

# INVEST IN VEITSILUOTO, KEMI 1000 STUDY

20.1.2025

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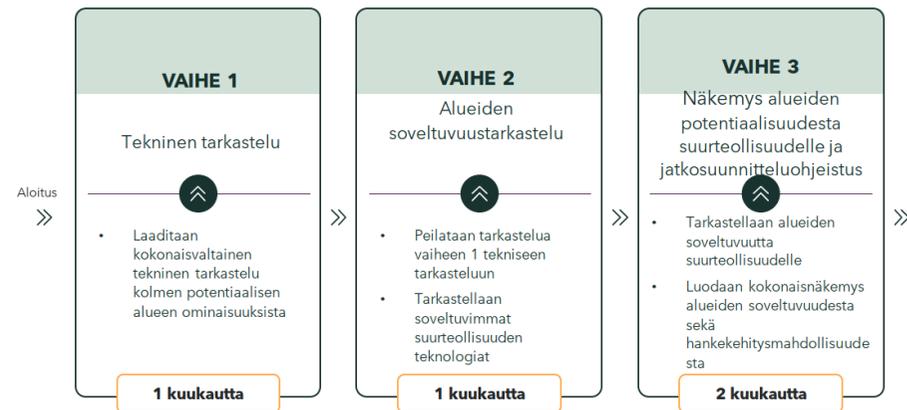
# 1. INTRODUCTION

# Kemi 1000 study

## Introduction

The Kemi 1000 study is part of the Invest in Veitsiluoto project. The aim of the Invest in Veitsiluoto project is to attract new industrial activities to Kemi, Keminmaa and Simo areas and to support new project operators. The industrial cluster in Meri-Lappi (Sea Lapland), located near Finland's northernmost port, offers ready infrastructure and diverse areas for industrial activities in the aforementioned municipalities.<sup>1</sup>

The Kemi 1000 study maps 1000 hectares of potential locations for large-scale industry in the city of Kemi, examines suitable industrial technologies for these areas, and creates an overview of the potential of the identified areas for industrial activities. The study provides an expert opinion on the suitability and limitations of the identified areas for industrial operations. In conjunction with this, the current zoning situation is reviewed, and the applicability of current plan notations is assessed in light of different technologies. The resulting report will include descriptions of the potential areas and a roadmap for the next steps to develop the area for industrial use.

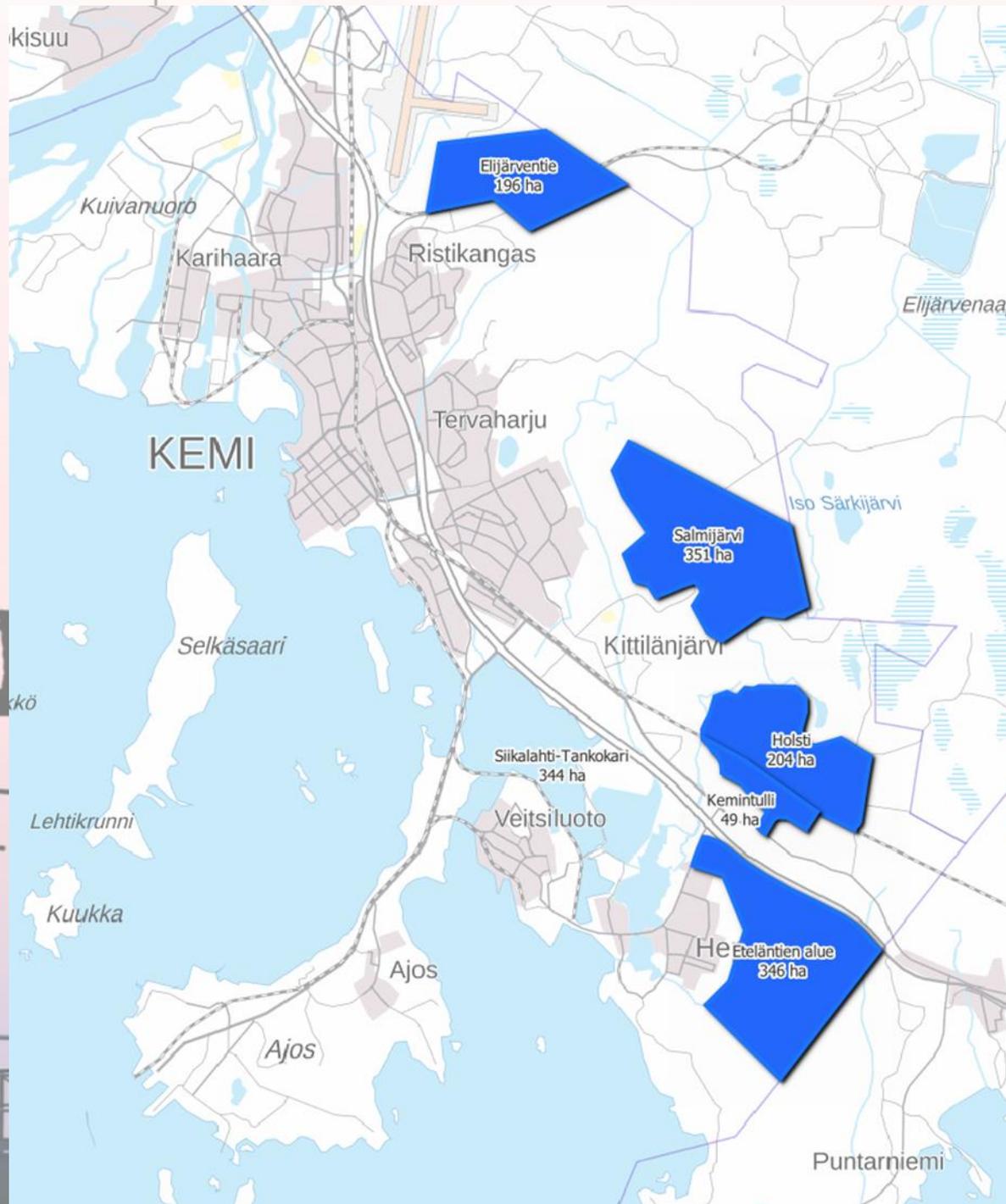


The main phases of the survey.

<sup>1</sup> Invest in Veitsiluoto : <https://www.digipolis.fi/investinveitsiluoto>



## 2. POTENTIAL AREAS



# Potential areas

The potentiality assessment was based on areas identified by the technology hub Digipolis in Kemi: the side of Elijärventie road, Salmijärvi and an area adjacent to Eteläntien road. The potentiality assessment mainly concentrated on these areas while re-examining their borders.

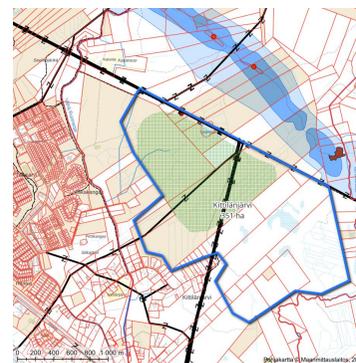
The identification of key areas for industrial activities began by determining the areas where industrial operations cannot be located. The most significant environmental impacts can be minimized by avoiding these areas. Areas where industrial activities cannot be placed include, among others, Natura sites, other natural conservation areas, nationally important bird areas (FINIBA), as well as nationally and regionally valuable landscapes and significant built cultural environments.

Additionally, factors that do not prevent industrial activity, but which must be considered in project planning, were identified. Such factors include groundwater areas, soil conditions, proximity to residential areas, existing zoning situations (regional, master, and detailed plans), land ownership status, restrictions imposed by air traffic, and topography.

