

Electrification-information of Scania heavy duty (E) trucks
into the NZ market place.



Alfons Reitsma – Senior Product Engineer- Diesel to Electric

SCANIA

Our approach to sustainable transport



Energy efficiency



Renewable fuels
and electrification



Smart and safe transport



Fuel Saving



BATTERY ELECTRIC BUSES



AUTONOMOUS



ENERGY EFFICIENCY

New truck range	Optimised specification	Optimised driving	Optimised maintenance
Average 5% fuel savings	Based on operational analysis	Scania Driver services	Maintenance+

Energy efficiency

WIDEST RANGE OF RENEWABLE FUELS

Biogas 90%	HVO 90%	Biodiesel FAME 85%	Ethanol 90%	Hybrid + HVO 90% plus
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The numbers presented are the current maximum CO₂ (up to VVO) reduction potential per km driven.

A NEW CABLESS CONCEPT – SCANIA AXL

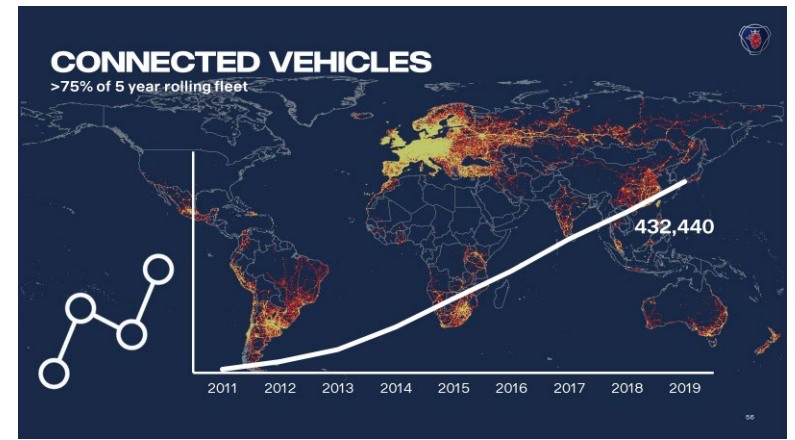
SCANIA DRIVER SERVICES

Less fuel	Fewer emissions	Fewer repairs	Fewer accidents	Less damage
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Since 2003
+350,000
truck drivers in nearly 50 countries have participated in Scania Driver Competitions

