

**Clean energy & e-mobility in the City**  
**What does it take to make it happen?**

**Hugo Niesing**  
**Solarise Kick-off meeting**  
**18 June 2018**

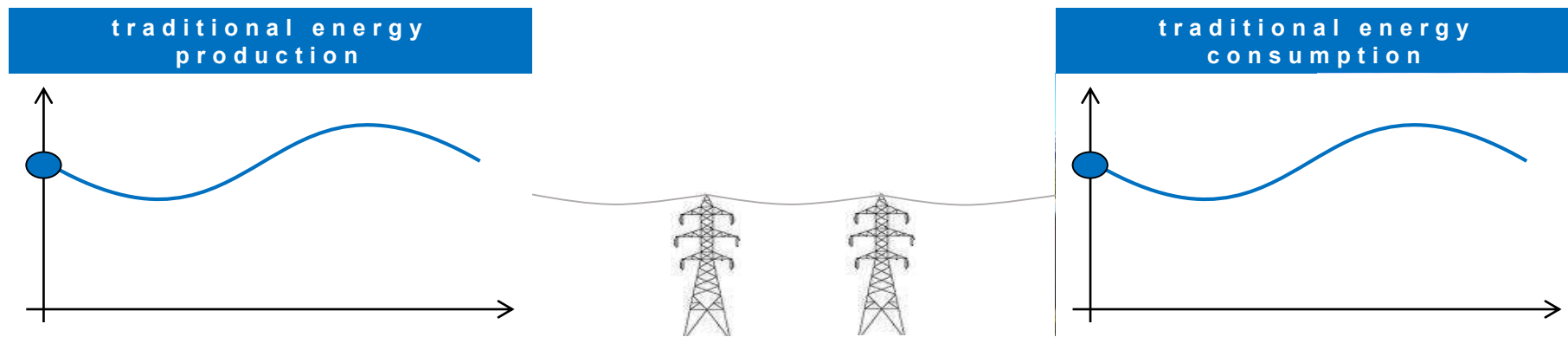
# Resourcefully

- Project-management and consulting company working on Europe's energy transition;
- Projects, products and services for sustainable city development, focus on renewable energy, electric mobility & ICT
- Main activities:
  - I. EU innovation projects
  - II. City support
  - III. Practical experiments
  - IV. Bi-annual V2G international conference