The study also examined factors whose proximity benefits various

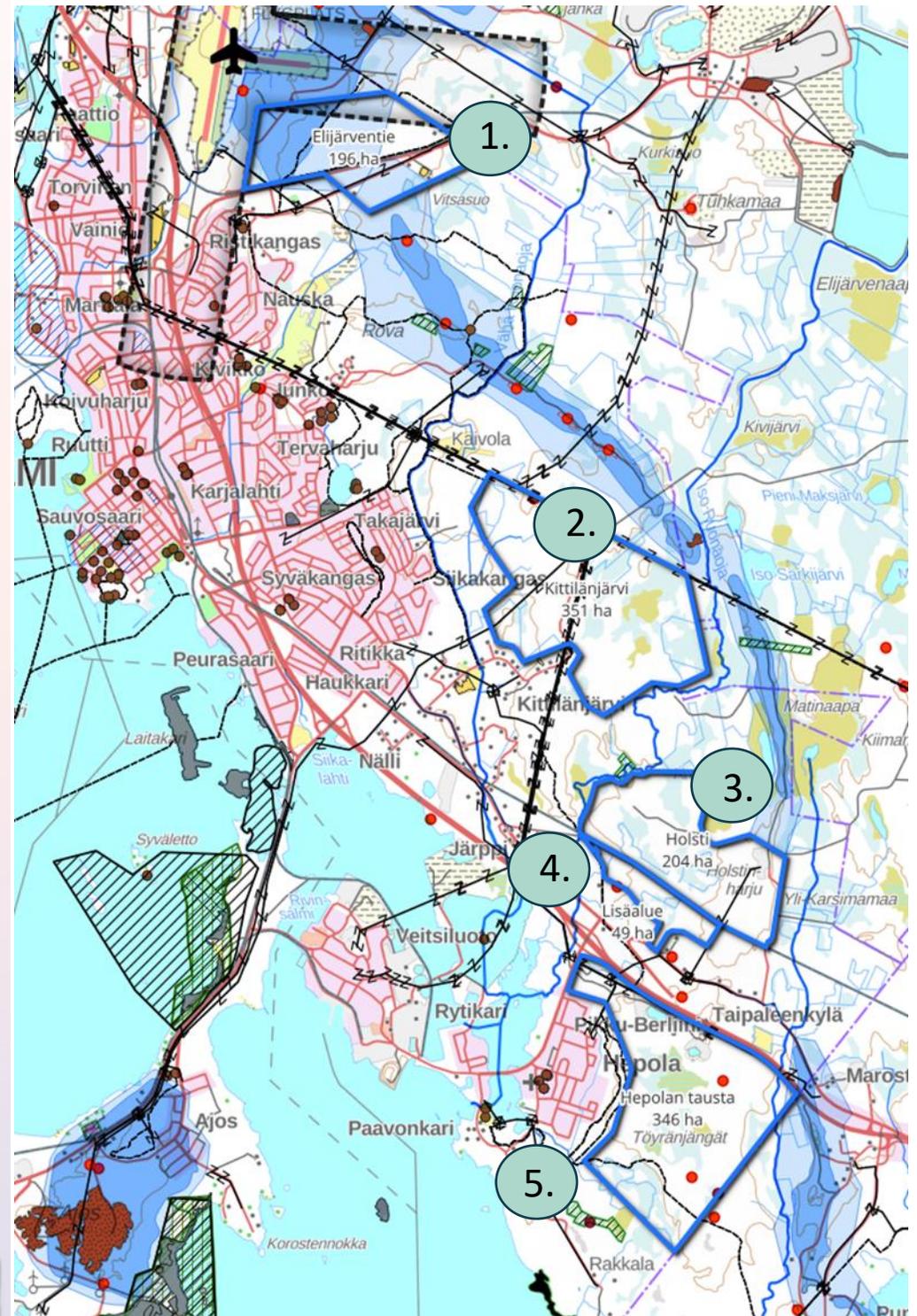
industrial technologies. These factors include proximity to freshwater sources, the availability of high-voltage and low-voltage electricity transmission networks and transformers (also taking into account future network visions), good logistical accessibility, existing industrial areas, other brownfield sites, air traffic, ports, railway networks, and existing municipal infrastructure. Moving forward, the available capacity of the electrical network must also be considered (not specifically assessed in this study).

Through exclusion and suitability zone analysis, the following potential areas were identified in the city region: the Elijärventie area, Salmijärvi, the Holsti area, the Kemintulli area and the Eteläntie area.



# Recognized potential areas

1. ELIJÄRVENTIE, 196 ha
2. KITTLÄNJÄRVI, 351 ha
3. HOLSTI, 204 ha
4. KEMINTULLIN ALUE, 49 ha
5. ETELÄNTIEN ALUE, 346 ha





### 3. DESCRIPTION OF POTENTIAL LOCATIONS



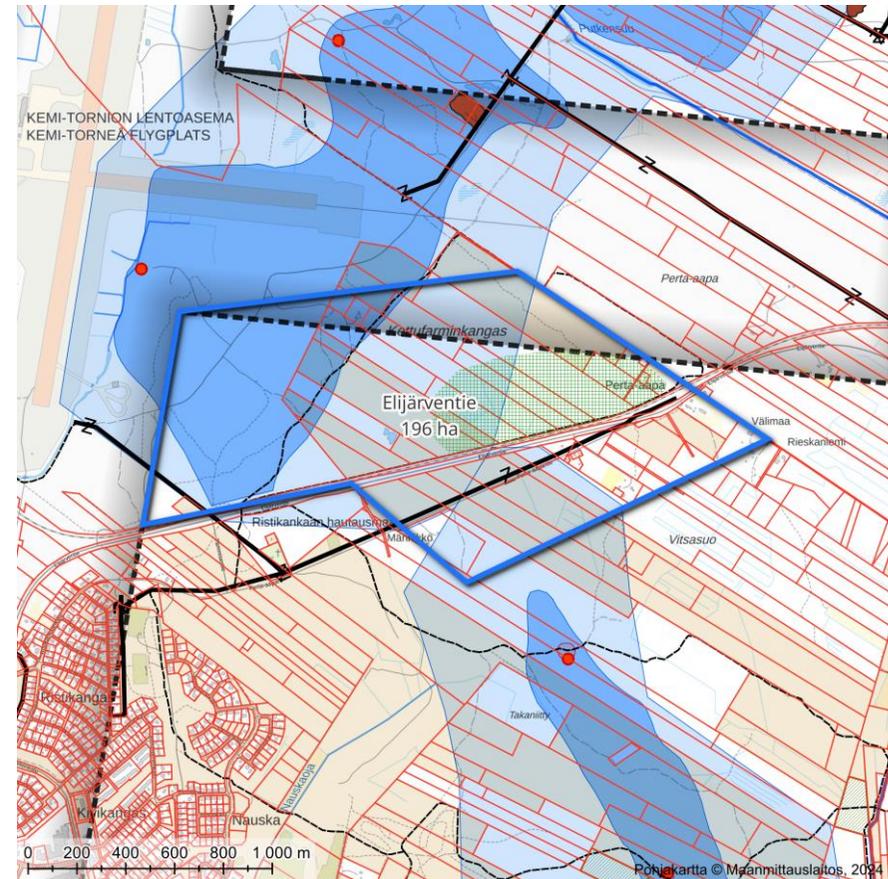
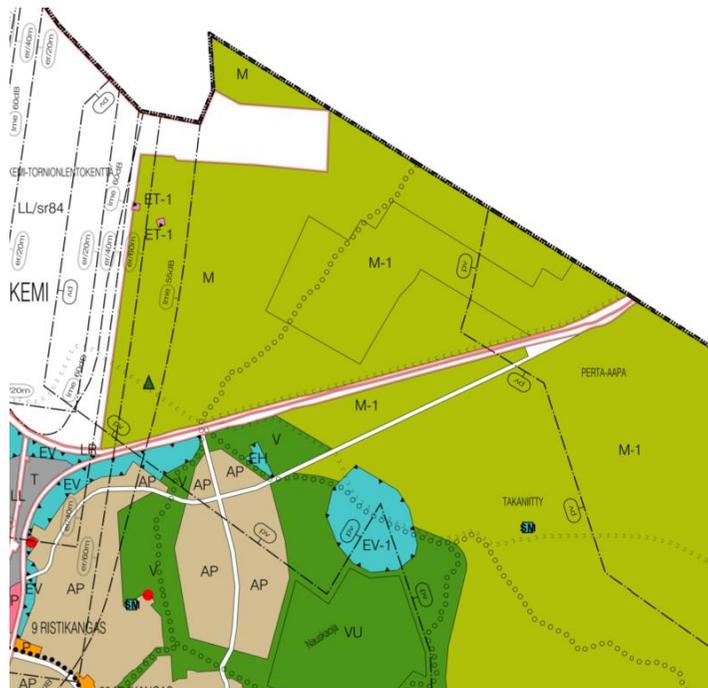
## Facility types studied

