Ministry of Economic Affairs

E-mobility in the Netherlands

AVERE

8 June 2017

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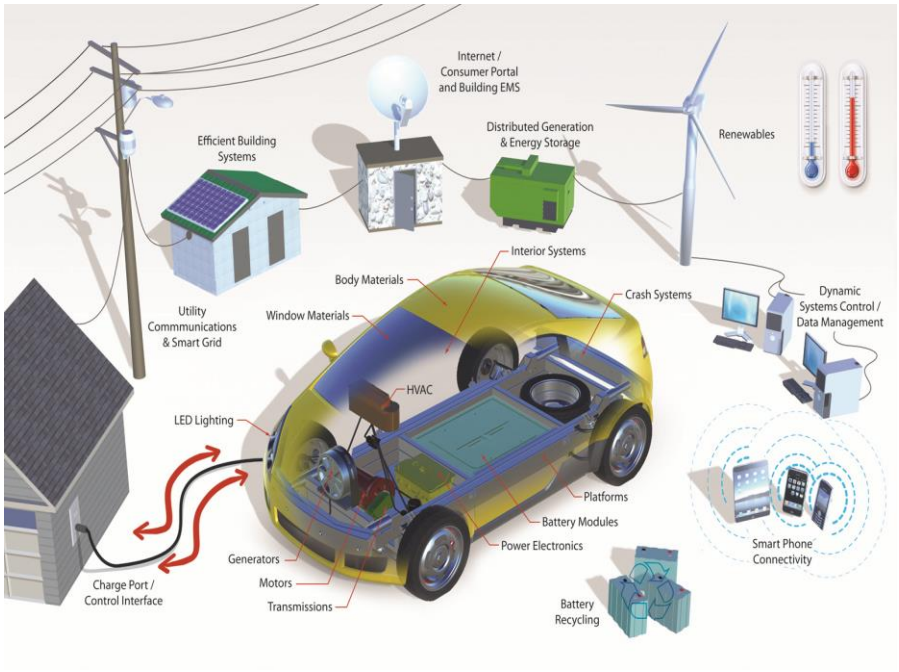
Ministry of Economic Affairs

Dutch vision

Why do the Dutch invest in electric vehicles?

- CO2 reduction
- Contributes to the economic position of The Netherlands
- Energy Security
  - Less independent of oil
  - Electric vehicles are more efficient
  - Smart charging; energy storage and redeliver contribute to invest less on the grid.

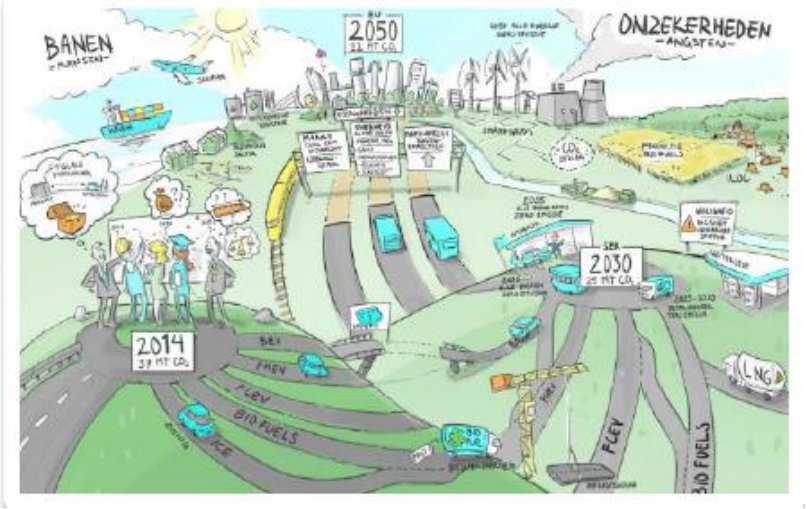


Sustainable Transport Goals

- New registered cars capable of zero emission in 2035
- All cars capable of zero-emission in 2050
- In 2050: 60% less CO_2 emission (1990)

➢ Sustainable Fuel Vision

➢ National Energy Agreement for Sustainable Growth



E-mobility ambitions

- 2020: 10% newly registered cars have e-drivetrain
- 2025: 50% newly registered cars have e-drivetrain
  - of which 30% is BEV
- Nationwide network of charging points
- Netherlands is a frontrunner in e-mobility
- 2020: >10.000 FTE in EV sector
- EVs attractive for consumer market
- More e-driven kilometres for PHEVs

E-mobility sector

ICT

Vehicles and boats

Components

Smart mobility

Charging infrastructure & roaming

Green growth through e-mobility

In 2014, electric driving added an estimated 3,200 jobs (FTE), €820 million in production, and €260 million in added value to the Dutch economy.