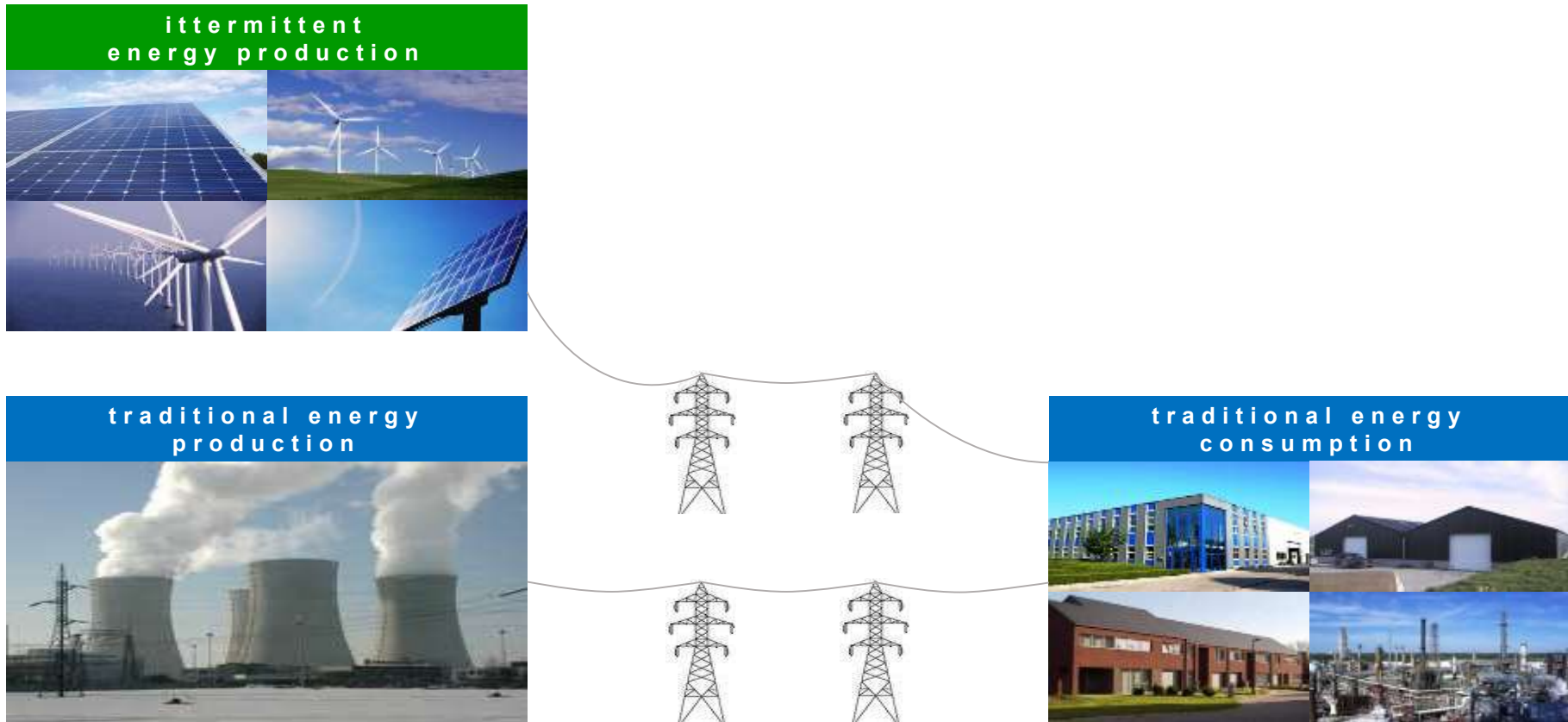
# *Impact Flexible Energy Sources*



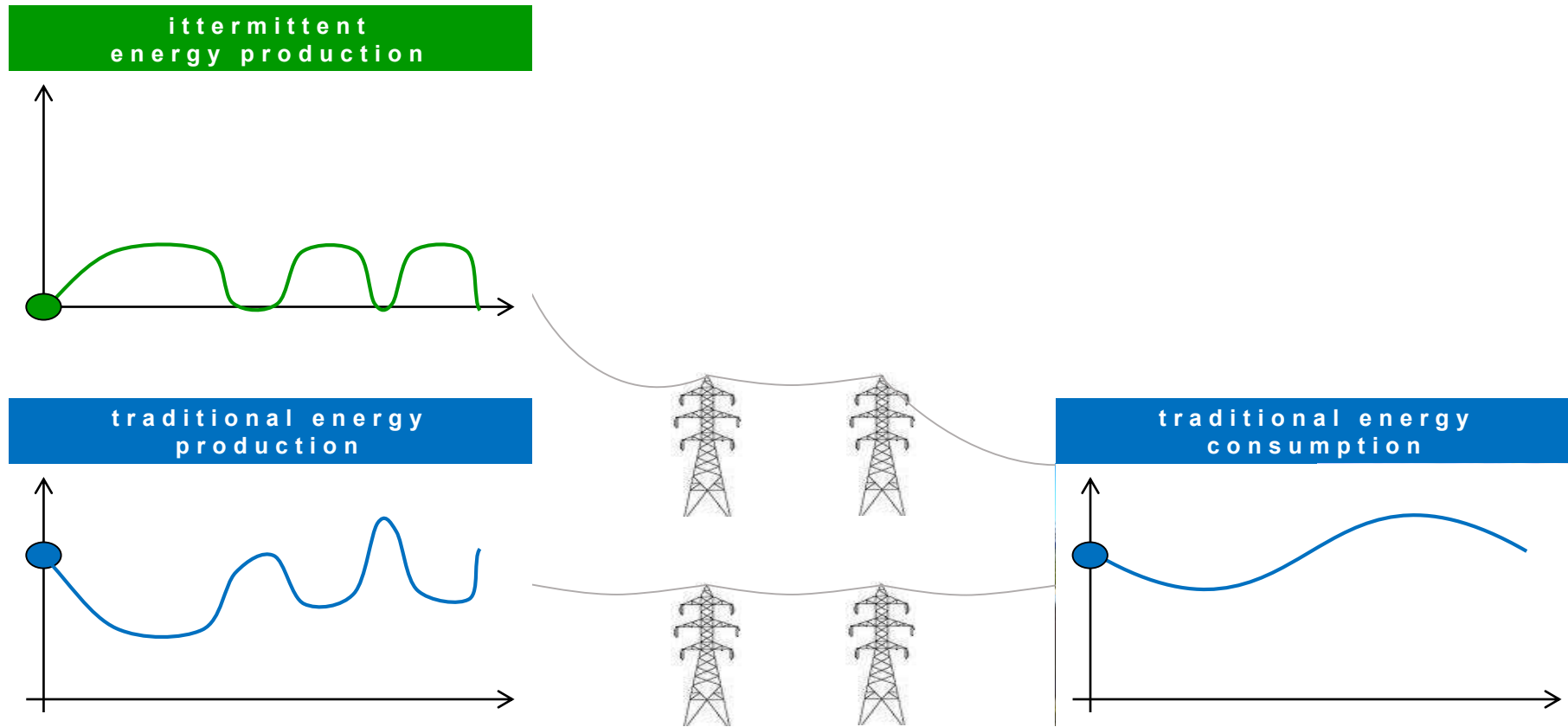
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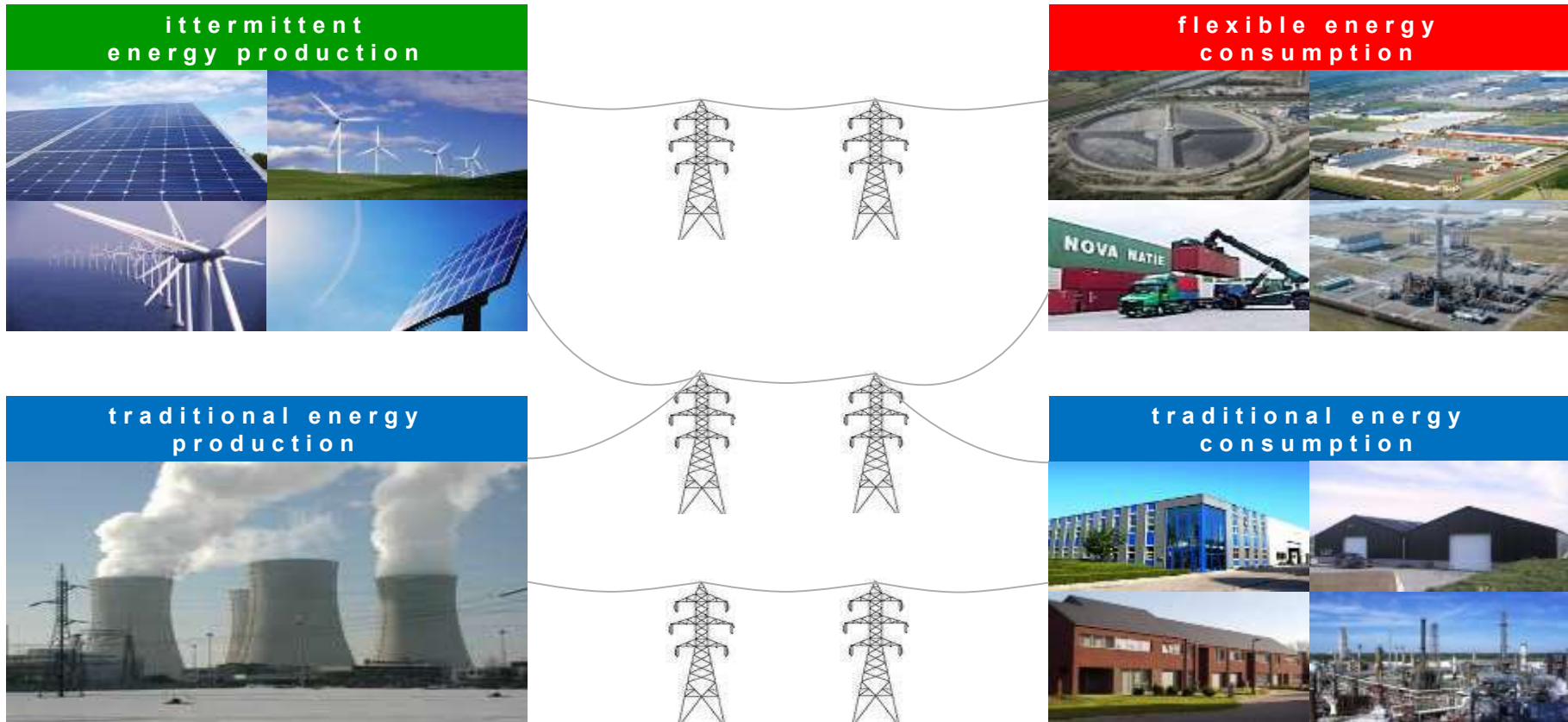
# Impact Flexible Energy Sources



