Uudenmaan liitto
Nylands förbund

VISIO kaava

VISION – An innovative green transition, Uusimaa 5th Regional Land Use Plan | Draft Plan

Plan Description

On public display 11 March-8

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Helsinki-Uusimaa Regional Council 2026

Uusimaa Regional Council // Nylands förbund

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1 Introduction

Uusimaa's goal for 2050 is to be "Europe's most environmentally conscious, innovative and happiest region". This has been defined in the regional programme "Uusimaa of Solutions – Finland's trailblazer, Europe's pioneer", approved by the Regional Council on 9 December 2025. Uusimaa aims to achieve carbon neutrality by 2030, which requires significant
investment in clean technology and green transition projects. The green transition is linked to all the priorities of the regional programme.

In order to achieve the objectives of the regional programme, the region's land-use planning and regional plan must also provide strong support for them. The new VISIO phase regional plan for an innovative green transition has set out to find solutions to enable and promote a green, clean transition in Uusimaa, taking into account environmental constraints. The planning process was initiated by a decision of the Regional Council on 23 February 2025. A draft plan is now available, containing preliminary planning solutions and an impact assessment. We welcome a wide-ranging discussion and feedback on the draft so that the VISIO plan can incorporate the solutions best suited to Uusimaa and most effective in promoting the green transition.

The VISIO plan is a phased regional plan and it complements and refines the existing regional plan framework in relation to five themes linked to the green transition (energy; industrial production, the circular economy and soil resource management; nature and carbon sequestration; logistics and long-distance passenger transport; water supply and water resources) and in relation to national defence. In addition, the plan addresses the cross-cutting perspectives of climate change mitigation and adaptation; security, resilience and security of supply; acceptability and fairness; and an innovative green transition. These perspectives are taken into account particularly in the impact assessment, but security, for example, is also addressed in the form of planning solutions relating to land use required for national defence. The target year for the regional plan is 2050, the same as for the legally binding Uusimaa plan as a whole, and its presentation remains equally general and strategic.

The regional plan sets out the broad guidelines for land use far into the future. It is the most general level in the planning system. The ongoing reform of the Land Use Act will influence the VISIO planning work, which will change both the planning process and the role of the regional plan within the planning system. The solutions are still open, but the change will take place before the proposal stage, so its impacts will be assessed alongside the feedback received on the draft. The plan's solutions and materials will also be supplemented in the proposal in various ways, for example regarding cross-cutting perspectives and impact assessments.

2 The starting points for the plan’s design

2.1 Planning area and area of influence

The VISIO plan is being drawn up for the entire Uusimaa region. The plan area therefore covers all 26 municipalities in the Uusimaa region.

In addition to the plan area, the plan’s area of impact also includes areas where the planned land use may have significant effects. Their significance and scope depend on the theme in question and may range from inter-municipal to inter-regional and national, and in some cases even international.

If the regional plan is likely to have significant environmental impacts on the territory of another Member State of the European Union, the Finnish Environment Institute must ensure that the notification procedure laid down in the European Union’s EIA Directive is followed and that consultations are held with the other Member State. The Helsinki-Uusimaa Regional Council must notify the Finnish Environment Institute of the status of the VISIO plan’s preparation (Land Use and Building Act, Sections 206a and 206b). The Helsinki-Uusimaa Regional Council will consult with the Finnish Environment

Institute on the procedure.

Image1 . The VISIO plan area and neighbouring regions.

2.2 The need for and themes of the new regional plan

The key objective of the new planning work is to promote the green transition in Uusimaa through land use planning. The planning work focuses on land use planning solutions related to the climate, the energy transition, biodiversity, natural resources and the circular economy, as well as transport and other critical infrastructure.

The need to update the regional plan has arisen both due to changes in the operating environment and feedback received from stakeholders. The energy and business sectors are undergoing significant change, and security, security of supply and resilience are becoming increasingly important in the face of a more tense geopolitical situation. At the same time, the climate crisis and the loss of biodiversity are progressing faster than predicted. Promoting the green transition, which is broadly linked to energy, business and transport, also involves strengthening the region's ecological networks, carbon sequestration and adaptation to climate change. Land use must be planned to meet the challenges of a changing operating environment.

The VISIO plan complements the existing legally binding planning framework in relation to the following thematic areas linked to the green transition:

- Energy
- Industrial production, the circular economy and soil resource management
- Nature and carbon sequestration
- Logistics and long-distance passenger transport
- Water supply and water resources
- National defence

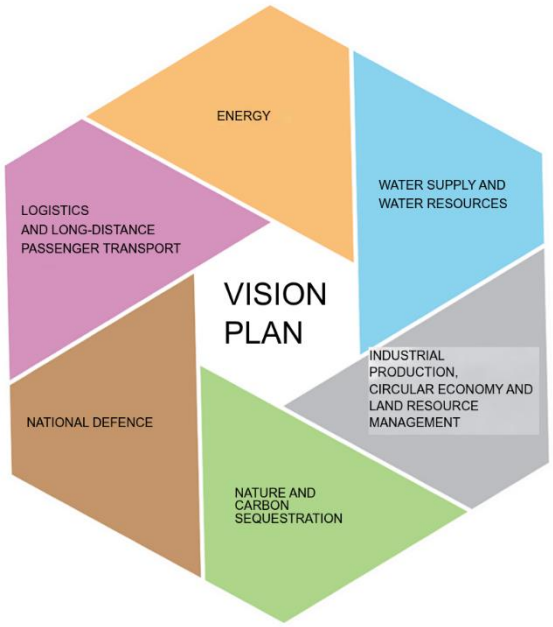


Image:2 . Themes addressed in the VISIO plan.

In addition to the content themes, the following perspectives are taken into account as cross-cutting issues in the planning work:

- Climate change mitigation and adaptation
- Safety, resilience and security of supply
- Acceptability and fairness
- Innovative green transition

The challenges of the green transition in Uusimaa have been identified as including, for example, energy sufficiency and the space requirements of new types of industries linked in various ways to the green transition. In a growing and densely populated region, finding suitable areas for activities that require a lot of space can be challenging. The space requirements for energy production, transmission, conversion and storage must also be coordinated with other land-use interests in a region that is constantly evolving.

Identifying the conditions for locating industrial clusters, as well as anticipating and taking into account the needs of potential projects and their location areas in the regional plan, is a key way of ensuring that projects of regional and even national significance in industrial production, logistics, landsupply or circular economy have the necessary land-use conditions for implementation.

Reviewing the up-to-date status of logistics and long-distance passenger transport connections and destinations has become a pressing issue following the development of plans at various levels of the transport system and the region’s commitment to objectives such as carbon neutrality. Achieving these objectives requires a broad-based transition to sustainable modes of transport, efficient freight transport, and clean and renewable energy sources.

With regard to the natural environment, the many different land-use interests affecting the region have led to the fragmentation of green infrastructure and the deterioration of ecological networks and biodiversity. Climate change is making it more difficult to maintain the diversity of natural environments. This poses new challenges for the development of the growing metropolitan region and the siting of its functions. Mitigating climate change is key to preventing harm to nature. From an adaptation perspective, it is important to preserve biodiversity and interconnected networks of green spaces. This will enable the region’s species to cope with future changes, and sectors of production that depend on biodiversity will also retain the conditions necessary to operate in Uusimaa.

In Uusimaa and the Helsinki region, several municipalities and municipal federations are involved in water supply and sewerage services, and centralised water supply and sewerage solutions serve a large population. The VISIO plan aims to safeguard the future development of the regionally significant water supply and wastewater treatment systems by designating areas and routes for municipal engineering services. Ensuring security of supply and safety issues have also prompted the inclusion of this theme in the regional plan.

Changes in the geopolitical situation and security environment also have an impact on Uusimaa and the regional plan process. Furthermore, international and national policy, regulation and commitments – particularly EU and Finnish industrial policy and legislative changes – are having a more direct impact on land-use planning than before. It is also likely that regulation will continue to increase and become stricter in the coming years. Regional planning work therefore takes these changes in the operating environment, such as legislation, into account as proactively as possible.

2.3 Definition of a green and clean transition

The definition has been formulated by the Helsinki-Uusimaa Regional Council based on the Ministry of the Environment's definition. The definition forms an important starting point for the VISIO planning work.

> *The green and clean transition is an essential shift towards an ecologically sustainable economy and vitality. A sustainable economy is based on low-carbon solutions that promote the circular economy and biodiversity, as well as the sustainable use of natural resources.*
>
> *The transition enables the building of a carbon-neutral society, improves ecological balance, mitigates climate change and promotes adaptation to it, and secures future livelihoods.*
>
> *Clean energy is an integral part of the transition. Replacing fossil fuels with clean energy solutions is a key objective of the transition.*
>
> *In Uusimaa, the green and clean transition emphasises innovation, resource wisdom, the limits set by nature and the environment, the development of sustainable transport, logistics and infrastructure, as well as fairness and social acceptability.*
>
> *This change is driven by EU-level regulation, international and national climate targets, and the Uusimaa region's goal of achieving carbon neutrality by 2030. The Helsinki-Uusimaa Regional Council also aims to be a pioneer in promoting a green and clean transition, both nationally and internationally.*

2.4 The status of regional plans in Uusimaa

Several regional plans are currently in force in Uusimaa, which together form the body of valid regional plans. The following are in force

- The Uusimaa Plan 2050 framework, comprising three regional phase plans: the Helsinki Region Phase Plan, the Eastern Uusimaa Regional Plan and the Western Uusimaa Phase Plan
- The Uusimaa 2nd Phase Regional Plan, Östersundom area
- The Uusimaa 4th Regional Plan: wind power solution

Any provisions of the current regional plans that are not specifically repealed in connection with the approval and entry into force of the VISIO Plan shall remain in force. The Structural Plan 2050 (non-legally binding), which served as the overarching vision for the Uusimaa Plan, also guides the regional structure of the VISIO Plan where applicable.

Read more about the current regional plans at t

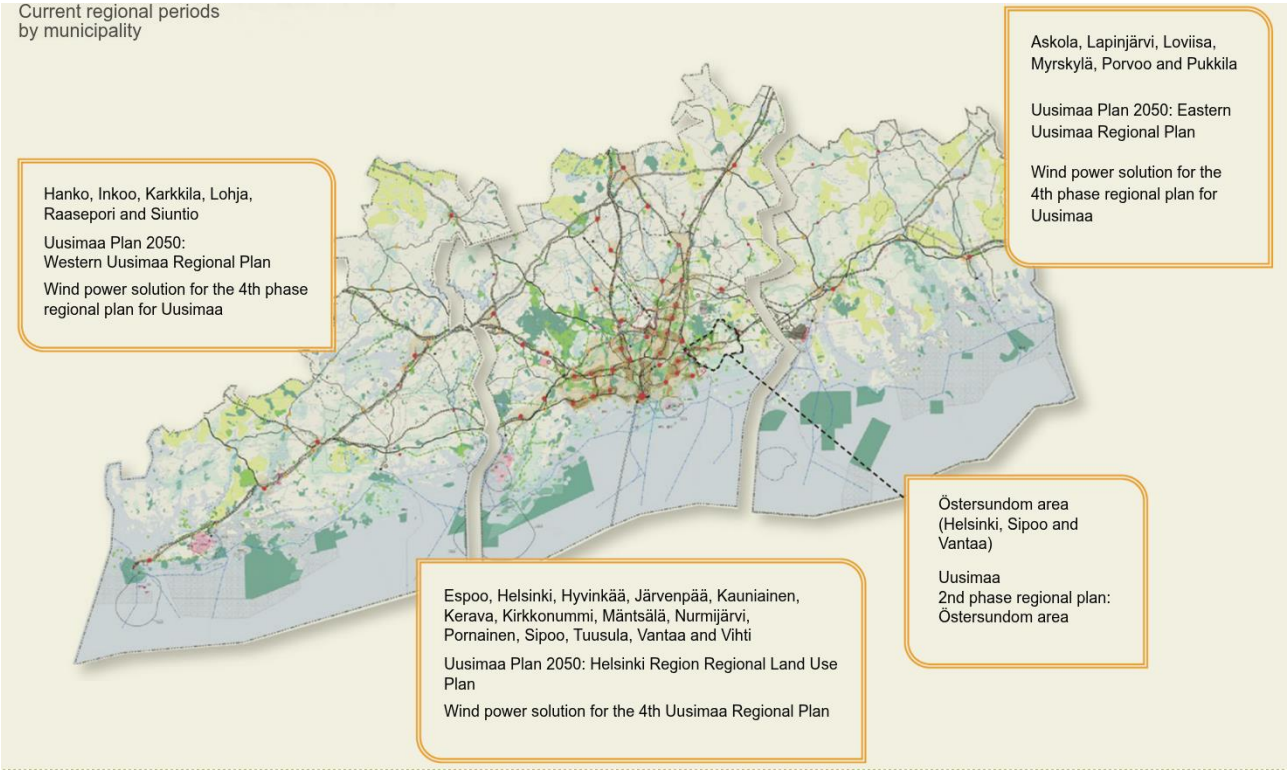


Image:3 . A compilation of current regional plans by municipality.
You can find out more about the current regional plans on the Uusimaa Regional Council's planning map service. Link to the Uusimaa Regional Council's planning map service

