

# THE DAF ROAD TO EVEN CLEANER TRANSPORT





# THE **DAF** ROAD TO EVEN CLEANER TRANSPORT

## ALTERNATIVE FUELS & NEW TECHNOLOGIES

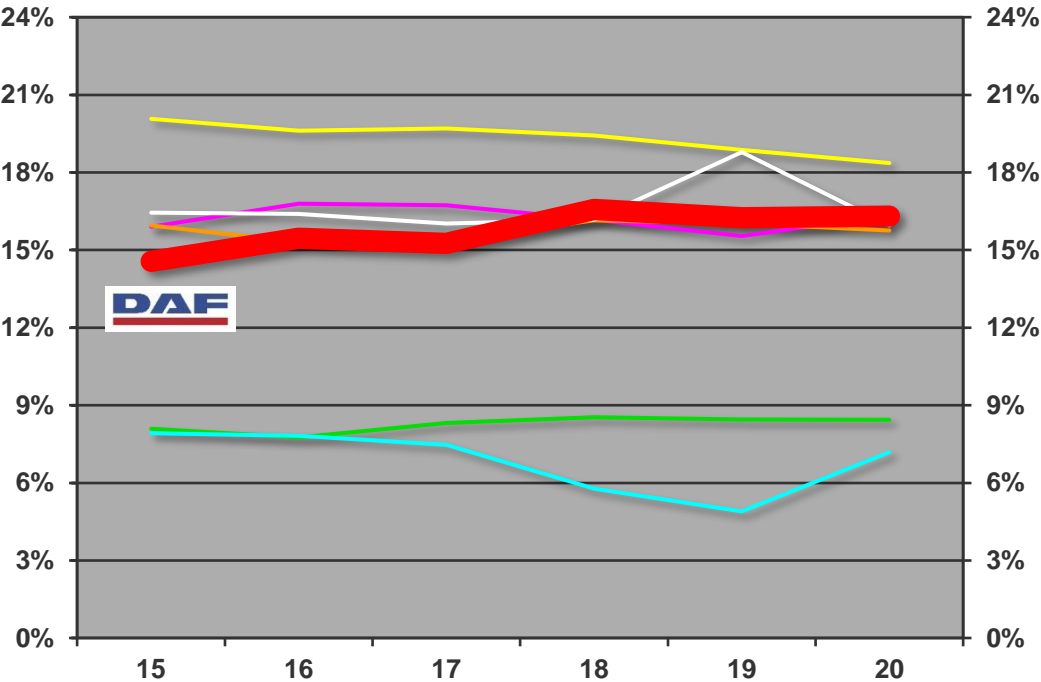


Ton Kolen

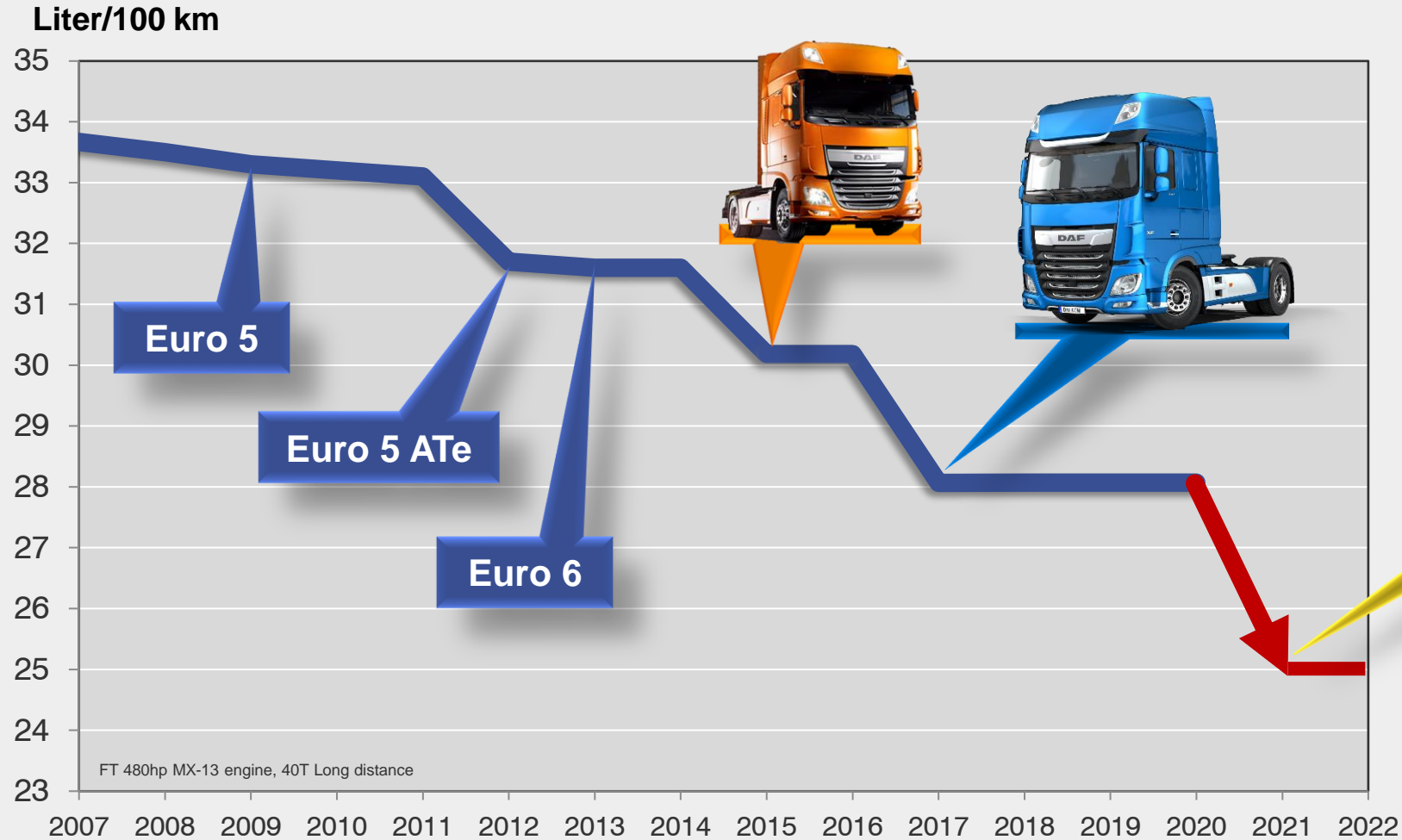
Product & Services Planning

# DAF TRUCKS IN EUROPE

## HEAVY DUTY (>16T) EU MARKET SHARE



# INCREASE VEHICLE EFFICIENCY



NEW GENERATION DAF



**GAME CHANGER**  
New generation trucks, first to market, making use of the new European M&D legislation



Info: Dutch City Council

Amsterdam to  
ban diesel, gas  
powered vehicles

**ZERO  
TAIL PIPE  
