



“Smart charging in Practice”  
Facilitator for shared fleets of electric cars

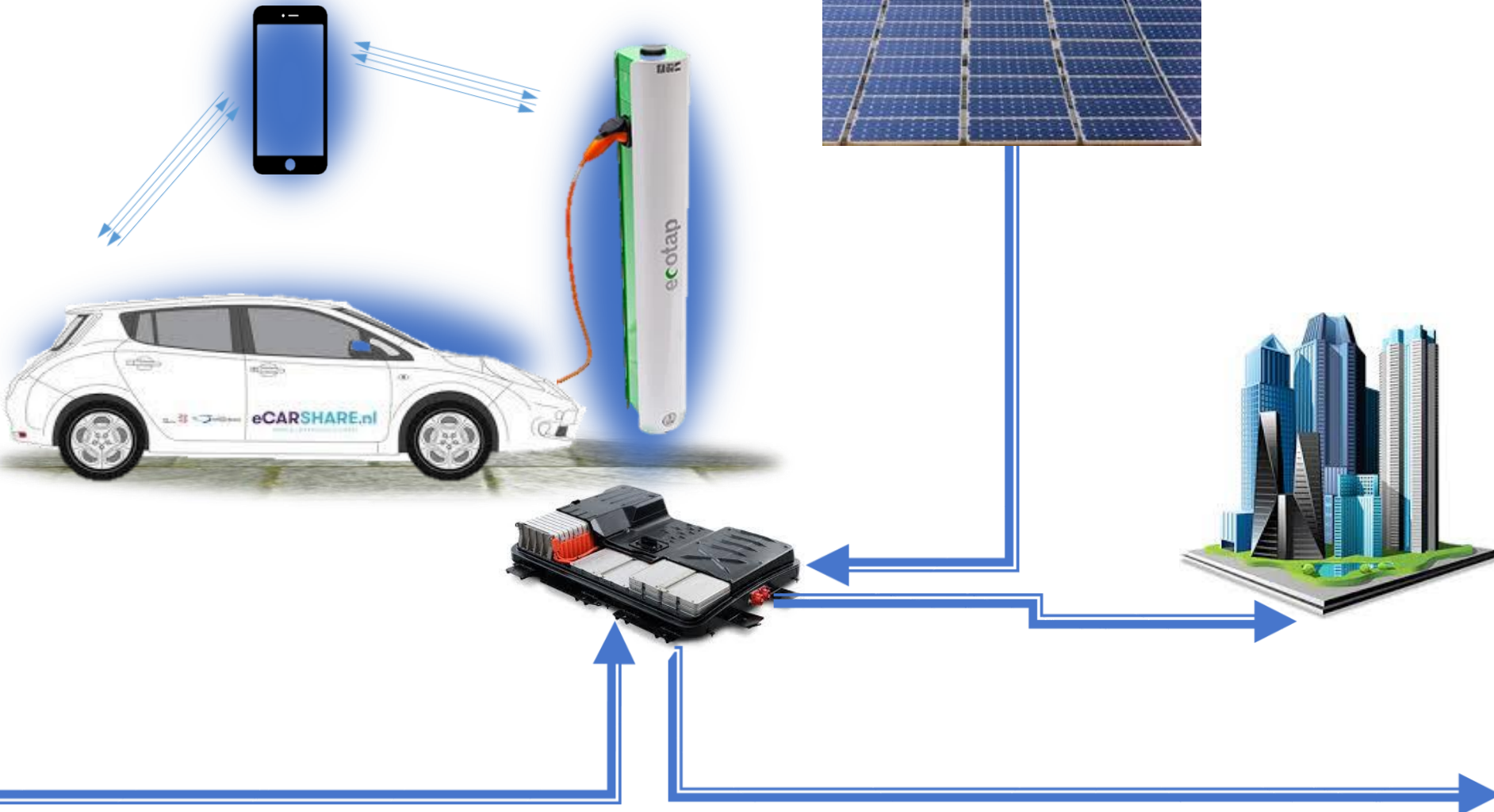
*FIER Automotive*  
*Flip Oude Weernink, Harm Weken*