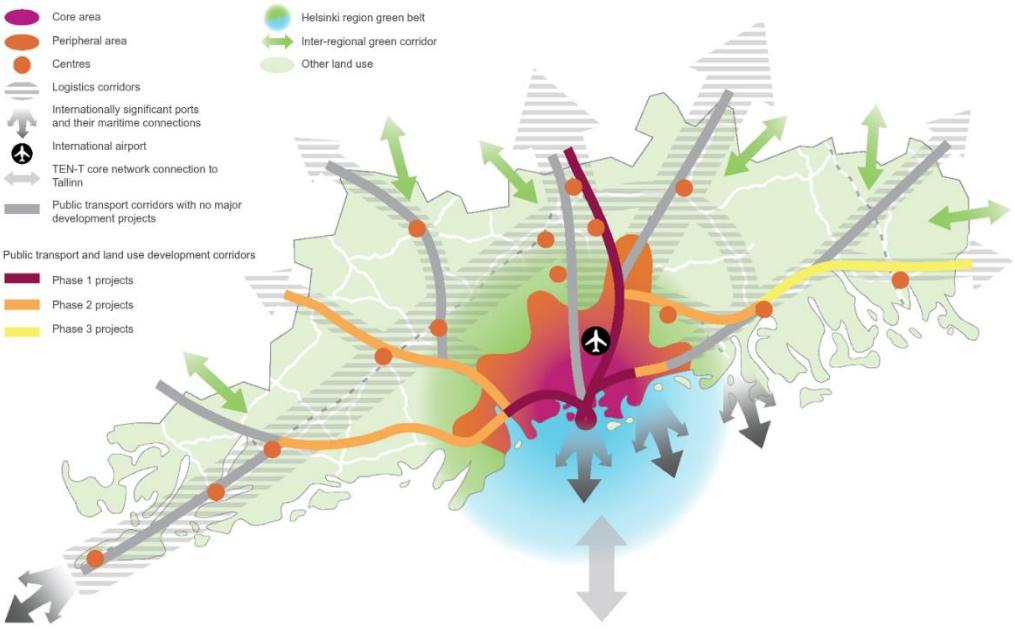


Image4 . Uusimaa Structural Plan (2020).
The Structural Plan serves as the overarching vision for the legally binding Uusimaa Plan 2050, providing a general overview of the region's spatial structure and key connections, including those across regional boundaries. Link to the Uusimaa Structural Plan

2.5 Uusimaa and the green transition: challenges and opportunities

The green transition plays a key role in achieving the sustainability goals of Uusimaa and its municipalities in the coming years and decades. Uusimaa's strengths in terms of the green transition include, in particular, a skilled workforce, good logistical connections and opportunities to connect to energy networks. Uusimaa's compact regional and community structure, along with its efficient infrastructure and transport system, provide location-based agglomeration benefits for green transition investments and businesses.

On the other hand, the availability of space and infrastructure is becoming a key challenge in Uusimaa, as many green transition projects (e.g. solar energy) require large contiguous areas and proximity to energy networks and logistics, which are in limited supply in this densely populated region. The need to reconcile the natural environment, the ecological network and various land-use interests also increases the complexity of planning. Efficient land use in Uusimaa and the constraints and limitations associated with its development therefore require a great deal of coordination and may delay or prevent projects and investments.

At the regional level, it is essential to recognise the significance of the green transition for the region's competitiveness, security of supply and acceptability. Attracting major investments would also enable the growth of value chains and cooperation among small and medium-sized enterprises and bring broader regional economic benefits. A key issue for Uusimaa relates to the availability and consumption of energy. Increasing clean energy production in Uusimaa would balance the situation, where electricity is currently imported into the region from elsewhere. The availability of industrial and large-scale sites in Uusimaa is limited and their value is high. Furthermore, a densely built environment poses challenges in terms of social acceptability.

The green transition offers Uusimaa great opportunities that could enhance the region's and Finland's role in addressing global sustainability challenges. However, positive development requires a consistent and predictable operating environment, characterised by, for example, flexible planning, streamlined permit procedures and extensive cooperation between municipalities, businesses and project stakeholders.

Read more about the needs, challenges and opportunities in Uusimaa regarding the green transition at t

3 Stages of the planning process

3.1 Stages and progress of the planning process

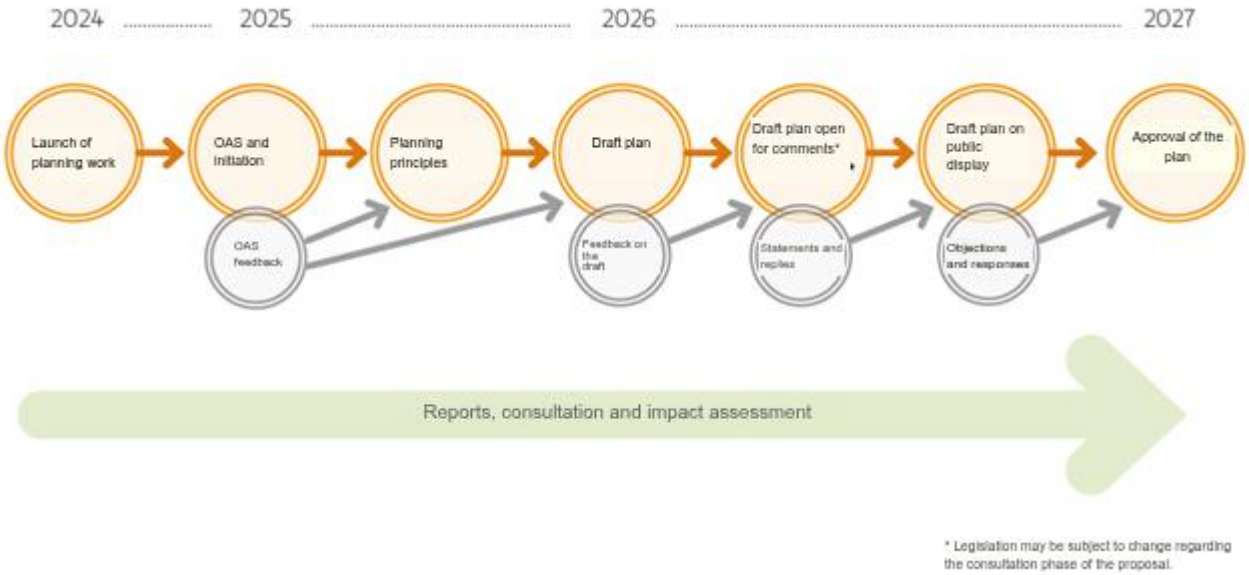


Image5 . Target timetable for the VISIO planning process.
Planning work began in 2024, and according to current estimates, the plan could be at the approval stage in 2027. The timetable will be refined as the planning process progresses.

2023

- In 2023, the need to update both the regional plan and the Uusimaa Programme was assessed through stakeholder surveys and a tour of the municipalities. The discussions that took place highlighted a number of topical issues, particularly those relating to the green transition, transport and the ecological network.

2024

- In early 2024, a study was launched on the land use requirements of green transition projects in Uusimaa, based on the themes that emerged from stakeholder engagement.
- During the spring, the Regional Council carried out an assessment of the validity of the legally binding regional plan. Based on stakeholder engagement, the assessments carried out and the study, it was concluded that the legally binding regional plan needs to be updated with regard to certain topical themes.
- At its meeting on 13 May 2024, the Regional Council decided to launch the preparation of a new phased regional plan focusing on the green transition. Five themes were selected for inclusion in the phased regional plan.
- During the autumn, development scenarios for the plan’s themes were prepared. The development scenarios examined the development, current status and future of each theme, as

well as possible approaches for addressing them in the plan. In connection with the drafting of the work, preliminary objectives for the planning work were also defined, which were refined in consultation with the municipalities and various stakeholders.

- The Green Transition Cooperation Group, coordinated by the association, also began its work in the autumn. The aim of the cooperation group is to support regional planning, increase dialogue between municipalities and various actors, and tackle common challenges related to the green transition. The members represent a diverse range of municipalities in Uusimaa, different regions, and actors and authorities involved in the green transition.

2025

- The Participation and Assessment Plan (OAS) set out the objectives refined through consultation, as well as information on the stages of the planning process, consultation and planned impact assessments. At its meeting on 24 February 2025, the Regional Council approved the plan's Participation and Assessment Plan for public display and authorised the office to announce the plan's initiation.
- The plan was announced as being in progress in March. The OAS was open for public comment on the association's website and at the office from 10 March to 29 April 2025. In addition, a targeted request for comments was sent to a total of 167 stakeholders, including municipalities in Uusimaa, authorities involved in the plan's themes, and other key stakeholders.
- During the public consultation period, four regional 'Uusimaa Forum' stakeholder events were organised in conjunction with the new regional programme, which was being prepared at the same time, as well as a presentation of the plan via Teams.
- A total of 56 comments were received regarding the OAS. Almost half of those who submitted comments were municipalities in the Uusimaa region, public authorities, associations of neighbouring regions, organisations and stakeholders with an interest in the content of the plan, and private individuals. A particularly large amount of feedback was received on the themes of energy, nature and carbon sequestration, as well as the inclusion of the Östersundom area within the VISIO plan area.
- Following a review of the OAS feedback, it was concluded that the plan area needed to be extended to include the Östersundom area. The Regional Council decided to extend the plan area at its meeting on 9 June 2025. Following the expansion of the plan area, the re-launch of the plan was announced in June, and feedback on the updated participation and assessment plan could be submitted until the beginning of August.
- During the spring and early autumn, planning principles were drawn up to clarify the plan's objectives and guide the drafting of the plan. The principles were developed in collaboration with, among others, municipal experts and the Green Transition Cooperation Group. The Regional Council approved the planning principles at its meeting on 25 August 2025.
- The first official consultation on the plan was held on 18 September 2025, with a total of 18 different parties participating or submitting their comments. During the consultations, the themes of the plan were considered highly topical and the studies currently being prepared were deemed extremely necessary. It was also noted that regional plan processes are underway in several neighbouring regions, addressing the same themes related to the green transition.
- The draft plan was prepared during the autumn. The principles and solutions of the preliminary draft plan were discussed, for example, with municipal expert groups at a workshop in early

2026. National defence was included in the draft plan as the sixth theme based on feedback from the OAS.

2026

- The Regional Council approved the draft plan for public display at its meeting on 23 February 2026. The draft plan will be available for public display from 11 March to 8 May 2026 on the Uusimaa Regional Council's website. Comments on the draft plan are also being sought from the municipalities of Uusimaa, as well as from other key authorities and stakeholders.

3.2 Participation and decision-making

The VISIO plan is being prepared as openly and interactively as possible. It is important to gather views on the plan's content, impacts and other key issues from everyone who may be affected by regional planning. Feedback received at different stages and external assessments will be utilised in the preparation and planning process. Participation and cooperation provide important input for the planning process and form the basis for political decisions.

The Land Use and Building Act sets out provisions on participation procedures and public information. The participation process begins when the participation and assessment plan is made available for public inspection. Feedback on the plan is gathered from stakeholders on an ongoing basis throughout the planning process.

Stakeholders

Anyone who wishes to be involved in the development of the region and to influence matters affecting them personally has the opportunity to participate. Under the Land Use Act, stakeholders in the planning process include all those whose housing, work or other circumstances may be significantly affected by the plan. In addition, stakeholders include authorities and organisations whose areas of activity are addressed in the planning.

Stakeholder cooperation

In addition to the Association's own experts, the planning process involves a wide range of local authority officials and decision-makers from the region, as well as external experts from universities and research institutes, various ministries, and organisations related to the themes of the plan. Feedback from residents is also an important part of the plan's preparation.

The regional plan work is presented and discussions on the plan's solutions are held throughout the planning process, both in permanent working groups and in workshops and seminars organised as required. The Association's permanent expert groups from various sectors within the municipalities provide key support for the preparation of the regional plan.

In addition, cooperation groups will be established as needed, bringing together experts from various stakeholder groups to complement the Association's own expertise. For example, to promote the green transition in Uusimaa and to provide input for the association's planning and programme work, a Green Transition Cooperation Group has been established, comprising representatives from various sectors of the green transition within municipalities and other organisations. Furthermore, existing regional

cooperation groups across different sectors are utilised as extensively as possible in the planning process.

Decision-making

Decisions relating to the planning process are made by the Regional Executive and Regional Council, which are composed of politicians from the municipalities of Uusimaa. The Regional Executive Committee decides on the initiation and commencement of the regional plan's preparation, approves the participation and assessment plan, puts the draft plan on public display, approves the plan proposal and its public display, and submits the final plan proposal to the Regional Council for approval. The regional plan is ultimately approved by the regional council.

3.3 Planning tools and platforms

The Uusimaa Regional Council's website, uudenmaanliitto.fi, provides updates whenever there is a significant development in the planning process.

Notices regarding the initiation of the plan, consultation periods and public display periods will be published on the Uusimaa Regional Council's website, on the official notice boards of member municipalities, and in the newspapers designated by the Uusimaa Regional Council (Helsingin Sanomat and Hufvudstadsbladet).