- 1) **Solar power plant**; a commercial industrial-scale solar power facility operated by an independent actor
- 2) **Electrolysis**; the process of splitting water into hydrogen and oxygen using electric current, collecting hydrogen for fuel or other uses
- 3) **Liquified methane**; the conversion of electrolyzed hydrogen and carbon dioxide into methane, followed by liquefaction (e-LNG)
- 4) **Methanol**; the conversion of electrolyzed hydrogen and carbon dioxide into methanol (e-methanol)
- 5) **Production of solar cells**
- 6) **Production of batteries**
- 7) **Circular economy**; enabling various innovations in the circular economy
- 8) **Bioenergy plant**;
- 9) **SMR (Small Modular Reactor)**.

# ELIJÄRVENTIE

The area is situated to the east of the Ristikangas interchange on Perämerentie highway (VT4/E75), along Elijärventie road. Kemi-Tornio Airport lies to the north of the studied area, in its immediate vicinity. The area encompasses groundwater areas (Saarenkylänkangas ja Takaniitty-Kaijanharju) and a few residential buildings.

The master plans of Kemi's northern areas (YK-5) and Kemi's central areas (YK-4) are valid in the Elijärventie area. In these master plans, the area has been designated primarily for agriculture and forestry.



- Project area
- Most suitable area
- Land owned by the City of Kemi
- Property boundaries
- Groundwater area
- Groundwater recharge area
- Air traffic obstacle permission required (10 m)
- Power line
- - - Recreational route
- Archaeological site
- Nature reserve area

# ELIJÄRVENTIE, NOTES AND RECOMMENDED ACTIONS

## LOCATION AND ACCESSIBILITY

The area is currently primarily forested. There are individual residential buildings at the edges of the area. The accessibility of the area is good. It is located near a main road and an interchange. The mining rail from the Elijärvi mine in the east runs through the area. The Kemi-Tornio airport obstacle limitation surfaces, as well as the proximity of the airport and residential areas, must be considered when further planning the area.

## PLANNING SITUATION

The area is governed by the master plan for northern areas (YK-5) and in the southeast by the master plan for central areas (YK-4). In these plans, the area is designated as an area primarily for agriculture and forestry, with designations M (construction is permitted only for buildings and facilities necessary for agriculture and forestry) and M-1 (the area is intended for agricultural and forestry activities, supporting buildings, small-scale industries that do not disturb the environment, dispersed residential living, and recreational housing). A ski trail and a snowmobile route run through the area along Elijärventie road. Near the western border of the area, there are two restrictions caused by the air traffic near the area: a height contour for obstacle limitation surfaces (er/60m), as well as an estimated area for aircraft noise, indicating that no new noise-sensitive activities should be placed in the area (lme 55 dB). Preserving and infilling the existing residential areas is allowed. The area is located within two important or suitable groundwater catchment areas (pv), where the use of the area must be planned and implemented in a way that prevents groundwater contamination. 32% of the area is owned by the City of Kemi and 25% by Finavia. The area spans across 29 different properties.

In the valid Lapland Regional Plan (approved in 2015), the area is indicated as an employment area/site (TP). This plan notation signifies diverse employment areas that may include office and service jobs as well as non-disturbing industry and storage. The aforementioned groundwater areas are also shown in the regional plan.

## AVAILABILITY OF NETWORK-BASED UTILITIES

Fingrid's 110 kV Isohaara-Simojoki power line runs about 1.5 km to the west of the area at closest. The closest district heating network is located 1.4 km to the south in the Kivikangas area. A possible routing for a gas pipeline is positioned near the area. A data network runs parallel to Highway 4 and the railway on the west side of the area. The preliminary routing for a hydrogen pipeline by Gasgrid runs 1.2 km east of the area.

## RECOMMENDED ACTIONS AND THE SUITABILITY OF THE AREA

Due to the proximity of the airport and the existing groundwater area, the development potential of the area is limited. It is appropriate to consider the development of the area in a way that secures the long-term operational and development conditions of the airport and takes into account the special characteristics of the groundwater area. The recreational routes that run through the area should also be considered in further planning. Any activities in the area should not disrupt nearby residential areas, and the distance to residential areas must be taken into account in accordance with the technology being examined. The area contains sites significant to military history, but their importance is local. These sites can be preserved when possible.

Further planning should examine the possibilities for utilizing the mining rail of the Elijärvi mine in the area, and take into account the obstacle limitation surfaces for air traffic and other restricted zones of the airport. It is recommended that the noise caused by the activities in the area is kept moderate, so that the cumulative noise impacts with the noise from aviation do not become significant. There are noise-sensitive activities, such as recreational and residential areas, both in the area and its immediate vicinity. The area is located very close to the municipality of Keminmaa. The possible presence of acid sulfate soils or contaminated soil materials must be investigated.

The current master plan does not allow placing large-scale industrial activities in the area, so designating the area for industrial activities requires updating the master plan.

The area is not suitable for all examined types of facilities because of its location, accessibility, and general conditions. The technologies that are primarily suitable for the area are solar power, manufacturing of solar cells and batteries, and other industrial activities.

Appendix 1: Comparison of suitability of different technologies in each location, Elijärventie

# ELIJÄRVENTIE



The area includes mainly dry pine forests.



Along Elijärventie runs an old mining railway, which is overgrown in some places.