**eCARSHARE.nl**  
100% ELEKTRISCH RIJDEN  
Zero Emission



# Project outlines

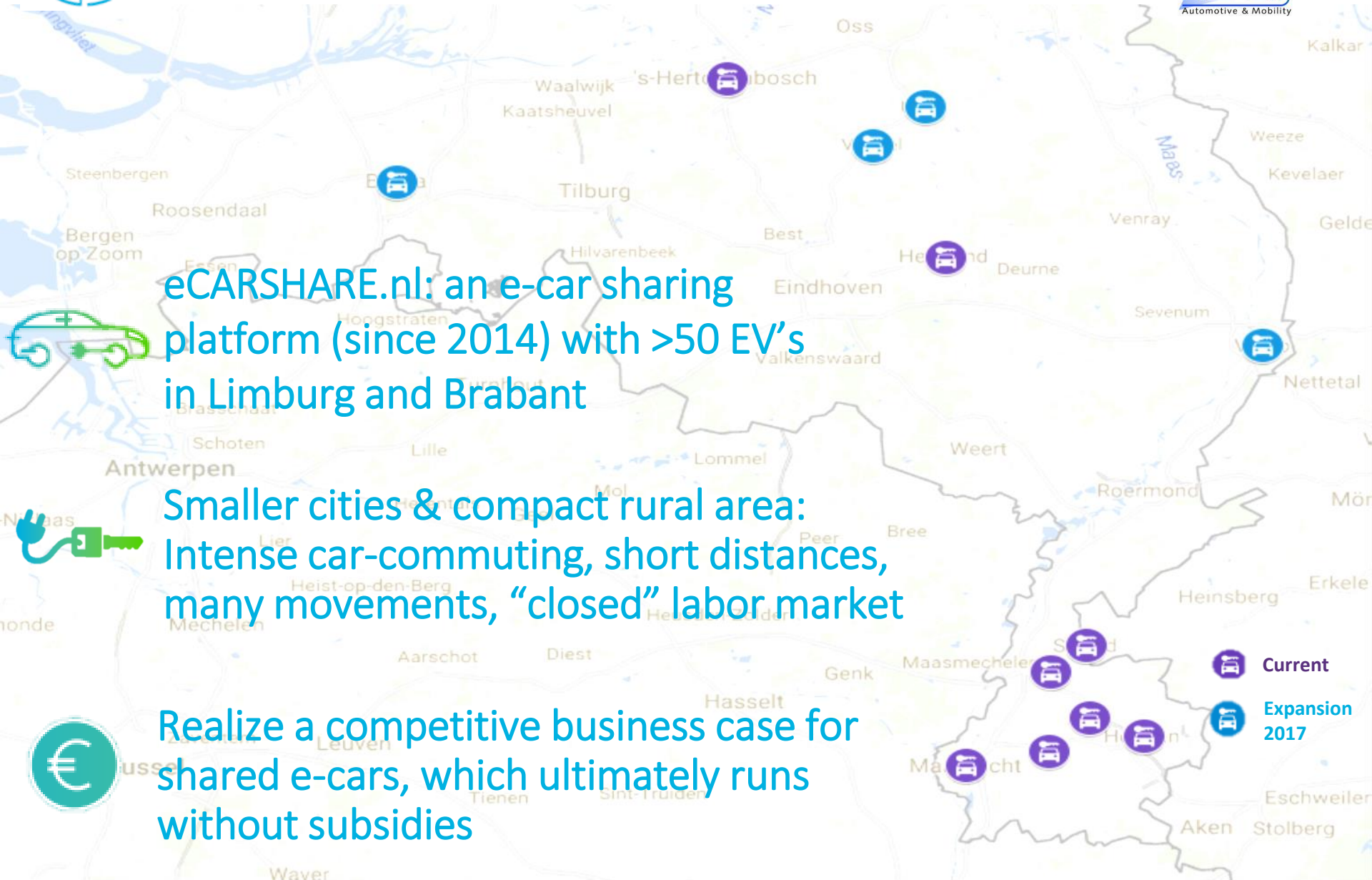
Reduce. Change. Sustain.





# What we already have: eCARSHARE fleet

Reduce. Change. Sustain.



eCARSHARE.nl: an e-car sharing platform (since 2014) with >50 EV's in Limburg and Brabant

Smaller cities & compact rural area: Intense car-commuting, short distances, many movements, "closed" labor market

Realize a competitive business case for shared e-cars, which ultimately runs without subsidies