The plan documents available for public inspection are displayed on the Uusimaa Regional Council's website for review and comment. During the public display of the draft plan, the planning documents will also be submitted to the official notice boards of the Uusimaa Regional Council's member municipalities. The exact dates of the public displays will be confirmed as the planning work progresses.

The plan's participation and assessment plan was available for all stakeholders to review and comment on in March–April 2025, at the same time as the VISIO plan was announced as being in progress. Following the amendment of the plan area, the plan will be re-announced as being in progress in June 2025.

During the preparation and proposal stages of the plan, statements on the planning documents will be sought from the municipalities of Uusimaa as well as other key authorities and stakeholders.

Consultations with authorities will be held during the initial and proposal stages of the plan. The Uusimaa Centre for Economic Development, Transport and the Environment and those ministries whose areas of responsibility include matters of national significance addressed in the plan will be invited to the consultation. Other authorities whose areas of responsibility may be affected by the matter will also be invited to the consultation.

You can also follow current regional planning issues via a newsletter sent by email. You can subscribe to the mailing list on the Regional Council's website at uudenmaanliitto.fi/uutiskirjeet.

Furthermore, feedback can be provided at any time during the planning process via an online form. From the draft stage of the plan onwards, feedback can also be submitted via the map service, allowing it to be targeted at a specific location.

If necessary, you can also contact the planners directly. The best way to do this is by email.

4 The plan’s objectives and planning principles

The plan’s objectives and the planning principles that specify them have been defined on the basis of the previous regional programme that set out the region’s development, namely the Uusimaa Programme, the preparatory material for the new regional programme, and the background studies for the plan, in consultation with stakeholders during the plan’s initiationand preparation phases. The objectives define what the plan aims to achieve, and the planning principles describe the planning tools that can be used to achieve these objectives and resolve planning issues within the plan. The planning solutions in the draft plan have been formulated on this basis.

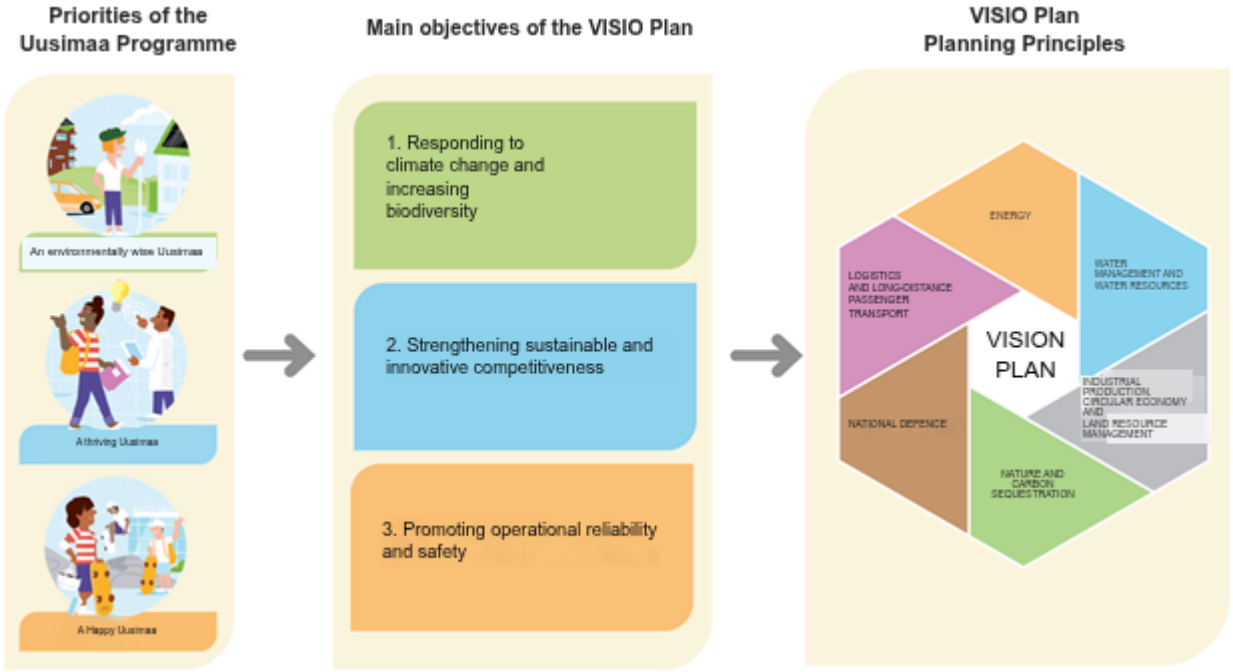


Image6 . The priorities of the regional programme form the basis for the plan’s objectives and planning principles. Programme and planning work is carried out in close cooperation within the Helsinki-Uusimaa Regional Council. Preparation of the VISIO plan began whilst the previous regional programme, the Uusimaa Programme, was still in force. The priorities and objectives of the Uusimaa Programme guided the preparation of the plan’s objectives and planning principles, but the work also took into account the guidelines of the new regional programme that was under preparation.

4.1 Objectives

The purpose of the objectives is to guide the plan's planning principles, planning solutions, the assessment of their impacts and the comparison of alternatives, as well as, at a later stage, the monitoring of the plan's implementation. The objectives define what the plan aims to achieve.

The VISIO plan has three main objectives related to the transition to a green, clean future:

1. Responding to climate change and increasing biodiversity
2. Strengthening sustainable and innovative competitiveness
3. Promoting operational reliability and safety

These main objectives are further specified by 20 sub-objectives. The objectives have been drawn up on the basis of the plan's development scenarios, building on the priorities of the current Uusimaa Programme and in close consultation with the plan's stakeholders. The objectives have also been aligned with current population and employment projections for Uusimaa, as well as scenario analysis. Through this interaction, efforts have been made to take into account the objectives of the plan's key stakeholders and the challenges in Uusimaa that they consider important.

The objectives have been set to address current and anticipated factors of change and challenges. They are influenced by national land use objectives, the previous regional programme in force until the end of 2025 and the new regional programme replacing it, the objectives of the current regional plan, and other national and regional objectives and strategies. The Agenda 2030 Sustainable Development Goals (SDGs) have also been taken into account, as well as European and Finnish objectives, strategies and regulations relating to the transition to a green and clean economy.

Links: **VISIO Plan development scenarios (2025)**, **Uusimaa population and employment projections (2025)**, **Uusimaa Regional Council scenario work (2025)**

Image7 . Main objectives of the VISIO plan with sub-objectives.

4.2 Planning principles

The planning principles describe the means by which the plan's objectives can be achieved and how planning issues are to be resolved within the plan. The principles have been compiled on the basis of the plan's objectives, studies carried out and interaction, such as feedback from the OAS. The Regional Council approved the plan's planning principles on 25 August 2025. The planning principles have been an important starting point for the drafting of the plan.

The planning principles have been formulated at a fairly general level to ensure flexibility in the planning process. The planning principles take into account that the VISIO plan is a phased regional plan, which partly supplements but may also replace the solutions of the current regional plan. A phased plan may also be used to amend only part of the designations for a particular planning theme. The changing operating environment of regional planning, particularly legislation, may also affect the possibilities for implementing the planning principles.

Explore the planning principles of the VISIO plan's themes

5 ’s planning solutions by theme

5.1 Energy

5.1.1 Theme background and content

The Uusimaa region is committed to both national climate targets and its own ‘Carbon-neutral Uusimaa 2030’ target. Achieving these targets requires a determined transition from fossil fuels to clean and renewable forms of energy, improved energy efficiency and energy savings. In recent years, the energy transition has accelerated, driven not only by the need to mitigate climate change but also by technological developments and the pressing need to strengthen Finland’s energy self-sufficiency and security.

The VISIO plan responds to the new demands and opportunities presented by the energy transition. The electrification of society’s functions and the energy needs of the emerging hydrogen economy will become increasingly important in the future. Uusimaa must determine what kind of green transition projects are feasible in a densely populated region.

Solar energy production has grown significantly in recent years. The plan guides the construction of large-scale solar power plants through general planning regulations that support the overall sustainable siting of projects and their coordination with other land uses, natural values and the landscape.

The plan recognises the key role of nuclear power as a stable, emission-free source of base load power. The plan makes provision for the construction of additional conventional nuclear power plants as well as future small modular reactors (SMRs), which can offer new solutions for the production of electricity and heat to meet the needs of industry and communities.

As a new, nationally significant component of the energy system, the plan takes into account the route of the future hydrogen transmission network, which will enable the use of hydrogen in industry, transport and as an energy storage solution. Alongside the hydrogen economy, the plan secures the conditions for implementing other industrial investments and production facilities in line with the green transition, thereby strengthening the region’s role as a pioneer in clean technology. With regard to wind power, the solution set out in the 4th phase of the Uusimaa Regional Plan remains in force.

The energy system is evolving towards a more decentralised and intelligent whole, in which large, centralised production facilities and networks are complemented by local solutions. The regional plan secures the operating conditions for the networks and facilities essential for energy supply. It is particularly important to promote the expansion of the electricity transmission network’s capacity and operational reliability so that increasing electricity generation and consumption can be managed reliably. As part of the development of the electricity transmission network, the plan designates new 400 kV substations. Securing the capacity of the electricity network is also a prerequisite for the location of electricity-intensive operations, such as data centres, in the region.

At the same time, district heating plays a key role as a heating system in Uusimaa, particularly in densely built-up urban areas. District heating networks are valuable infrastructure, and their importance in the energy transition is emphasised as production moves away from fossil fuels and makes increasingly diverse use of new, clean heat sources, such as geothermal energy, waste heat from data centres and industry, and sustainable bioenergy. Land-use planning ensures that this system-level

change can be implemented in a controlled manner, supporting the vitality of the Uusimaa region and the achievement of climate targets.

5.1.2 Solar energy

Background

Uusimaa has excellent conditions for utilising solar energy whilst promoting the achievement of climate targets. Although Finland is located in the north, the annual amount of solar radiation in Southern Finland is comparable to that in Northern Germany. The long, light hours of summer and the cool climate, which improves the technical efficiency of the panels, create favourable conditions for production. Rapid technological development and falling panel prices have made solar power increasingly competitive economically.

The region's potential is twofold. Firstly, densely built-up urban areas offer enormous, as yet largely untapped potential for rooftop solar panels. The roofs of industrial, commercial and residential buildings offer vast areas for distributed electricity generation without requiring new land. Secondly, industrial-scale ground-mounted solar power plants are a new but rapidly growing form of generation in Finland. In Uusimaa, the challenge lies in effectively coordinating land use to avoid conflicts with residential areas, agriculture, forestry, and cultural and natural heritage. The best locations are therefore various types of unused land, such as disused peat production and soil extraction sites, old industrial areas, and the margins of major transport routes. The capacity of the electricity grid and the location of connection points are also key to the implementation of large-scale projects.

The Uusimaa Solar Energy Study, prepared in 2017 as background research for the Uusimaa Regional Plan, examined, among other things, how the planning of solar power plants or other large-scale solar energy systems should be taken into account in regional planning. However, when the study was being prepared, it was not possible to foresee the massive growth in solar power construction that has taken place in Uusimaa over the last few years. Furthermore, the focus of solar power construction has shifted significantly from power plants built in connection with buildings to large-scale panel fields covering even several hundred hectares. The Helsinki-Uusimaa Regional Council is therefore preparing a new solar power report during 2025 and 2026 to serve as background material for the VISIO plan.

Description of the plan solution and its rationale

Based on the Uusimaa Regional Council's solar power study, as well as studies recently prepared in other regions and stakeholder engagement, no binding need for regional plan-level guidance based on land-use reservations has been identified in Uusimaa with regard to solar energy. At the same time, however, the Visio plan deemed it necessary to promote solar energy production and to set the framework conditions for the siting of large-scale production areas through the regional plan. Consequently, no specific designations for solar energy are shown on the plan map; however, general planning regulations covering the entire region are provided to promote and guide solar energy in a sustainable manner.

Designations and regulations

General planning regulations

The siting of solar power plants of regional significance (covering an area of more than 50 ha) must be based on a legally binding municipal plan.

Industrial-scale (capacity over 1 MWp) solar power areas should primarily be located in areas that are already built-up or have been modified by humans, as well as in the vicinity of the existing community structure and electricity grid connection points.

When selecting sites for industrial-scale solar power, priority should be given to areas in their natural state, undrained mires, and contiguous forest and arable land areas. Planning must ensure the continuity of regional ecological corridors.

The siting of industrial-scale solar power plants in landscape areas of national or regional importance, important groundwater areas and areas of high biodiversity value is only possible if planning is carried out with particular care and studies can demonstrate that the project does not jeopardise the area's landscape values, groundwater quality or natural values.

The siting of industrial-scale solar power plants is not permitted in statutory nature conservation areas, ecological compensation areas, areas of built cultural heritage (RKY), nationally significant archaeological sites (VARK) and UNESCO World Heritage Sites.

Industrial-scale solar power plants should not be located in areas subject to multiple environmental values that restrict land use.

When planning industrial-scale solar power projects, the overall impacts of the project must be assessed and taken into account, particularly the impacts on the landscape, the cultural environment, biodiversity, ecological connectivity, recreational use, settlements and local livelihoods.