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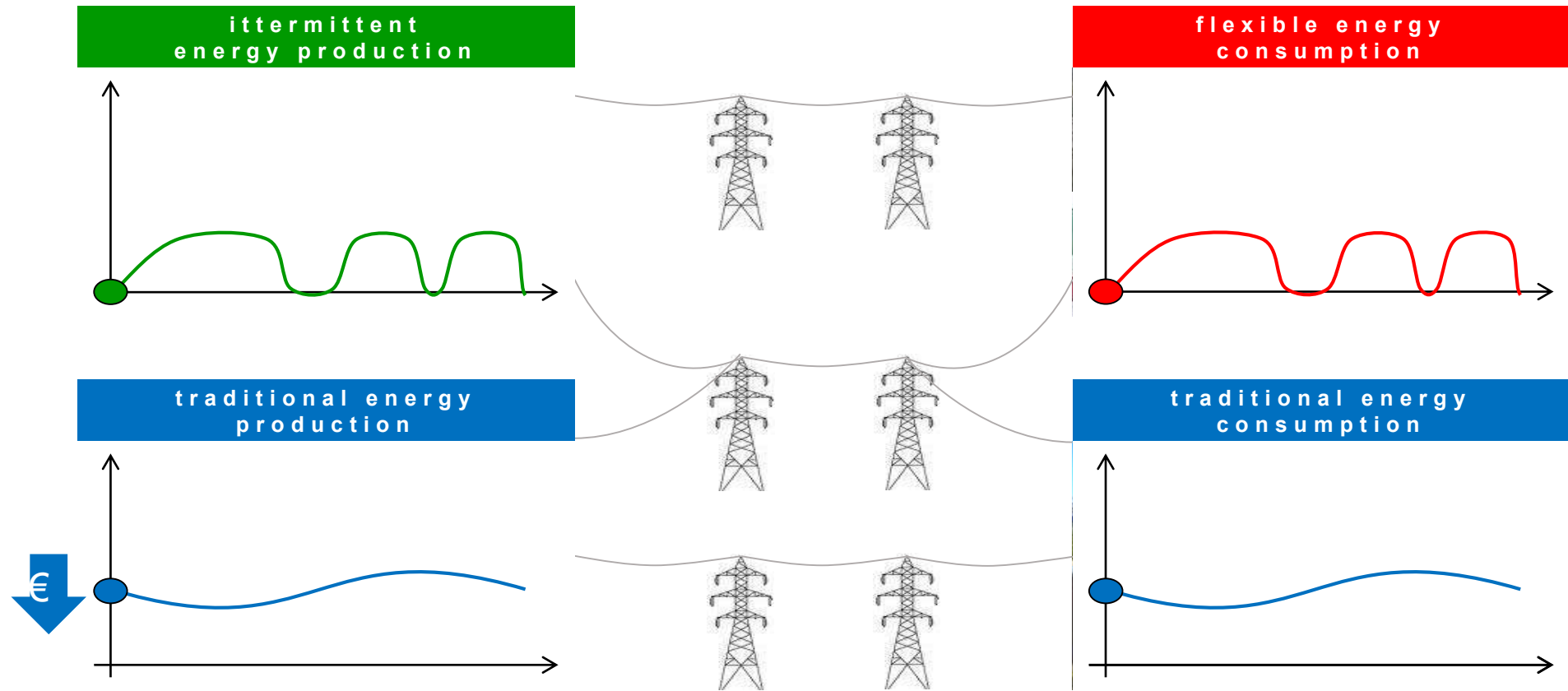