Current

Expansion 2017



# What we already have: eCARSHARE fleet

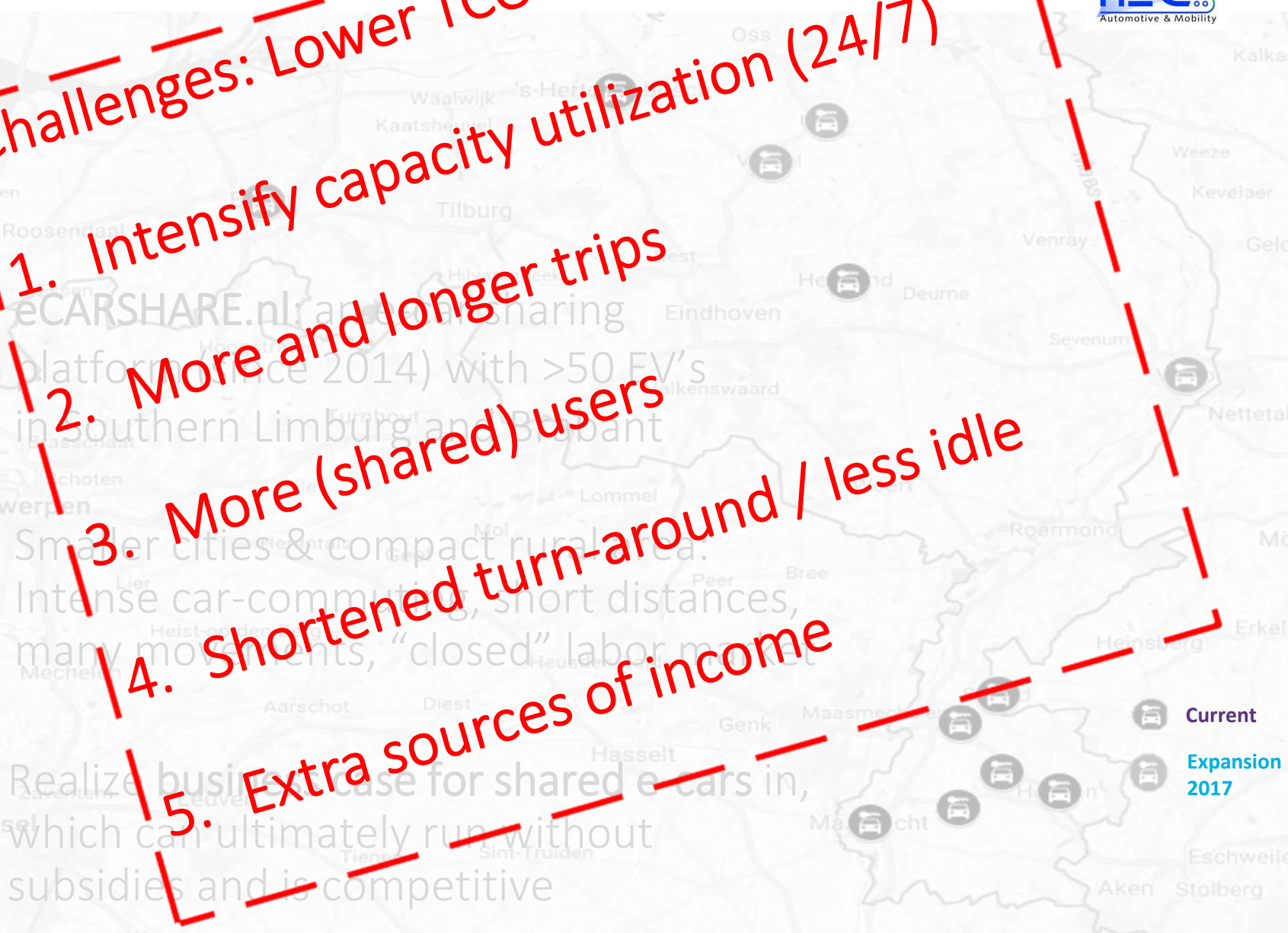
eCARSHARE.nl

Reduce. Change. Sustain.



Challenges: Lower TCO

1. Intensify capacity utilization (24/7)
2. More and longer trips
3. More (shared) users
4. Shortened turn-around / less idle
5. Extra sources of income



Realize business case for shared e-cars in, which can ultimately run without subsidies and is competitive





1. Improve utilization and daily mileage of eCarshare through **short turn-around time**
    - High charging speed
    - Simultaneous fast charging
  2. High investments & yearly cost, (Micro) grid limitations → Only for peak demand!
- Use local produced solar energy connected to smart charging and local storage to improve economic feasibility and usability
- As short term and practical solution
  - As stepping stone to future AC & DC Vehicle-to-grid (to improve TCO further)



# Project "Smart Charging In Practice"

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Development & test of smart charger with 60-100kwh storage capacity underneath (EcoTap® patent)

## TECHNOLOGY

Optimized storage system specs, dimensions

Installations of 7000KWh PV's and development of enhanced back office

ecotap®

## Smart Charging In Practice

Additional 14 shared BEV's including user behavior & reward program

Monitoring of grid impact

Charging tailored to shared e-cars: 'on demand' (planning & reservation), Slow when possible, fast when needed, always available

Limburg elektrisch

ENEXIS ECOSYSTEM

## BEHAVIOUR

Validate protocols

Elaad.nl





# Project "Smart Charging In Practice"

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Started in April 2017



Proof synergy between sustainable energy and electric mobility in practice



Integrated platform / app: user behavior, e-car reservation, energy supply & demand

Validate concept, measure results



# Expected business case.

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Fulfilling charging needs for shared e-cars (fast, simultaneous, short turn-around), with:

- Reduced energy costs due to use of PV  
(in NL for SME and households)
- Lowered (micro) grid investments & fees
- (Future) additional income and lowered cost by using APX pricing opportunities

Trade-off with additional investments in storage

- 2018, first results on business case expected







*“Reduce mobility costs, increase renewables efficiency, sustain your mobility needs and lower the threshold of electric mobility for your employees, neighbors and citizens”*

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