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Smart Solar Charging

Baerte de Brey

SMART SOLAR CHARGING

THE WORLD'S FIRST SOLAR-CONTROLLED, BI-DIRECTIONAL, COMPACT CHARGING STATION FOR ELECTRIC CARS



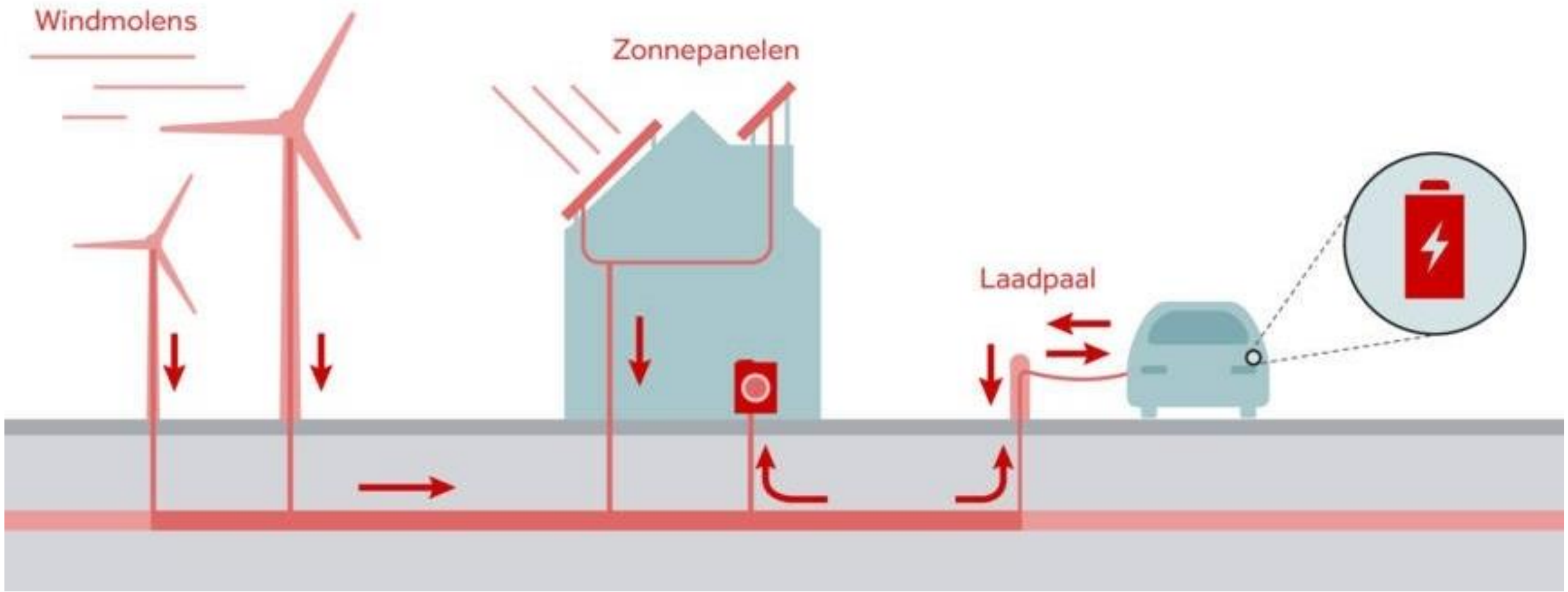
The Netherlands is a leader in the adoption of electric transportation. Even more acceleration can be made through the development of smart charging services

Local solar power and EV-batteries are a “match in heaven”

- 1. “Free” local storage**
 - 2. Bi-directional (dis)charging**
 - 3. Local peak-shaving: cost-reductions for grid operator**
 - 4. 100% clean driving**
 - 5. Higher ROI on investments in solar energy**
- Scope: Work with existing technologies**
 - Scale: Fast growth in numbers and size (both EV and PV) in the past and coming years**

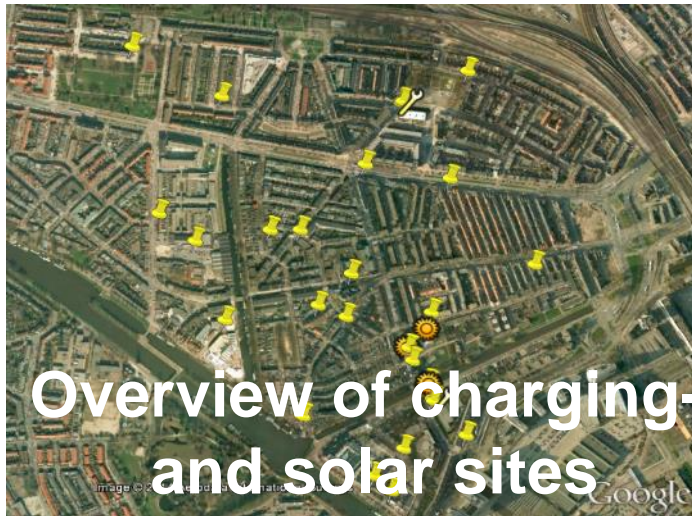
VEHICLE-2-GRID OR BI-DIRECTIONAL CHARGING:

CARS ARE ALSO USED AS A 24 HOUR URBAN BATTERY FOR LOCAL GENERATED SUSTAINABLE ENERGY





- **850M2 Solar generation**
- **2016: 20 smart solar charging stations (V2G-ready)**
- **Area of 3000 households**
- **Investment in 700m AC grid**
- **Renault: carsharing program**
- **No subsidy: positive business case**



Very high efficiency: Self-usage of solar energy by LomboXnet:

- **Normal charging: 49%**
- **Sunpower-controlled charging: 62%**
- **Sunpower-controlled charging and discharging: 87%**



Universiteit Utrecht

CONCLUSION



- **Smart Solar Charging helps to avoid investments in grid reinforcement.**
- **It creates local employment, within (inter-)national companies.**
- **Smart Solar Charging brings benefits for citizens such as cleaner air, cheaper transportation and clean, renewable energy**