

**Interreg
Europe**



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County Administrative Board Kronoberg



Aida Ramic

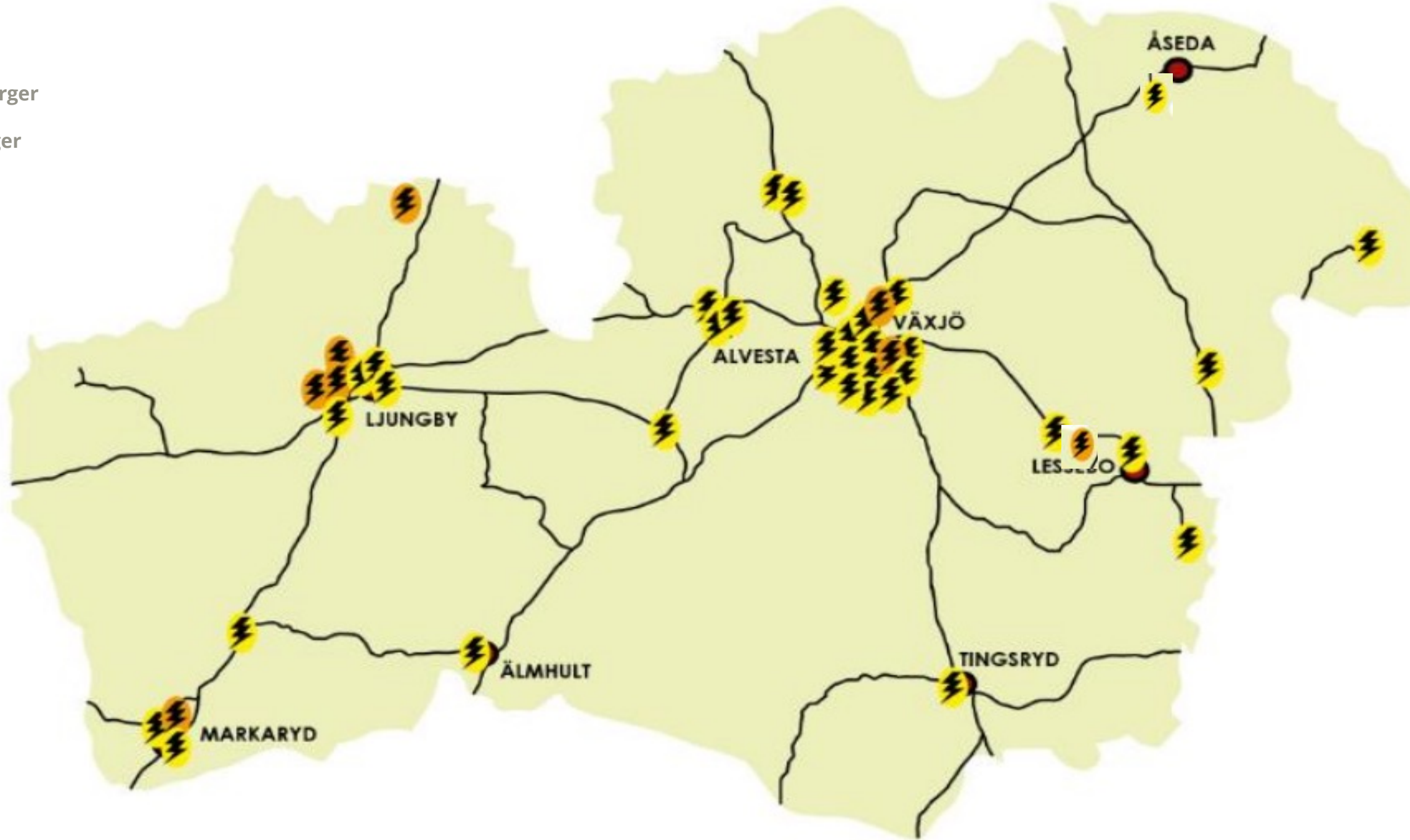
31 May 2023 | Mechelen

Kronoberg

- **Government authority**
- **Link between the people and parliament**
- **8 municipalities**
- **About 200 000 Citizens, 2 % of Sweden**



-  Normal charger
-  Super charger



3 most important issues/challenges regarding charging infrastructure

- 1. Allocation of responsibilities**
- 2. Old residential properties**
- 3. Business model and payment solutions**



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The Current Situation in Kainuu, Finland

