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BREAK



Presentazione della 3^a Conferenza Nazionale della Mobilità Elettrica

Presentation Harry Houthuijsen

Managing Automotive Platform The Netherlands

In cooperation with RAI-TLN and EvoFenedex

Heavy Duty Transport in the Netherlands CO₂ Reduction and Zero Emission in Urban area: the action plan

H. Houthuisen



Netherlands Heavy Duty Transport TCO₂ Reduction and Zero Emission in Urban area: the action plan

H. Houthuisen

Status development and targets 2025-2030

- Organizations and Companies
- Targets for 2025 and 2030
- Elements of low-and zero-emission
- Cooperation between all parties
- Introduction planning
- Trucks and buses
- Buses already serial production
- Heavy duty trucks 27 prototypes
- Electricity network not ready
- Electric charging for trucks limited available
- Limited financial support from Governments
- Heavy duty trucks Total Cost of Ownership
- Buses in 2022-2025 possible TCO match
- Targets 2025 challenging
- Targets 2030 can be fixed



Heavy Duty Transport in the Netherlands CO₂ Reduction and Zero Emission in Urban area: Products 2019

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City E-bus > 500 delivered



Rigids non food 20 delivered



Rigid food 20 delivered



AGV Automatic Guided Vehicle
VDL container terminals



hybrids prototypes



Waste trucks electric/Hydrogen
10 delivered



Trailer food/non food 20 delivered

Heavy Duty Transport in the Netherlands CO₂ Reduction and Zero Emission in Urban area: Organizations involved

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You need a very extensive platform:

50 transport and logistic organizations
10 Food and supermarket companies

7 OEM's
5 Independant truck suppliers

3 Branche units representing automotive, Logistic, transport , Good / Food retailers

20 Government representatives,
20 Universities, Schools, Engineering

3 Electric charging suppliers
5 Battery suppliers
2 Suppliers of Solarsystems
2 Electricity companies

Total of 240 followers



Heavy Duty Transport in the Netherlands

CO₂ Reduction and Zero Emission in Urban area: Transport comp.

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18.000 trucks 15%
Dutch heavy duty fleet

As of 2016 50 carriers
8000 trucks in project

Until 2025 potentieel
5000 electric-hybrid or
electric trucks.



- van stralen de vries
- jan de Rijk
- Peter Appel
- Breytner
- Vlot transport
- kivits drunen
- tielbeke
- tielbeke
- v de brink
- st vd brink
- van Geffent transport
- van Rooijen logistics
- TLS Logistic Services
- euser transport
- Vlot transport
- Getru
- 2W logisitics
- W.Bouw
- Ploeger Logistiek
- Post Kogeko
- Simon Loos
- Stad Alkmaar
- Cornelissen
- Technische unie
- Snel transport
- De wit verhuizingen
- van Wijk logistics
- Zandbergen
- Zijderlaan transport
- van der Nat
- Bakker Logistics



Heavy Duty Transport in the Netherlands. CO₂ Reduction and Zero Emission in Urban area: Targets 2025-2030

The CO₂ reduction targets has been split into 2 parts

The EU reduction commitment:

15 % CO₂ reduction as of 2019 until 2025

30 % CO₂ reduction as of 2019 until 2030 (can be changed):

The Dutch comittment:

Zero emission in certain urban area's as of 2025.

About 40 urban area's has to be specified

There will be an extra transition period of time concerning Euro 6 trucks

All elements of low emission and zero emission transport has been analyzed



Cooperation all parties

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RAI Netherlands=
ANFIA - Associazione
Nazionale Filiera Industria
Automobilistica



Introduction planning is rather ambitious 2019 is behind shedule



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	1 Food rigid tractor	2 Nonfood rigid tractor	3 Groupage rigid tractor	4 Container tractors	5 Urban community	Total yearly deliveries
Zero emissie en low CO2 marktvaart in Nederland gebaseerd op de belangrijkste doelgroepen						apr-18
Productvraag heavy duty per relevante doelgroep in Nederland	Doelgroep 1 Foodsector bakwagens trekkers	Doelgroep 2 Non Food Grootwinkel bakwagens trekkers	Doelgroep 3 Interlokaal Groupage transport bakwagens trekkers	Doelgroep 4 Transport internationaal Container bakwagens trekkers	Doelgroep 5 Stedelijke distributie gemeentelijke diensten	Totale Product leveringen per jaar
Aantal trucks gevraagd	11.000	7.000	15.000	25.000	8.000	64.000
2017	5	0	0	0		5
2018	40	5	0	5	5	55
2019	100	10	0	20	10	140
2020	200	20	0	25	15	260
2021	350	50	10	30	30	470
2022	500	80	40	40	40	700
2023	600	100	80	80	70	930
2024	700	200	100	200	150	1500
2025	800	250	200	300	200	1750
	3295	715	430	700	520	5810
	2017 behaalde resultaat					
	korte termijn planning					
	middenlange termijn planning					
	verwachting productie voor Nederland in 2025					

