

THE DAF ROAD TO EVEN CLEANER TRANSPORT



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ALTERNATIVE FUELS & NEW TECHNOLOGIES

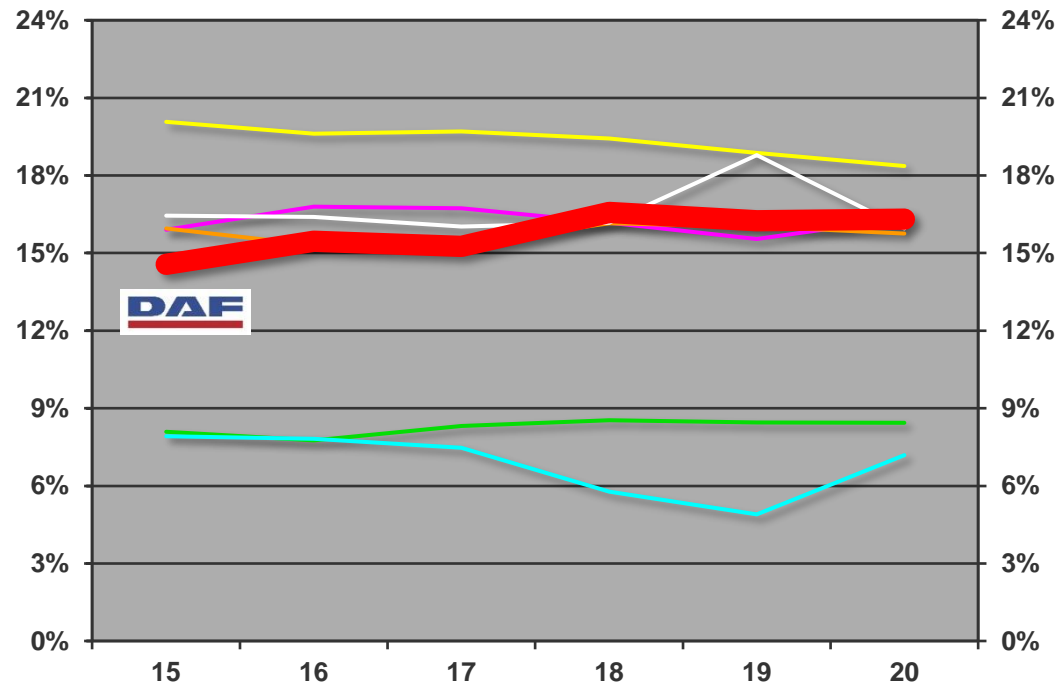


Ton Kolen

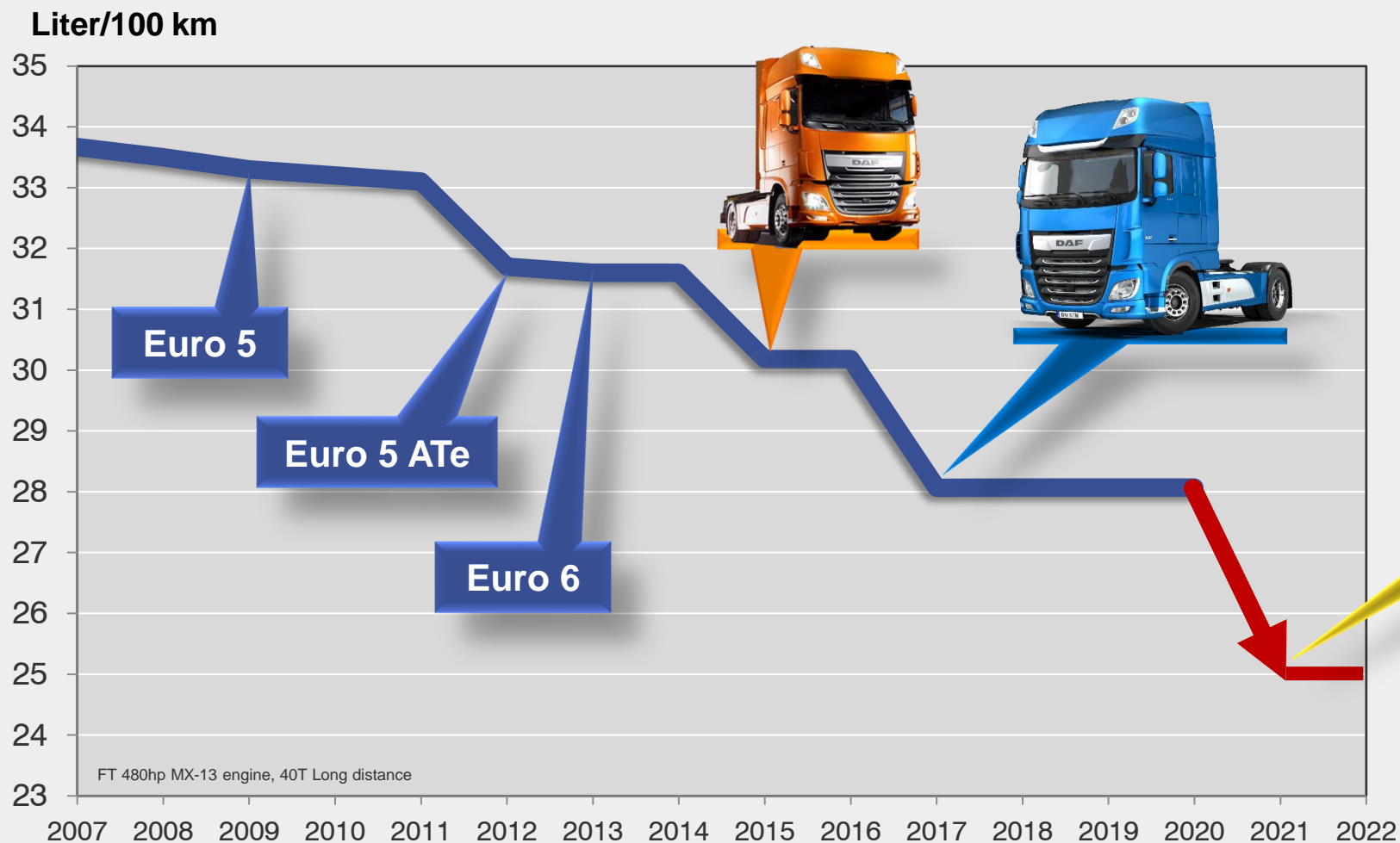