Roman Gokkoev
PP2: Regional Council of Kainuu

31 May 2023 | Mechelen



LAND AREA

22 687 km²

3rd largest region

POPULATION

70 521

2022

OVERNIGHT STAYS

941 000*

2022

SUMMER COTTAGES

12 170

2022

RENEWABLE ENERGY

61%

2020

POPULATION DENSITY

3,5 inhab/km²

Space, tranquil and clean environment



KAINUU

Distances: Helsinki 568 km, Oulu 181 km, Bryssel 2000 km

8 MUNICIPALITIES

Hyrynsalmi, Kajaani, Kuhmo, Paltamo, Puolanka, Ristijärvi, Sotkamo, Suomussalmi

GDP €/inhabitant

34 923

2020

3

supercomputers

FORESTS

1,93 M. ha

90 % of the land

LAKES

4 639

12 % of the land area

CLEAN AIR

small particle pollution 2nd lowest of the provinces

WORKPLACES

27 484

2021

UNEMPLOYMENT

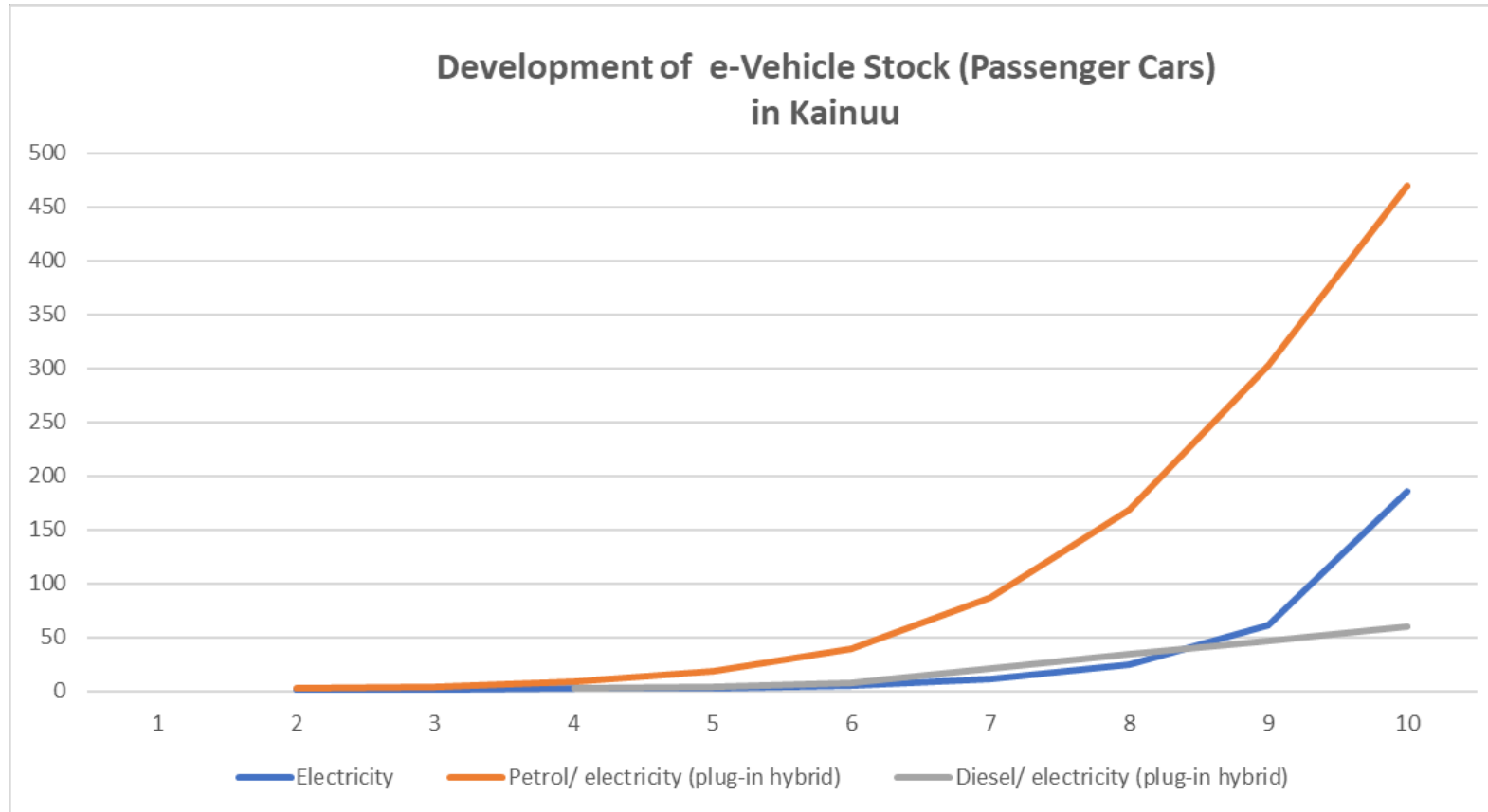
9,7 %

03/2023

In Kainuu you find:

- ★ LUMI: One of the world's fastest supercomputers (Kajaani)
- ★ UNESCO literature city (Kuhmo)
- ★ 2nd best Tourist Area 2020 (Kajaani area), 3rd best Tourist area (Vuokatti)
- ★ The hiking destination of the year 2022 (Hepoköngäs, Puolanka)
- ★ Hossa National Park (Suomussalmi)
- ★ Finland's widest open lake (Oulujärvi)
- ★ Most championships in Finnish baseball (Sotkamon Jymy)