← 50% behind shedule

Trucks and buses developed. Heavy duty trucks 27 prototypes

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fabrikant	type truck	lichte truck	middelzware truck	zware truck	aantal trucks 2018 est
		7,5 ton gvww	17 ton-27 ton gvww	40 ton gvww	
DAF 2018 CF electric	trekker			vol elektrisch	proto's 2-2018 4 - 2019 validatie 2020
DAF 2018 XF ecochamps	trekker			parallel hybride	proto's eind 2019 -2020 validatie
DAF 2019	bakwagen		vol elektrisch		proto's 2-2019 2020 validatie
E Moss Ever okt 2017	trekker			serieel/vol elektrisch	proto's 9 stuks (2018/2019)
E Moss 2018 Noorwegen/Zwitserland	trekker			vol elektrisch	proto's 14 stuks (2018/2019)
E Moss 2016 diverse merken	bakwagen		vol elektrisch	vol elektrisch	eerste series 2018> 25 2018
E Moss 2018 srv refues collection vehicle	bakwagen			serieel/vol elektrisch	proto's en series > 25 2018 down under
E Moss 2018 trailer ontwikkeling	trailer			elektrische appandage	proto 2018
GINAF 2018	bakwagen		vol elektrisch		3 proto 2017 2018 geen opvolging
GINAF 2018	bakwagen	vol elektrisch			2 proto 2017 2018 geen opvolging
GINAF 2018 duratruck veegmachines	bakwagen		vol elektrisch		op basis van Mercedes Atego 4 proto
E truck	bakwagen		elektrisch/waterstof		ombouw bestaande trucks doorlopend
E truck	bakwagen			elektrisch/waterstof	ombouw bestaande trucks doorlopend
Wierda Framo	trekker			vol elektrisch	proto's en serie 2017-2019
Wierda Framo	trekker			parallel hybride	proto 2019 validatie 2020
Wierda Framo	betonmixer			vol elektrisch	ptoto's en serie 2019-2021
Wierda elektrificatie opbouw truck en infra	opbouw				2017 serie mixers-wegenbouw-koeling
MAN Oostenrijk	trekker				2019 1 trekker proto 2019 2020 validatie?
MAN Oostenrijk	bakwagen		vol elektrisch		2020 9 bakwagens voorserie
Mercedes Fuso	bakwagen	vol elektrisch			2019 12 pré serie 2020 seriematig
Mercedes Urban e-truck	bakwagen		vol elektrisch		2019 proto Duitsland 2021 serie
Renault D2E	bakwagen		vol elektrisch		2019 proto France 2019 serie
Renault D2E	bakwagen			vol elektrisch	2019 proto France 2019 serie
Scania 7,5 kWh batterij	bakwagen		parallel hybride		2020 proto 2019 serie 2021
Scania 7,7 kWh batterij	trekker			parallel hybride	2019 proto 2020 validatie
Volvo 16 ton	bakwagen		vol elektrisch		2019 proto 2020 voorserie
Volvo 27 ton	bakwagen		vol elektrisch		2019 proto 2020 voorserie
Iveco Daily	bakwagen	vol elektrisch			2018 serie levering

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- For heavy duty trucks 27 prototypes limited available
- DAF already present one of their electric trucks as standard in their portfolio
- Truck production of prototypes and limited serial production
- 7,5 ton-17-27 ton-40ton GVW (Gross Vehicle Weight)

Heavy Duty Transport in the Netherlands CO₂ Reduction and Zero Emission in Urban area

**Electricity network not ready for huge transition
Electric charging trucks very limited available**

Until 2025 heavy duty trucks charging systems inside distribution facilities

As of 2025 public charging availability

Improve the capability of Dutch electricity network to match demands electric cars and trucks

