Energy flexibility for smart neighbourhoods

10 DECEMBER 2019

Resourcefully

Amstelveen's new Smart-Suburb

Gemeente Amstelveen

32%
higher use of local solar power due to flexibility

60%
reduction in peak power sent into grid

8.3kW
solar PV per house needed for energy neutrality

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Who is Resourcefully?

Project Management & Communication

Policy / Business Advisory

Technology Development

EXTRA DEMAND OF EVs

MORNING PEAK

EVENING PEAK

source: www.resourcefully.nl

City-level Optimisation

ENERGY RELEASE ON EVENING

FLATTENED CURVE OF DEMAND

CHARGE ON DAYTIME

source: www.resourcefully.nl
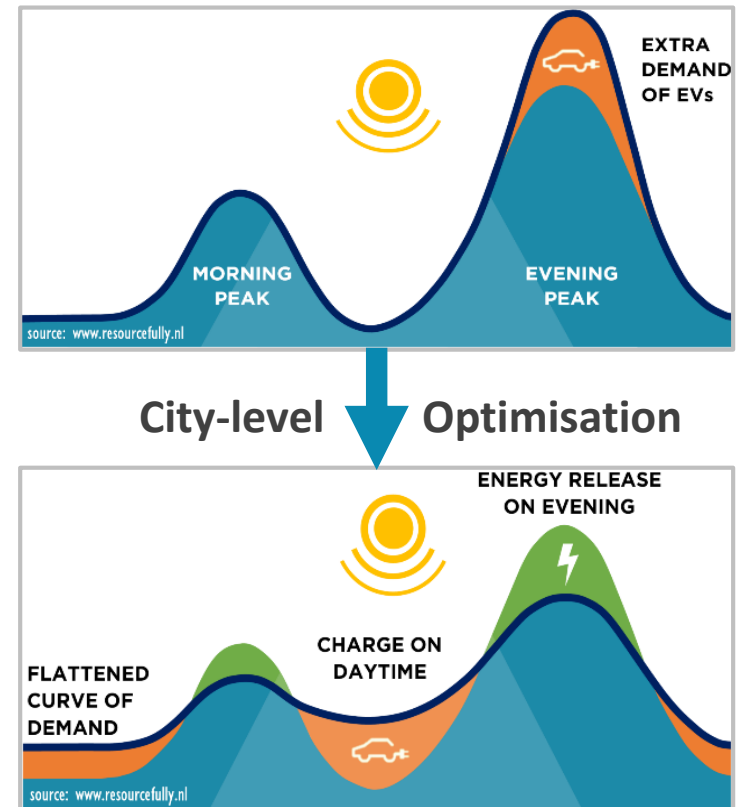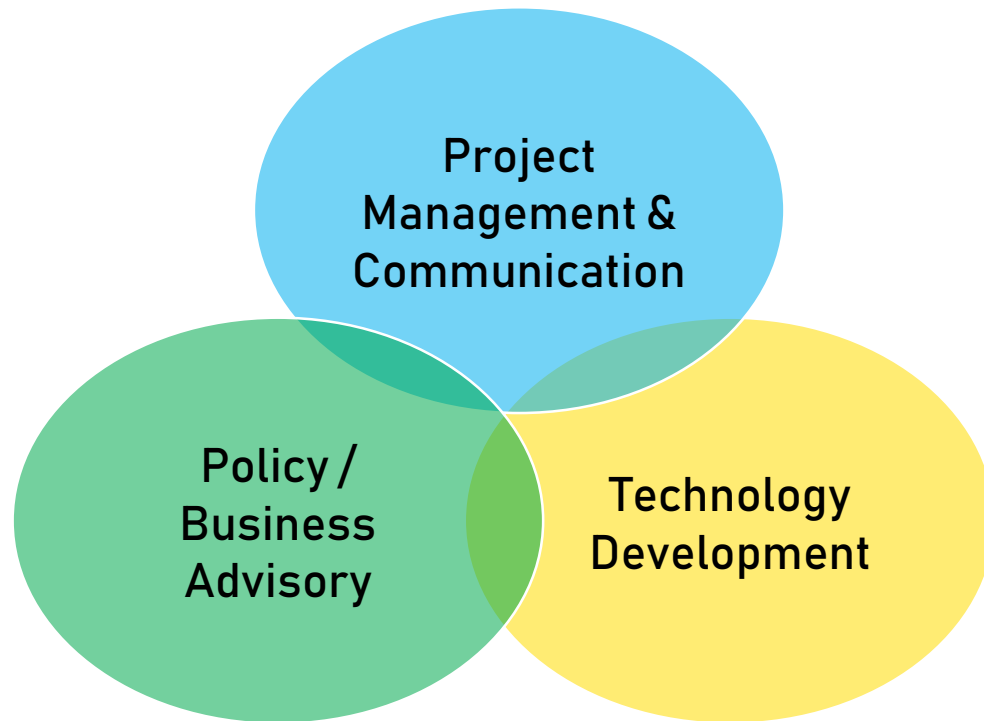
Our mission is to accelerate Europe's urban energy transition.
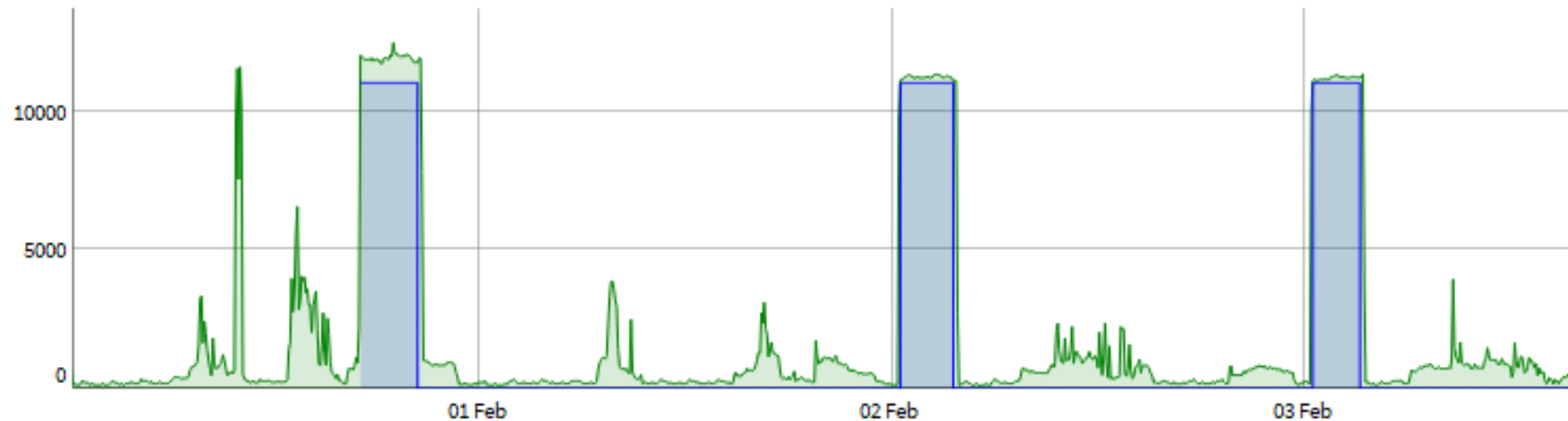
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Amstelveen's challenges