EMISSIONS**

European environment  
state and outlook 202

European Commission  
Commission européenne

**ZERO:  
CARBON  
NEUTRAL**

YOUR CHALLENGES / OUR SOLUTIONS TO  
CLEAN AND SUSTAINABLE TRANSPORT

# ZERO EMISSION SOLUTIONS

## FOR A VARIETY OF APPLICATIONS





# ZERO EMISSION SOLUTIONS

FOR A VARIETY OF APPLICATIONS



**COMBUSTION ENGINE**

**BIO/RENEWABLE FUELS - HYDROGEN**



**HYBRID VEHICLE**

**FUEL CELL ELECTRIC**

**PLUG-IN HYBRID**



**BATTERY ELECTRIC VEHICLE**



# DAF ELECTRIC – CUSTOMERS IN OPERATION





# DAF ELECTRIC – PRODUCT OFFERING



## LF ELECTRIC

Rigid 4x2

GVW 19 ton

Range ~240-270 km

Battery pack effective 254 kWh

Fast charge capacity up to 150 kW

## CF ELECTRIC

Rigid 6x2 – Tractor 4x2

GVW - GCW 29 - 37 ton

Range ~200-230 km

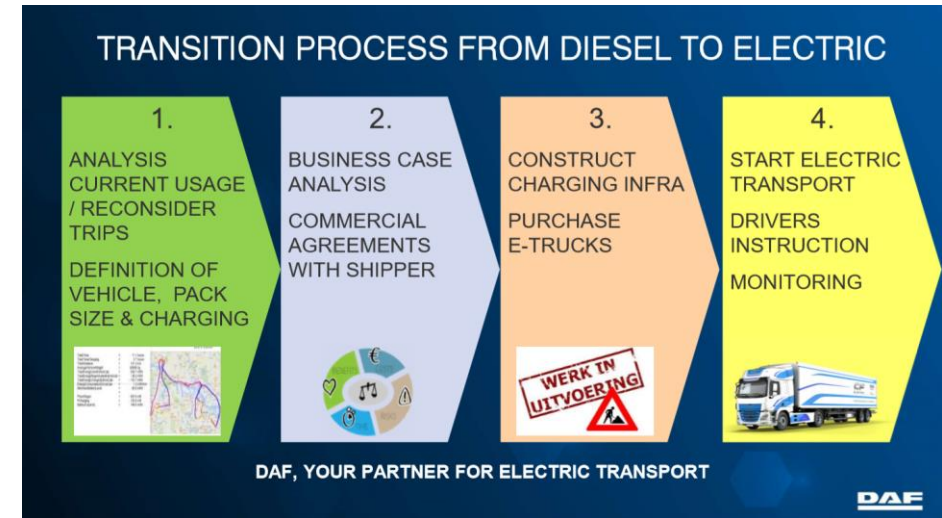
Battery pack effective 315 kWh

Fast charge capacity up to 250 kW



# DAF ELECTRIC – PRODUCT OFFERING

- LF Electric and CF Electric available for sale now
- Integrated sales and validation process
  - Identify routes to be electrified
  - Advanced route simulations
  - Charger strategies
- Supply of chargers 24 kW – 350 kW
- Connected vehicle reporting