Energy efficiency

ELECTRIC TRUCK RANGE

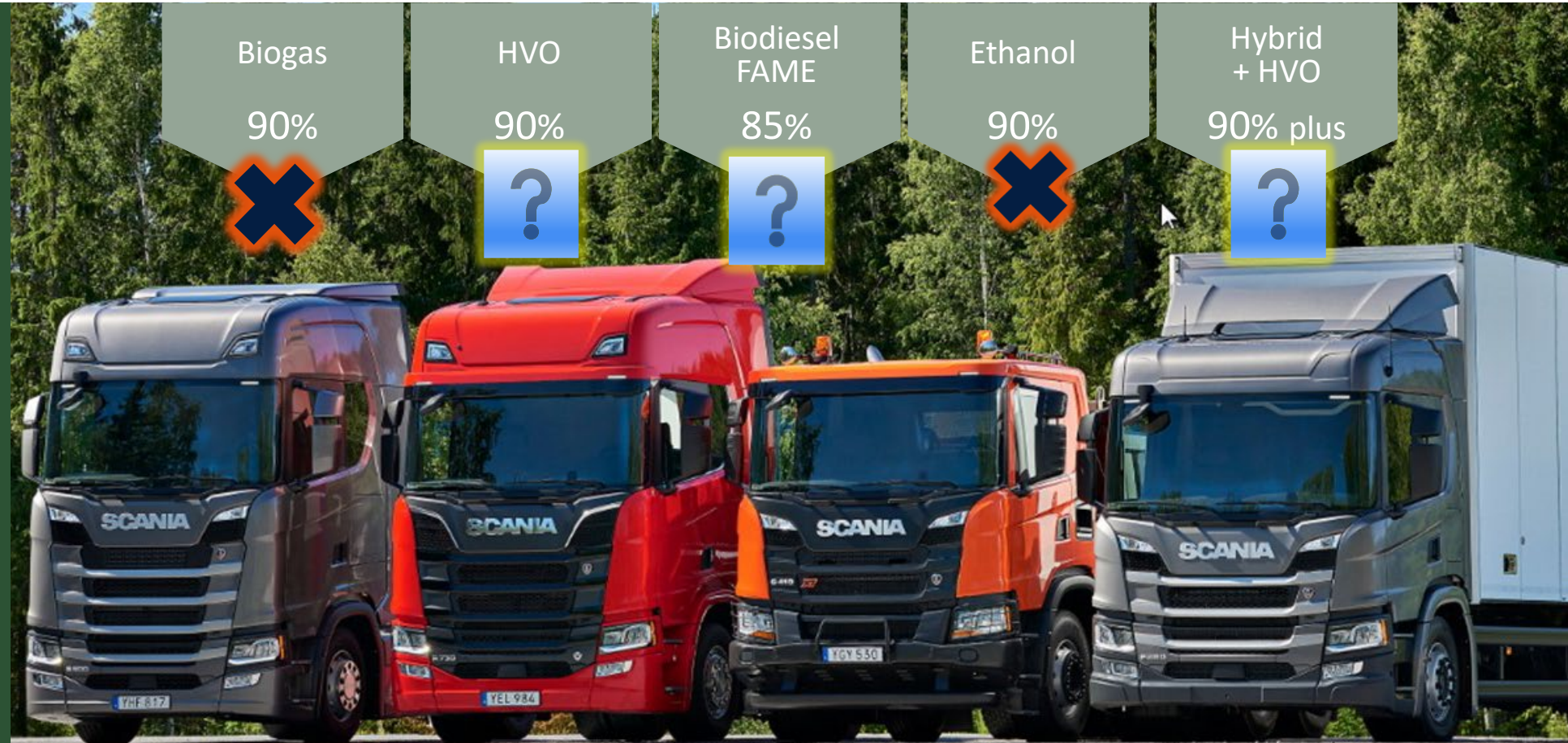




NZ CO₂ reduction Can be reached here and now – uptake ?