Passenger Cars Using Electricity



Kainuu Vehicle Stock by Driving Power (passenger cars in traffic) 31.3.2023

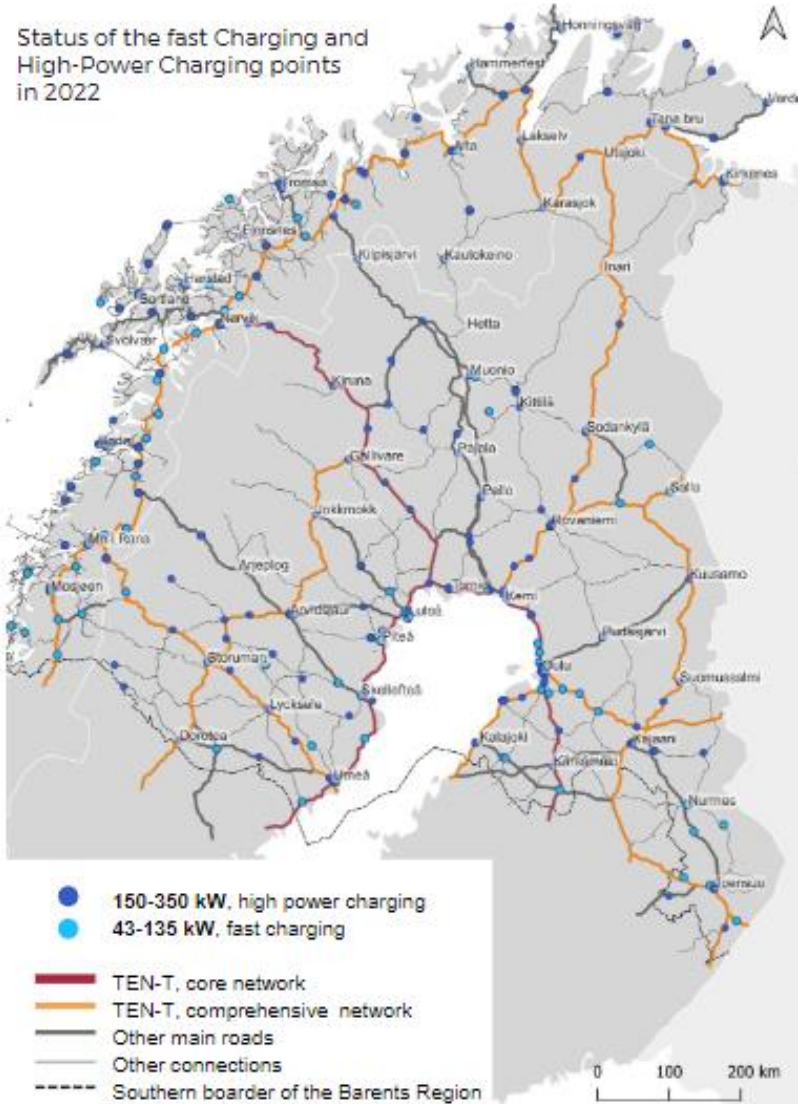
All	38 164
Petrol	25 020
Diesel	12 245
Petrol/ electricity (plug-in hybrid)	537
Electricity	241
Diesel/ electricity (plug-in hybrid)	63
Petrol/ Ethanol	51
Petrol/ CNG	5
Natural gas (CNG)	1
Ethanol	1

Source:

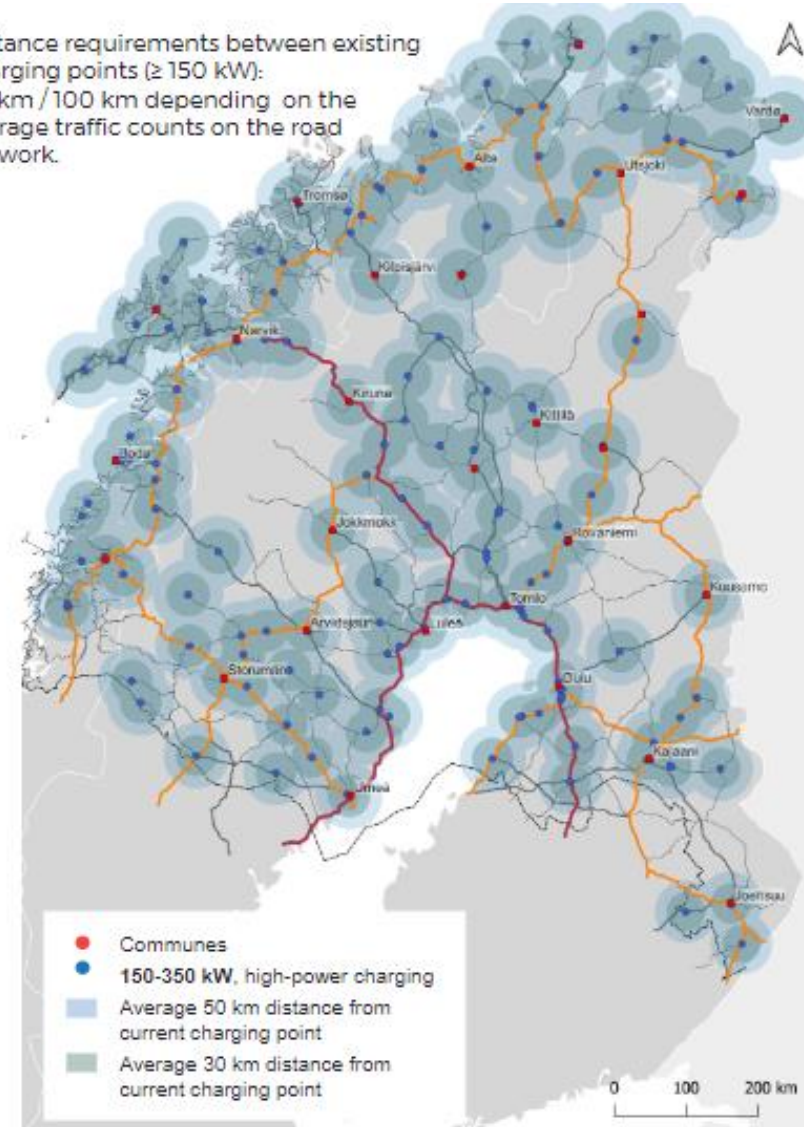
<https://stat.fi/en/topic/transport-and-tourism>



