

## Unravelling a sustainability vision in the national spatial plan

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### Abstract

There is an increasing demand for a new generation of planning frameworks capable of delivering long-term sustainability outcomes amidst the escalating uncertainties (Becker 2023, Kivimaa 2023). European policies reshape the territorial dimension at the national level, fostering policy debates through downscaling emerging initiatives and measures (Böhme et al., 2022b). Estonia's National Spatial Plan has undergone a significant transformation, shifting from traditional growth paradigms to a sustainability vision. The research evaluates the plan's inception and framework, addressing challenges posed by climate change, regional disparities, and national security while striving for a resilient and sustainable future. The inception phase establishes principles, selects themes, and outlines impact assessment methodologies, along with identifying necessary studies. Rethinking climate policy, particularly in the land-use sector, involves aligning policies with decarbonisation, climate and biodiversity implications, simply minimizing land take and acknowledging spatial scarcity. The plan should set clear land use priorities, providing conditions and guidelines for local comprehensive plans, seeking climate-proof and low carbon land uses and enforcing brownfield development for reducing aggressive land take. A nuanced approach incorporates cross-cutting planning principles and sustainability dilemmas, plus national deference urgencies. The research highlights potential gaps in the plan's adaptability to the transition mode and underscores uncertainties regarding high territorial dynamism, navigating tensions between flexibility and stability. This initial phase of national planning is crucial as it sets the ethos and tone for the entire planning system and process.

### Introduction

European nations reassess their national strategies and planning frameworks in light of pressing sustainability concerns. It is compounded by the importance of innovative and automated planning methods with Big Data and AI as well manifesting a deliberate participatory governance paradigm for civic society (Oldbury and Isaksson 2023). In addition, the convergence of COVID-related disruptions, energy crises, and geopolitical tensions has accelerated deglobalisation trends, prompting nations to reassess their reliance on global supply chains and trade networks (Böhme et al 2022a). This shift reflects a growing emphasis on regional self-sufficiency and economic resilience in the face of heightened uncertainties and vulnerabilities in the global landscape related to the economic and energy transition (Sivonen and Kivimaa 2024). Research community claims rethinking the relationship between humans and the environment through a systemic perspective that encompasses dynamic inclusion, vitality, purpose, and value (Davelaar 2021). Transitioning to a new sustainability paradigm requires new foresight and strategic planning schemes as well replacing conventional systems thinking with a comprehensive metaphor of nested leverage points. The 'beyond growth' debate expands examining economic and socio-ecological challenges replacing economic primacies. European policies aim to mitigate negative growth impacts, focusing on innovation, and the

European Green Deal. Additionally, beyond growth relates to social challenges emphasizing concepts like justice, fairness and sufficiency. The EU discussion papers highlight obstacles for EU policymaking and underscores the importance of values and implications of globalisation in transitioning towards sustainability (Jensen 2023). In addition to degrowth thinking, another neologism narrated recently and tackling regional gap at European and county scale territorial strategies is 'left behind' places (Fiorentino et al 2024).

Thus, old problems need new solutions to all-for-all wicked problems: climate change, national security, urbanisation, resource depletion, poverty. While current trends and uncertainties may paint a rather pessimistic picture the planners have begun looking outside of the box, challenge our traditional assumptions, and stop trying to solve the same problems with the classic approach and tools. Larger, targeted sets of projects and policies create new socio-technical realities (Berglund-Snodgrass et al 2020). Contemporary research stresses the importance of governing with intent, i.e., with clear objectives and an understanding of the anticipated impacts of new strategies, business models, services. e.g based on digitalisation and platformisation (Oldbury and Isaksson 2023).

Böhme et al 2022 discuss the need for increased territorial resilience in the face of rapid changes and uncertainties. Emphasizes the importance of navigating under 'new' uncertainty, a shared sense of direction, and supporting territorial resilience has become a priority in strategic territorial visioning in European Union, channelling discussions on Territorial Agenda 2030. This can be achieved through capacities such as foresight, the ability to react and transform, and a willingness to change, as well as through cooperation, coordination, and a common vision for Europe's future. There is an increasing demand for a new generation of planning frameworks capable of delivering long-term sustainability outcomes amidst the escalating uncertainties, in worst case shocks and declining security (Becker 2023, Farinós 2020, Kivimaa 2023). It concerns also national and regional territorial agendas as elaborated below.