In 2021 availability transition plan for the electric charging implementation

- Step one: Distribution Centers**
- Step two: The local charging systems**
- Step three: The extension of the total network**

In Distribution Centers also internal capacity of electric network has to be extended.
Solar panels can be a solution

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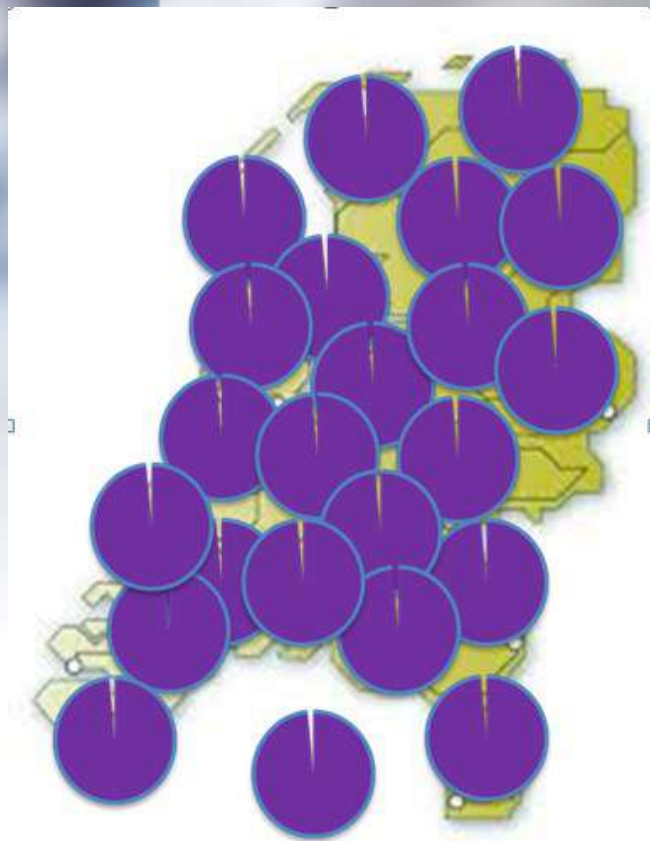
distributie zonder emissie



Heavy Duty Transport in the Netherlands CO₂ Reduction and Zero Emission in Urban area

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Electric charging trucks very limited available the short solution



Step one

Charging points electricity (Hydrogen)

- Distributioncenters foodsector
- Distributioncenters non foodsector
- Distributioncenters groupage
- Carrier facilities
- Dealer facilities
- Harbours
- Airports
- Drivers restaurants
- Supermarkets-shoppingmalls
- Truckers rest areas

- Foodsector districenters have fully country coverage
Until 2025 they can be used



F OC 300 kW



F DC 2x30kW

Electricity network not ready for a huge transition Electric charging for trucks very limited available

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Solar Panels at one of the largest distribution centers
of supermarket chain Jumbo

They can use their solar energy for transport extern-
transport intern- and cooling



Limited financial support from Governments No Total Cost of Ownership match with existing diesel truck

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Heavy duty truck Purchase price far too high

40 ton Diesel € 80.000 : 40 ton electric € 350.000

Price difference caused by battery € 120.000 and Proto production € 100.000

Proto production cost decrease after start serial production

Purchase prices batteries will stay on high level until 2025

Introduction subsidizing purchase price will be necessary

**Dutch Government proposed subsidizing level:
40% - difference purchase price Diesel –purchase price Electric**

TCO electric trucks can only match diesel TCO if purchase price levelled at € 150.000 and electric fuel consumption costs -10% (lower) compare to diesel consumption costs.



Targets 2025 very challenging 2030 possible match Why we expect the targets are so challenging:

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Transition time almost too short

- Unclear about Battery developments
- Uncertainty European and Dutch legislations
- Uncertainty about European and Dutch subsidy

- Infrastructure a bottle neck
- Long leadtime Electricity network
- Rural legislation not unified

- Cost Price reductions too slow
- Too much innovation simultaneously

But at the end.

If we combine all efforts and coordinate properly the transition we will be succesful !!!!!



Heavy Duty Transport in the Netherlands CO₂ Reduction and Zero Emission in Urban area

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In the Netherlands we try to make it happen.
In Milano you try to do the same.

Look to your electric trucks driving in the surrounding of Milano
Support by Prevue project Fier and Emiss (NL)



Keep on track with your electric driveline activities.
We can and will support you.
Thank you for your attention.