Planning for a new neighbourhood

- Fossil-free city by 2040

- Sustainable residential area

- Local solar energy production

- Electric mobility

- Natural gas-free households
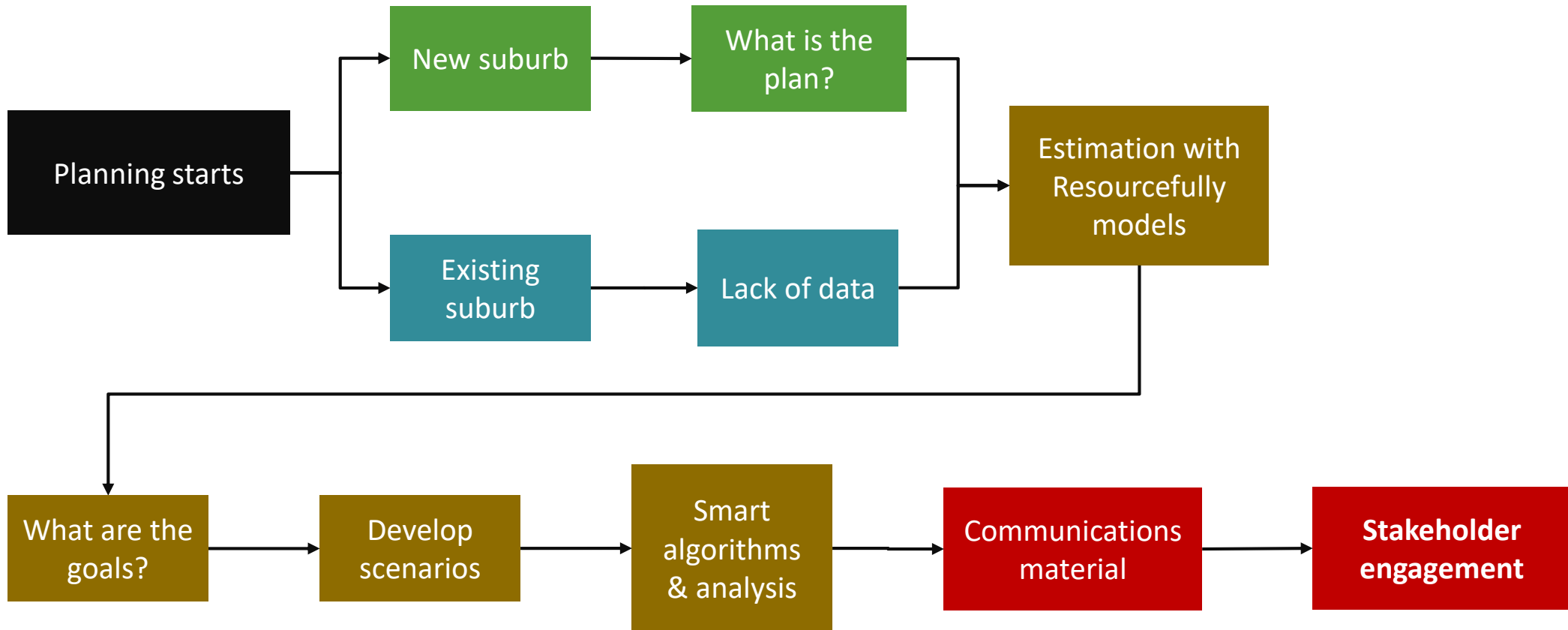
Highlight: EV charging causes peaks