Source: CBS Statistics Netherlands/DOET/Netherlands Enterprise Agency

Export: partners in international business

- PIB is a Dutch governmental supported programme to set up cooperation with foreign markets. On Electric Mobility in total five PIB's started:

USA

- Coast to Coast: Electrifying Holland – West Coast USA
- East Coast Electric

Germany

- Von Amsterdam nach Berlin
- E-mobility in South and West Germany: Emobilitypartners

Export: Partners in International Business

India

- Supercharging India

Austria

- Smart infrastructure
- sustainable tourism development of e-mobility and subsystems

Electric Taxis in the Netherlands

Schiphol Airport 167 Full electric taxi's
Owned by 2 taxicompanies:

- BIOS Group (71 Tesla)
- BBF Schipholtaxi (96 Tesla)

Open tender in 2014 with EV as obligation

Zero emission public transport

Provinces, municipalities and public transport companies have agreed that:

- In 2025 all new busses in public transport are zero emission.

- In 2030 all busses in public transport (5000) are zero emission.

Light Electric Vehicles

- E bike:
  - 16% of all Dutch inhabitants has an e-bike
    - > Of these 16% has a high speed e-bike.
    - > 29% of all new sold bikes is an e-bike.

- Scooters:
  - 2018 only Euro4 norm

Customized Vehicles (Heavy Duty)

LCV

HCV

Handling

Amsterdam and Rotterdam are active members of the EU FREVUE project: Freight Electric Vehicles in Urban Europe

Serial Hybrid Garbage truck

GINAF, DAF, VDL, EBusco, EMOSS

Development in the field of E-mobility

- Streetplug is an innovative Dutch startup that has developed an underground charging facility based on the idea of students.

Research in the field of e-mobility

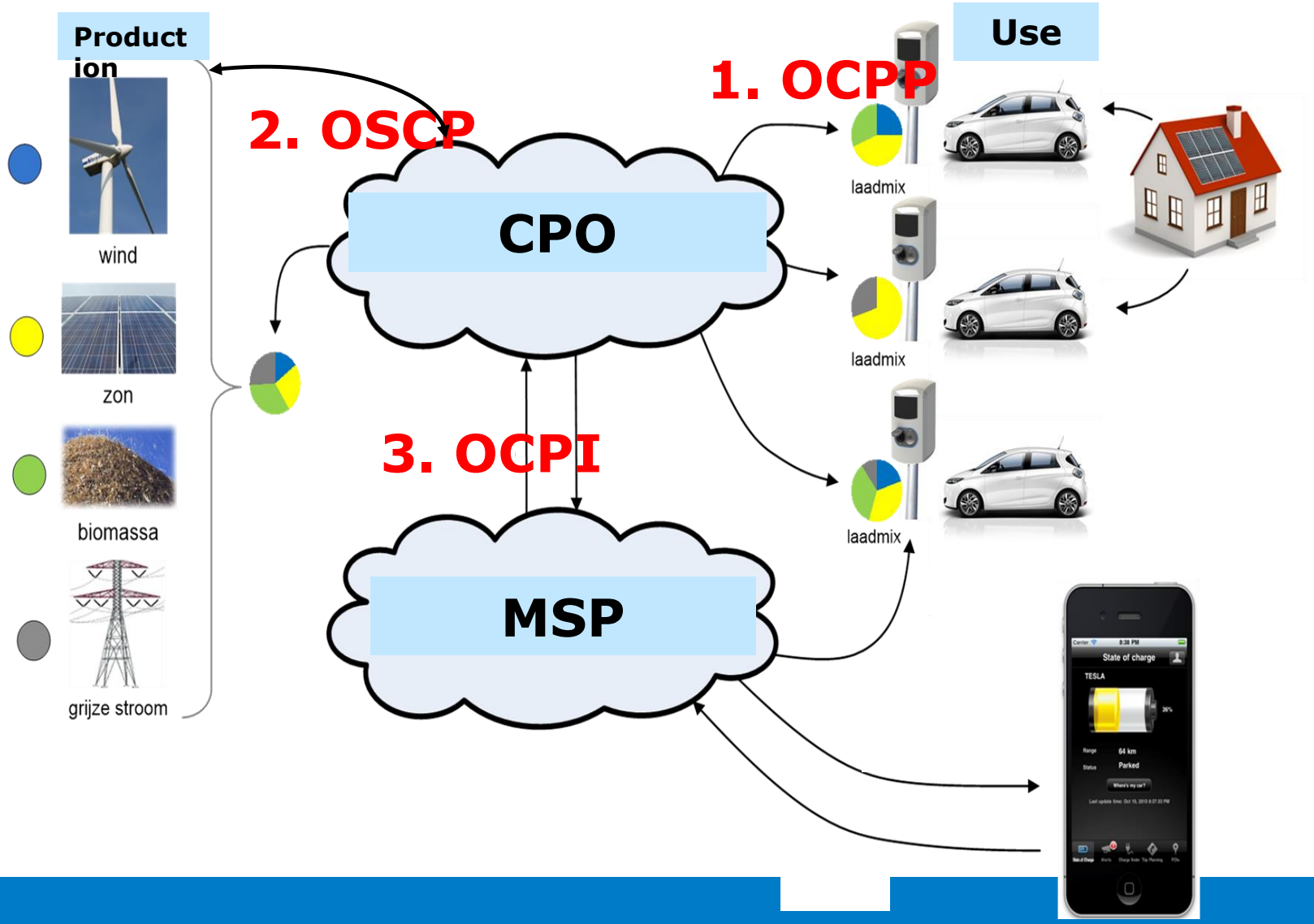
- Dutch Incert: Dutch Innovation Centre for Electric Road Transport: Technical Universities and Universities of Applied Sciences work together in the field of innovate e-mobility research
- 18 Student teams work together with companies to develop innovative electric vehicles and race all over the world with them