The electricity transmission for an industrial-scale solar power plant must be planned to fit in with land use and the environment, and should primarily be concentrated on existing power lines and shared pylons. Planning must be carried out in close cooperation with project stakeholders, local authorities, public authorities and network operators.

In the construction of industrial-scale solar power plants, particular attention must be paid to the prevention and mitigation of impacts on water bodies, especially in areas with acidic sulphate soils. Furthermore, it must be ensured that no significant negative climate impacts arise. The impacts must be assessed in conjunction with other energy and power line projects.

Energy storage facilities and other related structures may also be located in connection with solar power areas, subject to more detailed planning and impact assessment.

Any potential interference effects of the solar power area on the Defence Forces' radar, sensor and communications systems must be investigated in cooperation with the authorities.

Guidance for more detailed planning and implementation

There is no single defined threshold for regionally significant solar power in Finland. Based on an examination of solar power studies conducted in the regions, the minimum area for a regionally significant solar power area appears to be around 50–100 hectares. On the other hand, significance can also be assessed in terms of peak power, in which case the lower limit for a regionally significant power plant is around 10–50 megawatts. Since the capacity of a solar power plant is, at least with current technologies, fairly directly proportional to its area, it ultimately makes little difference whether the plant's significance is defined in terms of area or capacity.

The project's electrical connection directly to the transmission grid or to a regional 110 kV grid can be seen as a factor supporting regional significance, as it reflects the power plant's role as part of the national energy system. However, it is not appropriate to use the electrical connection as the sole or defining criterion for regional significance. If the project's significance were determined solely by the technical connection point, this would lead to inconsistent interpretations in other sectors as well; for example, electricity-intensive data centres would then automatically be classified as projects of regional significance, even though their land-use nature and impacts differ substantially from those of large-scale solar power areas. When assessing regional significance, it is therefore essential to maintain the focus on the project's broad spatial impact and its integration into the region's overall land-use structure.

In the VISIO plan, the regional significance of a solar power plant is defined primarily in terms of its area, as the plant's environmental impacts are primarily determined by its physical size. *Solar power sites covering an area of more than 50 hectares are considered to be of regional significance. Area refers to the total area bounded by the power plant site, including service roads and internal power transmission lines.* A project of this size is such that it can be considered to significantly support the achievement of regional climate targets and renewable energy production targets. A project of this scale also almost invariably requires connection to a high-voltage electricity distribution network (110 kV or higher), and may necessitate the construction of an entirely new power line that is significant in terms of the landscape. Furthermore, the project will almost inevitably have impacts on the landscape, biodiversity, the cultural environment or recreational use that extend beyond the immediate surroundings.

Another key definition relating to solar power concerns industrial-scale solar power. In the Vision Plan, industrial-scale solar power refers to a power plant with a peak capacity of at least 1 megawatt (1 MWp). This definition is well established, as, for example, the Energy Authority and statistical bodies such as the Finnish Renewable Energy Association define industrial-scale solar power plants as all facilities with a nominal capacity exceeding 1 MW. Consequently, a solar power plant of regional significance is always also an industrial-scale solar power plant, but an industrial-scale solar power plant is not necessarily of regional significance.

The aim of the general planning regulations is to direct solar power plants primarily to areas where land use has already changed or where natural values are minimal. The fragmentation of large, contiguous forest and agricultural areas should be avoided. Proximity to existing infrastructure, particularly electricity grid connection points, is a key guiding principle. This reduces the need to build new, long power lines that impact the landscape, as well as lowering the project's costs and environmental impacts.

Statutory conservation areas refer to both existing areas and those reserved for future establishment. Ecological compensation areas must be protected to ensure that their calculated compensation value is maintained. When siting the power plant's substations and any energy storage facilities, particular

attention must be paid to fire safety, the operational requirements of the emergency services, and potential chemical risks in groundwater areas.

In an impact assessment, it is not sufficient to assess impacts solely within the project area itself; instead, the landscape, ecological and social impacts must be examined more broadly. The project's overall climate impact may remain weak if a significant carbon sink, such as a well-growing forest, is cleared to make way for it. This must be taken into account in the siting process. The area must be considered as a whole, where the impacts of a single project may be multiplied by other similar projects.

There may be several values or interests present simultaneously in the project area which, on their own, do not constitute an absolute barrier to construction, but whose combined impact may make the area a significant entity. The more different land-use types or natural values intersect in the area, the higher the threshold for siting solar power. The assessment should not focus solely on individual points, but on the area's significance as part of a wider network. If an area functions simultaneously, for example, as a noise buffer for residential areas and an ecological corridor, its value is greater than the sum of its parts. If multiple overlapping values are identified in the area, planning must place particular emphasis on seeking alternative siting options in areas where there is only one or no identified environmental value. The assessment must also give weight to local values that emerge in the studies but fall outside official classifications, if these are concentrated in the area.

Key changes to existing regional plans

- The current Uusimaa Plan 2050 contains a general planning provision concerning solar power. It is proposed that this provision be repealed and replaced with a new general planning provision that provides more detailed guidance on the matter. There are no designations relating to this theme that are proposed for repeal.

Entries in the current regional plans proposed for repeal

- No markings to be repealed

5.1.3 Nuclear power

Background

Loviisa is home to two of Finland's five nuclear power plant units. Their combined output consistently accounts for around 10 per cent of Finland's electricity production. In February 2023, the Government made a decision granting both Loviisa power plant units new operating licences until the end of 2050. The decision was based on extensive safety assessments and technical studies, which demonstrated that the safe operation of the units can continue as planned. Fortum, the operator of the Loviisa plant, is also actively exploring opportunities to build new nuclear power capacity in Finland. The aim of this development work is to meet the growing demand for clean electricity from society and industry, and to strengthen Finland's energy self-sufficiency. New nuclear power investments would provide weather-independent and stable baseload power, which is essential for balancing the production of renewable but variable wind and solar power. Fortum has identified the area surrounding the Loviisa plant site as a suitable location for the construction of additional nuclear power capacity. The location, in the vicinity of the existing power plant sites, would enable the efficient utilisation of existing infrastructure and expertise.

Small Modular Reactors (SMRs) are a new generation of nuclear power plants that are physically smaller than traditional power plants, suitable for mass production and modular in design. In Uusimaa, and particularly in the Helsinki metropolitan area, SMR plants are being pursued primarily to address one key challenge: decoupling district heating production from fossil fuels. Thanks to their smaller size and passive safety systems, SMR plants could in future be located more flexibly closer to centres of consumption. This would reduce heat transfer losses and improve the efficiency of the entire energy system. In addition to district heating, SMR plants in Uusimaa also offer solutions for stable and emission-free electricity generation, as well as for the energy and steam needs of industry.

Description of the planning solution and its rationale

The plan solution safeguards the operational and development opportunities of Loviisa's existing power plant units and also enables the further planning of a new power plant unit in the vicinity of the existing units. The plan also sets out general planning regulations concerning small-scale nuclear power.

The Hästholmen safety zone was first designated in the Eastern Uusimaa Phase II regional plan in 1984. At that time, the zone was defined based on a calculated distance of 5 kilometres from the nuclear power plant site. Currently, the definition of the zone is more flexible and is based on the Radiation and Nuclear Safety Authority's (STUK) regulation STUK Y/2/2024 concerning emergency preparedness arrangements for nuclear power plants and the case-by-case decision made on that basis. The law or regulations no longer specify kilometre limits for the safety zone; instead, the licence applicant must demonstrate through analyses that even a highly improbable serious accident would not necessitate large-scale evacuations or permanent land-use restrictions in the vicinity of the plant. It is the licence applicant's responsibility to carry out comprehensive, probability-based risk analyses to demonstrate the safety of the facility. On the basis of these analyses, the licence applicant shall make a proposal regarding the scope of the necessary emergency preparedness arrangements, including the size of the emergency planning zone. The licence applicant must demonstrate that the facility meets the requirements of the Decree (717/2013) on the practical elimination of major releases. STUK thoroughly assesses the safety analyses and reports submitted by the licence applicant. STUK verifies whether the analyses are reliable and whether the facility meets the safety requirements set for it. STUK issues its own binding safety assessment, in which it either accepts or rejects the licence applicant's conclusions regarding safety and the adequacy of emergency preparedness arrangements. A positive safety assessment by STUK is an absolute prerequisite for the granting of a licence.

In the VISIO plan, the existing Loviisa nuclear power plant site is designated with the symbol *EN/t, meaning 'Energy production area*'. In addition, a second corresponding designation is used to indicate a new location for facilities, buildings or structures serving energy production, as well as for buildings and structures required for energy production research and development. A joint nuclear power plant safety zone is designated for these two areas. The zone extends to a distance of approximately 5 kilometres from the existing power plant units and allows for the construction of a new unit in such a way that the extent of the safety zone does not change in relation to the current, previous regional plan. At the end of 2025, Fortum Power and Heat Oy compiled a summary report entitled "Studies relating to the Loviisa Källan planning area". The report forms part of the Visio plan documentation and serves as background material for the new designation enabling energy production and a nuclear power plant.

The technological characteristics of small modular reactors and the evolving regulatory environment make them a highly compatible option for a wide range of land uses. Particularly in industrial and port areas, they can act as clean energy hubs that support other activities in the region and the wider green transition in industry and transport.

Small-scale nuclear power is, in principle, a matter for a planning level more detailed than the regional plan. However, the VISIO plan has deemed it necessary to set certain boundary conditions for small-scale nuclear power in the regional plan through a general planning provision.

Notations and regulations

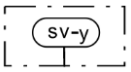
General planning regulations

Small modular reactors (SMRs) intended for energy production may be located within the settlement structure or in its immediate vicinity, utilising existing infrastructure. Such siting requires more detailed planning at local plan level, which must ensure that:

- The plant is compatible with the surrounding land use and does not cause significant harm to the landscape, cultural environment or natural values.
- The location of the plant is based on its main product. A prerequisite for the location of a plant focused on heat production is appropriate connection to the district heating network or to industrial process heat requirements.
- The plant's cooling solutions are feasible, and a plant generating electricity must have an adequate connection to the electricity grid.
- Detailed design must be based on adequate studies assessing the direct and indirect impacts of the SMR project. The assessment must take into account the project's social impacts as well as its significance for local safety and security of supply.
- The Radiation and Nuclear Safety Authority shall be given the opportunity to issue a statement.

Entries and entry-specific provisions

Designation	**Planning regulation**
Energy production area EN/t 	This designation indicates an energy production area. The area is reserved for facilities, buildings or structures serving energy production, as well as buildings and structures required for the research and development of energy production. A nuclear power plant and interim storage facilities for nuclear waste may be located in the area. In addition, support functions such as temporary accommodation, water treatment facilities and port operations related to energy production may be located in the area. In the planning and implementation of the area, significant environmental disturbances must be prevented through technical solutions and adequate buffer zones. In the planning of the area, the Radiation and Nuclear Safety Authority must be given the opportunity to issue a statement. The exact location and scope of the activities will be defined in more detailed planning.
Indicative safety zone of a nuclear power plant	The feature marker indicates the approximate location of the nuclear power plant's safety zone.

	The exact location and extent of the zone shall be defined in connection with the further planning of the project and the licensing procedures, in accordance with the Radiation and Nuclear Safety Authority's current regulation on emergency preparedness arrangements for nuclear power plants and the case-by-case decision made on that basis. No new dense settlements, hospitals or facilities where significant numbers of people visit or stay, or significant production activities that could be affected by an accident at the nuclear power plant, may be planned for the area within the safety zone. When planning the siting of holiday homes or leisure activities in the area, it must be ensured that the conditions for appropriate rescue operations are not compromised. When planning the area, the Radiation and Nuclear Safety Authority and the rescue authorities must be given the opportunity to issue a statement.

Guidance on more detailed planning and implementation

Key to the application of the general planning regulations is the plant's purpose of serving local or regional heating or electricity needs, as well as the plant's safety technologies, which enable it to be located close to the point of consumption.

In the VISIO plan, a small modular reactor refers to a modular nuclear reactor suitable for mass production, with a thermal output of less than 1,500 megawatts. The plant's safety design is based on passive solutions, which enables its integration into the existing energy system and a dense urban structure. The power limit in the definition follows the guidelines set out in the Government's Research and Analysis Series 2022:43, 'Opportunities and Development Needs of New Nuclear Energy Technologies – Small Modular Reactors (SMRs)'.

SMR regulations and procedures may also be applied, at the discretion of the regulator, to plants with higher power ratings, provided they are technically and operationally equivalent to small reactors. The SMR classification may be extended to a plant exceeding the power limits if the following criteria are met:

- Modularity: The implementation of the plant is based, in essential respects, on factory-manufactured and transportable modules. Modular technology must cover at least the reactor and safety systems, as well as other components critical to quality assurance.
- Passive safety: The plant's safety design relies on passive solutions that utilise natural laws, ensuring accident management without dependence on active systems.
- Suitability for siting: The plant's calculated accident release is so low that the safety zone can be confined to the plant site or its immediate vicinity, enabling siting in close proximity to residential or industrial centres.

Key changes to existing regional plans

- The EN/y designation and provision in the Uusimaa plan are replaced by a new EN/t designation and provision. This designation indicates both the existing Loviisa power plant and the new energy production area in the vicinity of the current plant.

