



## **Building a fast charging infrastructure: lessons learned to scale up**

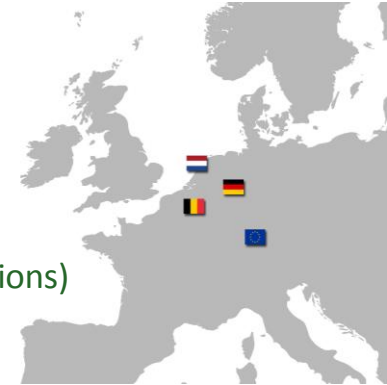
München, 20-10-2015

# Allego B.V.

## Allego B.V.

Established in 2013 as a social enterprise with the aim to reduce emissions by creating an open network of chargers and related services:

- Started in Belgium, Germany, The Netherlands;
- Operation of +/- 750 charging points;
- Operation of +/- 50 multiple standard fast chargers;
- Development of innovative charging solutions and CPO services;
- Operation of charging infrastructure (public, semi-public and complex charging solutions)
- Development of an open IT-platform for market collaboration.



### Current solutions



### Developments

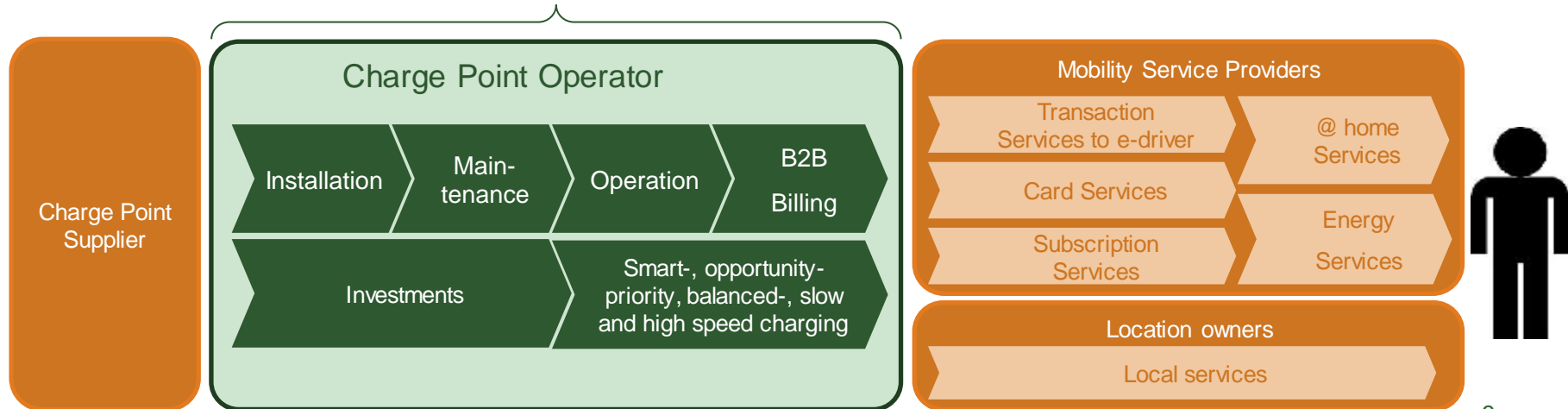


# Market roles and Positioning

## Facilitating the eMobility market by creating an open charging infrastructure and related services:

- Charging solutions that make sure that anyone can charge anywhere;
- Driver and car indifferent solutions;
- Non-discriminatory in technology and service providers;
- In dialogue with our stakeholders;
- Focus on scaling-up;
- Open (ICT) connections that enable other stakeholders.