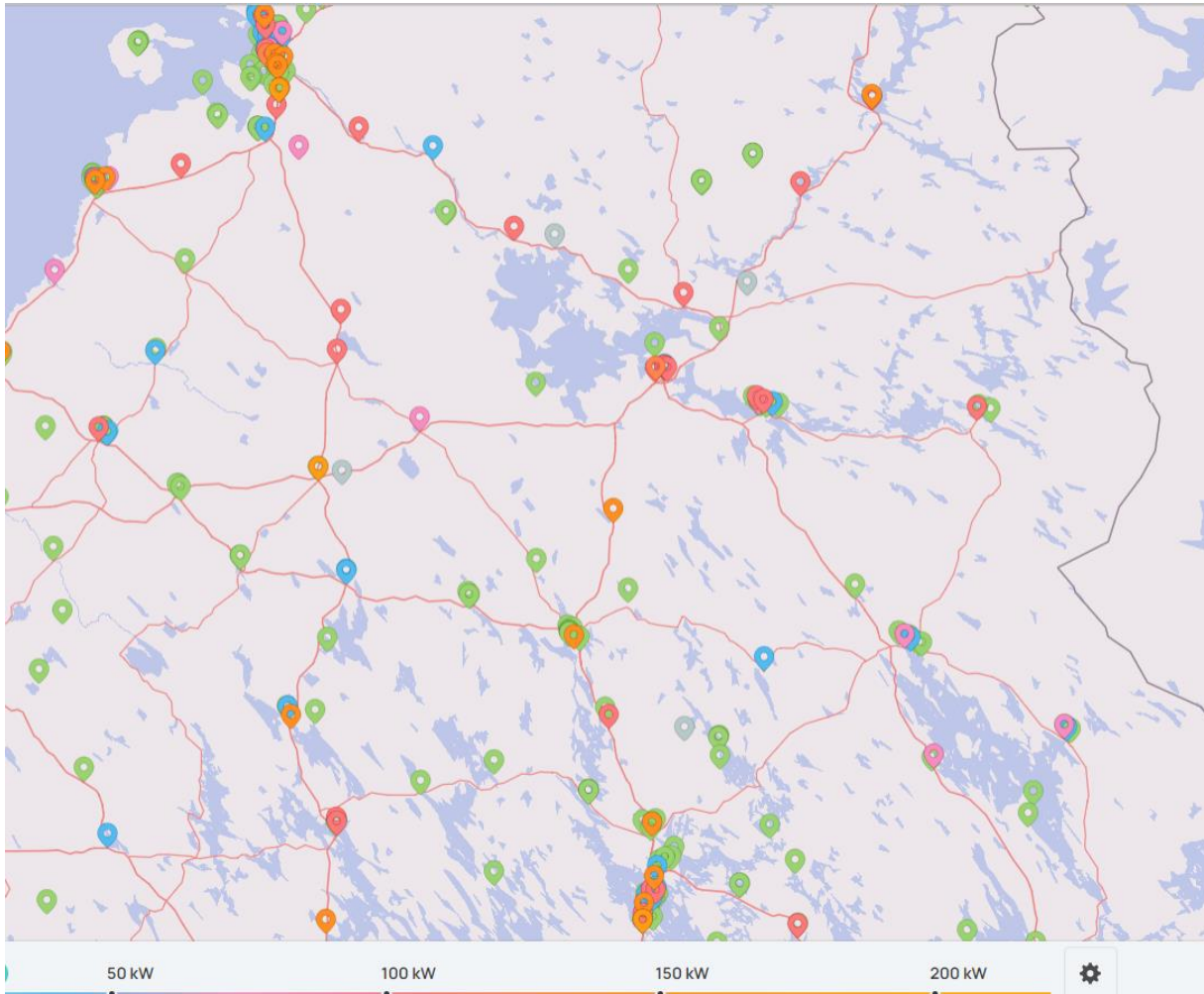
Kainuu and the Western Barents Region



Distance requirements between existing charging points (≥ 150 kW):
60 km / 100 km depending on the average traffic counts on the road network.



State of the Charging Infrastructure in Kainuu



- The amount of **electric car** charging points has increased in Kainuu region during the latest years.
- A larger growth will require increase of EVs. The problem related to EVs seems not to be in the amount of charging stations anymore, but more in **the lack of users** (the high price of EV's) for those.
- EVs aren't going to be the answer related to developing sustainable mobility in Kainuu alone.

The map is provided by the association of EV owners and is available at <https://latauskartta.fi>.

Biogas is needed in Kainuu



- The critical mass of **vehicles using natural gas** is hindering the fueling network investments. Economically sustainable demand and supply for i.e., usage of gas cars or heavy gas vehicles in parallel with gas-based refueling stations.
- The production of natural gas has already been started in Kainuu (Puolanka) with help of [REMAC project](#) and **two production units are being planned** to Kajaani. In all these units, gas is produced from waste from the Kainuu region, and they'll eventually be producing gas for traffic fuel.
- In the next few years, there will be 1-2 biogas refueling stations in Kainuu, **especially used by heavy traffic**. The supply of biogas also is a precondition for increasing the amount of passenger cars utilizing it.
- Biogas is important for the Green Transition in Kainuu. It is a totally renewable fuel, produced locally, and will decrease the greenhouse emissions effectively; even 90 % compared to the fossil fuels. The cost of **purchasing a biogas car is also cheaper** compared to purchasing an EV.