- The provision regarding the indicative safety zone for the nuclear power plant has been amended to take account of the revised definition of the zone's extent.
- The VISIO plan includes a general planning provision concerning small-scale nuclear power, the like of which has not previously been included in the Uusimaa regional plans.

Designations in current regional plans proposed for repeal

- Energy supply area in which nuclear power plants may be located (EN/y) – site designation
- Nuclear power plant safety zone (sv-y) – attribute designation

5.1.4 Forest bioenergy

Background

Forest bioenergy refers to wood-based biomass, such as logging residues (branches, tree tops), stumps and energy wood, which is not used as timber in industry but is directed towards energy production. The potential for forest bioenergy in Uusimaa remains significant. The potential is greatest in Eastern Uusimaa and the coastal areas of Western Uusimaa, whilst in Central Uusimaa it is moderate and in predominantly agricultural areas it is lower.

The role of forest bioenergy in Uusimaa's energy transition is changing. It remains an important means of replacing fossil fuels in heat production. However, the focus of energy production is shifting towards non-combustion technologies. These include, for example, solar power, nuclear power, waste heat and geothermal energy. Consequently, the large-scale use of forest biomass for base-load power generation is no longer a primary objective.

In the future, the importance of forest bioenergy will be emphasised in two roles in particular:

- As a guarantor of security of supply and peak demand: existing and future combustion plants are essential as reserve and balancing power to ensure sufficient heat and electricity during the coldest periods of the year.
- As a decentralised heating solution: in peripheral areas of the region and outside district heating networks, sustainably produced forest bioenergy remains an important and cost-effective way of replacing fossil fuels, such as oil, for heating.

The changing role of bioenergy, compared with the situation at the time the Uusimaa Plan 2050 was drawn up and the outlook for the future, does not eliminate the need for efficient logistics. A functional network of terminals is still required for the collection, processing and storage of biomass. The report "Study on the current status and future of Uusimaa's forest bioenergy potential from a forestry perspective" (2017), published jointly by the Finnish Forest Centre and the Uusimaa Regional Council, served as background material for the preparation of the regional plan. The report identified potential bio-terminal areas, which are often located within existing waste management areas. The report's findings remain relevant for improving the efficiency of these logistics. The areas are small at the regional plan level, so they have not been marked on the plan map. The accompanying map (Image8) shows, at a general level, locations suitable for bioterminal operations.

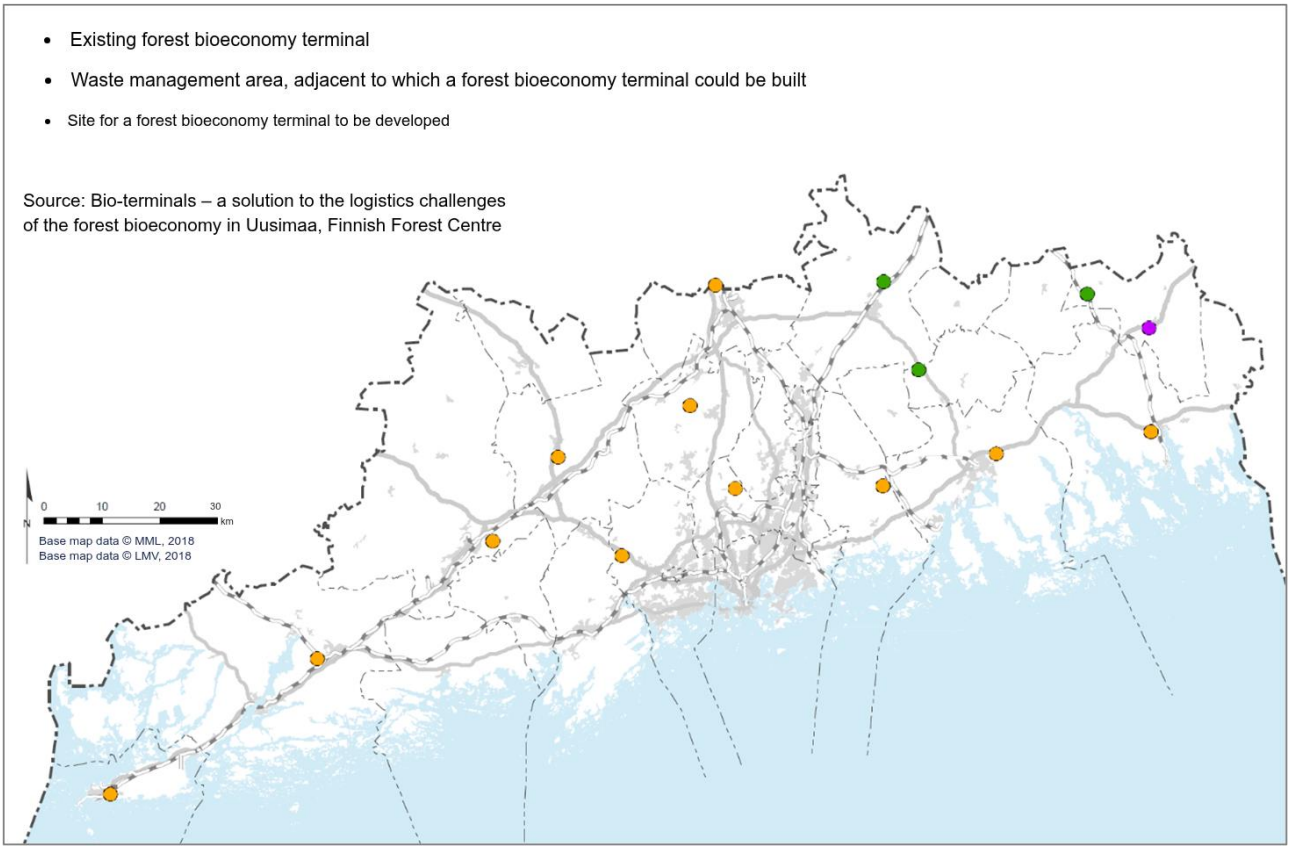


Image8 . Forest bioeconomy terminals.
Source: Bio-terminals – A solution to the logistics challenges of the forest bioeconomy in Uusimaa. Finnish Forest Centre 2020.

In land-use planning, it is essential to balance energy needs with the role of forests as carbon stores and sinks, as well as maintainers of biodiversity. It is important that biomass intended for energy use is based on the principles of sustainable forest management, and the impacts of its procurement on forests' ability to sequester carbon and safeguard biodiversity must be taken into account. It is essential to guide the preservation of forest area in land-use planning so that the potential for the diverse use of forests is maintained.

Description of the plan solution and its justifications

No specific plan designations are proposed for forest bioenergy. The plan solution as a whole steers land use changes in such a way that the total forest area is maintained as large as possible. This also safeguards the potential for timber and forest bioenergy production as part of the multiple use of forests.

Forest bioenergy terminals may be located in the areas designated in the VISIO plan for industrial production, logistics, soil resource management and/or circular economy clusters, but also in areas without regional plan designations.

5.1.5 Wind power

Description of the plan solution and its justifications

Wind power is not addressed in the VISIO plan, as the situation regarding the potential for wind power construction has not changed in a more favourable direction. The most significant factors guiding the plan solution are the constraints set by the Finnish Defence Forces and the need to ensure territorial control, which do not currently allow for the expansion or addition of wind power areas beyond the current ones.

The solution regarding wind power in the 4th phase regional plan for Uusimaa, which comprises four areas suitable for wind power production in Porvoo and Loviisa, therefore remains in force. The planning recommendation in the same plan concerning local (fewer than 10 turbines) wind power also remains in force insofar as it has not been repealed in the Uusimaa Plan 2050. The recommendation states: “Planning for local wind power areas is also possible outside the wind power areas designated in the regional plan. This requires that the key objectives of the regional plan are not compromised. Planning must take into account the environmental impacts of wind power areas, in particular the impacts on the landscape, the cultural environment, nature and the living environment, as well as the constraints arising from transport operations.”

Furthermore, the general planning provision set out in the Uusimaa Plan 2050 remains in force: “When planning a wind power area, the operational requirements of the Defence Forces must be safeguarded, taking into account the restrictions arising from the Defence Forces’ operations, such as the need to secure radar systems and radio communications.”

5.1.6 Geoenergy, waste heat and energy storage

Background

Geoenergy and ground source heat are efficient, local forms of renewable energy, which differ in terms of planning level and scale. Ground source heat typically refers to property-specific solutions based on shallow energy wells, a few hundred metres deep. Its popularity has grown significantly, particularly as a heating and cooling solution for detached houses and, increasingly, for larger properties as well. True geoenergy refers to the utilisation of heat from the bedrock at medium and great depths, extending several kilometres down. These solutions are still rare in Finland and the Uusimaa region, but they offer potential for heat production in larger areas or district heating networks.

Despite their potential, the utilisation of both technologies is local in nature and requires careful planning, which is why they fall within the scope of more detailed-level planning. The ‘Uusimaa Geoenergy Study’ (2020), commissioned by the Uusimaa Regional Council, remains relevant and provides municipalities with information on the potential for utilising geoenergy in their areas.

Industrial processes often generate more heat than is required for their own needs. Utilising this so-called waste heat to heat communities would reduce the need to use other energy sources for this purpose. The potential for transferring waste heat from large industrial plants to heat population centres has already been studied, and this work should be continued. Data centres offer enormous potential for utilising waste heat as part of the green transition and the circular economy. For example, in Espoo, Fortum and Microsoft have launched a joint project to channel waste heat from data centres into the district heating network. The aim is to meet around 40% of the district heating demand in Espoo, Kauniainen and Kirkkonummi with this new heat source. In Kirkkonummi, too, waste heat from

Ericsson’s data centre is already being utilised in the district heating network . If successful, the large-scale utilisation of waste heat will significantly reduce the use of fossil fuels in heat production.

As the use of renewable energy sources grows and becomes more widespread, forms of energy production are becoming increasingly decentralised. Decentralisation requires ever greater flexibility and capacity from the energy grid and its associated technical infrastructure. The basic solutions for electricity transmission technology have remained unchanged for decades, and there are no technologies on the horizon that would significantly alter these solutions. In the future, there will be a significant need, in particular, for systems that enable the storage and, when necessary, the release of emission-free electrical energy. These are likely to be various battery or pumped-storage power plant solutions. However, larger-scale technologies are still at the development stage, and it is not yet possible to take them into account in the regional plan.

Description of the plan solution and its rationale

Although detailed planning regarding the utilisation of geothermal energy falls within a planning level more specific than the regional plan, it is justified to include a general planning provision on geothermal energy in the regional plan. The aim is to ensure that the potential of geothermal energy is recognised and its utilisation is promoted consistently across the entire region, whilst supporting national and regional climate targets and taking environmental values into account.

To promote the utilisation of waste heat, the VISIO plan includes a general planning provision on this matter. Heat pumps and other technical solutions are, at least for the time being, planning issues for a more detailed planning level, so there is no reason to allocate specific areas for them in the regional plan.

Energy storage facilities are viewed primarily as a matter for planning at a level more detailed than the regional plan, and it has not been deemed necessary to address the issue through plan markings. However, the matter has been addressed to some extent as part of the solar power solution. The general planning regulations concerning solar power state that energy storage facilities and other related structures may also be located in connection with solar power areas, subject to more detailed planning and an impact assessment. In terms of land use, energy storage facilities are mostly ancillary functions supporting energy production or electricity transmission, with relatively limited space requirements. It is therefore most appropriate to determine their precise location and environmental impacts as part of more detailed planning. Furthermore, energy storage technology and its markets are developing extremely rapidly. Excessively detailed guidance at the general planning level could become an obstacle to implementation or become obsolete prematurely.

The existing Uusimaa Plan 2050’s notation regarding the need for district heating transmission connections, which extends from the Loviisa nuclear power plant via Kilpilahti in Porvoo to the Helsinki metropolitan area, remains in force as it stands.

Notations and regulations

General planning regulations

Geoenergy

Land use planning must promote the sustainable utilisation of the bedrock’s geoenergy potential in the production of heating and cooling energy.

In the siting and implementation of geothermal energy projects, particular attention must be paid to the protection of groundwater areas and other sensitive environmental values. When planning projects, it must be ensured that they do not cause harm to existing or future land use, including other underground activities. In the case of medium-depth and deep geothermal wells, potential impacts on the structure of the bedrock must also be taken into account.

Waste heat

In land-use planning, the siting of activities must be promoted in such a way that significant waste heat flows can be utilised.

In the planning and permitting of new projects that generate significant waste heat, such as data centres and industrial plants, the possibilities for the recovery and utilisation of waste heat must be assessed as a mandatory requirement. When siting projects, preference should be given to locations in the vicinity of existing or planned district heating networks.

Key changes to existing regional plans

- The VISIO plan introduces new general planning regulations concerning geoenergy and waste heat.

Designations in current regional plans proposed for repeal

- There are no designations proposed for repeal relating to this theme.

5.1.7 Energy transmission network

Background

The Uusimaa energy system is undergoing a transformation, in which a sufficient and uninterrupted supply of electricity is a critical success factor for a growing and developing region. Carbon neutrality targets, the structural transformation of energy production, and the ongoing electrification and green transition require significant changes and investments in the energy transmission system as well. Although the Uusimaa electricity transmission network is, in principle, quite comprehensive and functional, its continuous development is essential to ensure security of supply and to meet the needs of the region’s strong growth.