## Allego Positioning



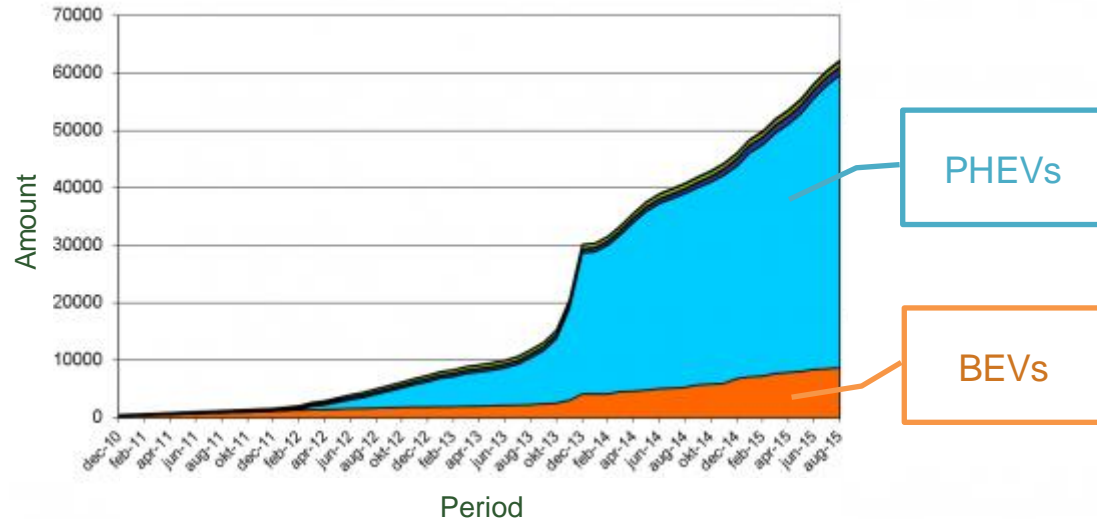
# EV landscape in the Netherlands

## Growth of EVs in the Netherlands

Total: 64.928 (incl. LEV, Busses, etc...)  
Total BEVs: 9.038 (14,5%)  
Total amount of PHEVs: 53.165 (85,5%)

Last years growth BEVs: 2.213 (12%)  
Last years growth PHEVs: 16.228 (88%)

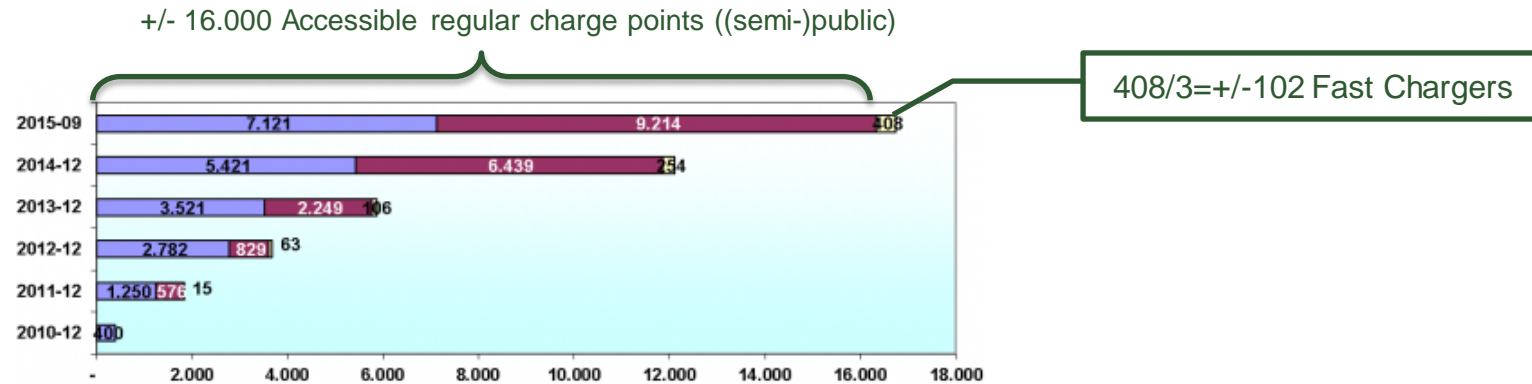
Growth last year of Evs: ~11%  
7,4% of new cars is an EV



Source:

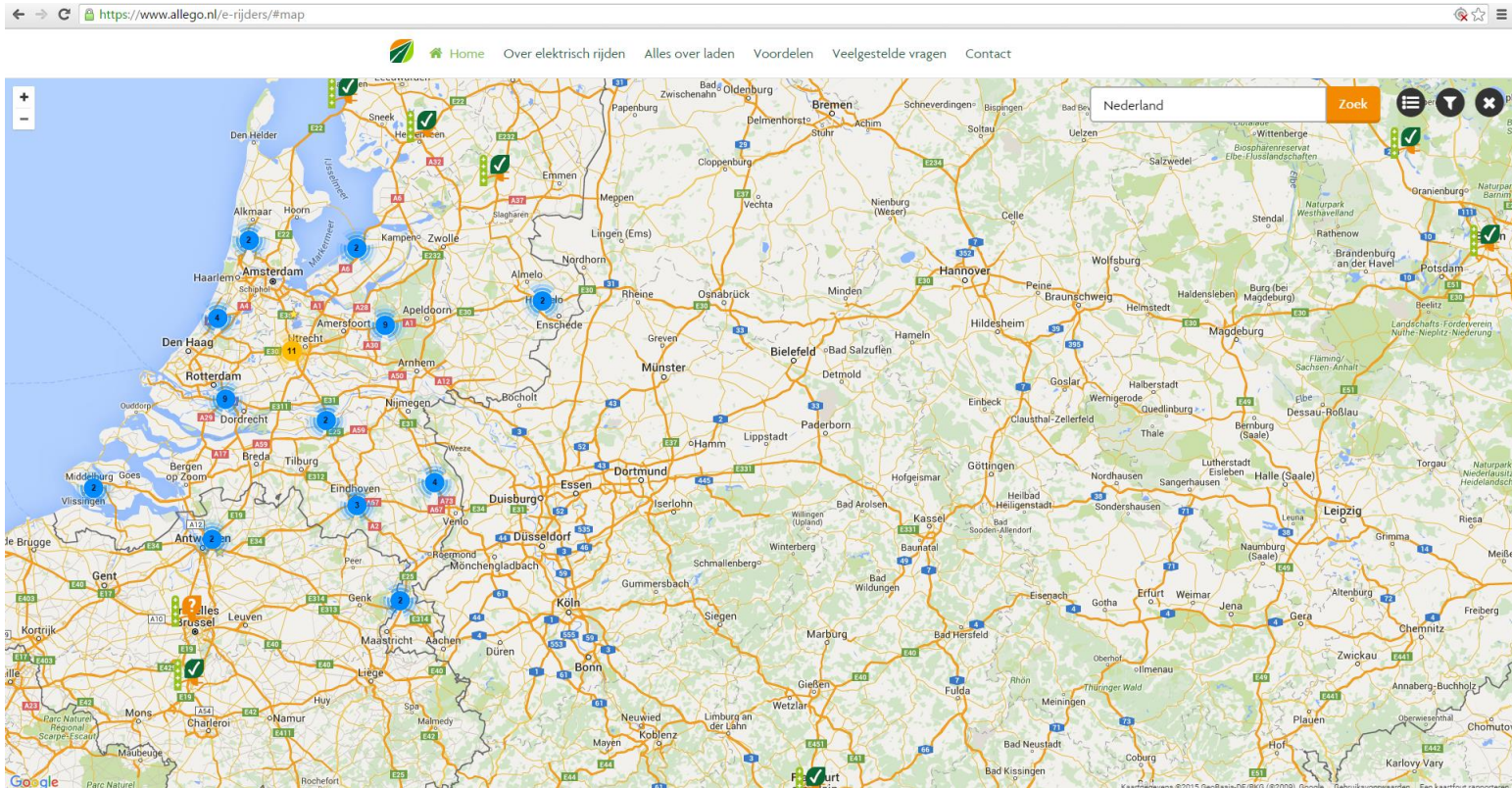
Translated from RVO, <http://www.rvo.nl/onderwerpen/duurzaam-ondernemen/energie-en-milieu-innovaties/elektrisch-rijden/stand-van-zaken/cijfers>

# Charging landscape in the Netherlands



- Fast Charging points form currently only 0,64% of the total amount of public accessible charging points in the Netherlands!
- There are around 28.000 private chargers in the Netherlands that are excluded in this calculation.

# Allego Fast Charging



# Allego Fast Charging: Location

## Examples:

- Inner-city;
- Highway;
- Along highways.



# Allego Fast Charging: Placement

## Examples:

- Length of outlet;
- Placement of other charging equipment;
- Placement of existing energy infrastructure.



20-10-2015



Allego



# Allego Fast Charging: Usage

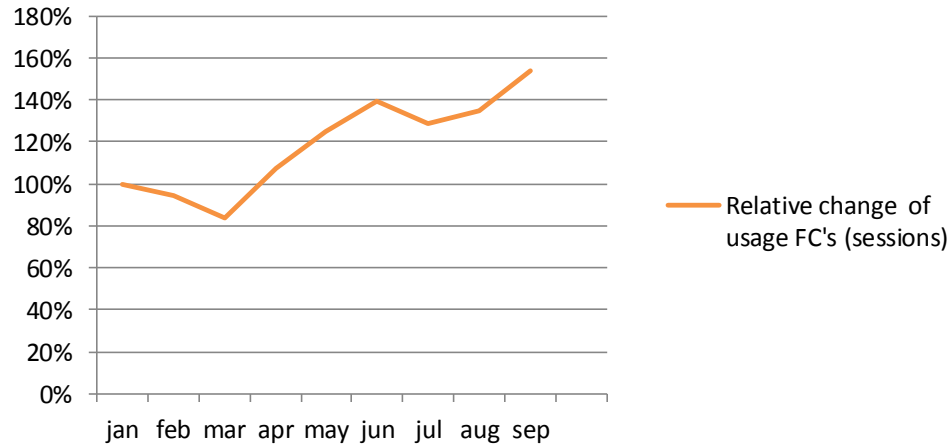
## Examples:

- Parking at fast charger;
- No fast charging possibility in car;
- Cars with very small battery capacity complaining about price.



# Allego's Fast Charging Development

## Relative change of usage per FC



Growth of ~60% in this year!