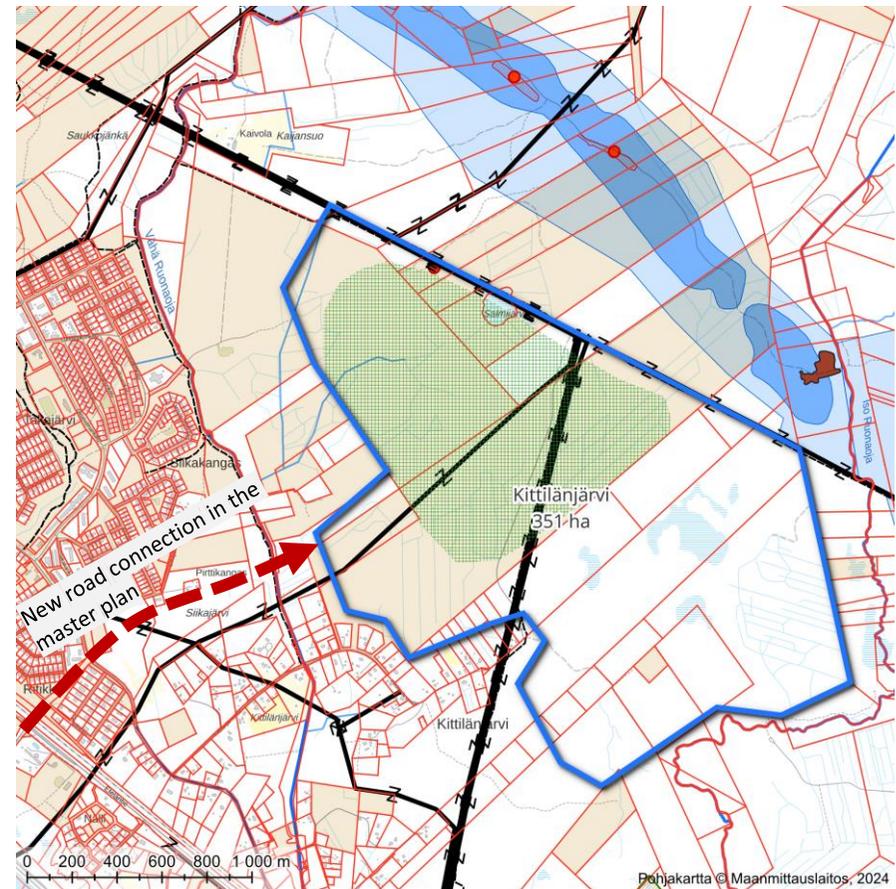
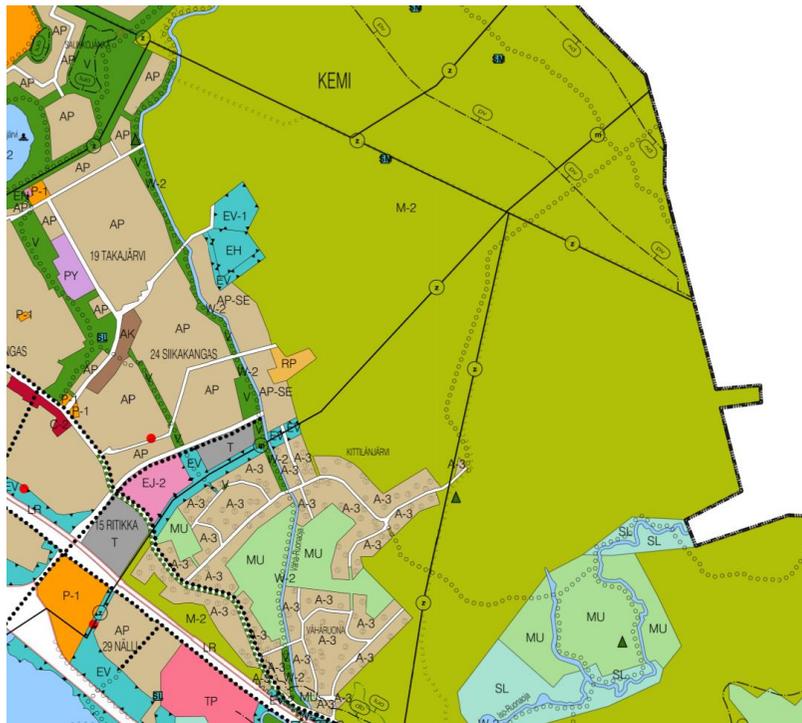


A straight stretch of Elijärventie runs through the area.

# SALMIJÄRVI

The area is located to the northeast of the Ajos interchange on Perämerentie highway (VT4/E75), northeast of the Kittilänjärvi residential area. The Kittilänjärvi substation is situated on the northern edge of the area.

The area is governed by the master plan for Kemi's southern areas (YK-6), in which it is designated as an area primarily for agriculture and forestry.



- Project area
- Most suitable area
- Land owned by the City of Kemi
- Property boundaries
- Groundwater area
- Groundwater recharge area
- Air traffic obstacle permission required (10 m)
- Power line
- Recreational route
- Archaeological site
- Nature reserve area

# SALMIJÄRVI, NOTES AND RECOMMENDED ACTIONS

## LOCATION AND ACCESSIBILITY

The area currently consists of forest, swamp, and drained swamp. There are no residential or holiday buildings in the area. Power lines cross the area. The accessibility of the area via the existing road network is moderate, but accessibility would improve if the road indicated in the master plan was built. The area is excellently situated in relation to the electrical grid.

## PLANNING SITUATION

The area is governed by the master plan for Kemi's southern regions, which designates it as an area for agriculture and forestry, M-2 (buildings and facilities necessary for agriculture and forestry, as well as those serving general recreational use, are allowed). A recreational trail runs through the area. A groundwater recharge area designated with the "pv" plan notation (important or suitable for water supply) lies to the north of the area. The use of the area must be planned and implemented in a way that prevents groundwater contamination. To the east of the area flows the Iso-Ruonanoja water course, whose surroundings are partly designated in the current master plan as MU (agricultural and forestry area with a special need for outdoor recreation) and SL (protected or intended to be protected under the Nature Conservation Act). Several power lines run through the area. According to the existing master plan, new residential buildings may not be located closer than 40 meters to 110 kV or higher power lines. The western part of the area, comprising 48% of the total area, is owned by the City of Kemi. The area falls within 21 different properties. In the northeastern part of the area, there is an archaeological site (Salmijärvi West), which contains prehistoric burial mounds. Near the northeastern area, there is also a small animal cemetery.

Currently, access to the area is via Kittilänjärventie, but the master plan has indicated a new road connection from the Ajos interchange to the western part of the area, which has not yet been implemented.

## AVAILABILITY OF NETWORK-BASED UTILITIES

The area is favorably located in relation to the current electrical grid. Fingrid's Kittilänjärvi substation is located in the northern part of the area, and the 110 kV transmission line from Isohaara to Simojoki runs along the northern edge of the area. From the Kittilänjärvi substation, two 110 kV lines (of Stora Enso) branch south to Veitsiluoto and a 110 kV line (of Ajos Wind Oy) branches to Ajos. According to the City of Kemi, Fingrid plans to establish a new substation in the area or nearby. The closest point of the district heating network is located approximately 1 km to the west of the area, in the Takajärvi region. A potential gas pipeline route is located near the area. A data network runs parallel to Highway 4 and the railway, somewhat further to the west of the area. A preliminary hydrogen pipeline route plan by Gasgrid includes a western alternative crossing the eastern part of the area.

## RECOMMENDED ACTIONS AND THE SUITABILITY OF THE AREA

The area can accommodate activities that require a significant amount of energy. In addition, the area is capable of producing electricity for the grid or for operators located in the area.

The area can also accommodate activities whose production processes require freshwater sources. Vähä-Ruonanoja, which flows to the east of the area, is a freshwater stream which leads from the Kemijoki river to Stora Enso's Veitsiluoto area. Nearby residential areas, groundwater zones, and the archaeological site of Salmijärvi need to be considered in the planning. The utilization of the area will require a new road connection.