The transmission system operator Fingrid is planning to make significant investments in Uusimaa to strengthen the electricity grid. In recent years, transformer capacity has been increased at the Espoo and Länsisalmi substations. The substations in Inkoo, Nurmijärvi, Porvoo and Ruotsinkylä have undergone refurbishment. For example, the refurbished 110-kilovolt (kV) switchyards in Tammisto and Virkkala were completed in 2022. Investments of this kind are essential, as the growth in electricity consumption has been faster than previously anticipated.

Data centres are huge consumers of electricity, which poses major challenges for the electricity grid. A single large data centre can consume as much electricity as a medium-sized Finnish town. With the development of artificial intelligence, electricity consumption by data centres is predicted to grow exponentially. This massive and concentrated load requires substantial investment in the transmission grid to ensure electricity transmission capacity and reliability.

The hubs of electricity transmission in Uusimaa are the 400/110 kV substations: Inkoo, Espoo and Kopula in the west, Tammisto and Länsisalmi in the Vantaa and Helsinki area, Nurmijärvi and Hikiä in the north, and Anttila in eastern Uusimaa. Particularly due to the strong growth and accelerating electrification of the capital region, it is essential to strengthen the backbone of the electricity transmission network. For this reason, it is necessary to implement a 400-kilovolt distribution network in the region to ensure the security of electricity supply in the future as well. There are robust 110 kV ring connections between these substations, which improve operational reliability. There is also a DC connection from the Espoo substation to EstLink 1 and from Anttila to EstLink 2 in Estonia. In addition to these existing connections, the transmission system operators of Finland and Estonia are planning a third submarine cable connection, EstLink 3, to further improve electricity transmission capacity and operational reliability.

In terms of natural gas transmission, the Balticconnector gas pipeline, which connects the Estonian and Finnish gas networks, was commissioned at the start of 2020. The pipeline connects to Finland's main network in Siuntio and has significantly improved the security of Finland's gas supply. The main natural gas pipeline from south-eastern Finland to Tampere continues to run through the northern parts of Mäntsälä and Hyvinkää, branching off to the capital region and Lohja.

A new component of Finland's and the Uusimaa region's energy system is the national hydrogen transmission network being developed by the gas transmission network company Gasgrid. The government has tasked Gasgrid with promoting the development of the hydrogen network and international infrastructure cooperation on an accelerated schedule. The aim is to create the conditions for a hydrogen economy that improves Finland's energy self-sufficiency and competitiveness and promotes the achievement of climate targets. The network will be built in phases, with the first phase focusing on the coastal region, connecting the industrial clusters of Western Finland to Southern Finland. Of the planned routes, the route passing through the Kilpilahti industrial area in Porvoo forms part of a wider European hydrogen infrastructure, the 'Nordic-Baltic Hydrogen Corridor' project, which aims to link hydrogen production and consumption from Finland through the Baltic states and Poland to Germany.

In accordance with national land use objectives, planning must safeguard the routes of power lines and trunk pipelines that are significant for energy supply, as well as the feasibility of their implementation. Existing power line corridors must be utilised as a priority, which may mean expanding them, for example, by replacing a 110 kV power line with a more efficient 400 kV line. This must be taken into account in all other land use planning.

Description of the plan solution with justifications

The high-voltage electricity transmission network, which is central to the region's security of supply, is indicated on the plan map with a continuous line marking. The marking covers both 400-kilovolt and 110-kilovolt power lines, as well as the high-voltage direct current connections of the backbone network. Cables running overhead, underground or on the seabed are not distinguished from one another, but are all shown with the same marking. New power line connections for which sufficient background studies exist are indicated with a dotted line marking. The exact location, technical implementation and environmental impacts of these connections will be specified in later, more detailed planning and licensing procedures.

Alongside the general trend towards electrification, major cities are continuing to see a trend where urban densification and more efficient land use are creating pressure to repurpose existing power line corridors. This requires the underground cabling of power lines or the reservation of new cable corridors. Contrary to popular belief, underground cabling does not always offer space-saving

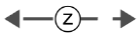
advantages compared to overhead lines. For example, implementing a 400 kV connection as an underground cable takes up practically the same amount of space as an overhead line corridor, meaning that the only real benefit of this considerably more expensive method is its lower visual impact compared to an overhead line. For the transmission grid, the standard solution is an overhead line, and other implementation methods are exceptions. It is worth noting, however, that from the perspective of geopolitical threats and security of supply, underground cabling is a safer solution than overhead lines, as infrastructure running beneath the ground is better protected against direct physical interference and sabotage. On the other hand, in the event of a fault, underground cables are often more difficult to repair than overhead lines.

Following the reform of the Electricity Market Act by Parliament in 2025, lines exceeding 110 kV are no longer automatically classified as part of the transmission grid based solely on voltage level. Consequently, it can be interpreted that a 400 kV line may also constitute a 'high-voltage distribution network' if it is of a local or regional nature. The amendment to the Act thus allows local distribution network companies to own and operate 400 kV networks within their own area of responsibility, provided that the purpose of the network is to serve local needs rather than national electricity transmission. By designating new 400 kV substations in the VISIO plan, it is ensured that these critical infrastructure components can be located in the best possible places, both functionally and technically. The development of electrification has a particularly strong impact on the ports of Helsinki, and the 400 kV grid is, in practice, an essential prerequisite for the electrification of the ports.

The regional plan is, by its nature, a long-term strategic plan that must anticipate future needs. In line with this foresight, the plan identifies two new components of the energy system that are of national significance. The EstLink 3 power transmission link will strengthen the electricity market between Finland and the Baltic states and improve security of supply on both sides of the Gulf of Finland. The national hydrogen network is a key part of the future hydrogen economy, enabling the storage and transport of renewable energy for industrial use. Although the planning of the network is still at an early stage, it is important to indicate it in the regional plan as an indicative connection to the greatest extent possible, so that the routes can be taken into account in other land-use planning as early as possible. Where there are still options for route planning, the hydrogen transmission network is presented as a connection requirement. In addition, the existing natural gas transmission pipeline network is shown on the plan map.

Markings and regulations

Marking	**Planning provision**
Power line 	The line marking indicates existing power lines with a voltage level of at least 110 kV, as well as connections to be developed within the existing power line corridor. When planning the use of areas, the regulations concerning safety distances for power lines must be taken into account. This notation is subject to a building restriction in accordance with Section 33 of the AKL.
Indicative alignment of the power line	The dotted line indicates the indicative alignments of power lines planned for a new power line corridor with a voltage level of at least 110 kV.

– Z –	The location and technical implementation of the power line will be specified in more detailed planning and during the actual permit procedure. The feasibility of the route must be ensured during the detailed design phase.
Power line connection requirement 	The ‘development principle’ notation indicates the need for a connection or development of a power line with a voltage level of at least 110 kV. The location and technical implementation of the power line will be specified in more detailed planning.
Energy supply area EN/h 	This site marking indicates the need for and indicative location of a new 400 kV substation, which is essential for the security of electricity supply. The exact location of the new substation and the extent of the land reservation must be determined during more detailed planning. When planning land use in the area, the conditions for the construction of the substation and opportunities for expansion must be secured.
Indicative route of the hydrogen transmission pipeline 	The dotted line indicates the indicative location of the hydrogen transmission pipeline forming part of the national hydrogen infrastructure. The location and technical implementation of the transmission pipeline will be finalised during more detailed planning and the permit process. Space reservations for the hydrogen transmission pipeline network must be coordinated with other land uses that have significant impacts. The planning must ensure that a technically and economically feasible route remains available in the area for the construction and siting of the pipeline network. In the detailed planning, the routing of the pipeline should primarily utilise existing infrastructure corridors to minimise environmental impacts and adverse effects on land use.
The need for a hydrogen transmission pipeline connection 	The ‘development principle’ designation indicates the need for a connection to the hydrogen transmission pipeline network forming part of the national hydrogen infrastructure. The location and technical implementation of the connection will be specified in more detailed planning.
Gas trunk pipeline 	The line marking indicates existing high-pressure gas transmission pipelines. The pipeline network is intended for the transmission of natural gas, biogas, synthetic methane or hydrogen, as well as mixtures thereof. When planning the use of areas, the regulations concerning the safety of gas pipelines and safety distances must be taken into account.

	The marking is subject to a building restriction in accordance with Section 33 of the AKL.

Guidance for more detailed planning and implementation

Electricity transmission or gas pipelines designated in the regional plan and already constructed may need to be relocated, for example in urban areas undergoing densification. In more detailed planning, the integrity of the power transmission network must therefore be safeguarded and care taken to ensure that the solution does not hinder the implementation of the regional plan. When implementing the electricity network and gas transmission connections, the construction restrictions and safety distances associated with both must be taken into account. The general rule regarding siting is that gas transmission pipelines and power lines should not be located in the same corridor. However, the use of shared corridors containing both electricity and gas lines is not entirely ruled out. However, this requires special measures such as taking induction into account, special anti-corrosion systems, precise earthing design and continuous monitoring by the parties involved.

Key changes to existing regional plans

- In the VISIO plan, the energy transmission network is shown in an updated form. Additions have been made to the network to reflect recent developments, and identified location errors have been corrected.
- Compared to the current plans, more underground power line connections are shown on the map than before.
- The three lines of the national hydrogen transmission network extending into Uusimaa, which are currently undergoing an EIA process, are shown in the plan as new markings, using partly indicative line markings and partly connection requirement markings.
- EstLink 3 is indicated with a power line connection requirement symbol.
- In addition, several power line connection requirements have been indicated for Helsinki.
- New 400 kV substations necessary for a sustainable transition are indicated with the ‘Energy supply area’ designation.
- The ‘Natural gas trunk pipeline’ designation has been changed to ‘Gas trunk pipeline’, and its provisions have been amended to also take into account the transmission of biogas, synthetic methane, hydrogen and mixtures of hydrogen and other gases through the pipeline network.

Designations in current regional plans proposed for repeal

It is proposed that the following be repealed in their entirety

- Power line line markings
- Dotted line markings for the indicative route of the power line
- Natural gas trunk pipeline line markings
- 400 kV power line line markings
- 400 kV power line indicative alignment – dashed line markings

- 110 kV power line - line markings
- 110 kV power line indicative alignment – dashed line symbols
- Energy supply area (EN) - point symbols

5.1.8 Assessment of the impacts of the energy theme

Impacts on regional and community structure, community services, and transport

The plan solution is crucial for the functionality of the community structure and the security of supply in the region. The designation of electricity transmission, gas transmission and the future hydrogen transmission network in the regional plan secures the long-term conditions for the siting of critical infrastructure and enables the growth of communities, electrification and the development of business and industry. This solution strengthens the reliability and security of the region's energy supply.

The designation of power lines, trunk pipelines and energy supply areas guides other land use to take into account the necessary safety distances and building restrictions, as well as the potential created by the energy network for the siting of functions. The prioritised use of the existing hydrogen corridor supports the consolidation of the settlement structure and creates opportunities for regional development without the need to open up new, extensive infrastructure corridors.

The transport impacts of the plan are mainly indirect and it has only minor permanent effects on transport. However, temporary transport impacts may arise during the construction phase, such as an increase in site traffic. In energy production areas, transport impacts may be locally significant, particularly during the construction period and later as commuting increases.

The designation of energy production and supply areas in the regional plan reinforces the region's role as a nationally significant area for energy production and supply. The indicative route of the hydrogen pipeline connects the region to the national and international hydrogen infrastructure and supports the long-term development of the energy system.

Promoting geothermal energy supports decentralised and local energy production as part of the existing community structure, increasing the diversity and resilience of the energy system. Promoting the utilisation of waste heat supports circular economy solutions for energy and the siting of operations in connection with the existing district heating network.

Regulations on solar power guide the siting of industrial-scale solar power facilities in connection with the urban structure and the electricity grid. This supports efficient land use, reduces the need for new infrastructure and preserves more natural areas by directing projects towards environments already shaped by human activity.

The regulation on small-scale nuclear power strengthens the diversity, functionality and security of supply of the energy infrastructure. The aim is to replace combustion-based energy production, enable electricity and heat generation by utilising existing community structures and infrastructure, and balance the load on the electricity grid, which is important alongside variable forms of generation such as wind and solar power.

Impacts on biodiversity and natural resources

The impacts of the energy transmission network on biodiversity are mainly concentrated in power line corridors. Maintaining an open corridor may alter local habitats, as solutions related to the energy

transmission network will remove significant areas of forest cover. At the regional plan level, the designations do not target individual nature sites.

Gas and hydrogen transmission pipelines are mainly located underground, which is why the permanent impacts on biodiversity are minor. During the construction phase, there may be mainly local and temporary impacts on soil, vegetation and animal habitats. The maintenance of the open corridor and minor above-ground structures may restrict other land use and alter local habitats.

In areas related to energy production and supply, as well as those associated with small-scale nuclear energy, there may be significant, mainly local impacts on biodiversity and natural resources, particularly due to large-scale structures, buffer zones and potential hydraulic structures. However, these areas are generally not of high natural value, but have already been altered by land use.

