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Public EV Charging Network Development: experiences from ZCI

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Background

- EVs are growing rapidly and charging infrastructure and availability must grow accordingly
- Local and regional authorities play a fundamental role in this growth
- There is a strong link between EV charging and grid infrastructure/ network congestion
- This presentations provides and overview of the experience gained within the ZCI project on three main issue:
  - Charging in residential areas
  - Charging and grid infrastructure
  - Electric Mobility Plan

Charging in residential areas - Mechelen

Charging infrastructure must be safe and suit the urban environment

ARCHIE - Mechelen

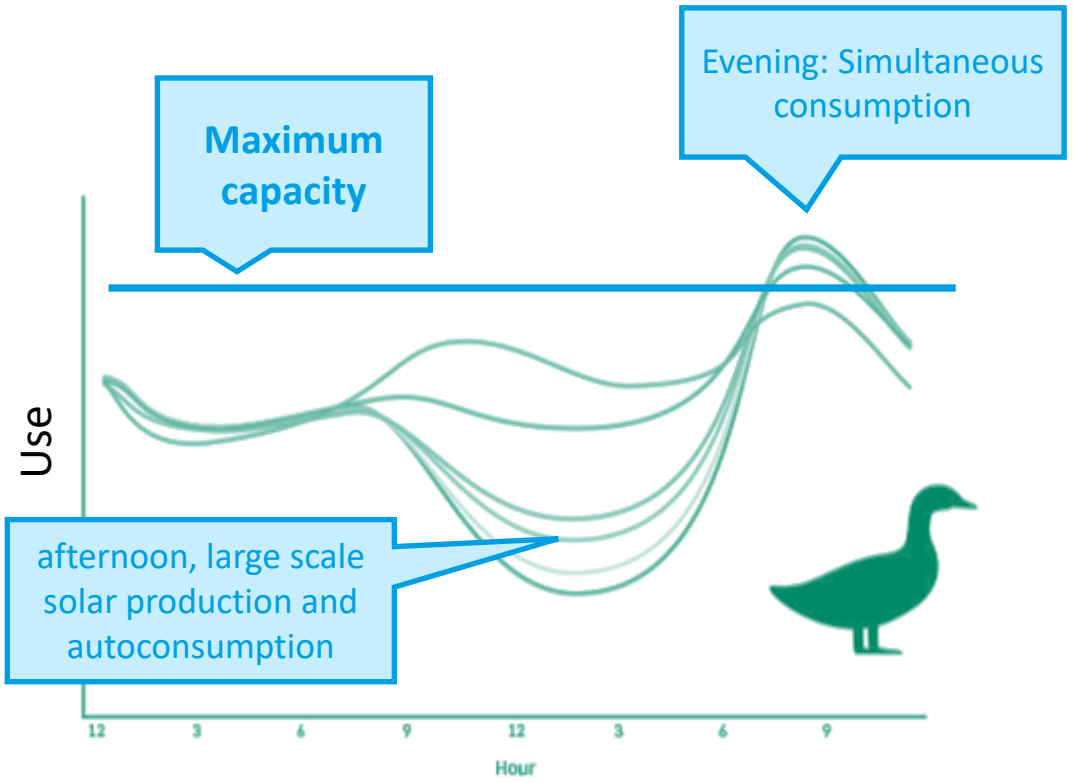
- No cable over the footpath
- Possibility to share with your neighbors
- No heavy infrastructure works