# GLOBAL WARMING

## EU CO<sub>2</sub> EMISSION TARGETS:

**-15% in 2025**

**-30% in 2030**

**Carbon neutral in 2050**



# PACCAR - READY FOR THE FUTURE



## Diesel Versions

- HVO
- Renewable Fuels
- Multi-Fuel Approach



## Battery Electric Versions

- Fast charging



## Hybrid Drive Versions

- Full Hybrid
- Mild Hybrid



## Hydrogen Versions

- Fuel Cell
- Internal Combustion Engine





# CO2 REDUCTION ALTERNATIVES FUELS



Diesel

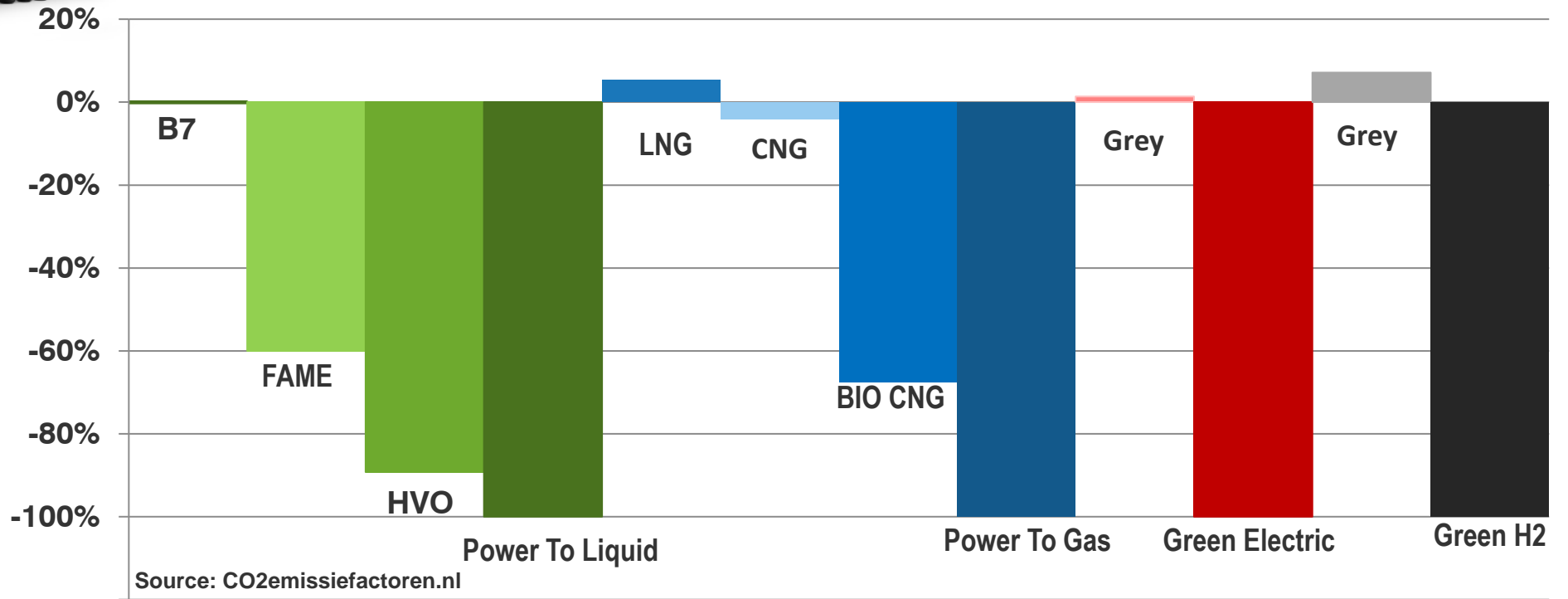
Bio diesel

Natural Gas

Electricity

Hydrogen

**WELL  
TO  
WHEEL  
CO2  
REDUCTION**



# TODAY'S ALTERNATIVE FOR LONG HAUL

Diesel

Bio diesel

Natural Gas

Electricity

Hydrogen



EN590

HVO

HPDI

Dual Fuel

SI

Spark Ignited

BEV

Battery Electric

FCEV

Fuel Cell EV

ICE

Combustion

**Fuel consumption**  
(/100km)

28 L

27 L

24 kg  
+1 L

28 kg

140 kWh

8 kg

10 kg

**Range**

5.000 km

5.000 km

900 km

1.500 km

225 km

650 km

500 km

**Refueling time**  
(min/400km)

1 min

10-15 min

60-75 min

10-15 min

**Fuel costs\***  
(€/100km)

€ 29

€ 35

€ 27

€ 30

€ 18

€ 66

€ 82

\* Fuel / energy costs estimates based on public available prices (excl. VAT or Incentives)



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**Fuel consumption**  
(/100km)