Exploiting the geothermal potential of the bedrock increases the use of renewable natural resources. The impacts on nature depend significantly on the method of implementation and local conditions. Utilising waste heat improves energy efficiency and reduces the use of virgin natural resources, and its impacts on biodiversity are mainly indirect and positive.

The siting of solar power installations can have significant impacts on natural environments, so planning regulations aim to steer construction away from natural environments. Detailed regulations on solar power reduce the fragmentation of natural areas and ecological corridors compared to previous general guidance.

Impacts on water, air and climate

The climate impacts of the plan are twofold. The loss of forest area resulting from the implementation of the energy transmission network will reduce carbon sinks in Uusimaa. On the other hand, the plan has significant positive indirect impacts in the transition towards sustainable, low-carbon energy solutions: Strengthening the electricity transmission network, new 400 kV substations and transmission links, and enabling a hydrogen transmission network will promote the electrification of the energy system, the integration of renewable energy into the energy system, and the achievement of carbon neutrality targets.

The energy transmission network has no significant direct impacts on water or air quality during operation. During the construction phase, there may be local and temporary impacts on soil and water resources, but these can be managed through more detailed planning and permit procedures.

Energy production, particularly nuclear power, may have impacts on water bodies and the marine environment, for example through the use of cooling water and port operations. Cooling water is warmer than the surrounding seawater, which may affect local conditions.

Geothermal energy promotes low-emission, local heating and cooling energy production, improves air quality and reduces greenhouse gas emissions. Improved energy efficiency and the utilisation of waste heat reduce emissions into the air and support climate targets.

Solar power generation indirectly supports the mitigation of climate change. In solar power generation areas, taking water body impacts into account and conducting a specific assessment of acidic sulphate soils help to prevent risks to water quality. As regards small-scale nuclear power, the impacts on water and the climate depend on the implementation method and the size of the plant.

Furthermore, the general provision of the plan requires that, in more detailed planning, attention be paid to stormwater management and provision be made for extreme weather events.

Impacts on the economy and livelihoods

The plan solution will have highly significant positive impacts on the region's economy. The plan will increase opportunities for energy production and transmission, which will improve the predictability of the investment environment and enable the establishment of new industrial projects and new technologies in the region. Adequate and uninterrupted electricity and gas transmission is a key prerequisite for industry, services, ports, data centres and investments in the green transition.

The construction phase involves significant investment and has a major impact on employment. In the long term, strengthening the energy transmission network will also support the region's integration into international energy and hydrogen markets. The designation of hydrogen transmission pipelines creates the conditions for the development of industries based on hydrogen production, processing and use, and may encourage the establishment of new industrial activities in the region.

Geoenergy supports the development of energy technology and local investment. Regulations on waste heat improve resource efficiency in industry and data centres, and can create new business opportunities for the energy sector as well as strengthen the competitiveness of district heating. Solar power increases renewable energy production and investment, and the proximity of the electricity grid improves the economic viability of projects. The regulation on small-scale nuclear power has positive effects on the regional economy of Uusimaa, as it helps to ensure the sufficiency of electricity and thermal energy at the regional level.

Impacts on people, living conditions and the environment

The plan will improve energy security and reliability of supply. Decentralised production, storage and a stronger transmission network will increase the system's resilience. Developing the energy transmission network will significantly improve the living environment for residents and the operational reliability of businesses by ensuring the availability of energy. This supports the functioning of housing, services and jobs throughout the region. On the other hand, safety distances and building restrictions related to power lines and pipelines may locally restrict land use and cause perceived disadvantages.

In energy production areas, particularly in activities related to nuclear energy, safety, risk management and people's perceived safety are paramount. Risks associated with the transmission of gas and hydrogen also require careful risk management. At the regional plan level, however, the impacts on people's living conditions are manageable and largely indirect. Construction may cause temporary nuisances, such as noise, dust and traffic disruption, particularly in the vicinity of residential areas, but the impacts during operation are generally minor.

Local, low-emission geothermal energy improves energy security. The utilisation of waste heat supports affordable and low-emission district heating. In the case of solar power, careful planning and impact assessment reduce adverse effects on residential areas, recreational use and the quality of the living environment.

Impacts on the landscape, cultural heritage and the built environment

High-voltage overhead power lines and substations can have significant impacts on the landscape, particularly in open areas and cultural landscapes. At the regional plan level, the impacts are general in nature, and their significance depends on the precise location and implementation method of the lines and substations.

In energy production areas and areas related to small-scale nuclear energy, large buildings and structures may alter the landscape and character of the surrounding area. The significance of the impacts depends on the scale, location and landscape context of the buildings.

Gas and hydrogen pipelines are mainly located underground, which is why the permanent landscape impacts are minor. Geothermal structures are also mainly underground, so the impacts on the landscape and cultural environment are generally minor and depend on the method of implementation. Waste heat recovery mainly takes place in existing structures and does not cause significant landscape or cultural environment impacts. The regulation concerning solar power takes landscape and cultural environment impacts into account with particular care, which reduces harmful impacts on valuable landscape areas.

6 Legal implications of the plan

6.1 Legal effects of the regional plan

The regional plan serves as a guideline when drawing up and amending local master plans and local detailed plans, as well as when taking other measures to organise land use. When planning measures concerning land use and deciding on their implementation, the authorities must take the regional plan into account, endeavour to promote the implementation of the plan, and ensure that the measures do not hinder the implementation of the plan. The regional plan shall not be valid within the area of a legally binding general plan or local detailed plan, except in respect of the effect concerning the amendment of plans referred to in subsection 1. (Section 32 of the Land Use Act)

The regional plan is subject to a conditional building restriction designed to ensure its implementation. The building restriction applies, in principle, to areas designated as recreational or conservation areas, areas designated for the purposes of the Defence Forces or the Border Guard, and areas designated for transport or technical service networks or areas. (Land Use Act, Section 33.1; Building Act, Section 49)

The legislation governing land use planning is currently undergoing reform. According to current estimates, the reform of the Land Use Act is due to be debated in Parliament during spring 2026. The date of entry into force is still unclear, but the Act is likely to come into force during 2026. The implications of the reform will be clarified during the planning process and will be incorporated into the planning documents.

6.2 Types of designations in the regional plan

The regional plan includes **general planning regulations** that apply to the entire planning area. In addition, the VISIO plan contains area reservation, site, line, attribute and development principle designations, each of which is accompanied by regulations. Several different symbols and regulations may be in force simultaneously within an area. When interpreting the relationship between overlapping symbols, account must be taken of the general nature of the regional plan, the nature of the different symbol types and the regulations associated with the symbols. The planning regulations for overlapping plan designations must be interpreted and the functions coordinated in such a way that the land use principles indicated by the designations can be realised.

Land use designation symbols indicate the primary intended use of an area and are mutually exclusive, meaning that two different land use designation symbols cannot be in force simultaneously in the same area. However, they may overlap with plan designations indicating different types of development principles or special characteristics, as well as with line and point designations equivalent to land use designations. For example, conservation areas are indicated by a land use designation.

Site markings are used to indicate areas that are small in relation to the scale of the plan, or when it is appropriate to define the boundaries of an area in greater detail only at a more detailed planning stage. Site symbols may overlap with other plan symbols. Site symbols are used, for example, to indicate energy supply areas.

Line symbols are used, for example, to show transport links and municipal engineering networks. Indicative line symbols are used to indicate connections and networks where there is uncertainty regarding their location or implementation. Line symbols may overlap with other plan symbols. Line symbols are used, for example, to indicate power lines,

Characteristic symbols are used to indicate specific features of sub-areas of at least regional significance, the preservation of which is to be safeguarded or whose constraints must be taken into account when planning the use of the areas. A characteristic symbol may overlap with other plan symbols. The area reservation symbol indicates the primary land use, but more detailed planning must also take into account the feature symbols and their planning regulations. Feature symbols are used, for example, to indicate valuable geological formations.

Development principle symbols are used to indicate areas and connections that are significant for the region's intended development, but which, for example due to the level of detail in the regional plan or for other similar reasons, it is not appropriate to indicate clearly as a designated area or a line marking on the map. It is often appropriate to examine the need for area reservations relating to development principle markings at the municipal level or in the context of other implementing planning. Development principle markings overlap with other markings in the plan. Land use or specific characteristics of areas indicated by different markings may therefore be located within a sub-area designated by a development principle marking. Development principle designations indicate the regional scope of land use and functions at a policy level, whereas land-use reservations, on the other hand, are more precise statements regarding functions and their spatial requirements. Development principle designations have been used, for example, to indicate the need for green corridors.

Planning regulations are associated with the designations in the regional plan. Planning regulations guide municipal planning and other planning by various authorities concerning land use. However, a planning regulation cannot oblige a municipality or other authority to commence planning to implement the regional plan.

The reform of the Land Use Act is currently underway. During the draft plan stage, an assessment will be made as to whether the terminology relating to the designations and regulations of the VISIO plan needs to be amended to comply with the new Land Use Act (Section 29 of the Land Use and Building Act: Presentation of Regional Plans) and the Ministry of the Environment's Decree on the Presentation of Planning Provisions and Planning Areas in Regional, General and Local Plans.

6.3 The relationship between the VISIO plan and existing regional plans

A regional plan may be drawn up either as a comprehensive regional plan covering the entire region and all land use issues, or in stages or by sub-area in accordance with Section 27 of the AKL. Drawing

up a regional plan in stages or by sub-area is a method permitted by the Land Use Act to flexibly adapt the obligation to draw up a regional plan to, for example, current planning needs.

When considered individually, a regional plan drawn up in stages or by sub-area covers only some of the matters which, by law, must be addressed in the regional plan. A regional plan drawn up in stages must also take into account and coordinate those content requirements of the regional plan that fall outside the scope of the plan's subject matter. Similarly, a regional plan drawn up by sub-area must not conflict with regional planning concerning other parts of the region.

The VISIO plan is a phased regional plan whose planning area covers the entire Uusimaa region, but the content of the plan is limited to specific themes. When drawing up a regional plan as a phased plan, it is essential to assess how the new plan fits into the existing regional planning framework and to highlight the extent to which the phased plan repeals and replaces the existing regional plan. The phased plan must not conflict in any material respect with the land use objectives for other themes in the region, nor with those content requirements of the plan that are not directly related to the issues addressed in the plan under preparation.

The current, valid regional plans for Uusimaa will, for the most part, remain in force when the new VISIO plan comes into effect. However, upon the adoption of the VISIO plan, certain themes and/or plan designations in the current regional plans will be repealed and/or updated. The designations proposed for repeal from the current plans are shown on the map of designations to be repealed and in the 'Designations and Regulations' document.

As regional plans deal only with land use issues at national or regional level, there are often areas within the regional plan area that have not been assigned any plan designations. In the case of phased regional plans, the interpretation of these so-called 'white areas' depends on the content of the plan and its relationship to other regional plans in force in the area. When interpreting the regional planning situation for a specific area, one must take into account both the plan symbols and regulations of the phased plan concerning that area, any general planning regulations that may also apply to the white areas in the phased plan, and other regional plans in force for the area (plan symbols and their regulations & general planning regulations).

Adapted from sources: Land Use and Building Act 2000, Guide 6. Content and Presentation of Regional Plans and Guide 7. Legal Effects of Regional Plans. Ministry of the Environment 2002. julkaisut.valtioneuvosto.fi

6.4 The influence of the regional plan on other official activities

In accordance with Section 32.2 of the Land Use Act, when planning measures concerning land use and deciding on their implementation, authorities must take the regional plan into account, endeavour to promote the implementation of the plan and ensure that the measures do not hinder its implementation. Other official activities to which the guiding effect of the regional plan extends refer to planning and decision-making concerning land use other than that governed by the Land Use Act. This refers, for example, to decisions concerning land use under the Water Act, the Railways Act or the Highways Act.

This legal effect applies only to the activities of public authorities and does not concern private land-use planning. The obligation to take the regional plan into account and to promote it applies to all state and municipal authorities or public enterprises engaged in planning or implementing land use. Thus, for example, decisions on subsidies and other matters relating to rural policy are not dependent on the regional plan.

Taking the regional plan into account means acting in a way that does not diminish the possibilities for implementing the regional plan. Promoting the implementation of the regional plan, in turn, requires a more active approach that supports the plan's implementation. For municipalities, the provision mainly means directing land-use planning towards areas that promote the appropriate implementation of the regional plan. New conservation area designations to be included in the regional plan will be implemented by the Permit and Supervisory Agency and the Uusimaa Centre for Vitality within the limits of the appropriations allocated to them.

The reform of the Land Use and Building Act is underway. During the draft plan stage, an assessment will be made as to whether, due to legislative changes, the legal implications of the VISIO plan need to be reviewed with regard to the obligation to take the regional plan into account and to promote it.

6.5 Other legislation and the regional plan

When drawing up a regional plan, in addition to the Land Use and Planning Act, particular account must be taken of the Nature Conservation Act, the Antiquities Act, the Act on Environmental Impact Assessment Procedures, the Act on the Environmental Impact Assessment of Authorities' Plans and Programmes ( ), and the Act on the Promotion of Archipelago Development. In addition to the Land Use Act and the Land Use and Building Decree, the Local Government Act must be taken into account in interaction and consultation.