3 most important issues/challenges regarding charging infrastructure

Some issues identified by the [eMopoli project](#) (Action Plan):

- For the future of tourism, it is crucial that Kainuu has a **sufficient number of alternative energy charging stations**, optimally located (both EVs and biogas) – *Sparsely populated area with long distances*
- Number of mobilisation initiatives encouraging Kainuu municipalities **to include electrical mobility in public procurements** – *Involvement of municipalities and Wellbeing services county*
- The challenge for Kainuu is that there should be **enough basic use for a gas refueling station** to be profitable to set up - *Commitment to purchase gas fueled vehicles (among the actors)*

BOTH SIDES OF

Traffic jam.

OUR SMALL AND AUTHENTIC URBAN LIFE IS SURROUNDED BY VAST NATURE.

arctic
LAKELAND

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BSC, Business Support Center, Ltd, Kranj – Regional Development Agency of Gorenjska

Blanka Odlazek

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General intro about the Region

2021

Alpine region – 70% mountainous area

Area of 2.137 km²

211.501 inhabitants (July)

99 inhabitants/km² (July)

1,234.72 EUR average net monthly income

70,1 % of active working population

About 30% of people is working outside the region

10.4 is an average age of passenger cars (December)



General intro about the city municipality Kranj

2021

Area: 151 km²

Inhabitants: 56.784

Population sparsity per km²: 376

Average age of the population: 37,38

Fun fact 1: 6 km from the national airport Jože Pučnik

Fun fact 2: 43 domicile, „private public“ and 15 AC public charging stations



State of play regarding Charging Infrastructure in your city/region

- 15 AC in MOK
- 57 AC in DC regional from Gremo na elektriko
- 4 Ionty
- 41 AC and DC Petrol
- Problem?



3 most important issues/challenges regarding charging infrastructure

- **National Traffic Data Access Points – difficult to use**
- **Charging infrastructure integrated plans for BEVs**
- **Charging infrastructure integrated plans for other AFV**
- **Unclear pathway to funding resources and business model**

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**Thank you
and
have a great day!**

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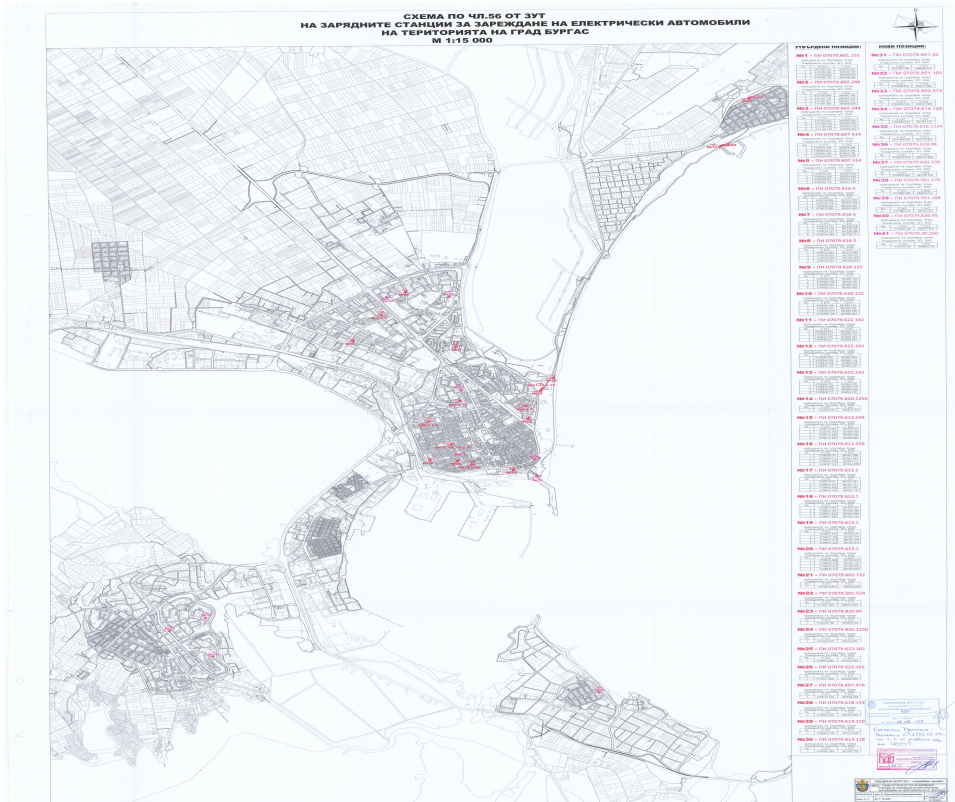
CITY OF BURGAS



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General intro about Burgas

- *Location: Black Sea coast;*
- *Population: more than 230 000 citizens (the 4th largest city of Bulgaria);*
- *The biggest and the most important economic, administrative, tourist and cultural centre in the Southern part of the Bulgarian Black Sea coast .*



- *Part of the Orient East Mediterranean Trans European corridor;*
- *Burgas Airport welcomes more than 2,5 million tourists per year;*
- *The biggest Port in Bulgaria;*
- *Highway A1 (Sofia – Burgas);*
- *Well developed railway infrastructure;*
- *2 universities, 2 university branches and 4 colleges.*

For the period 2020-2023, 30 charging stations were built on the territory of the city of Burgas, located throughout the city.