Estonia's National Spatial Plan has undergone a significant transformation, shifting from traditional growth paradigms to a sustainability vision. The 2012 concept of low-density urbanized space, integrating compact cities, suburbs, and traditional villages to support diverse urbanized lifestyles, is proposed to be replaced by an optimised, densified cohesive pattern centred around cities. The research evaluates the plan's inception and framework, addressing challenges posed by climate change, regional disparities, and national security while striving for a resilient and sustainable future.

#### **The inception of national spatial planning**

The inception phase of the planning establishes principles, selects themes, and outlines impact assessment methodologies, along with identifying necessary studies. The national spatial planning is positioned in both the spatial planning system and the strategic planning at the national scope (Fig 1). The critique of spatially blind strategic planning has been mitigated by strengthening spatial principles, territorialisation, and targeting regional gaps in the national

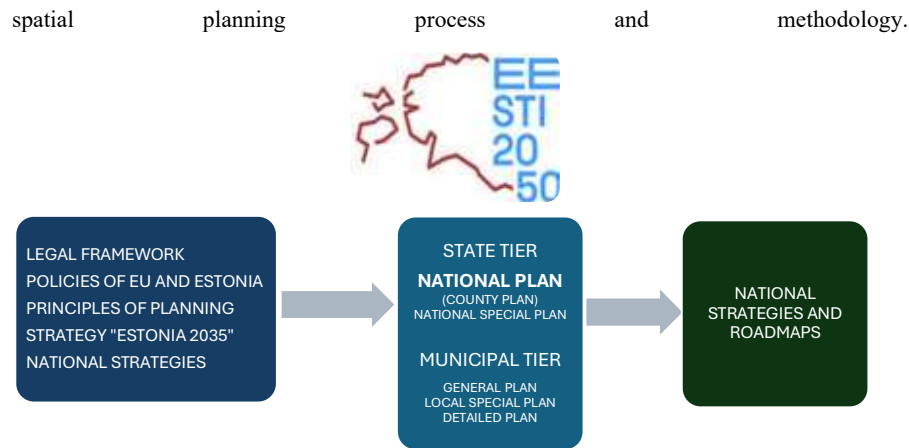


Figure 1. The strategic planning process – the scope of national spatial plan.

The starting point for national spatial planning is the emphasis on sustainability paradigm. This holds significant symbolic importance in the current stage of societal development in addition to emerging strict and ambitious legislative obligations. The pro-sustainable themes dominate in the plan's structure (Fig 2).

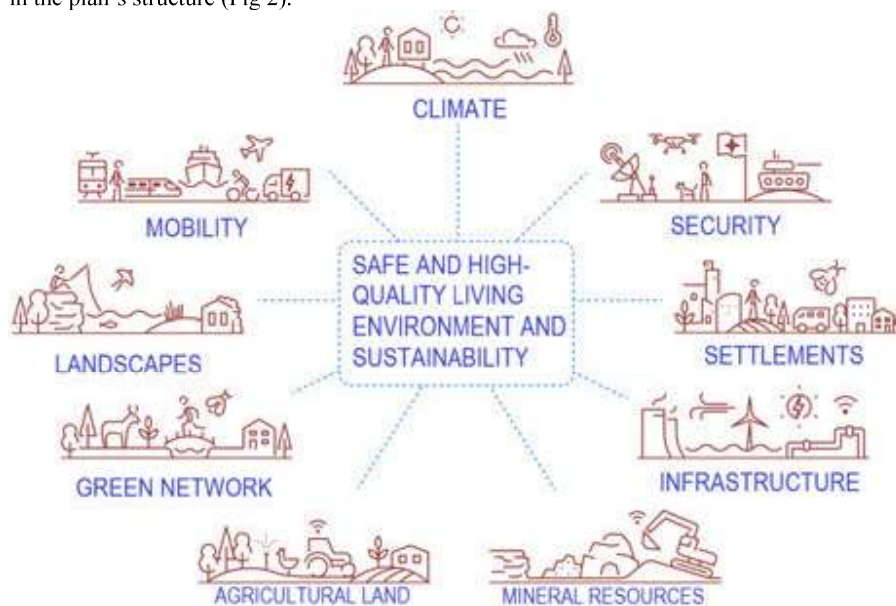


Figure 2. Focus themes of the national plan.