The current master plan does not allow placing industrial activities in the area, so the master plan needs to be updated, if industrial plans go ahead.

The area is suitable in terms of its location, accessibility, and general conditions for all types of facilities considered. Suitable technologies include solar power, production of solar panels and batteries, as well as other industrial activities, hydrogen electrolysis and its derivatives, small modular reactors, and circular economy activities.

Appendix 2: Comparison of suitability of different technologies in each location, Salmijärvi

# SALMIJÄRVI



Access to the area is currently via Kittilänjärventie.



A snow mobile route runs under a power line.



Vähä-Ruonaoja flows on the western side of the area.

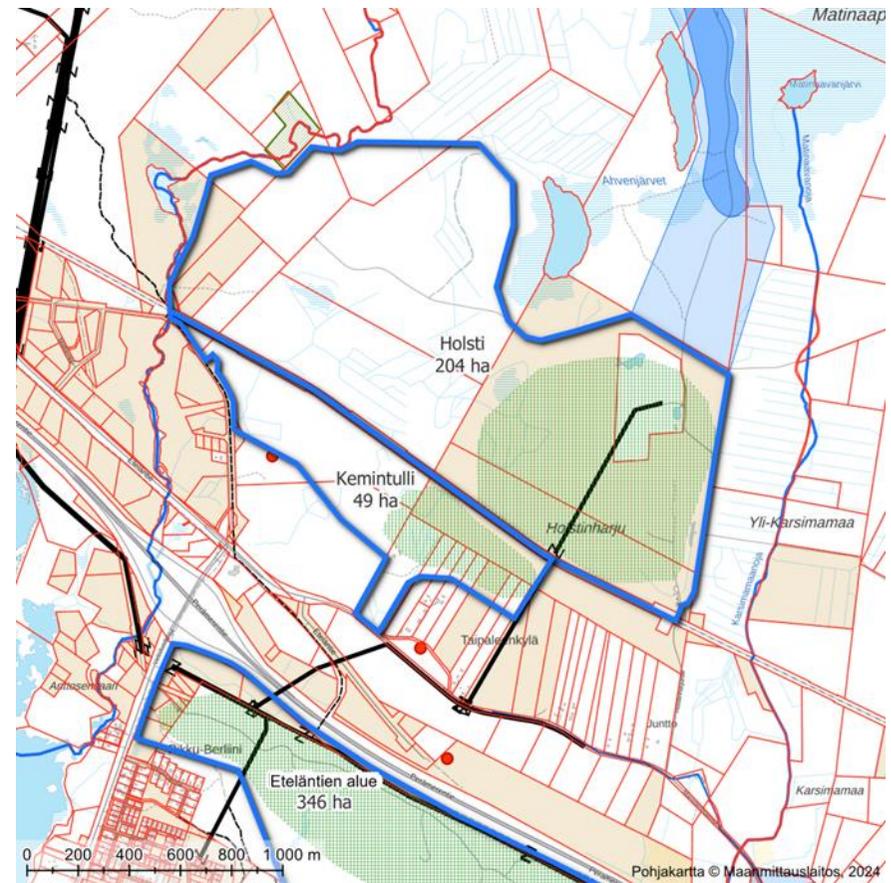
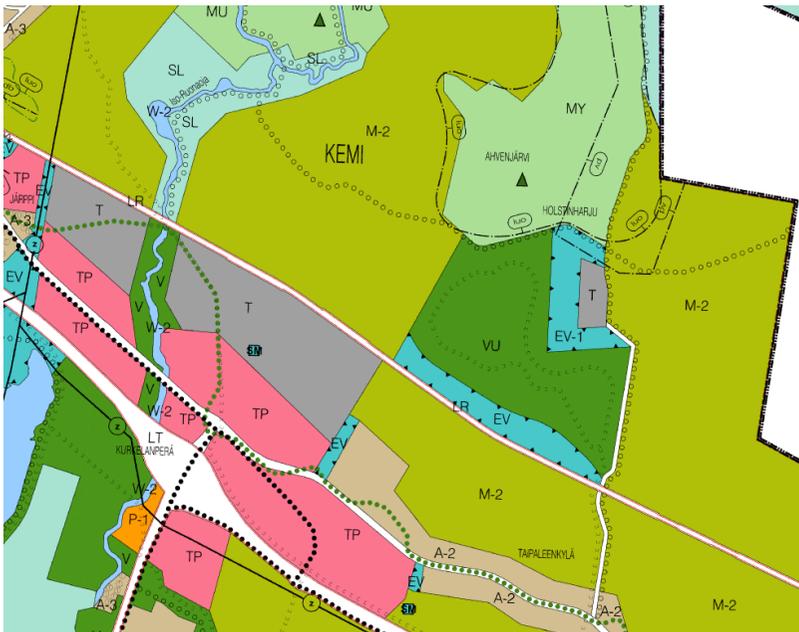


Several power lines will connect to the future Kittilänjärvi substation.

# HOLSTI

The area is located north of the Hepola interchange on Perämerentie highway (VT4/E75), north of the Kemintulli area and the Kemi-Oulu railway.

The area is governed by the master plan for southern areas (YK-6). The area is largely dominated by agriculture and forestry, but also includes recreational and green buffer zones, as well as a small portion designated for industrial use.



- Project area
- Most suitable area
- Land owned by the City of Kemi
- Property boundaries
- Groundwater area
- Groundwater recharge area
- Air traffic obstacle permission required (10 m)
- Power line
- Recreational route
- Archaeological site
- Nature reserve area

# HOLSTI, NOTES AND RECOMMENDED ACTIONS

## LOCATION AND ACCESSIBILITY

The area currently consists of forest, with open land in the western part. A former landfill area nowadays hosts industrial activity. The landfill is elevated compared to the surrounding terrain. There are no residential or vacation buildings in the area. The area is situated in close proximity to the railway and main road, but attaining good accessibility requires studying the possibilities for additional tracks on the railway and improving vehicle access connections to the main road, while taking into account the need for crossing or underpass of the railway.

## PLANNING SITUATION

The area is governed by the master plan for Kemi's southern regions, where the western part of the area is designated with the zoning symbol M-2, agricultural and forestry area (The area is intended for agricultural and forestry activities. Buildings and facilities necessary for agriculture and forestry, as well as those serving general recreational use, can be constructed). The southern part is designated as an area for sports and recreational services (VU). The eastern part also includes industrial and storage areas (T) at the site of the old landfill, as well as protective green areas (EV) around this industrial site and along the railway. The western part includes protected or proposed protected areas (SL) along the Iso-Ruonaoja. The Kemi-Oulu railway runs along the southern edge of the area. The eastern part, accounting for a total of 41% of the area, is owned by the city of Kemi. The area spans six different properties.

A recreational path runs through the area, and to the north, there is a **groundwater recharge area, pv (important or suitable for water supply)**. The use of the area must be planned and executed in a manner that prevents groundwater contamination. To the north of the area, there is also an agricultural and forestry area with special environmental values (MY) and areas of particular importance for biodiversity (luo). Any actions affecting the area must consider environmental protection and the needs for recreational use. In the center of the M –area is also Ahvenjärvi lake, which is designated as a recreational and tourism site.