The power of the stations is the following: 7.4 kW, 11 kW, 22 kW and 50 kW for AC and 24 kW, 50 kW for DC. The choice of power is based on the capacity of the transformer to which they are installed.

For the aforementioned period, we sampled from one random station and the figures show the following:

Total number of charges: 927

Average vehicle dwell time: 06:39:03 h.

Average power consumption: 22,14595 kWh

Preferred choice of connector type in % :

CHADEMO – 51%, CCS – 49%.



As a part of the public transport are operating 56 electric buses (18m, 12m and 9m) with respectively 56 charging stations and also 22 trolleybuses. Charging stations are AC/DC (44 pcs) and DC/DC (12 pcs). Totaly, electric vehicles are 48% of the fleet of transport operator.



THANK YOU.

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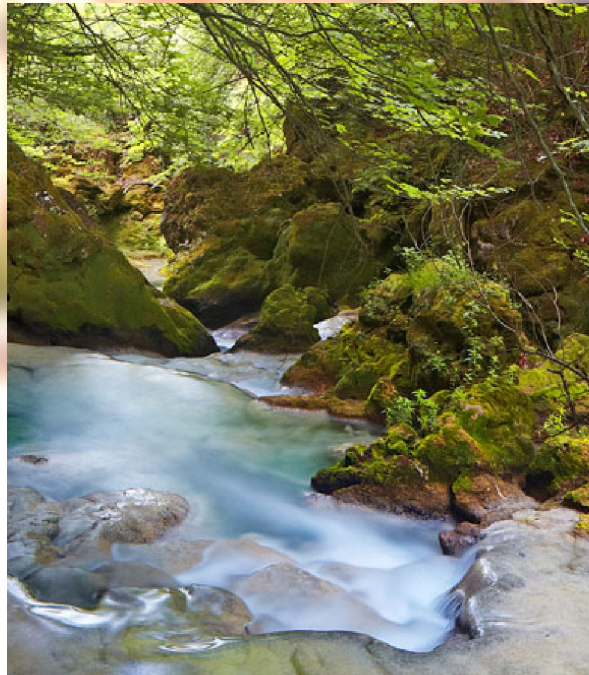
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Navarra Government

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**Gobierno
de Navarra**  **Nafarroako
Gobernua**

General intro about Navarra



Strategic location of Navarra

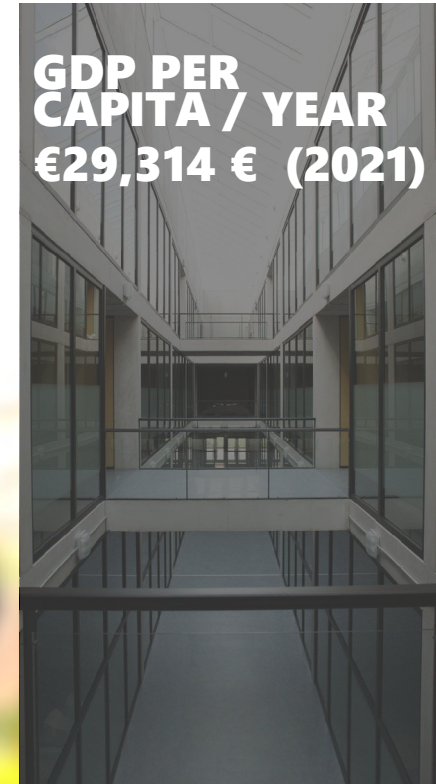
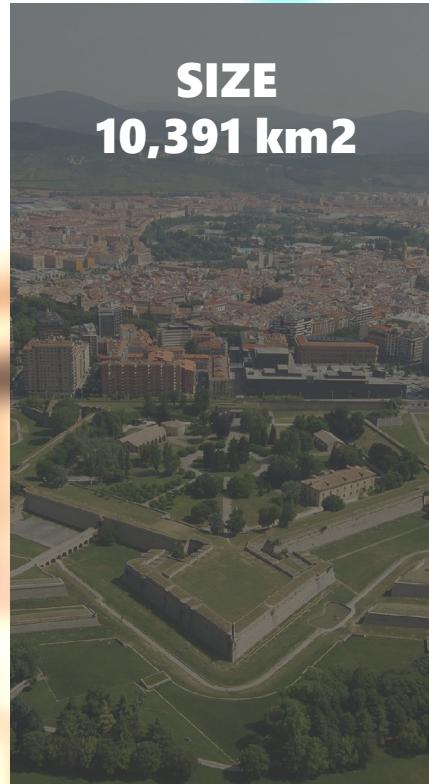
The Autonomous Community of Navarra is situated in northern Spain, at the western end of the Pyrenees, where it shares a 163-kilometre stretch of frontier with France. It has a land area of 10,391.08 square kilometres.

Navarre is a European crossroad between the Mediterranean and the Atlantic, and connects Spain with the rest of Europe.

General intro about Navarra

Navarre in figures

Pamplona-Iruña, with a population of 197,000, is the capital of the region.



General intro about Navarra

Navarre, an economically privileged region...