In light of the climate crisis and imperatives of heightened national security, there has been an intensification of spatial rivalry of land uses – conflicting interests regarding land use both in specific locations and in contrasting spatial networks of residential areas effects (Li et al 2024). Despite Estonia being sparsely populated compared to most European countries, competing interests of land use occur. National spatial plan prioritizes land use changes based on national interests. Climate policy and the limitation of natural resources, including the loss of biodiversity, will increasingly and significantly shape land policy and regionalisation. Furthermore, attention must be paid to the temporal axis of spatial processes, their sudden acceleration. Also, the plan determines the fundamentals of settlement pattern. It relates to the services, mobility, infrastructure, natural resources, ensuring the preservation of cultural heritage, sustainability, and the environmental burden. Based on settlement trends, guidelines are provided for shaping sectoral spatial networks and combining them to seek positive synergies and effects. National plan should serve as a basis for drafting sectoral development plans and other strategic development documents.

In regard the Estonia's geography and size, the plan intends to strengthen Estonia's position internationally. The planning process unpacks the spatial impacts of international agreements. The planning process supports Estonia's competitive advantages by focusing on a safe and high-quality living environment that considers all needs as an export commodity. Additionally, it identifies and activates the international economic networks in relation to territorial principles. The national plan accepts Estonia's maritime spatial plan, including Pärnu and Hiiu county maritime plans.

Traditionally, strategic territorial plans have mostly been based on land use-based approach, simplifying territory in robust two-dimensional terms. Recent planning practice introduces network-based approach, based on the systemic relations on territorial phenomena and theme, launched already by the Torremolinos Charter in 1983. In addition, the discourse of high-quality living environment has become prominent.

### **The evolving the sustainability context**

The most significant global megatrends affecting Estonia and their impacts are addressed in the national spatial plan prioritise climate crises and green policies. This relocates the economy and activities, emphasis in nature conservation and resulting migration pressures, limits the use of fossil energy and mitigates negative impacts on land take. Digitalization means territorial polarisation, both concentration and dispersion, deepening regional competition, while also re-setting technological progress for more dispersed life and economic activities. In Estonian case, geopolitics should be number one in global trends, causing multitude of new globalisation and regionalisation outcomes, creating new walls and barriers in the territories. Cultural turn intensifies the struggle for quality space, with growing multiculturalism, generation etc divides in civil society. Convergence and trends of welfare society continue in Estonia as the Nordics set the pathways.

The EU Green Deal aims to drive the transition to a sustainable and climate-neutral economy across member states, while the Climate Law sets binding targets for reducing greenhouse gas emissions, fostering climate resilience, and promoting sustainability (Dupont et al 2023). Despite massive progress since 1990s during the transition decades, decarbonisation aims fall short of the target set by the Climate Law. Estonia needs to implement additional measures in various sectors to bridge the gap in meeting Effort Sharing and LULUCF Regulations targets.

Renewable energy's share in final energy consumption is expected to increase significantly by 2030, covering the total internal electricity demand. Energy security is highly important also in terms territorial development, as detailed plans for diversification are elaborated. While efforts to phase out fossil fuels, in particular oil shale for energy generation are underway, Estonia is increasing commitments on climate and biodiversity. Draft climate law of Estonia claims that nature conservation area should increase up to 30% from current 22% (Fig 3).

The sustainability domain of the national plan aims to create liveable environments across Estonia, addressing regional disparities. The Planning Act aims for rational, feasible, and sustainable land use, participatory planning and public hearing with the wide public, balancing and integrating interests, multifunctionality of land uses and evidence-based planning and adequacy of information.

Rethinking climate policy, particularly in the land-use sector, involves aligning policies with decarbonisation, climate and biodiversity implications, simply minimizing land take and acknowledging scarcity and availability of land resources despite the low population density and seemingly unlimited agricultural, forest and wetland land. This paradox on land conversion limits progressive and cohesive planning for multifunctional uses.



Figure 3. Nature protection areas (Data: Environmental Agency).