Charging behaviour and pressure on the electricity grid

4 types Electric Vehicles and impact on our Grid

Private car	Van	Heavy Duty Truck	Public Transportation
			

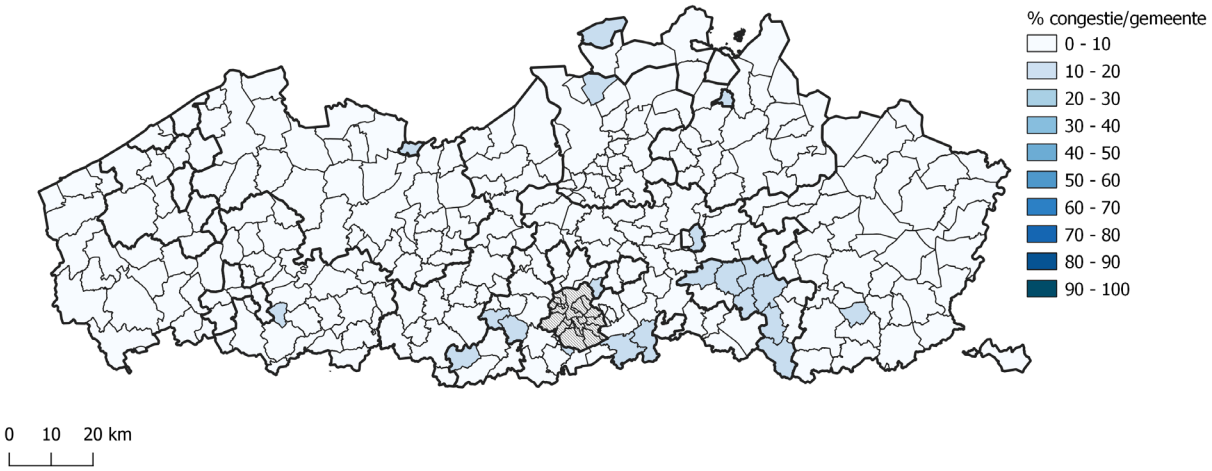
The electricity grid under pressure ?



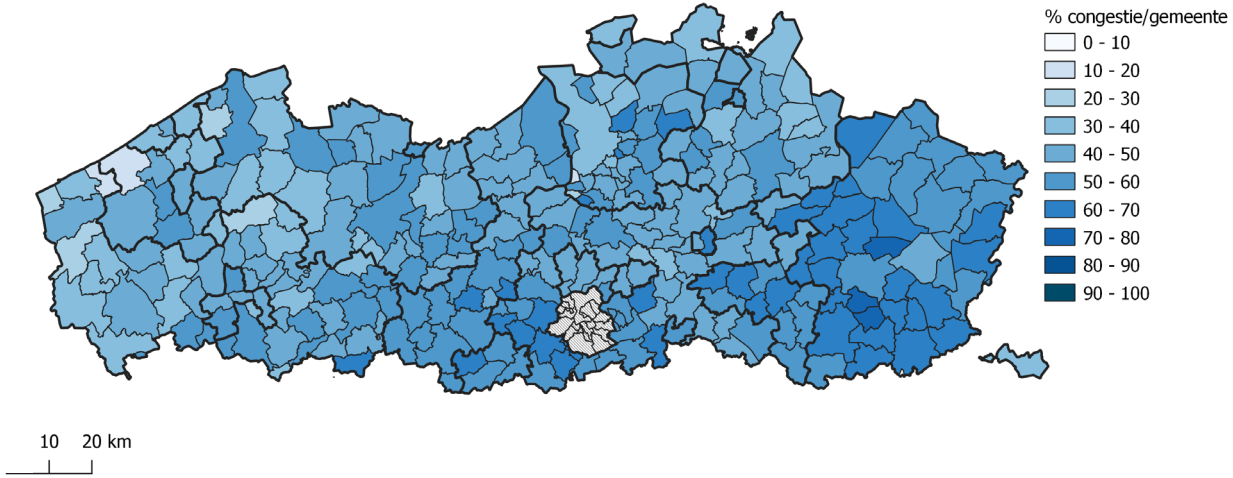
- Electrification:
  - Higher consumption (volume)
  - Higher simultaneous behaviour
  - Higher system peak
  - Higher impact on the grid

Actual and future grid conditions

Actual number of networks with congestion risk



Estimated number of networks with congestion risk



Preparing our grids for the future to facilitate the energy transition

Developing an integrated Electric Mobility Plan - Parma

Electric Mobility Plan Parma (2019)

- Set the conditions to guarantee the presence of a **plurality of operators**, in a free market logic, preventing the first come first served approach for the best positions available;
- Provide a charging supply across the **entire municipal territory** and not just in some areas of the city, defining the points where the infrastructure would be installed for the benefit of smaller centres and the suburban area;
- Provide the infrastructure operators a set of possible **locations already verified with the local electricity provider**, to assure the success of the intervention.

Guidelines for charging infrastructures companies

- Location plan for the charging stations;
- Maximum number of installations for each operator;
- Type and characteristics of Quick and Fast infrastructures;
- Interoperability to guarantee market freedom and service efficiency;
- Rules for dedicated parking spaces
- Service functionality and quality standards

Thanks!

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