3rd

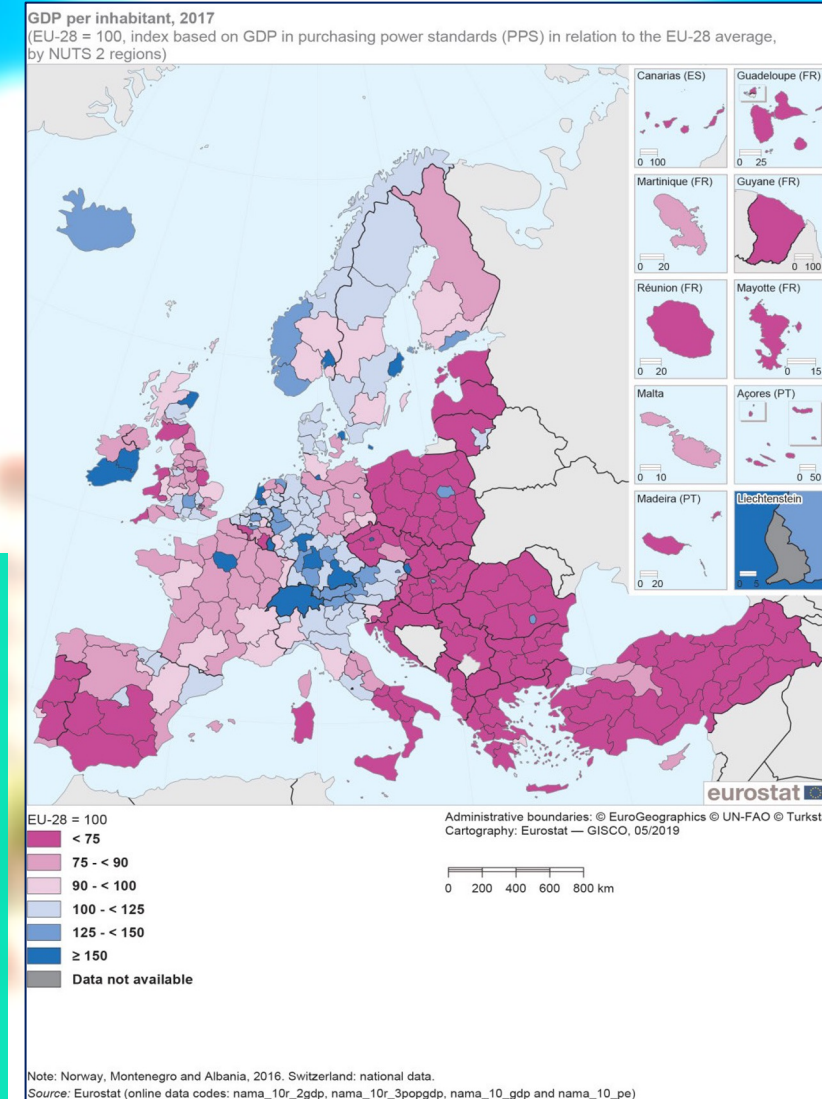
Navarre has the 3rd highest GDP per capita in Spain.

9.9

%

own

Navarra has its own taxation system.



Current State of Charging Infrastructure in Navarra

- **Number, Type of Charging Points Installed:**
 - **TOTAL: 1,502**
 - **Public: 302**
 - **Private: 1,200**
- **Legislative framework: *Climate Change Law* and *Navarra 2030 Energy Plan***
- **Charging Points Installed by Navarra Government: 30**
- **APP to Manage Public Charging Points. (Including Municipality CP)**
- **Subsidies to Municipalities, Enterprise and Domestic for Installing Charging Points. MOVES III**

Important Challenges Regarding Charging Infrastructure

- **White Zones and Ultra-fast charging points:**
 - No more than 50Km of distance between each CP
 - Installation of ultra-fast charging points (more than 150Kw)
- **Collaboration agreements. Interoperability**
- **Municipal regulatory adaptation**
- **Technology and efficient use of energy in Charging Points:**
 - Integration in 5G networks. Digital Twin.
 - Efficient use of energy: PV Installations, Power Balancing, Batteries

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Cork City Council

Presenter: James Kenneally

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General intro about the city/Region

- **Cork is the 2nd largest city in Ireland after the capital Dublin. It is located in the southern province of Munster.**
- **Cork City has a population of just over 210,000 since it's boundary expansion in May 2019. It's population is estimated to rise by a further 50% by 2040**
- **Cork City is an emerging international centre of scale and a national driver of economic and population growth. It has ambitious growth targets over the next 20 years.**



State of the art regarding Charging Infrastructure in your city/region

- **There is approximately 50 Electric Vehicle Charging Stations in Cork City currently. these fall into two categories:**
 - Destination Charging
 - Fast Charging Stations – Supermarkets, Hotels, Gas Stations
 - Normal Charging Stations – Car parks, Industrial Estates, Hospitals, Park and Ride
 - Public Charging
 - City Centre, Suburban Centres and Community Centres
- **The majority of the publicly accessible charging infrastructure are normal speed charges (i.e. less than 22kW) and have been provided at key attractors in the city.**
- **5nr. on-street publicly available infrastructure chargers to support residents who do not have access to a driveway or a private off-street car park.**

3 most important issues/challenges regarding charging infrastructure

- Funding – 85% funding is coming from Government sources (ZEVI) with Cork City Council to make up with the remaining 15%.**
- Utility Supplier – Ensuring their network is suitably sized to deliver the required electrical connection for new sites. Ensuring they have capacity to make the new connections and liaising with the Utility Supplier to get the connections in a timely manner.**
- Personnel – Building a team to develop, tender and construct these sites within Cork City. All industries are recruiting from the same small pool of Engineering resources and Engineers.**

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Municipality of Parma - Italy

Presenter: Ivano Dinapoli



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The City of Parma: here we are!