Product & Services Planning

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

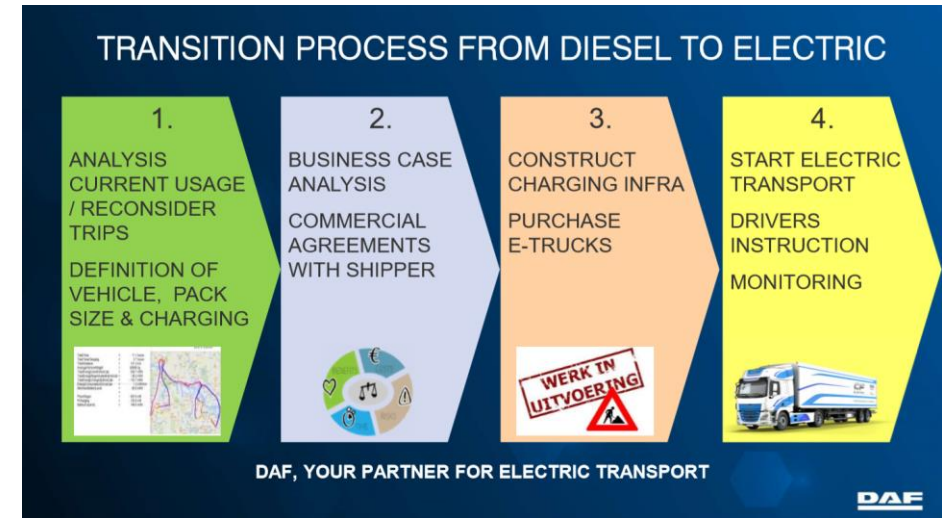
Range ~200-230 km

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 CO₂ 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