The plan should set clear land use priorities, providing conditions and guidelines for local comprehensive plans, seeking climate-proof and low carbon land uses and enforcing brownfield development. Fulfilling climate and biodiversity goals sets heightened expectations for the functioning of green networks, including urban green areas. At the same time, there is increasing pressure from construction activities on green network areas, especially near large cities. Nature conservation, more sustainable land management, and the restoration of forests

and other ecosystems offer the greatest economic potential for buffering and mitigating climate change, with immediate benefits from preserving carbon-rich habitats such as wetlands and forests on peatlands. Though, the discursive contestation and decision-making practices are shaped by political logics of levelling up or growth and ecological logics on climate change and biodiversity (Fearn 2024).

Aligning regional specialization with energy transition imperatives will be challenging in the deindustrialised oil shale mining region as well in the wind powered western Estonia. Energy transition causes phase-out of oil shale industry and diffuses the energy system and infrastructure. The plan must also develop a climate resilience model for various urban areas and their vulnerabilities. A nuanced approach incorporates cross-cutting planning principles that comprehensively account for climate risks across sectors and land uses.

#### **Resetting new regional structure in urban and rural territorialities**

Besides improvement of the living environment the Planning Act aims for rational, feasible, and sustainable land use, participatory planning and public hearing with the wide public, balancing and integrating interests, multifunctionality of land uses and evidence-based planning and adequacy of information.

Estonian spatial policy takes into account positive net migration leading to population growth, which is accompanied by population aging and increasing cultural diversity. Continued concentration of population and economic development in the capital region, metropolisation of Tallinn continues causing the several major territorial changes (Fig 4). The future work and pastime trends guide towards micro-mobility and mobility as a service. It is also a challenge to ensure security throughout Estonia in the light of global trends. Spatial mobility, multi-location living and expanding home-work commuting areas increases due to remote work facilitation and security considerations, leading to the use of previously abandoned residences in rural and small-town areas (Fig 5).

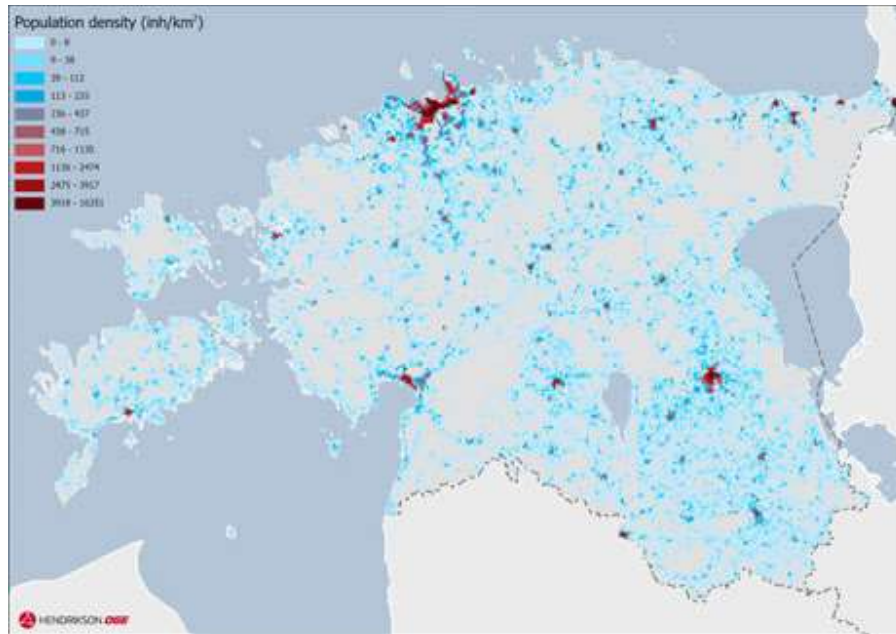


Figure 4. Population density (Data: Statistics Estonia).

