

Shared charging infrastructure, case Leppävaara



DEMO DISTRICT

Leppävaara, Espoo
Finland

PARTNERS INVOLVED



COMPLETION DATE

1/2020

KEY NUMBERS

11 charging spots
Max. 350 kW charging power
Energy 100 MWh per month
System operative for 4 years

CO₂ REDUCTION POTENTIAL

Reduced CO₂ 60t per month

CONTACT PERSON AND LINKS

Joona Töyräs
Plugit Finland
<https://plugit.fi/>

Short description

- 3MW public charging system for buses in Espoo, Leppävaara
- Charging system contains 11 charging spots which are enabling and boosting e-bus operations in the Espoo area
- Plugit is providing the charging solution as a service for HSL (public transport)
- The charging system must be usable at least 99% of the time every month
- Plugit is responsible for the charging solution as a whole
- Charging power is up to 350kW per spot

Key results during the project lifecycle

- Helps Espoo and Finland to reach sustainability goals (CO₂)
- Boosting EU goals for sustainable bus fleet (heavy vehicles)
- Reduced costs for charging = reduced costs for EV operations
- Shared charging system means lower investment costs and makes optimizing possible
- Operators need properly designed and maintained charging infrastructure to help their operations with electric fleets



Insights and learnings

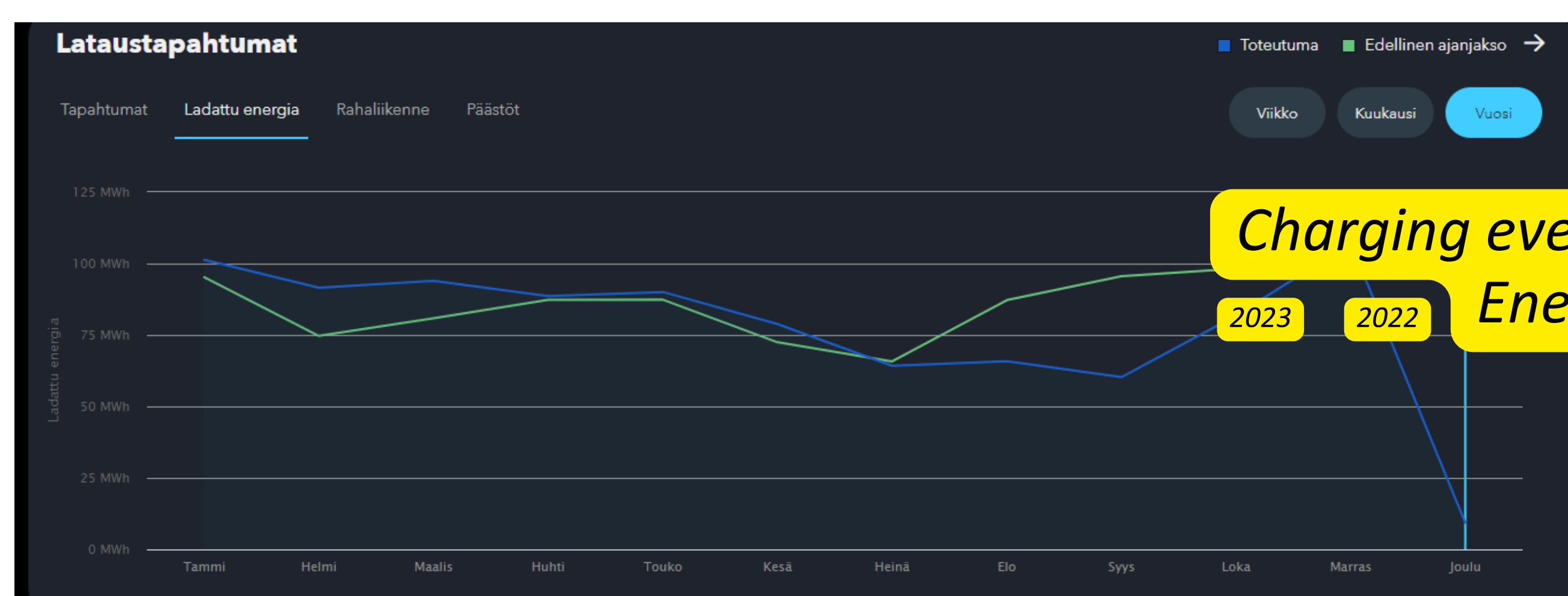
- Shared charging infrastructure is needed to boost e-mobility
- If there are multiple stakeholders, responsibilities need to be clear for everyone
- City could boost e-mobility and offer plots for charging business
- Driving with electricity is more cost efficient but requires positive attitude towards EVs
- Electric buses are optimal for city operations (at least in Finland)
- Chargers need proper maintenance and repair to stay reliable over the years

Challenges

- This was new technology for everyone involved when the pilot started
- There were problems with the project schedule leading to a short testing period
- Optimising the charging system is not possible due to contract regulations
- Opening the charging system for other EV types is not possible due to limited space (city owned)
- Combining the charging system with Sello VPP is not possible due to the local grid company

Plans for replication

- This solution has been replicated in Helsinki by HSL (public transport)
- Plugit is investing in heavy vehicle charging systems in Finland and Sweden
- Current EV technology makes this kind of charging systems unnecessary for e-buses only, common charging systems for all heavy vehicles needed



Questions and comments from partners

Comments to be added during poster session at Consortium meeting in Leipzig