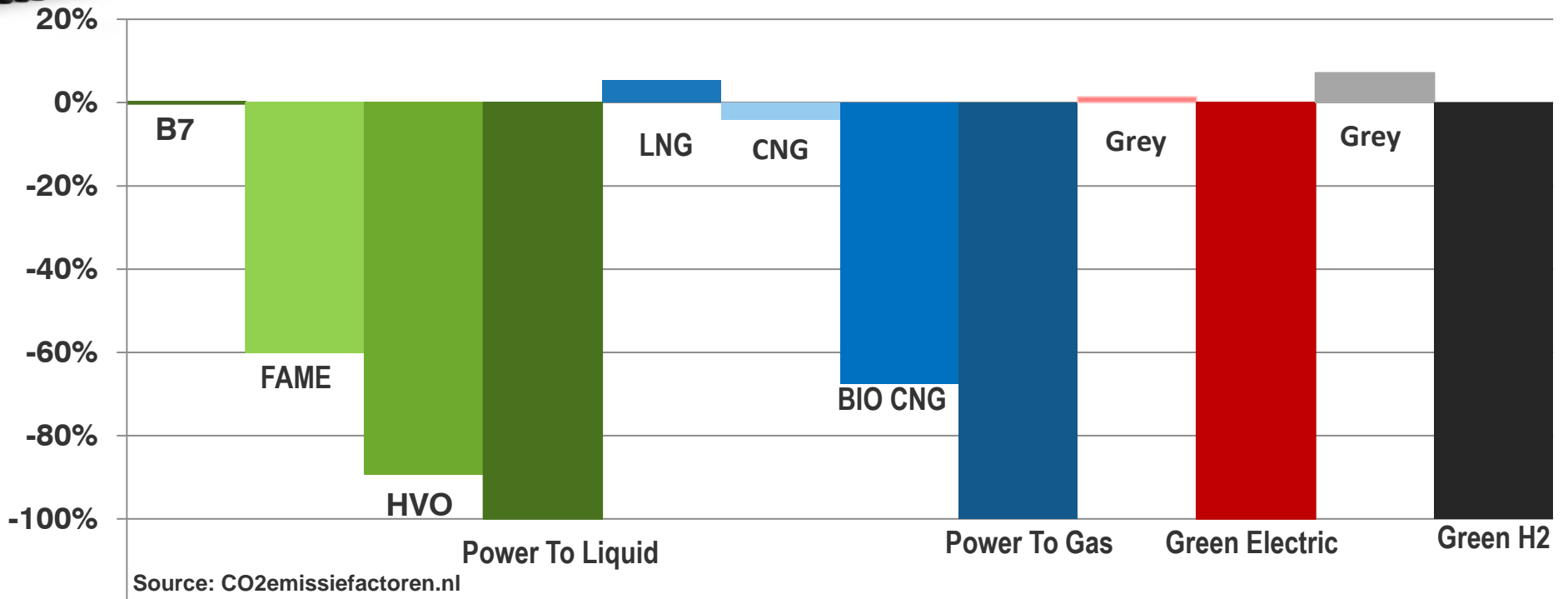
- Fuel Cell
- Internal Combustion Engine



CO2 REDUCTION ALTERNATIVES FUELS



**WELL
TO
WHEEL
CO2
REDUCTION**



TODAY'S ALTERNATIVE FOR LONG HAUL

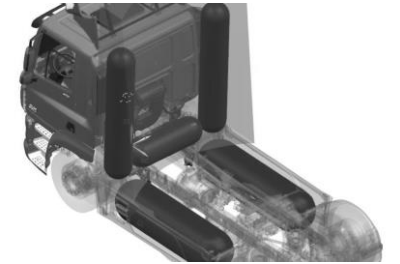
Diesel

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)

TODAY'S ALTERNATIVE FOR LONG HAUL

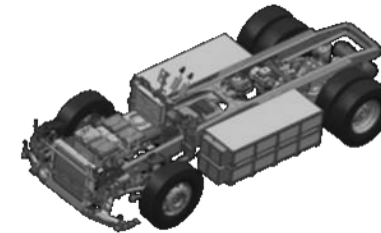
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5.000 km 5.000 km