25,5 L

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24 kg  
+1 L

28 kg

140 kWh

8 kg

10 kg

**Range**

5.000 km 5.000 km

900 km 1.500 km

225 km

650 km 500 km

**Refueling time**  
(min/400km)

1 min

10-15 min

60-75 min

10-15 min

**Fuel costs\***  
(€/100km)

€ 26

€ 32

€ 27

€ 30

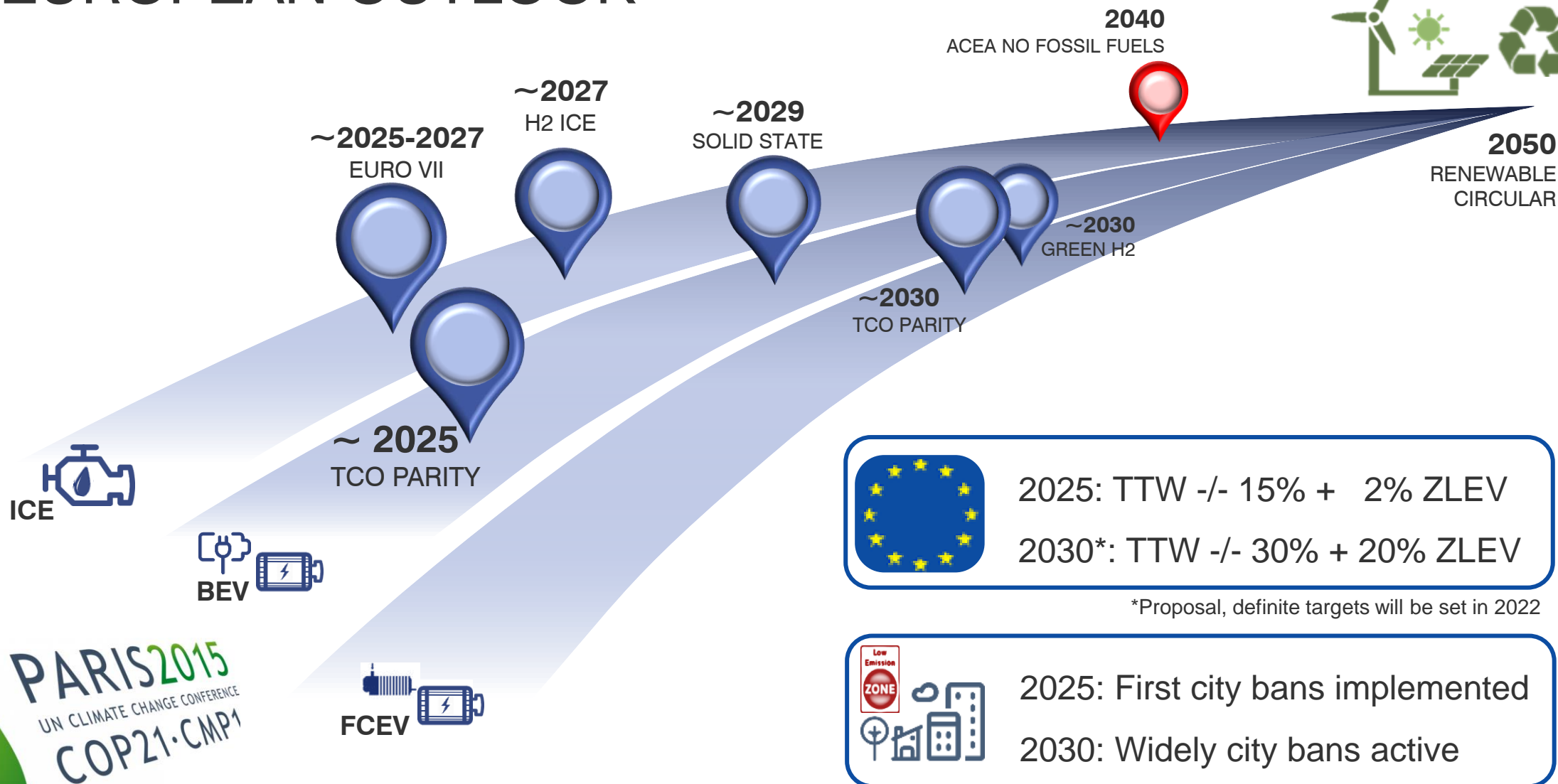
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# EUROPEAN OUTLOOK





# GLOBAL DEVELOPMENTS FOR THE FUTURE

## Battery Electric

- Zero tailpipe emission
- PACCAR Global
- 200->400 km of range



## H<sub>2</sub> Combustion

- Limited tailpipe emission
- MX Based
- > 400 km of range



## H<sub>2</sub> Fuel Cell

- Zero tailpipe emission
- PACCAR Global
- > 400 km of range





# THE DAF ROAD TO EVEN CLEANER TRANSPORT



**BEST PERFORMANCE  
ON FUEL, HVO FOR  
LOW CO2 FOOTPRINT**

**BEV ZERO EMISSION WITH  
BALANCED BATTERY-PACK**  
on: € vs KG vs KM

**INNOVATION TRUCKS  
PHEV AND H2 FUEL  
CELL ELECTRIC OR ICE**



# ON THE ROAD TO EVEN CLEANER TRANSPORT