# Impact Flexible Energy Sources



# Impact Flexible Energy Sources

## That is when *ELECTRIC VEHICLES COMES IN !*





# E-mobility & Renewables in the City

## Developments:

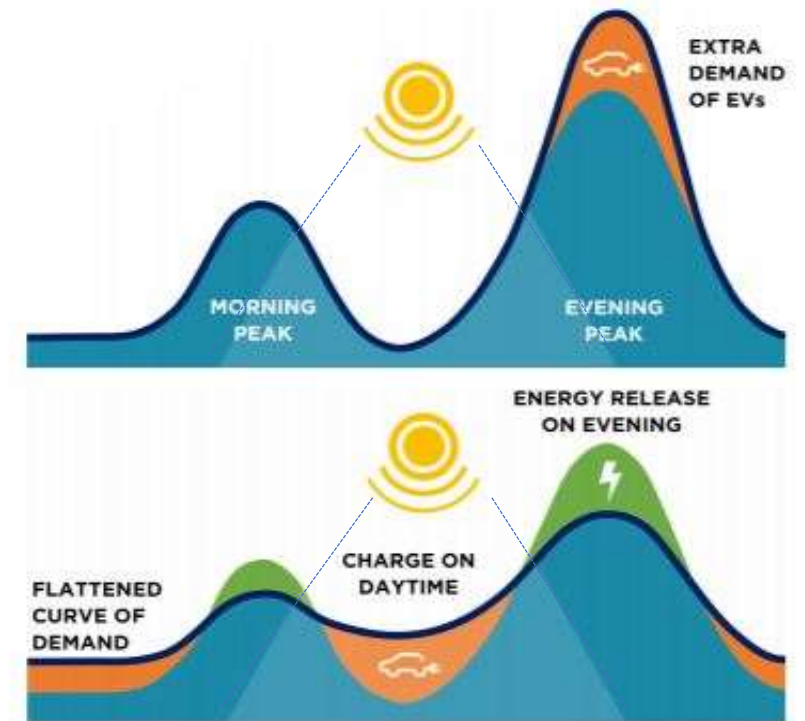
- European cities are moving massively into electric mobility: EVs, but also buses, freight, water transport, bikes, etc.
- Renewable energy in the city is also growing.