LUNA, STELLA, STORM

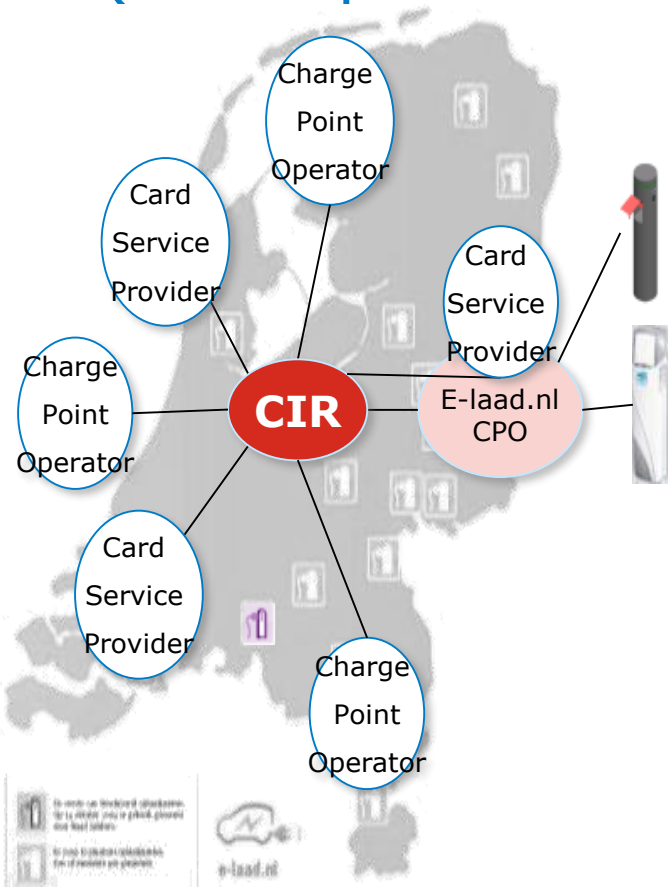
E-mobility R&D programme

- Multi-annual, several millions
- Initiated by universities and companies, imbedded in innovation policy
- 25% added to investment of companies
- Still in development, themes might be
  - Heavy duty and city distribution
  - Charging infrastructure and smart grids
  - New concepts for passenger transport
  - Creative industry
  - Light electric vehicles

Smart charging: EV powered by Sun & Wind



Roaming
(until April 2017 CIR – then move to OCPI)



- The only National roaming system in the world between independent operators and providers
- 100% of public charge stations connected + most semi public
- 25 Operators and Providers connected – managed by eViolin
- NL + Belgium SPs and CPOs