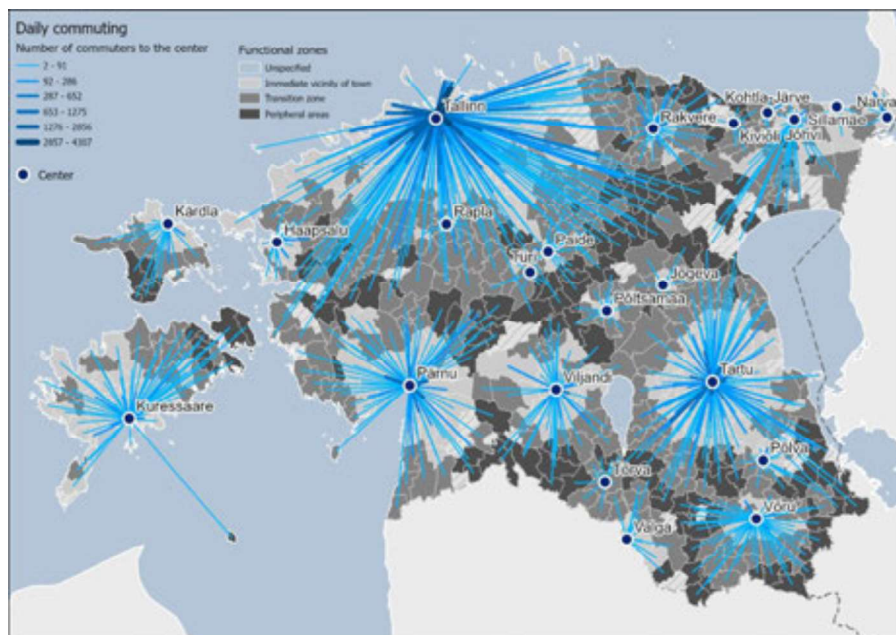


Figure 5. Daily job-related commuting (Data: Statistics Estonia).

The analysis of settlement scenarios and strategic solutions define the generic principles for directing the regional development, and the hierarchy of functional regions and settlement systems. The plan elaborates on the nature of a quality living environment across different types of settlements, the basis for land re-use and brownfield development. It defines centres based on territorial capacities, regional strengths and other networked principles. The major city regions are set for the international competitiveness. Also, the shrinking is strongly addressed in the plan.

### Defence priorities

Escalation of the security situation in Estonia as a border state disrupted territorial tiers eastwards. The main challenge is to propose strong guidelines and find a territorial solution for ensuring national defence and the impact of national defence activities on people's well-being (Fig 6).

The plan intends to provide guidelines for determining land use for national defence, military training grounds 40,000 ha extended in Nursipalu, Sirgala and Klooga extensions), in addition, extended risk areas for tactical exercises in the state forest areas. The use of weapons and ammunition need further land allocations. Considering this, the expansion of the opportunities for practicing long-range weapons is preferably done as an extension of the existing training grounds. Land uses for marine-coastal exercises should be designated. Relevance of renewable energy restrictions resulting from national defence is another major discussion.

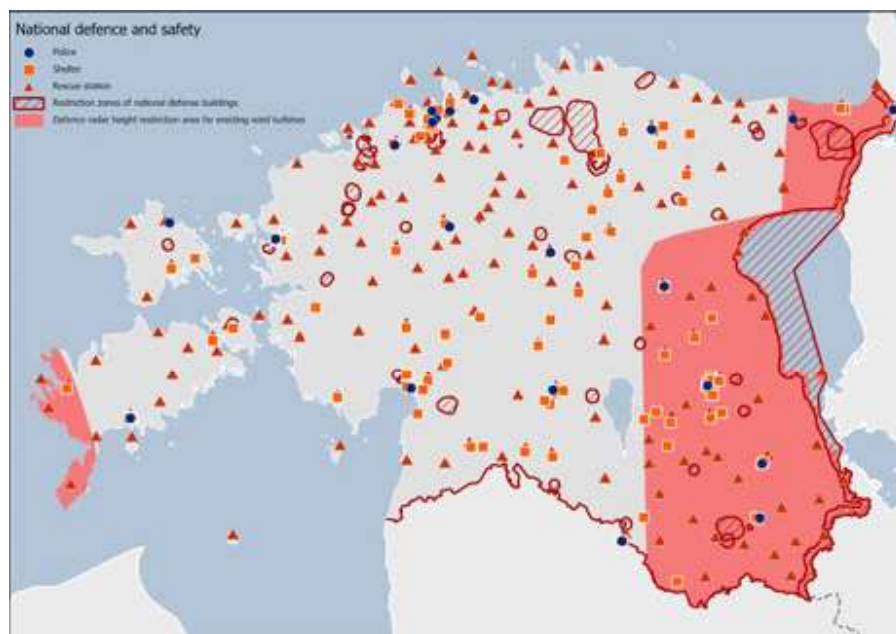


Figure 6. Overview map of national defence and safety (Data: Ministry of defence, Rescue Board).

Based on those implications, cross-cutting themes and conditionalities emphasised across the national plan to be multidimensional spatial approach, quality space, ensuring security and

safety, improving international competitiveness, mitigating contradictory trends in demography, mitigating climate impacts and enhancing biodiversity.