## Challenge:

- Mismatch between production and consumption

## Solutions:

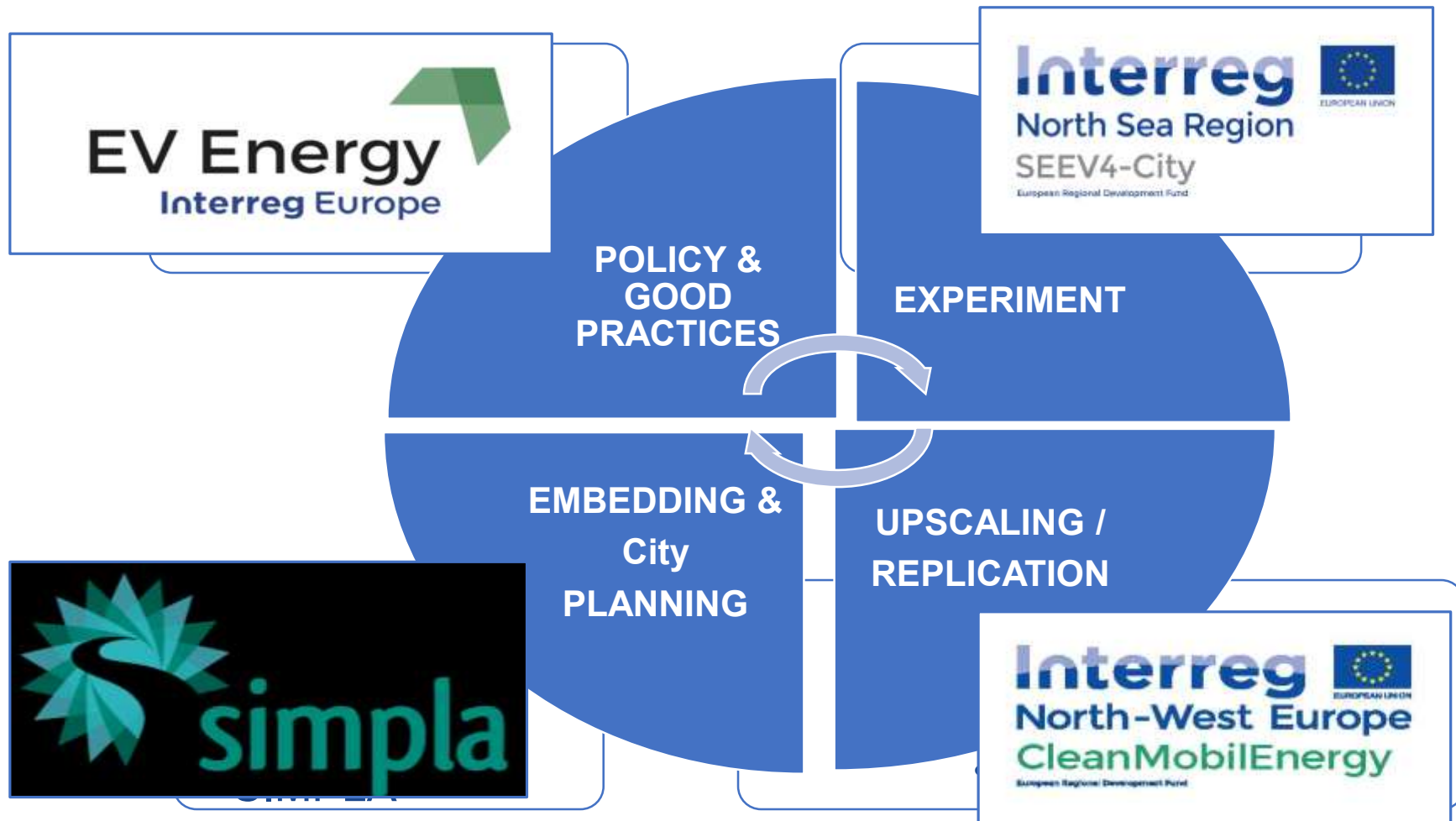
- Smart charging of EVs
- Storage
- Vehicle 2 Grid
- Flexible energy use



# City trends in EVs & renewable energy

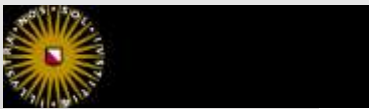
- **EV market** is exploding: electric mobility grows faster than renewable energy in the city.
  - **Charging infrastructure**: development, organization, finance.
  - Large scale **projects** are scarce: requires funding & long-term investments
  - **Policies** in the different EU countries are **fragmented & instable**
- **Need for coherence between sectors and across the different member states.**

# The policy – projects cycle



PARENT PROJECT

# AMSTERDAM OPERATIONAL PILOT

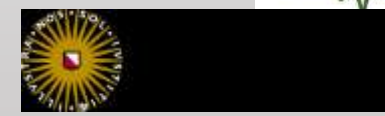


# BORNEOEILAND

+ 8 BOATS & 7 houses

15 HOUSEHOLDS

25 households to start with, connected by the project



# City Challenges, combination with other projects?

## Borneo Eiland Prosumer Community

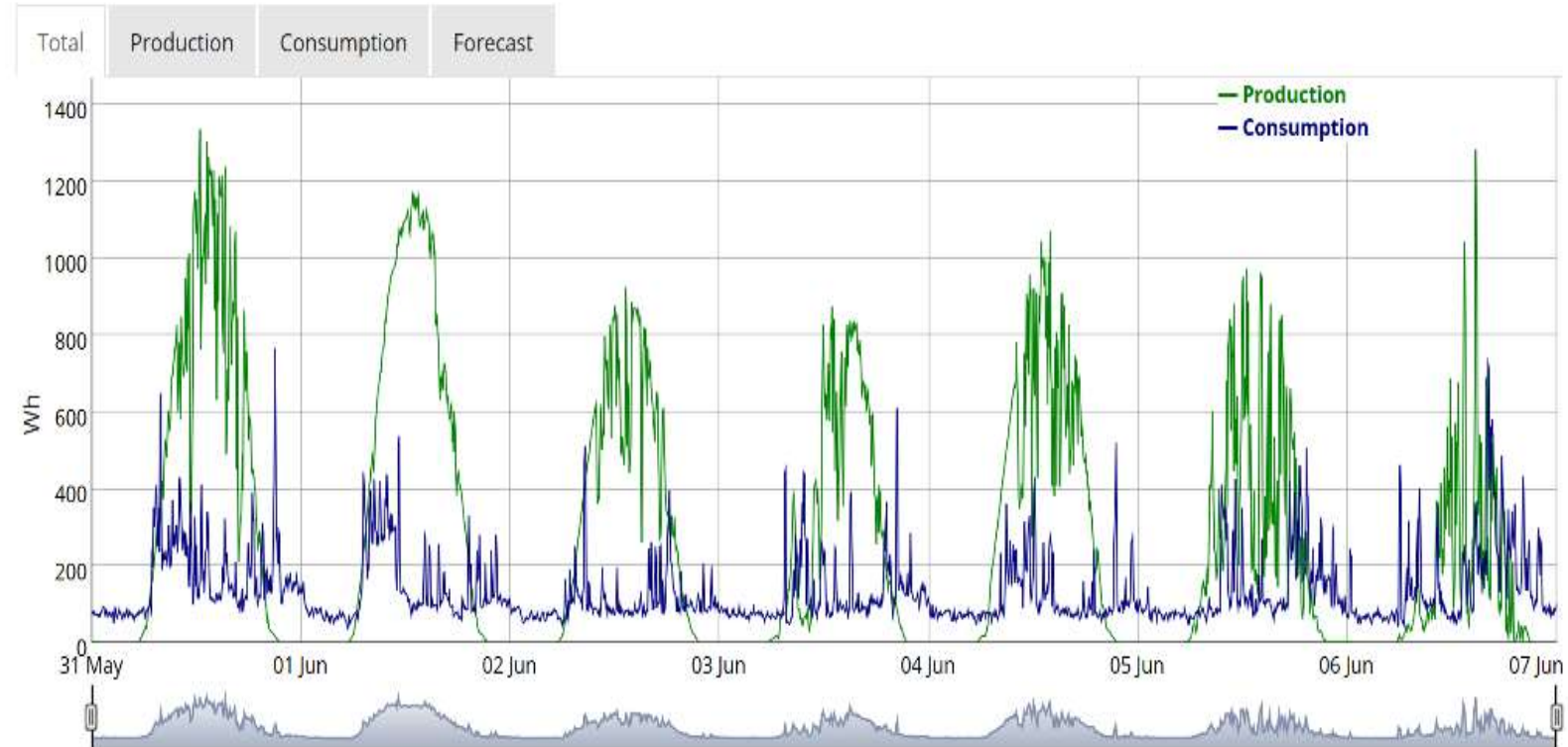
Lowering electricity consumption through community information and participation