Smart charging ready

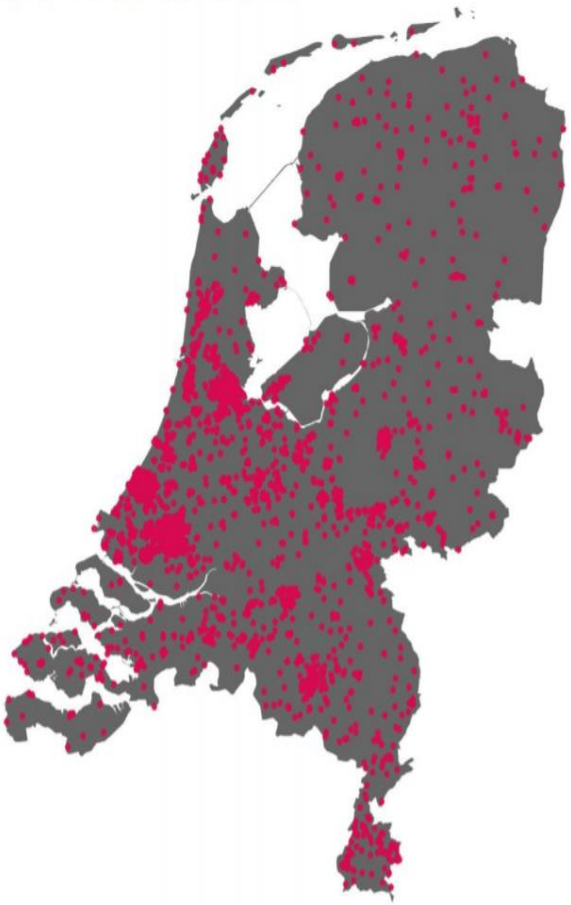
LIVING LAB SMARTCHARGING

Top 10 gemeenten met het hoogste aantal Smart Charging Ready laadpalen.

	Gemeente	Aantal SCR laadpalen
1	Amsterdam	950
2	Den Haag	669
3	Rotterdam	661
4	's-Hertogenbosch	95
5	Eindhoven	80
6	Breda	62
7	Tilburg	49
8	Alkmaar	39
9	Haarlem	31
10	Haarlemmermeer	

Vorige Alt+Pijl-links

1. Smart Charging Ready (SCR) laadpalen



Disclaimer:

Now 87% of the public charging poles ready for smart charging

Green Deal Electric Driving 2016-2020

Green Deal

Elektrisch Vervoer 2016 -2020

Ministerie van Economische Zaken
Ministerie van Infrastructuur en Milieu
anwb
AutomotiveNL
BOVAG
rai vereniging
netbeheer nederland
energie in beweging
NATUUR & MILIEU
De Groene Zaak
Doet
Dutch Organisation for Electric Transport
energie-nederland
VNA
vereniging van nederlandse autoleasemaatschappijen
VNG
Vereniging van Nederlandse Gemeenten
TU Delft
TU/e
UNIVERSITY OF TWENTE.
3TU.
NVDE
MRA elektrisch
Provincie Noord-Brabant
Nederland elektrisch

Green deal, actions of market parties

- **Lease companies**: actions to make lease cars attractive for consumers
- **Automotive sector**: develop an independent battery test
- **Distribution system operators** (DSOs): internationalise standards such as OCPI
- **Various living labs**

Living labs (examples)

Green deal, government commitment

- Roll out of public infrastructure
- Launching customer
- Develop roadmaps to stimulate innovation
- Take away obstructive laws and regulations

Fiscal measures 2016

- Vehicle purchase tax
  - € 0 until 1 gr CO2/km
  - € 6/gr 1- 79 gr CO2/km
  - € 69/gr 80 - 106 gr CO2/km, up in levels until € 476/gr > 174 gr CO2/km
- Vehicle circulation tax
  - Exemption for ZEVs
  - Half tariff for PHEVs until 50 gr CO2/km
  - Normal tariff is € 400 to € 1.200 (depending on fuel, weight and address)

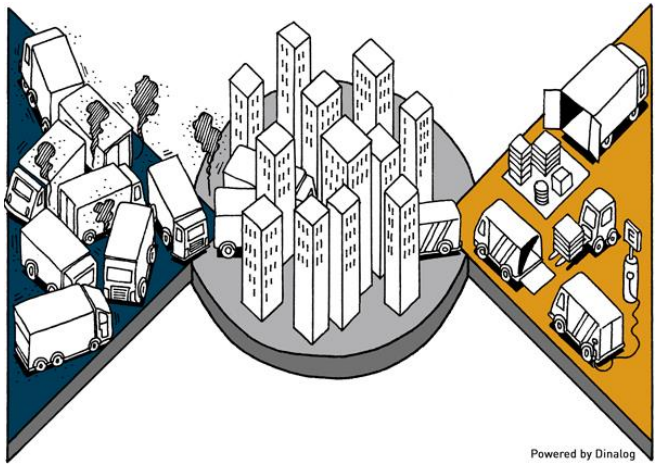
Fiscal measures 2016

- Reduction of taxation for private use of company car
  - 4% BEV, 15% PHEV (until 51 gr CO2/km) ☐ 2017: PHEV increases to 22%
  - Others 21/25% of catalogue value added to income before taxes
- Environmental investment rebate
- Various local and regional incentives

The Netherlands Knowledge Platform on Public Charging Infrastructure

- Government, knowledge institutions and companies come together to achieve affordable public charging
- Facilitates innovative projects and stimulates development
- NKL's current programs:
  - Sector Optimization
  - Protocols and Standards
  - Smart Charging
- Cost reduction

Green Deal Zero Emission City Logistics



The **Zero Emission City Logistics** Green Deal aspires to make City Logistics as emission-free as possible by the year 2025.

Through **Living Labs** (regional pilots) **public and private parties** are now looking together what is needed and were ‘zero emission’ delivery is possible.

Thank you for your attention!

Questions?

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