Nature conservation programmes and decisions referred to in the Nature Conservation Act, as well as decisions establishing landscape areas, must serve as guidelines when drawing up the plan. The Act also contains specific provisions concerning the European Community's Natura 2000 network.

Fixed ancient monuments are protected in accordance with the Ancient Monuments Act. Under Section 13 of the Ancient Monuments Act, when planning a public project or land-use planning, it must be ascertained in advance whether the implementation of the project or planning affects a fixed ancient monument. This issue only becomes relevant in the context of more detailed planning and land-use planning. However, the regional plan must convey information on ancient monuments to the more detailed planning stage. The preservation of the cultural environment is also governed by the Act on the Protection of the Built Heritage, the Church Act and the Act on the Orthodox Church.

The Act on Environmental Impact Assessment contains an obligation whereby the project developer must be sufficiently aware of the project's environmental impacts to the extent that can reasonably be expected. Studies carried out in connection with land-use planning can generally be utilised in project-specific assessment procedures, and conversely, a regional plan may be based on a previously conducted environmental impact assessment (EIA) for a project.

The regional plan must be taken into account when planning and deciding on the organisation of land use under other legislation, as provided for in specific laws. In this regard, the most important specific laws are the Environmental Protection Act, the Highways Act, the Railways Act, the Act on the Expropriation of Real Property and Special Rights, the Land Extraction Act, the Forest Act and the Water Act. The requirement to take the regional plan into account in decision-making by public authorities under specific legislation varies. In general, it can be said that special legislation is of great significance if it comprehensively regulates the relationship between planning or permit procedures and land use planning. If the regulation is loose, the role of the Land Use Act increases.

Under the Environmental Protection Act, activities posing a risk of pollution are regulated by environmental permits. When assessing the suitability of a site during the permit consideration process, the regional plan must also be taken into account, along with the current and future intended uses

designated for the area and its surroundings, as well as the planning regulations. The regional plan may also serve as a basis for assessing the various values and characteristics of the area, as well as the impacts of the activity.

The general plan for the construction of roads and railways and the road or railway plan must be based on a legally binding plan in accordance with the Land Use Act, in which the location of the railway area and its relationship to other land uses have been clarified.

Rail and road routes and energy networks are implemented through voluntary arrangements or on the basis of the Act on the Expropriation of Real Property and Special Rights. The authority granting the expropriation permit is usually the Government. The National Land Survey of Finland may also decide on less significant expropriations. The grounds for the decision must take the regional plan into account and aim to promote the implementation of the plan. Under the Land Use Act, the relevant ministry may grant the authority implementing the plan the right to expropriate an area included in the regional plan or to restrict the right of use thereof, if this is necessary for the implementation of the regional plan to meet the common needs of the population of the state, region, municipal federation or municipality (Section 99 of the Land Use and Building Act). This option has been applied very rarely in Finland.

The permit conditions under the Land Extraction Act are considered to be fairly exhaustive. However, the regional plan serves as a basis for permit considerations under the Land Extraction Act and, where necessary, provides material for assessing the values of the area.

The Forest Act states that the Act does not apply to areas designated as protected areas in a plan under the Land Use and Planning Act. Consequently, in protected areas within the regional plan, there are no situations where planning and decision-making under the Forest Act would affect the implementation of the regional plan. If any part of an area designated as a protected area in the regional plan does not contain natural values requiring protection under the Nature Conservation Act, it is excluded from the decision to establish the nature conservation area and its demarcation. There is no reason to restrict measures in the part of the regional plan’s protected area omitted from the establishment decision on grounds related to the protected area designation, provided that the protected area in question has been sufficiently implemented in accordance with the plan’s objectives.

Of the designations in the regional plan, the conservation area is the only one within which the Forest Act does not apply. In the areas affected by other regional plan designations, the Forest Act applies to the management and use of forests, unless the scope of the Forest Act has been restricted in some other way. In areas affected by the regional plan’s designations, such as forestry areas of particular significance in terms of environmental values, landscape features or outdoor recreation, the regional plan must be taken into account in the permitand forest use notifications must take the regional plan into account and aim to promote its implementation. The forest use notification is sent for review to the Forest Centre, which monitors compliance with forestry legislation. For example, the Forest Centre examines whether there are any restrictions affecting felling in the felling area, such as habitats of particular importance for biodiversity. A forest use notification can thus be regarded as a measure within the meaning of the Act, the processing of which under the Forest Act constitutes an official act.

Projects under the Water Act are among those measures for which the requirements are comprehensively set out in the relevant special legislation. The implementation of the regional plan can be promoted, for example, through measures under the Water Act that safeguard and promote the protection of groundwater.

7 Assessment of the plan's impacts and the achievement of its objectives

The purpose of the impact assessment is to provide planners, stakeholders and decision-makers with information on the impacts of implementing the plan, their significance and the possibilities for mitigating adverse impacts. The Land Use Act sets out the framework for impact assessment. According to Section 9 of the Land Use Act: "The plan must be based on planning that assesses the plan's significant impacts and on the studies and reports required for this. When assessing the plan's impacts, the plan's purpose and objective must be taken into account".

The impact assessment is carried out to the same level of detail and scope as the plan itself. Just as the regional plan becomes more detailed in the planning process, the impact assessment also becomes more detailed as the planning process progresses to the detailed planning stage. The assessment of the regional plan also becomes more detailed as the plan progresses from the draft stage to the proposal stage.

The plan is assessed in relation to the content requirements for regional plans set out in the Land Use and Planning Act, national land use objectives, the prohibition on the deterioration of Natura sites under the Nature Conservation Act (at the proposal stage), and the objectives set for the plan. In addition, the impacts are assessed in relation to the regional plans currently in force (Chapter 6.3). A separate assessment report on climate impacts is attached to this report.

7.1

The assessment of overall impacts aims to present both the combined effects of the individual components of the VISIO plan in relation to one another and the overall impacts caused by the plan as a whole. The overall impacts have been assessed across six thematic areas. These are the impacts

- Regional and community structure, community services and transport
- Biodiversity and natural resources
- Water, air and climate
- The economy and livelihoods
- People, living conditions and the living environment
- Landscape, cultural heritage and the built environment

7.1.1 Impacts on regional and community structure, community services and transport

The plan supports the transition to a low-carbon and carbon-neutral society and safeguards the region's critical infrastructure and security of supply in the long term. The plan guides the location of industrial production, logistics, the circular economy and soil resource management, strengthens the operational reliability of energy supply and promotes the region's vitality and long-term development. The plan supports sustainable land use by encouraging the utilisation of existing infrastructure.

The Lentorata, Itärata and the freight line connected to the Tallinn Tunnel, the multimodal terminal and the passenger transport depot will improve national and international connections and promote long-distance public transport. The plan facilitates the development of a distribution network for alternative fuels and a network of rest areas to meet the needs of heavy goods transport.

Protected areas, green corridors and the need for green corridors guide the exclusion of areas from development, strengthen regional ecological networks and safeguard the movement of species. The designation of an ecological development zone enables the improvement of the state of nature to be targeted at areas yielding the greatest ecological benefit, but does not impose restrictions on the use of these areas. The designation of an ecological compensation area prompts a review of the restrictions imposed by official decisions on the area to be used for compensation. The designation of areas important for biodiversity supports the consideration of avian and marine nature values. The plan supports the preservation of cultural environments and their coordination with other land uses.

7.1.2 Impacts on biodiversity and natural resources

The plan guides and concentrates land use in areas modified by humans and in connection with existing activities. The plan provisions require natural values to be taken into account in more detailed planning. Rail and road alignments may cause extensive and permanent barrier effects on ecological connections and disrupt natural, landscape and cultural environments, particularly on the above-ground sections of the Eastern Railway and in the areas of the Tallinn Tunnel freight line and multimodal terminal. Adverse impacts will affect protected areas, forests, carbon stocks and sinks, and ecological connections. These can be mitigated through more detailed planning, technical solutions and by strengthening ecological connections in locations that partially compensate for the weakened sections.

The plan safeguards species migration, biodiversity and the functionality and continuity of the regional ecological network, whilst encouraging ecological compensation, restoration and the consideration of carbon sequestration. New protected areas and Luo areas will strengthen the existing regional natural environment.

7.1.3 Impacts on water, air and climate

The plan promotes the mitigation of climate change, the electrification of the energy system and transport, and the achievement of carbon neutrality targets; however, the construction of new power lines and transport links will reduce forest area, carbon sinks and carbon stocks. The impacts of industrial, logistics, circular economy and aggregate extraction areas, as well as heavy transport, on water, air quality, noise and dust are mainly local and can be managed through buffer zones and technical solutions. The plan strengthens the consideration of water bodies and groundwater.

The plan supports adaptation to climate change by designating parts of the green network that balance temperature differences and the effects of heavy rainfall, promote the preservation of extensive green areas that act as carbon sinks, and enable species to migrate as the climate changes environmental conditions.

7.1.4 Impacts on the economy and business

The plan significantly supports the economy and business life of Uusimaa, as well as the location of green transition projects within the region. Clusters of industrial production, logistics, the circular economy and soil resource management enable synergies for businesses and support the availability of

a skilled workforce as well as national and international attractiveness. The functionality of water services ensures the development of business, housing and infrastructure and supports the region's security of supply.

New railways, transport routes and logistics solutions are significant investments that improve accessibility, the competitiveness of business and security of supply. The plan strengthens international connections and the efficiency of freight transport, and creates the conditions for new job and business clusters.

Structures supporting green connections, such as green bridges, improve ecological connectivity and road safety, but their implementation often involves significant costs. Planning solutions that support biodiversity, carbon sequestration, water resources and landscape values strengthen ecosystem services that have long-term economic value.

7.1.5 Impacts on people, living conditions and the living environment

The planning solution improves energy security and reliability of supply by strengthening transmission networks and promoting decentralised, low-emission energy production, storage and the utilisation of waste heat. Improved energy availability supports the functioning of housing, services and jobs, although safety distances and building restrictions may locally limit land use and cause temporary disruption during construction.

Locating clusters of industrial production, logistics, the circular economy and soil resource management mainly outside residential areas reduces noise, dust and traffic impacts and improves the amenity and safety of residential environments. The plan supports employment and regional vitality, which has positive effects on residents' well-being and the maintenance of services. Risk management regarding hazardous substances, energy production and water supply will be further specified in subsequent planning.

Functional and safe water supply is ensured through planning regulations, which strengthens health, well-being and security of supply. Restrictions relating to water supply protection zones are local and justified, and overall, the plan solution has significant positive impacts on people's living conditions and the living environment.

New railway alignments may have significant local impacts on residents and landowners, particularly due to land acquisition and noise and vibration effects. Even plans for railway construction can raise concerns about property values. Disruptions during construction are long-lasting but temporary, and can be mitigated through planning, phasing and technical solutions. On tunnel sections, the impacts are less significant than on above-ground sections.

Protected and green areas increase recreational opportunities, support health and well-being, and can partly act as noise barriers and improve traffic safety. If implemented, they may also restrict established activities and livelihoods, but the establishment of conservation areas requires the landowner's consent and compensation. Protected and cultural environments preserve natural heritage, strengthen local identity and promote research, education and general well-being.

7.1.6 Impacts on the landscape, cultural heritage and the built environment

The most significant landscape impacts relate to high-voltage power lines, substations, large industrial and logistics areas, and new transport routes, particularly in open areas and cultural landscapes. Underground solutions cause only minor permanent landscape impacts. The planning regulations guide the utilisation of existing built environments and require new construction to be adapted to the landscape and cultural environments, thereby reducing adverse effects.

8 Planning documents

8.1 Plan map and plan description

The regional plan is presented on a map and consists of plan symbols and the associated planning regulations. The regional plan also includes general planning regulations that do not apply to specific plan symbols. The plan map, symbols and regulations are legally binding documents.

The VISIO plan uses area reservation, site and line symbols, as well as symbols for characteristics and development principles. The different types of symbols and their legal implications are explained in more detail in the sub-section6.2 Types of designations in the regional plan .

The plan report describes the plan's objectives and premises, the planning solutions with their justifications, and the results of the impact assessment. The report justifies, clarifies and provides background to the solution presented on the plan map and in the planning regulations. The plan report and its appendices are not legally binding documents. Although the plan description does not have the same legal effect as the plan map, symbols and regulations, it is significant for the interpretation of the plan and is used, for example, as background material in legal proceedings.

8.2 Appendices to the plan description

The maps and other appendices to the plan description illustrate, clarify, specify and provide background information on the plan's solutions.

Appendix maps

- Appendix Map 1a, Protected Areas (western part of Uusimaa)
- Appendix Map 1b, Protected areas (eastern part of Uusimaa)
- Appendix Map 2, Green corridors and green corridor requirements
- Appendix Map 3, Areas of particular importance for biodiversity
- Appendix Map 4, Integration of railway lines, railway and multimodal terminal options in the planning solution
- Appendix Map 5, Eastern railway line options

Other appendices

- Appendix 1: Assessment of the climate impacts of the VISIO plan

9 Sources

Background studies and data used in the preparation of the VISIO plan

General background studies

VISIO Plan development scenarios (2025)

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