As a result of the above stated principles and growing dynamism and uncertainties in key themes, the professional stakeholders identified the needs of targeted research, which should refine settlement pattern and scenario, enhance green and blue network, redefine valuable landscapes and set contemporary innovative territorial monitoring and assessment framework.

### **Discussion**

European policies reshape the territorial dimension at the national level, fostering policy debates through downscaling emerging initiatives and measures (Böhme et al. 2022b). Critique extends to contextualizing national territorial policies within the European climate ambition and cohesion policy (Farinós-Dasi 2023). While advocating for experimentation and adaptation to uncertainties, the study questions the feasibility of new approaches and planning solutions. Sustainability demands a more robust vision and an empowerment of the planning instruments, incorporating policy making, foresight, mapping and communication techniques (Berisha et al 2021). Climate targets and sustainability ambitions are not necessarily evaluated in relation to land uses and current functions in human activities, economic and technical infrastructure, energy security as well nature conservation. Sivonen and Kivimaa (2024) argue challenges of reducing reliance on Russian fossil fuel imports as well compromising climate policies in promoting renewable energy production while emphasizing national security and sustainability. The planning solutions highlight potential gaps in the plan's adaptability to the transition mode and underscores uncertainties regarding high territorial dynamism. This initial phase of national planning is crucial as it sets the ethos and tone for the entire planning system and process.

In terms of plan qualities, the content of the plan, as well as its spatial solutions, must be based on universally understood and consistently considered principles of societal development. Considering the global and EU strategic, regulatory, and business environment, as well as the choices made in the Estonia 2035 strategy, these fundamental principles should revolve around the principles of sustainable development. This includes the need to plan for sustainability, abandon inefficient land use, densify built environments, and reduce the area of artificial spaces. Plan intends to define temporally territorial interventions at the strategic scales to amplify positive trends. The plan takes into account game-changers associated to conditional territorial interventions. It defines criteria to determine whether a planning and land use condition is met. One of the game-changers as emerging policy streams, it can be metaphorically labelled as flipping the hourglass, is net zero land take.

Spatial plan is a vision document, defines the basis for the entire spatial development and policy in Estonia, and implements a wide range of planning instruments. Territorial visions for different regions is to be consistently presented, along with measurable objectives. A suitable selection of other planning instruments is made based on the nature of the theme, answering the question of how to most appropriately direct the development of a territorial part in the spatial plan.

There is a risk that public bodies fail to address the primary governance and planning challenges posed by new climate policies introduced by new economic models, circularity, platformisation (Oldbury and Isakkson 2023). This could allow market actors' agendas or controversially NIMBY activists to dominate instead. To ensure greater and committed involvement of public actors, strategic planning at national scale should actively acknowledge the competing and conflicting scales inherent in these processes, multitude of factors, to be settled by ad hoc and

flexible decision-making and planning schemes. Strategic planning needs to contain a clear attempt to recognise competing and contradictory dimensions of scale in these processes.

Reflecting the change in the planning paradigm of Southern Europe, austerity and crises create under pressures territorial policies and planning cases that favours inequality, aggravates left behind places, is market-oriented stronger than before against cohesion. If quick direct instruments are used, regulation is frowned upon, and strategies excluded or revised flatly (Tulumello et al 2020). A similar understanding tends to spread in Estonia and across Eastern Europe in 2020s with deepening tendency (Nowak et al 2023). At the same time, climate and biodiversity issues inevitably require a higher level of regulation and concise decisions (Dupont et al 2023).

This research reveals that national spatial plan, rather than serving as flexible coordinating intermediaries, legitimize their role in territorial and regional development processes across arenas, sectors and territorial units. This outcome creates possibilities for agreements, compromises, new ways of planning as well clear-cut trade-offs. The variance of solutions and window of opportunity can be extended. While beyond the scope of this paper, the quest for stronger legitimacy and institutional framework raises questions about the strengths and strategic power of national spatial plan. The findings in the inception phase of national planning illuminate trends, pathways and priorities of territorial transformations in Estonia at the external border of European Union. These spatial transitions and regional transformations reflect differing perspectives across society and sectors in the contemporary uncertainties. The national spatial plan will navigate tensions between flexibility and stability within the national and sub-national context.

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