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

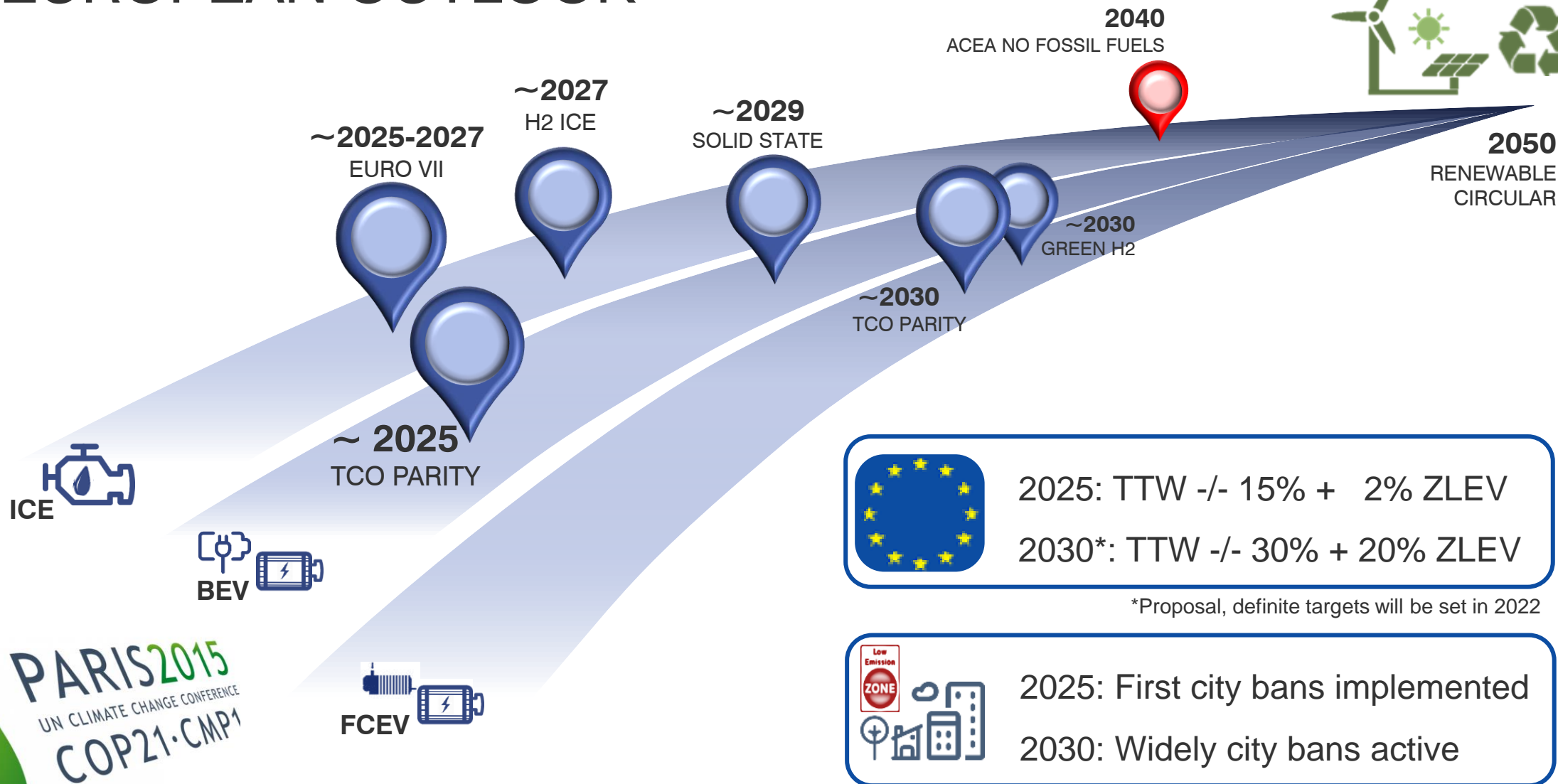
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EUROPEAN OUTLOOK



GLOBAL DEVELOPMENTS FOR THE FUTURE

Battery Electric

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



H₂ Combustion

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



H₂ 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