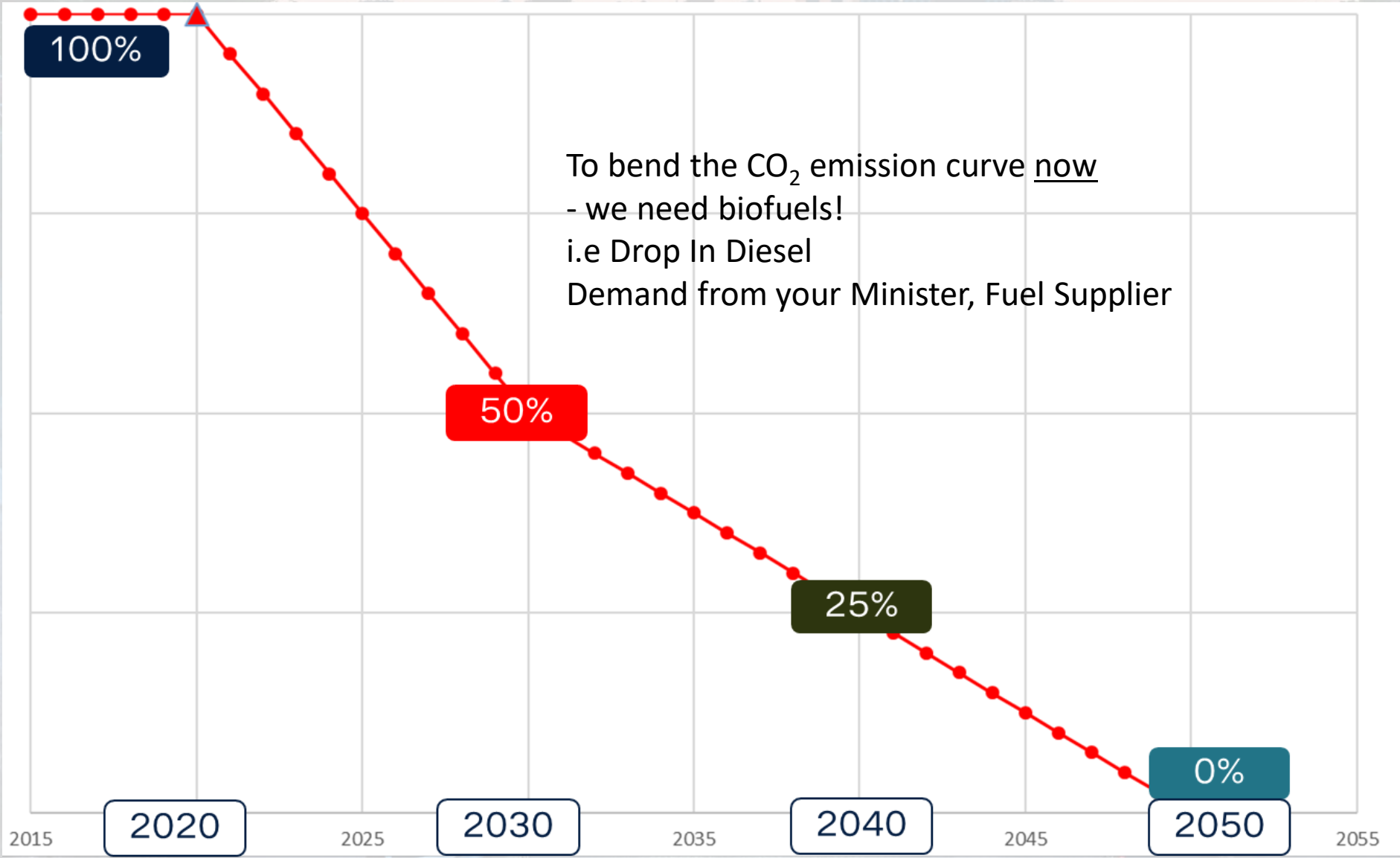
Renewable fuels
and electrification



The numbers presented are the current maximum CO₂ (up to X%) reduction potential per km driven.

Current Diesel Assets a concern in the future?

use and Demand Renewable diesel up to 100% blend in Scania



ELECTRIC VEHICLE SOLUTIONS

MORE THAN JUST TRUCKS

SCANIA

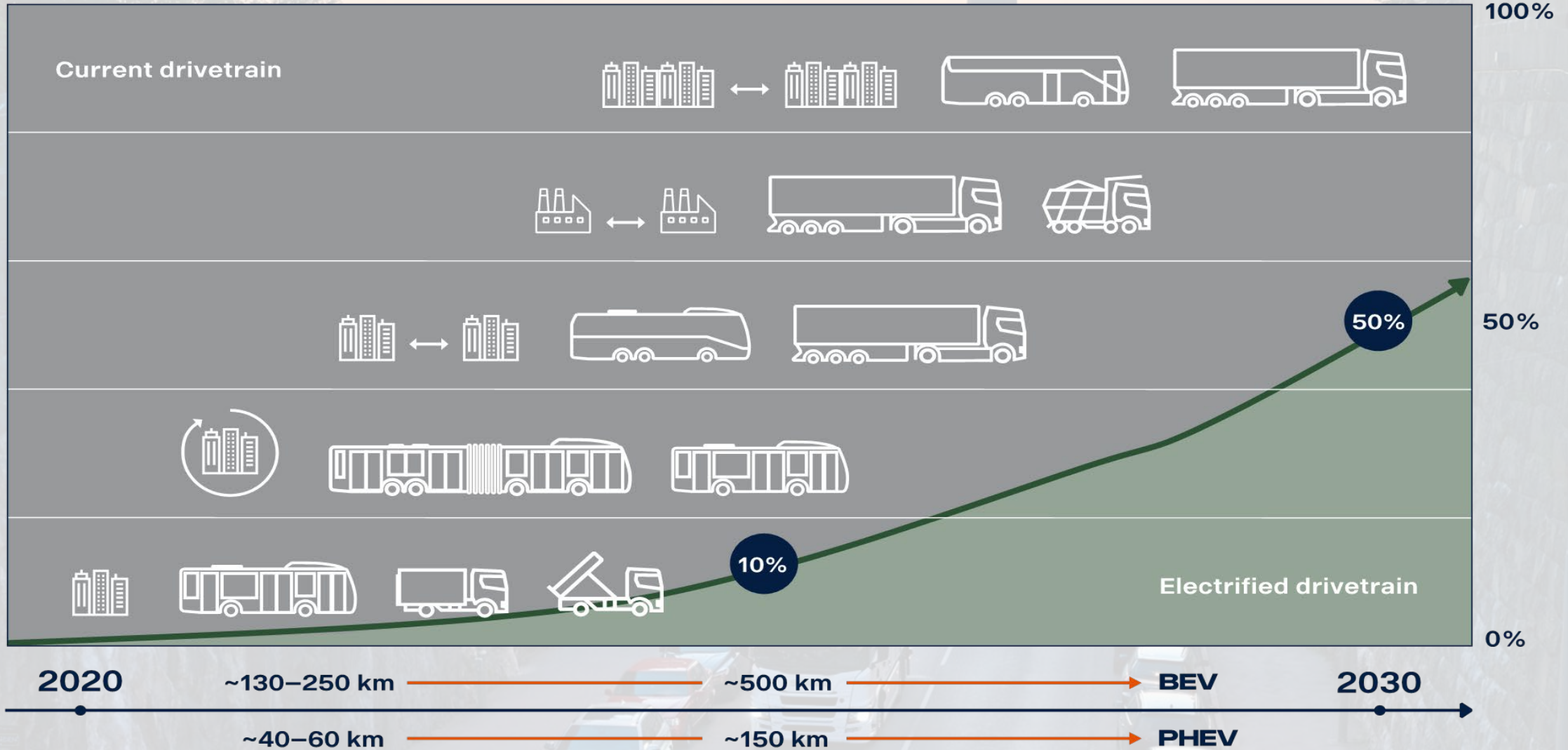




Why electrification?