PARENT project reduces household energy consumption and engage in local communities. Using smart meters, we analyse energy consumption and provide tailored information, tips and activities aimed at increasing households' energy efficiency. We develop a participatory platform for energy management and organise workshops to encourage involvement and support among the local community.

Visit us



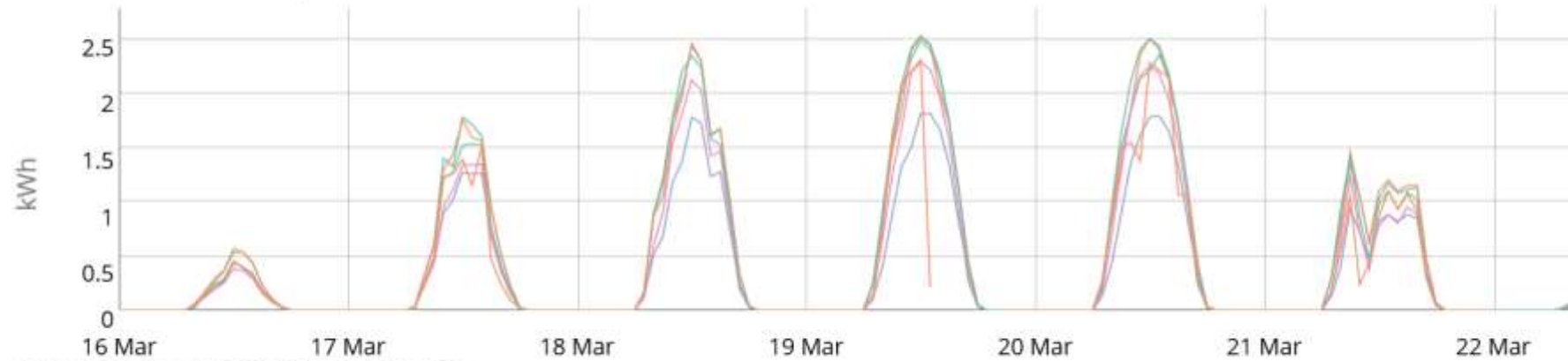
European Commission | Horizon 2020 European Union funding for Research & Innovation | URBAN-EUROPE



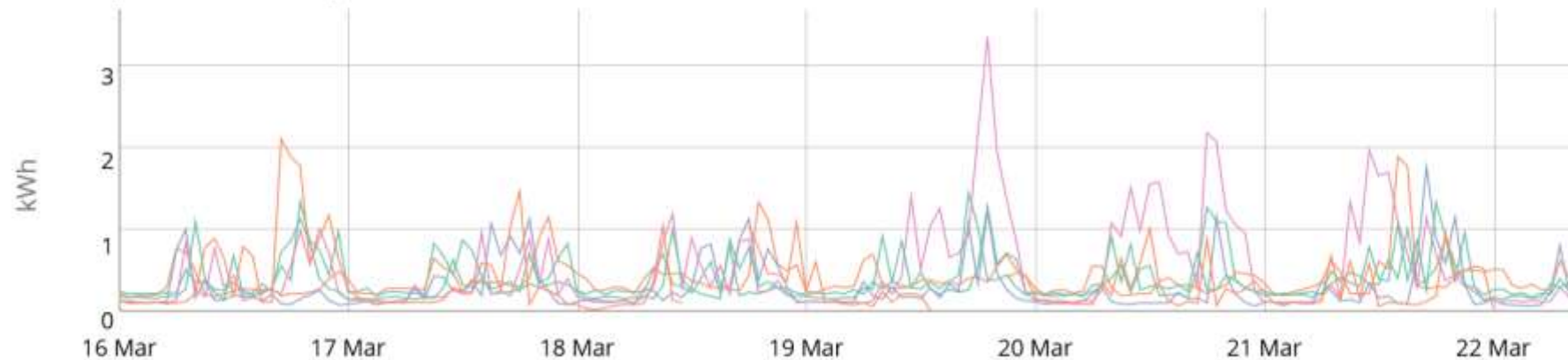
# Neighbourhood Energy Analysis

Prosumers both generate energy (through their PV installations) and consume it:

Production of selected prosumers



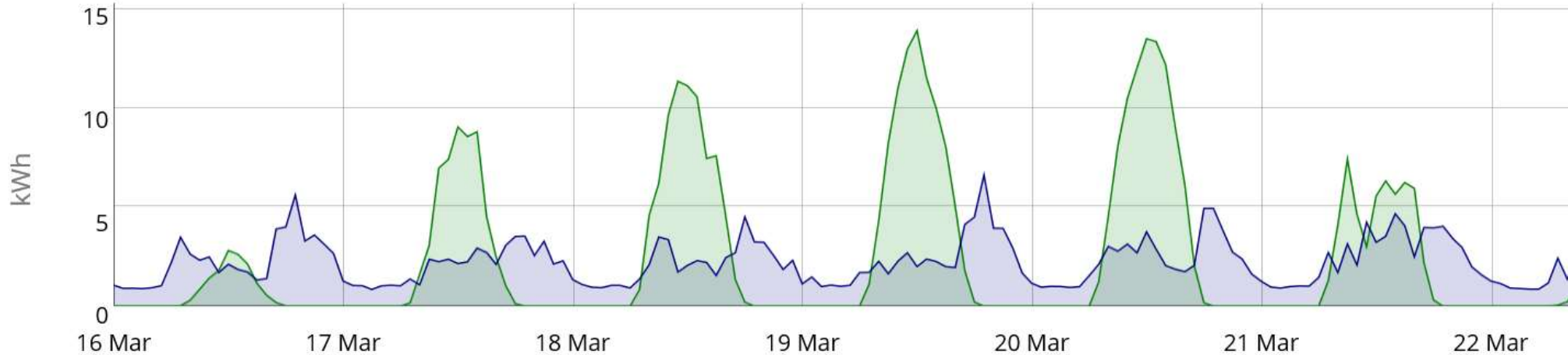
Consumption of selected prosumers



# Neighbourhood Energy Analysis

Placing production and consumption in the same graph:

Production and consumption of energy



This already provides information. For instance, we know that in the last seven days, the community has:

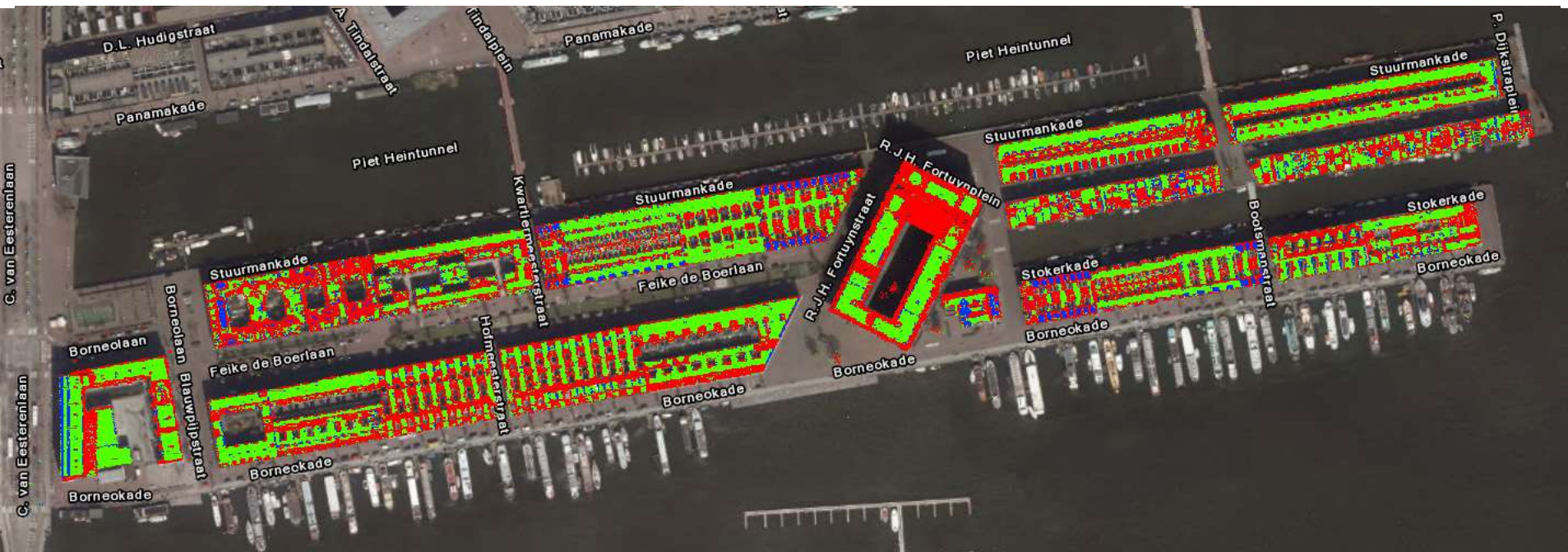
- Produced an average of 10.5 kWh of energy per household and day (total production: 379 kWh).
- Consumed an average of 9.2 kWh of energy per household and day (total consumption: 344 kWh).