In our monitored prosumer community in Amsterdam,
with only 3 EVs for 23 households, demand has risen by **20%**

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Key Challenges

- Split incentives
- Few in-house expert resources
- Too many options
- **Lack of data**

→ Difficult to engage stakeholders

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Our process

What data is needed?

Solar PV

EV Charging

Household demand

Heat pump

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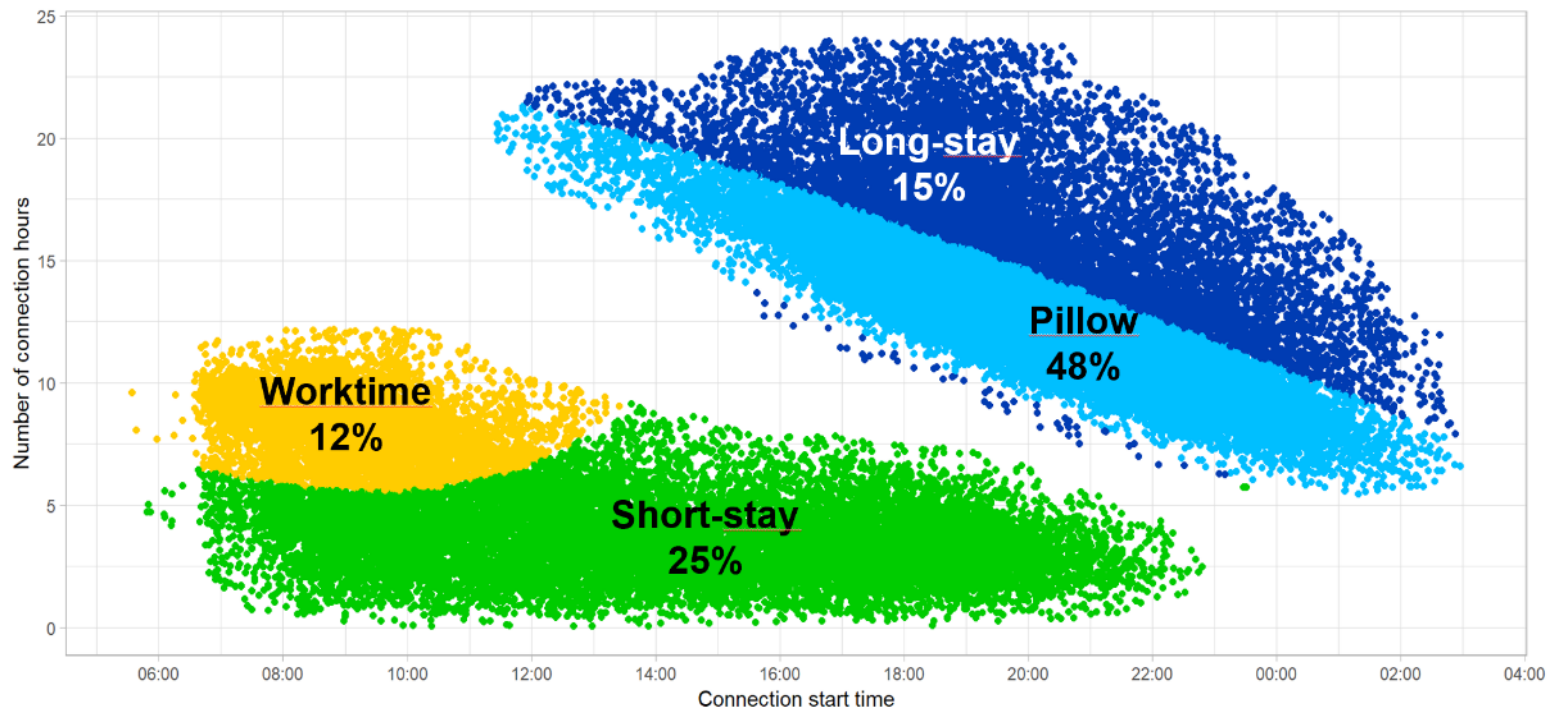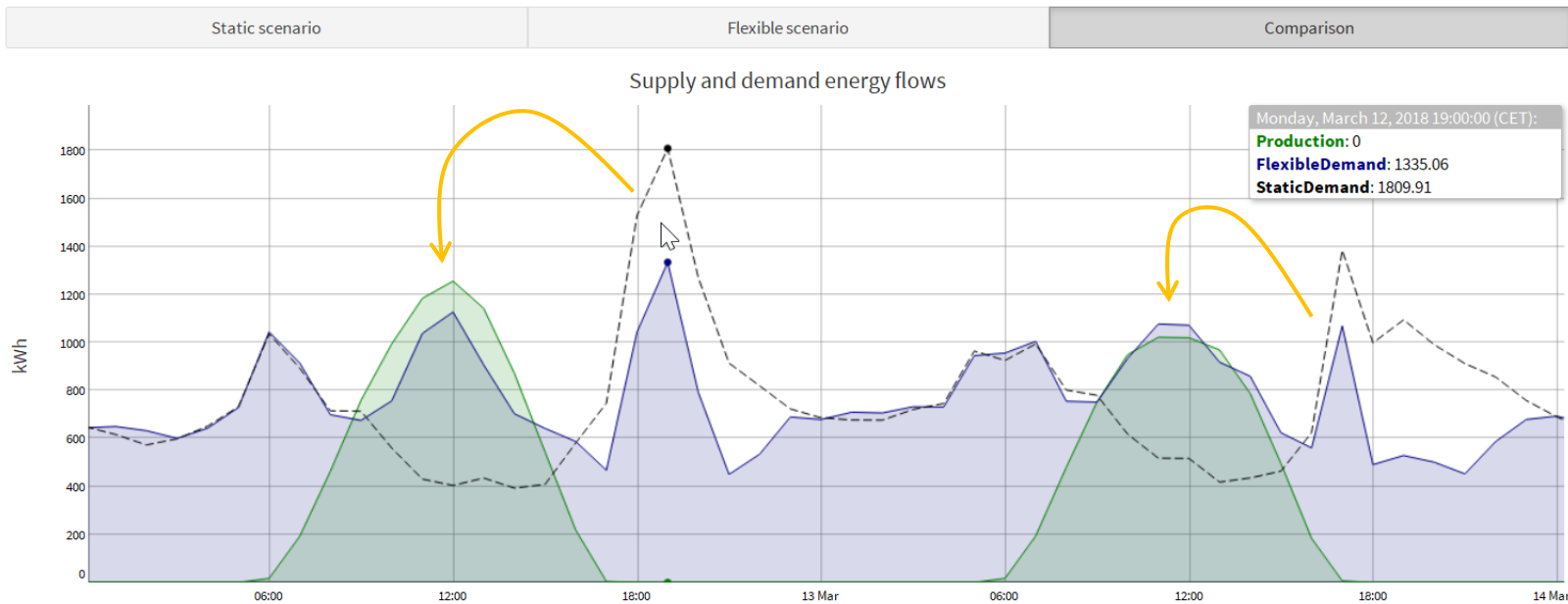
Highlight: EV charging data

We have analysed more than 200,000 charging sessions from 2016 in a Dutch city

• 4 main user profiles identified

• Different profiles for city areas

• Trends in growth of fast chargers

• Strategies for flexibility

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Analysis and results

Recommendations

To accelerate the city energy transition around Europe:

1. Plan and prepare for more EVs and electricification

2. Increasing cooperation of stakeholders through sharing of data

3. Require builders to build long-term sustainable housing

4. Incentivise people to use locally-produced renewable energy
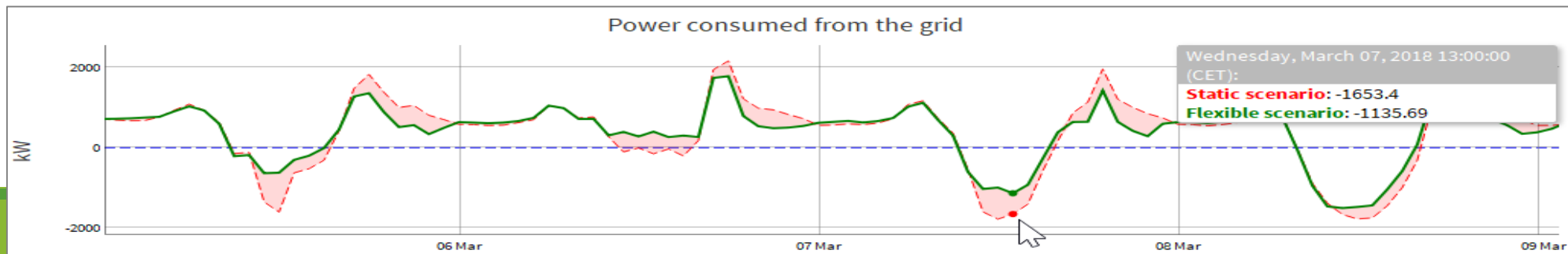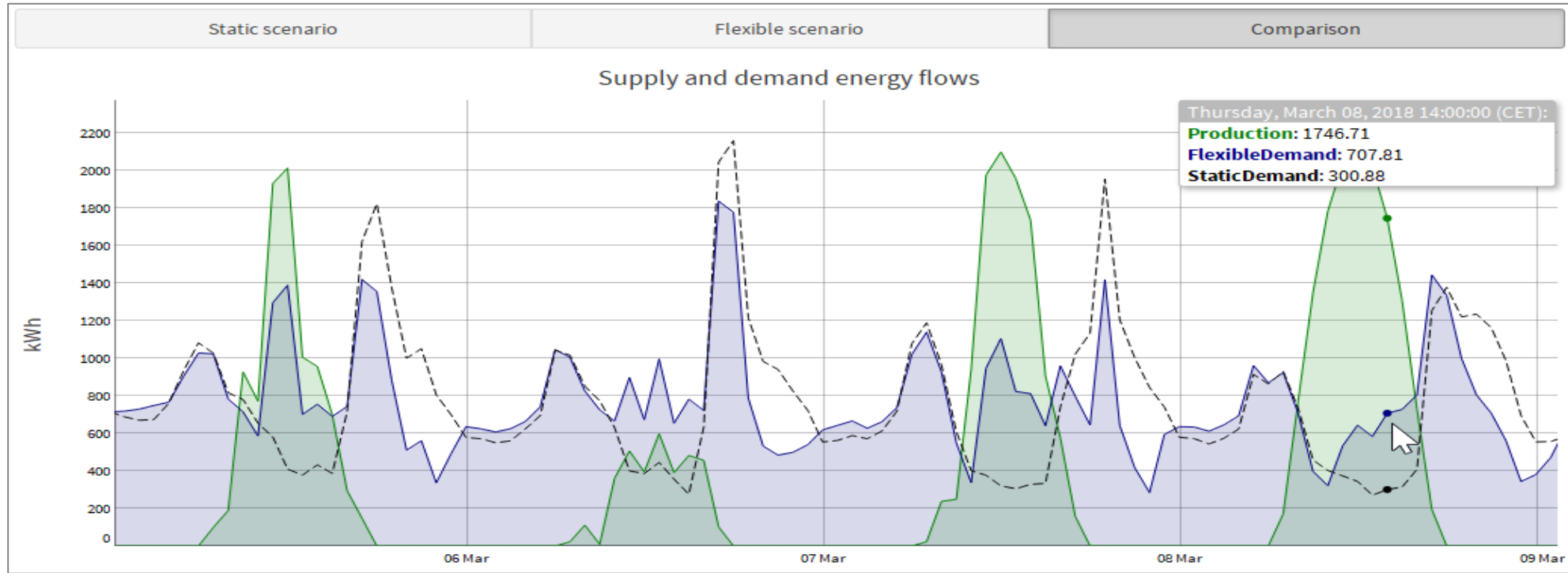
5. Learn from the experiences of other cities

Thank you !

Back up slides

Flex scenario – De Scheg

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