## ACCESSIBILITY OF NETWORK-BASED UTILITIES

Fingrid's 110 kV power line Isohaara-Simojoki is located about 2 km to the north of the area, and Kittilänjärvi substation is 2.5 km away. Stora Enso's 110 kV power line from Kittilänjärvi to Veitsiluoto runs just over half a kilometer west of the area. The district heating network is located as close as 1.8 km to the south in the Hepola area. A possible gas pipeline route is located near the area. The data network runs parallel to Highway 4 and the railway, slightly further to the west of the area. A preliminary hydrogen pipeline route from Gasgrid runs 500 meters to the northeast of the area at closest.

## RECOMMENDED ACTIONS AND THE SUITABILITY OF THE AREA

The area can accommodate operations that require a significant amount of energy. Additionally, it is likely that electricity can be generated for the grid or for an operator located in the area. The area can also support operations requiring freshwater sources. The Vähä-Ruonaoja running to the west or the Veitsiluoto basin can be utilized for water intake.

During construction work, planned outdoor and recreational routes in the area and its vicinity should be considered and relocated, if necessary. The impacts on nearby protected nature areas and other valuable natural areas, as well as the groundwater area, should be taken into account and minimized. The possibilities for utilizing the railway should be explored. A new road connection is needed from the Hepola junction. There may be contaminated soil materials in the area, which needs to be investigated. The existing master plan does not allow placing industrial activities in the area, **so the master plan needs to be updated, if industrial plans go ahead.**

The area is suitable for all types of facilities considered, based on its location, accessibility, and general conditions. Suitable technologies for the area include solar power, the manufacture of solar cells and batteries, as well as other industrial activities, and additionally hydrogen electrolysis and its derivatives, small modular reactors, and circular economy activities. The area could also serve as an energy production site for industry in Kemintulli (e.g., solar power generation).

Appendix 3: Comparison of suitability of different technologies in each location, Holsti

# HOLSTI

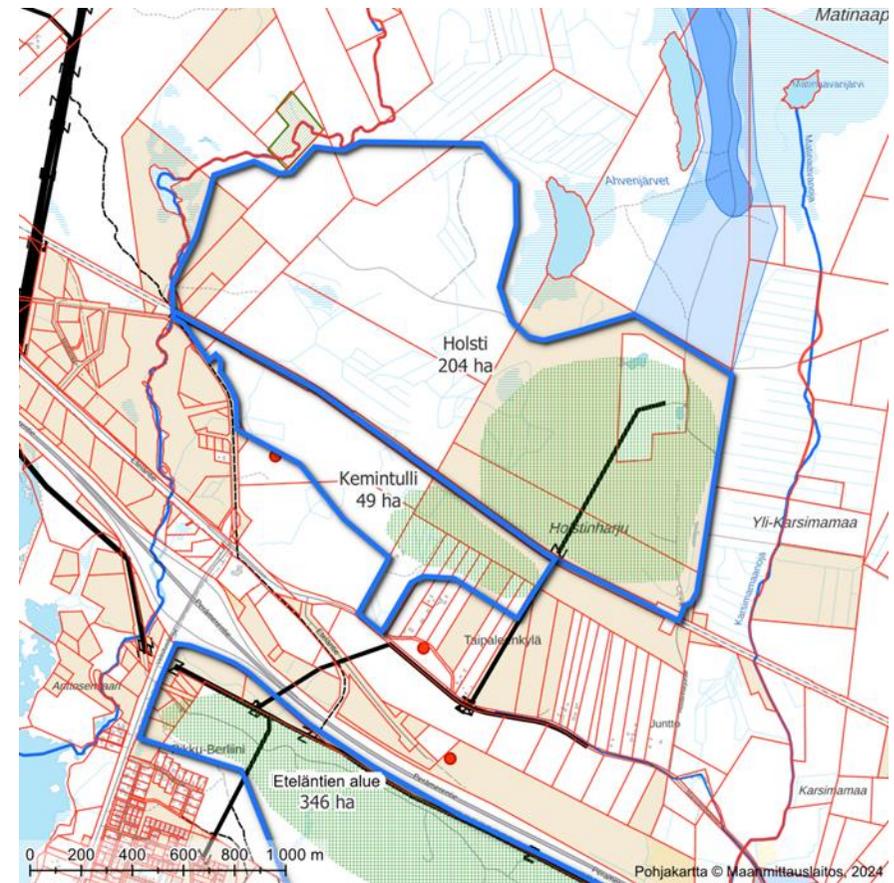
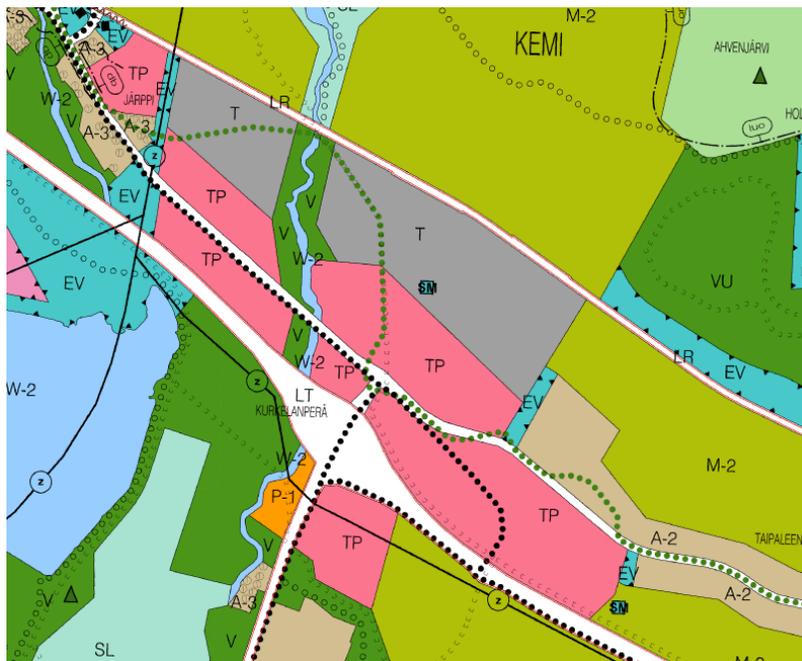


The area lies in the northern side of highway 4, the railway, and the workplace area in Kemintulli.

# KEMINTULLI, ADDITIONAL AREA

The area is located to the north of the Hepola interchange on Perämerentie highway (VT4/E75) and south of the Kemi-Oulu railway.

The area is governed by the master plan for southern areas (YK-6), which designates the area as partially agricultural and forestry land as well as partially industrial land. In the immediate vicinity, there is a detailed plan for the Kemintulli commercial and employment area.



- Project area
- Most suitable area
- Land owned by the City of Kemi
- Property boundaries
- Groundwater area
- Groundwater recharge area
- Air traffic obstacle permission required (10 m)
- Power line
- Recreational route
- Archaeological site
- Nature reserve area

# KEMINTULLI, NOTES AND RECOMMENDED ACTIONS

## LOCATION AND ACCESSIBILITY

The area is currently forested. A railway runs to the northeast of the area, and Perämerentie highway (VT4/E75) lies to the south. There is a single residential building in the area. Veitsiluoto area is situated only 3 kilometres away and is accessible via road suitable for heavy traffic.

## PLANNING SITUATION

The area is governed by the master plan for Kemi's southern regions, where the western part is designated as an industrial and storage area (T). The eastern part is primarily agricultural land (M-2) and, along Marostenmäentie, rural residential area (A-2) to a small degree. The Kemi-Oulu railway runs along the northern edge of the area. Eighteen percent of the area is owned by the City of Kemi, primarily in the eastern part. The area spans across nine different properties.

