and integrated forest management. *Land Use Policy*, 79, 960–967.

Sotirov, M., Winkel, G., & Eckerberg, K. (2021). The coalitional politics of the European Union's environmental forest policy: Biodiversity conservation, timber legality, and climate protection. *Ambio*, 50(12), 2153–2167.

Stephenson, P. (2013). "Twenty years of multi-level governance: 'Where Does It Come From? What Is It? Where Is It Going?'" *Journal of European Public Policy*, 20(6), 817–837.

Stern, N. (1997). The transition in Eastern Europe and the former Soviet Union: some strategic lessons from the experience of 25 countries over six years. In: Zecchini, S. (eds) Lessons from the Economic Transition. Springer, Dordrecht.

Swedish Research Council (2024). *Good Research Practice 2024*. Stockholm: Swedish Research Council.

Tallberg, J., Bäckstrand, K., & Scholte, J. A. (2016). *Legitimacy in Global Governance: Sources, Processes, and Consequences.* Oxford University Press.

Teder, M., Mizaraitė, D., Mizaras, S., Nonić, D., Nedeljković, J., Sarvašová, Z., Vilkriste, L., Zālīte, Z. and Weiss, G. (2015). 'Structural changes of state forest management organisations in Estonia, Latvia, Lithuania, Serbia and Slovakia since 1990', *Baltic Forestry*, 21(2), pp. 326–339.

Treib, O., Bähr, H., & Falkner, G. (2007). "Modes of governance: Towards a conceptual clarification." *Journal of European Public Policy*, 14(1), 1–20.

Trombetta, M. J. (2008). 'Environmental security and climate change: analysing the discourse', *Cambridge Review of International Affairs*, 21(4), pp. 585–602.

UNECE (2021). *Methodology for Assessing the Water–Food–Energy–Ecosystems Nexus in Transboundary Basins and Experiences from Its Application* (ECE/MP.WAT/55). Geneva: United Nations Economic Commission for Europe.

UNESCO (2021). *Implementing the Water–Energy–Food–Ecosystems Nexus: A framework for action*. Paris: UNESCO.

United Nations (UN) (2021). 'Security Council Open Debate on Climate and Security' (21 September). United Nations website.

United Nations Framework Convention on Climate Change (UNFCCC) (2021) 'Statement by António Guterres at Security Council Debate on Climate and Security' (23 September). UNFCCC website.

Van Hulst, M., Yanow, D., 2016. From Policy "Frames" to "Framing": Theorizing a More Dynamic, Political Approach. The American Review of Public Administration 46, 92–112.
Vian, M. et al. (2023). 'Towards a synthesized critique of forest-based "carbon-fix" strategies', Climate Resilience and Sustainability, 2(1), e48.
Winkel, G., & Sotirov, M. (2016). Whose integration is this? European forest policy between the gospel of coordination, institutional competition, and a new spirit of integration. *Environment and Planning C: Government and Policy*, 34(3), 496–514.
Wolfslehner, B. et al. (2020). *European forest governance post-2020* (EFI policy/working paper). Available at: European Forest Institute.

Generative AI statement

During the preparation of this work, I made use of Microsoft Copilot and Grammarly to support the improvement of grammar, spelling, and syntactic clarity. In addition, the transcription tool EAR (Electronic Activated Recorder) was employed to facilitate the transcription of audio materials.

All outputs generated with the assistance of these tools were carefully reviewed and, where necessary, revised to ensure accuracy, coherence, and appropriateness. I accept full responsibility for the final content and integrity of this work.

This is 10% luck
20% skills
15% concentrated power of will
5% pleasure
50% pain
And 100% reasons to remember the name
Fort Minor feat. Mike Shinoda

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Across the Baltic and Nordic regions, forests are under greater pressure than ever. At the same time as capturing and storing carbon, supplying energy, and supporting rural economies, they are put upon to provide shelter from incursion. The result is the collision of concerns around climate policy, resource management, and security.

Based on interviews, analyses of policy documents, and observations within Forest Europe negotiations, this work shows how ambitious EU goals often outpace what countries can deliver. Energy shocks and geopolitical tension have pushed forests further into the spotlight, straining old ways of managing water, energy, food, and land together. The result is a picture of governance under pressure, and a case for rethinking how Europe balances climate goals, security, and fairness.

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