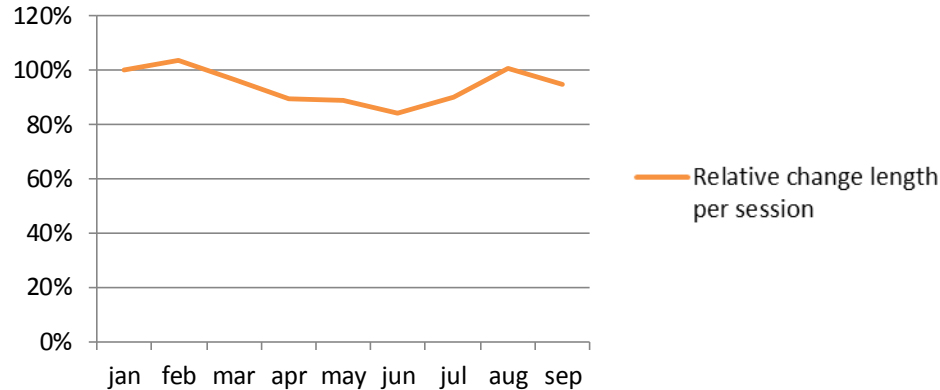
### Potential causes:

- Growth EV market (~11%), more cars that can charge fast ??
- Different brand of cars ??
- Improved learning curve Allego?!?
- ....

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# Allego's Fast Charging Development

## Relative change length per charging session

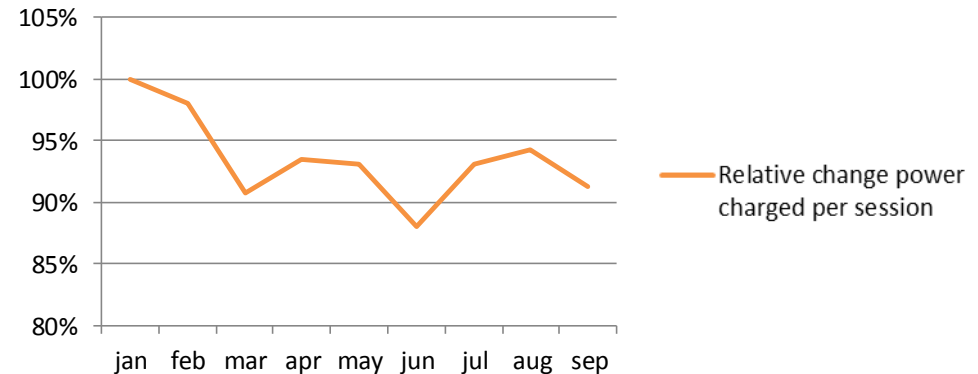


Average charging time did not change much while amount of energy charged dropped slightly.

### Potential causes:

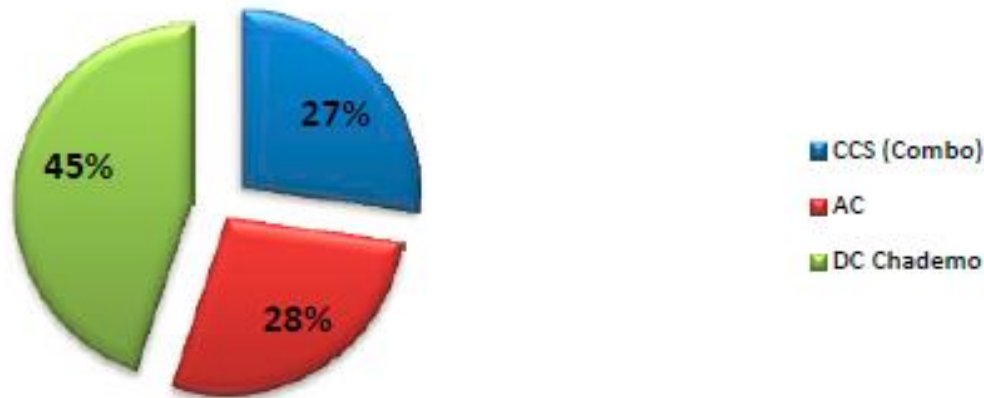
- Summer vs. Winter !?!
- Smaller battery capacity !?!
- Type of locations !?!
- ....

## Relative change power charged per session



# Usage of charging outlets

January 2015



Since January there has been an increase of usage on all types, but CCS is growing more rapidly at the moment

# Future trends and actions

## Trends:

- Increased concentrations of charging;
- Increased speed of charging;
- First full integration with energy infrastructures necessary.



## Actions:

- Expand the network and enable more innovative services (with partners);
- Improve connections to EU roaming platforms;
- Inform EV drivers and other stakeholders.

Thank you for your attention!



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