A master-planned, however mostly undeveloped, business and workplace area of Kemintulli lies on the south side of the area. The master plan designates the eastern part of Kemintulli for industrial, storage, and commercial buildings (TKL-1), while the western part is reserved for commercial and office buildings, as well as environmentally non-disruptive industrial buildings. A culturally and historically significant old alignment of the Pohjanmaa coastal road runs along the southern edge of the area.

## ACCESSIBILITY OF NETWORK-BASED UTILITIES

Fingrid's 110 kV power line Isohaara-Simojoki and the Kittilänjärvi substation are located a little over 3 kilometers to the north of the area. Stora Enso's 110 kV power line from Kittilänjärvi to Veitsiluoto runs just over half a kilometer to the west of the area. The district heating network for the Veitsiluoto area is located as close as 1.2 km to the south in the Hepola area. The wider Kemi district heating network is located 2 km away at closest. A potential gas pipeline route is near the area. A data network runs parallel to Highway 4 and the railway in close proximity to the area. A preliminary hydrogen pipeline route plan by Gasgrid includes a western alternative that runs 1500 m to the east of the area.

## RECOMMENDED ACTIONS AND THE SUITABILITY OF THE AREA

The area can accommodate activities that require a significant amount of energy. Additionally, it is likely that electricity can be generated for the grid or for operators located in the area. Activities that require freshwater sources can also be accommodated. The Veitsiluoto basin is suitable for water intake.

There is sparse housing relatively close to the southeast side of the area, which must be taken into account. The potential for utilizing the railway should be investigated.

The existing master plan allows the placement of industrial activities in the area, although some technologies may require a detailed plan or a T/kem area reservation.

The area is suitable for all types of facilities considered, given its location, accessibility, and general conditions. Suitable technologies for the area include solar power, the manufacture of solar cells and batteries, other industrial activities, as well as hydrogen electrolysis and its derivatives, small modular reactors, biomass power plants, and circular economy activities.

Appendix 4: Comparison of suitability of different technologies in each location, Kemintulli Additional Area

# KEMINTULLI



The area lies between highway 4 and the railway.

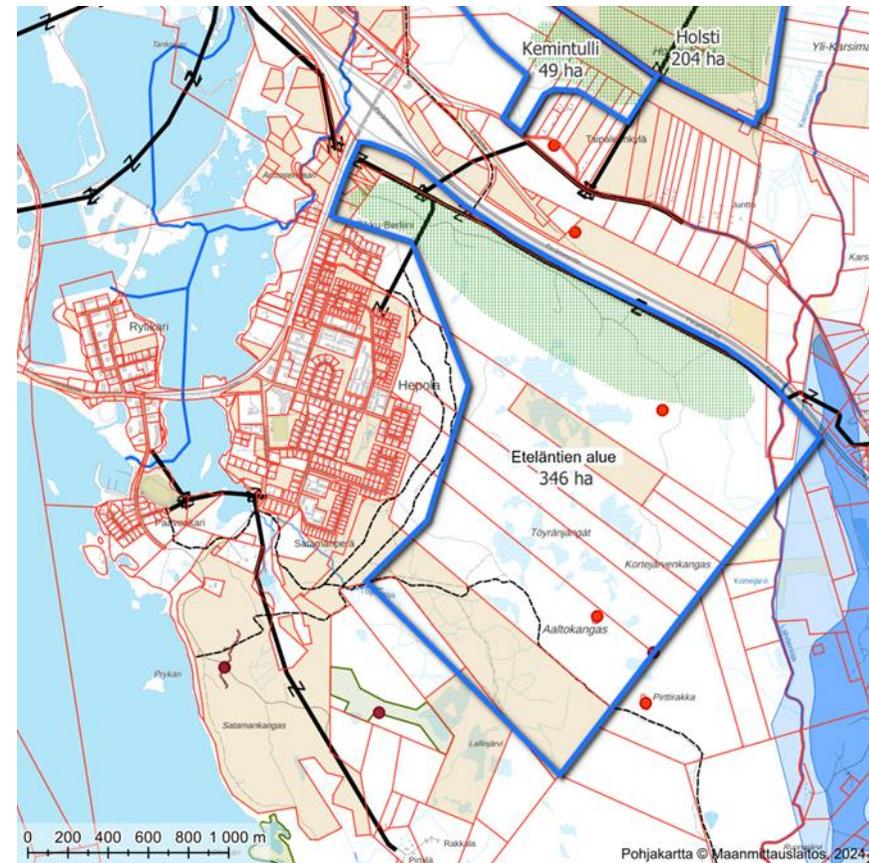
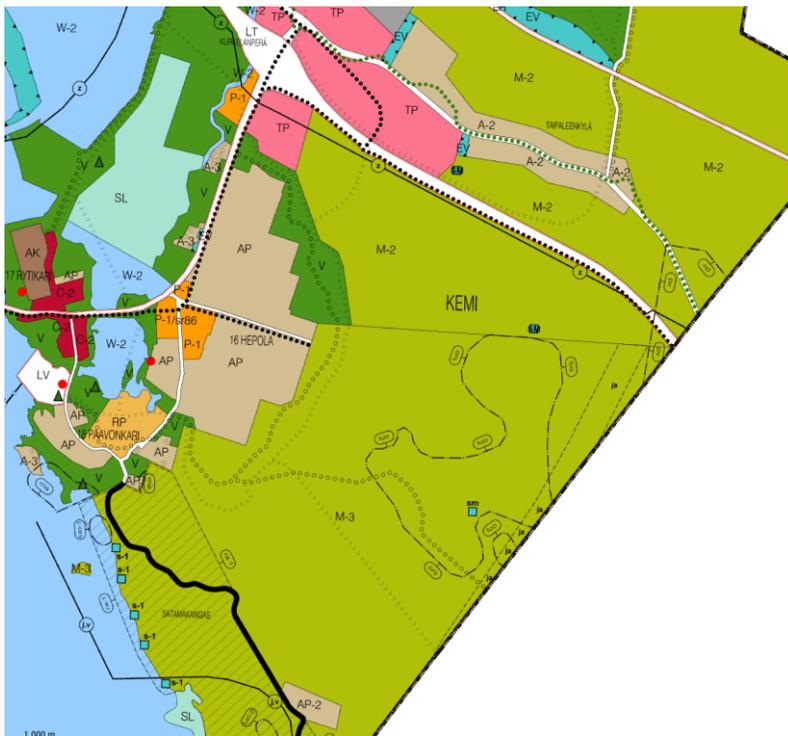


The area of Kemintulli has a valid master plan but mostly undeveloped.

# ETELÄNTIE AREA

The area is located to the southeast of the Hepola interchange on Perämerentie highway (VT4/E75), east of the residential area in Hepola. The area borders the municipality of Simo in the east.

The area is governed by the master plan for Kemi's southern areas (YK-6) in its northern parts and by the nuclear power master plan for Hepola-Satamakangas (YK-10). The area is primarily designated as agricultural and forestry land, with a small portion allocated for employment zones.



- Project area
- Most suitable area
- Land owned by the City of Kemi
- Property boundaries
- Groundwater area
- Groundwater recharge area
- Air traffic obstacle permission required (10 m)
- Power line
- Recreational route
- Archaeological site
- Nature reserve area

# ETELÄNTIE AREA, NOTES AND RECOMMENDED ACTIONS

## LOCATION AND ACCESSIBILITY

The area currently consists of forest and marshland. There are no residential or vacation buildings in the area. A mineral extraction site is located in the northern part of the area, near the main road. The environmental permit for the site is valid indefinitely, and the mineral extraction permits are valid until 2026 and 2028.