In other words, the community has produced 110.2% of the energy that has consumed.



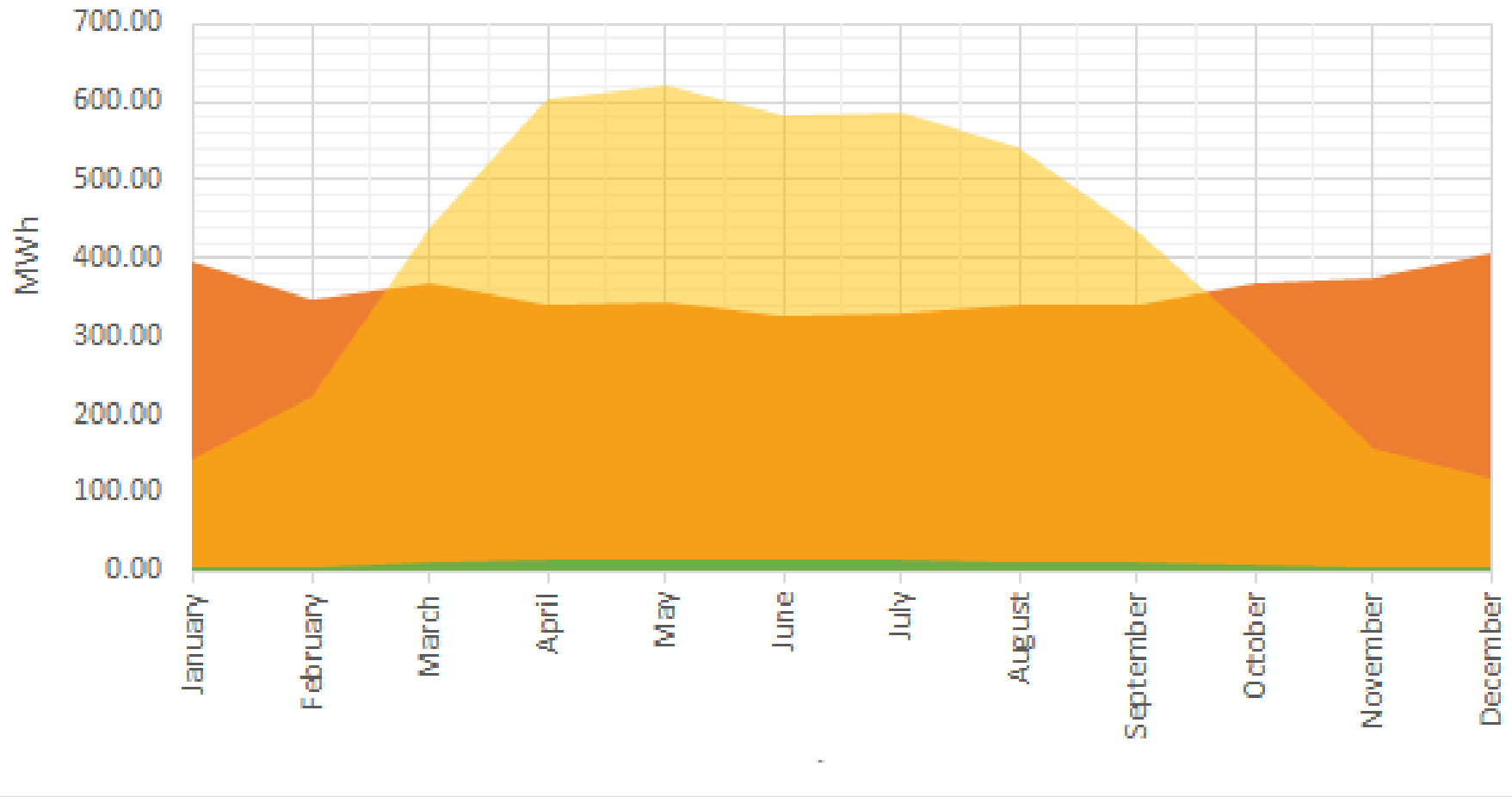


# Estimating Technical Potential



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Consumption PV (Potential) PV (installed)



# Technical Potential

22 June 2018

# Energy & Mobility services

- Analysis at neighbourhood level, useful for stakeholder participation

<https://app.resourcefully.nl/showcase/#1>

- Installation companies;
- Project developers;
- Grid operators;
- Building users;
- EV leasing companies.

# Visible impact

- To reach a more visible impact, we need replications & large-scale demonstration projects.
- Create awareness about the implications at different levels:
  - Technical
  - Financial
  - Social
- Experiences needed to define policies and regulations

Thank you!  
Questions?

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Info:

[www.resourcefully.nl](http://www.resourcefully.nl)