Area: 256 Km²

Population: 198.345

UNI Students : 24.000

City access: 440.000

Tourists: > 1 mil

Registered vehicles: 140.000

Traffic: > 400.000 vehicles

Road network: 1.300 km

Cycle network: >160km

LTZ: 39% of historical center

Low speed zones: 20% of the city

Pedestrian zones: 8% of historical center

237 km urban lines + 1.970 km FUA

60% of the fleet with low emissions buses (electric, CNG, Euro 5)

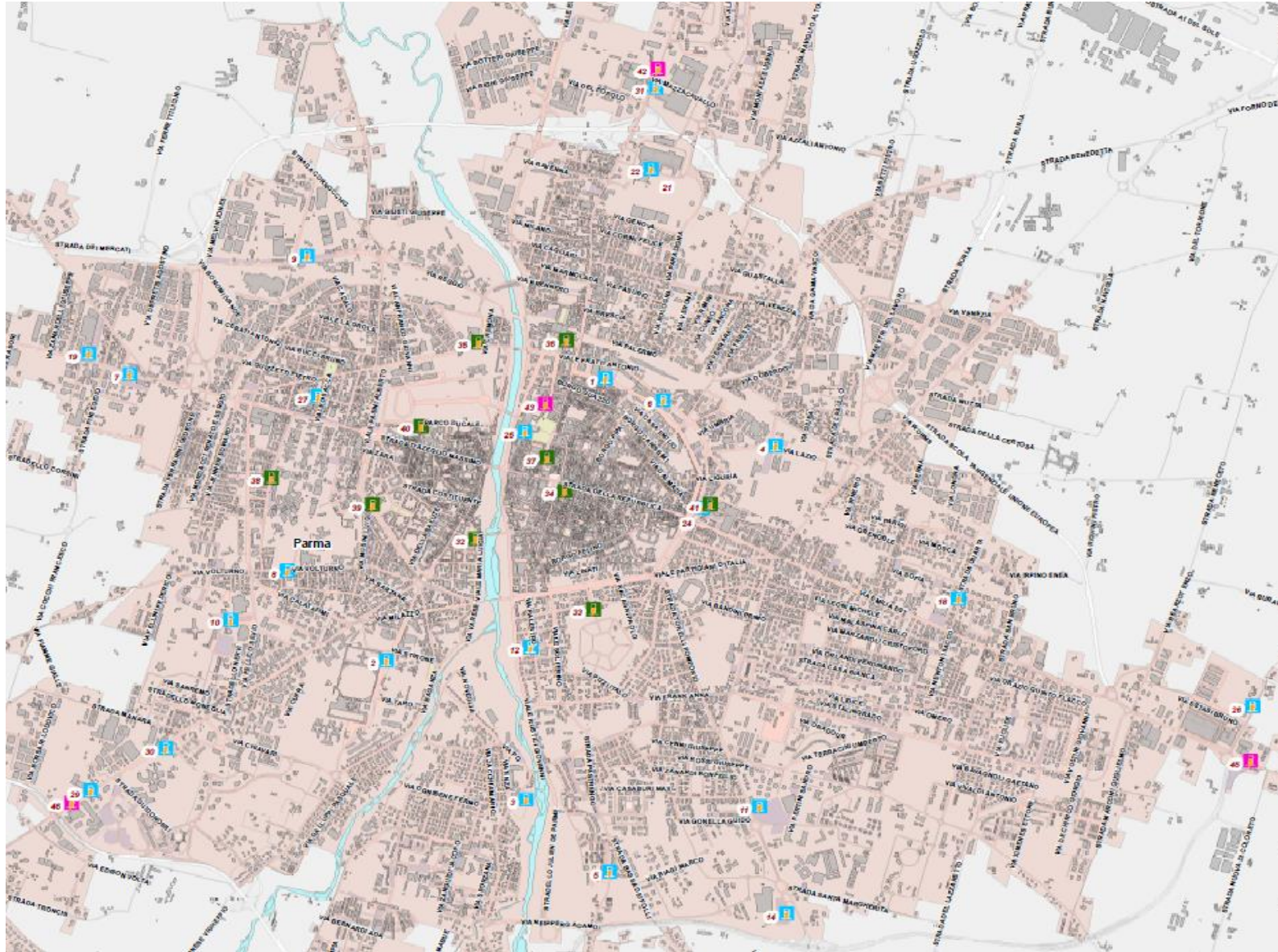
34 millions of passengers per year

17 urban bus lines (4 electric trolley buses)

«Happybus» school service (51 schools, 1346 users, 565.000 km/year)

8 lines of night buses

State of the art regarding Charging Infrastructure in Parma



82 public charging infrastructures (160 charging points) in the municipal area managed by 3 companies:

**12 Fast > 100kw
70 quick at 22KW**

Energy sales prices ranging from 0.35 to 0.45 €/kWh

Free transit and parking for full electric vehicles

3 most important issues/challenges regarding charging infrastructure in Parma

- **Relocate the charging system in park and rides in order to create an intermodal systems towards the city (Maas & other services)**
- **Install ultra-fast chargers with powers between 150<>350 kw**
- **Reconsider the access policies to the historical center for electric or plug-in vehicles to reduce the occupancy of the public space**
- **Extend zone 30 as much as possible**