## PLANNING SITUATION

In the existing master plans, the area is primarily designated as agricultural and forestry land (M-2 and M-3). There is currently undeveloped commercial land near the Hepola interchange, which is reserved for service and industrial activities. The area borders Perämerentie highway (VT4/E75) to the north, alongside which there is also a power line.

A large part of the eastern section of the area is designated as a particularly important area for biodiversity (luo). There is a lit fitness trail in the southern part of the area. A snowmobile trail and a fitness trail run along the western edge of the area. There are two archaeological sites within the area. The master plan includes an advisory power line corridor along the eastern edge of the area. The Maksniemi groundwater area extends slightly into the area in the eastern corner.

The zoned single-family housing area in Hepola is located to the west of the area. Nineteen percent of the area is owned by the City of Kemi, and it spans across ten different properties.

In the regional land use plan of Western Lapland, there is an ecological corridor that runs diagonally across the area from southwest to northeast. There are two mineral extraction areas marked in the regional plan. Approximately 500 meters south of the area, within the coastal zone of the sea, there are plans to develop Satamakangas as a residential area.

## ACCESSIBILITY OF NETWORK-BASED UTILITIES

Fingrid's 110 kV power line from Isohaara to Simojoki and the Kittilänjärvi electric station are located approximately 5 km north of the area. The district heating network extends to the western side of the area, coming within 0.3 km. A potential route for a gas pipeline is located near the area. A data network runs parallel to the highway (VT4) and the railway in close proximity to the area. The western alternative route for Gasgrid's preliminary hydrogen pipeline runs 2000 m northeast of the area at closest. Stora Enso's fresh water basin is located only 500 metres west from the area.

## RECOMMENDED ACTIONS AND THE SUITABILITY OF THE AREA

The area can accommodate activities that require a significant amount of energy. Additionally, it is likely that electricity can be produced for the grid or for an operator located in the area. Activities that require freshwater sources can also be established in this area. The Veitsiluoto basin is suitable for water intake. The area is situated fairly close to dense settlement, which must be taken into account when planning the area's operations.

The area designated in the master plan as particularly important for biodiversity covers a large portion of the area. The extent of the area and the impacts of future operations must be assessed to minimize effects on valuable natural areas. If necessary, the boundaries of the area may need to be clarified or altered. Groundwater areas must be considered in the planning process. Routes running through the area should be accounted for and relocated if necessary. The planned Satamakangas residential area as well as sufficient adjacent recreational areas should also be considered in the planning.

The area is suitable for all considered types of facilities due to its location, accessibility, and general premises. Applicable technologies for the area include solar power, the manufacturing of solar cells and batteries, other industrial activities, small modular reactors, biopower plants, and circular economy activities. Notably, the logistical accessibility of the northern part of the area is excellent. Future planning of the area should explore opportunities for cooperation with industrial locations in Simo, e.g. when developing road infrastructure.

Appendix 5: Comparison of suitability of different technologies in each location, Eteläntie area

# ETELÄNTIE AREA



A road leads to the mineral extraction site on the north side of the area.



A lit fitness trail runs through the area from Hepola to Simo.



There are currently residential buildings near the shoreline, on the south side of the area. A local detailed plan for the area of Satamakangas is under way.



## 4. RECOMMENDATIONS FOR NEXT STEPS

# RECOMMENDATIONS FOR NEXT STEPS

All areas are sufficiently large for large-scale industrial activities and their planning. As the areas are planned in more detail, there may be need to consider natural environments, which are likely able to be preserved due to the size of the areas studied here. For the most part, updating the master plans is necessary in order to utilize the areas, as the current master plans do not allow for industrial activities.

Natural values and areas close to them (including groundwater areas) must be given special consideration, and only activities that do not jeopardize these natural values should be permitted.

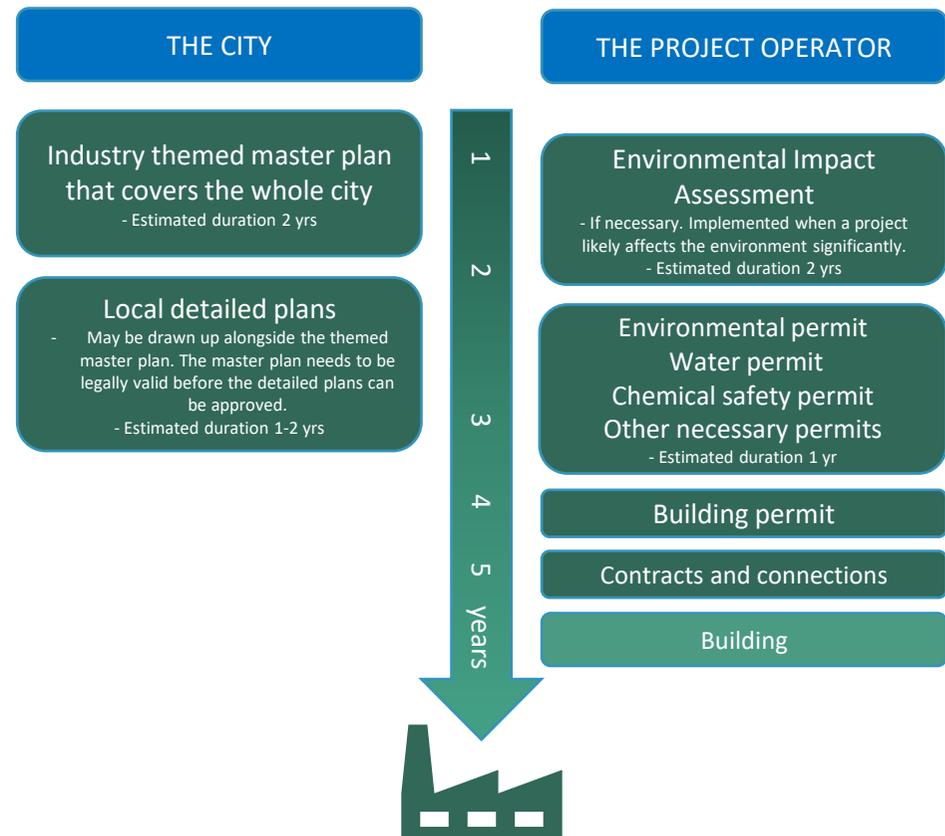
Areas close to residential zones can be good industrial areas (employment areas) from the perspective of community structure; however, the proximity to residences must be considered in the placement of industrial activities (e.g., noise, landscape impacts, consequences of accidents). Planning must also consider future land reservations and other needs for residential and recreational areas.

Accessibility plays a significant role when planning extensive industrial zones. All areas are located along major transportation routes, but connections – especially to the railway – require more detailed investigation. Utilizing the Kittilänjärvi and Holsti areas will require new road connections.

The significance of electricity transmission networks must be considered, and new power lines may also be implemented if required by the industrial activities. The capacity of the electrical networks needs further examination. According to data from early 2024, there is currently little capacity in Fingrid's lines. The Veitsiluoto 100 kV line has capacity suitable for solar power, for example.

The availability of freshwater should be ensured if necessary. The option of using the existing canal should be investigated. If available for use, negotiations and agreements need to be drafted.

It is recommended that the city of Kemi initiates the preparation of a thematic regional master plan for industry based on the completed study, covering the entire city area and including all the described potential areas. The outlines of the areas will be refined as further detailed studies are conducted.



An example and an advisory schedule of the zoning and the permitting processes.

# Transforming society together