- Meeting our New Zealand customers' calls for fossil free transports
- Climate Change
- Taking an active part in the collective global effort to reach the climate goals set forth in the Paris Agreement
- Creating long term business sustainability
- Meeting future regulations for emissions and noise
- EECA Grants
- The Grid is already here.
- Electricity is most efficient energy form for transport.

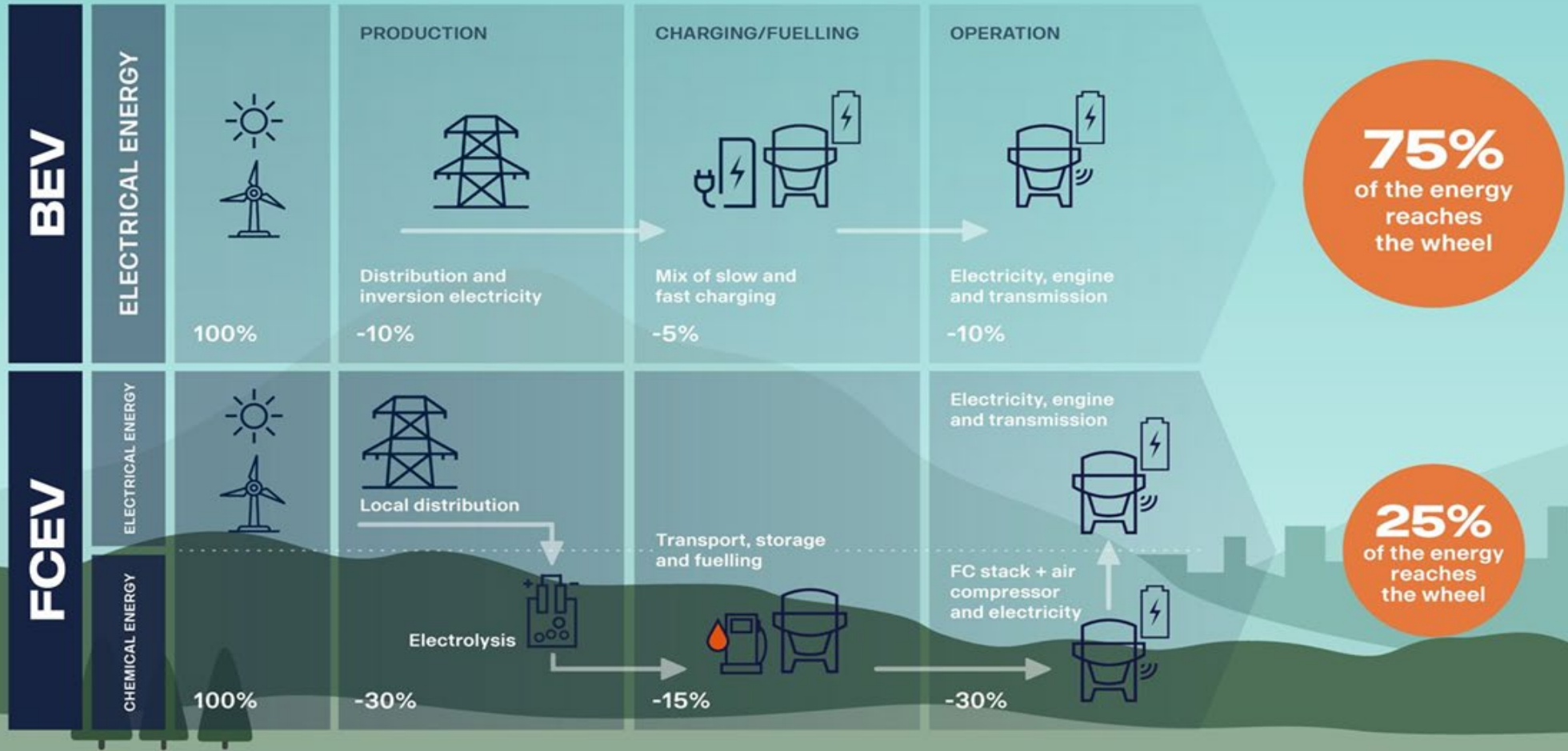
PROJECTION electrification globally to +/- 60 ton's GCW





BATTERY ELECTRIC VEHICLES VS FUEL CELL ELECTRIC VEHICLES

A comparison of system efficiency



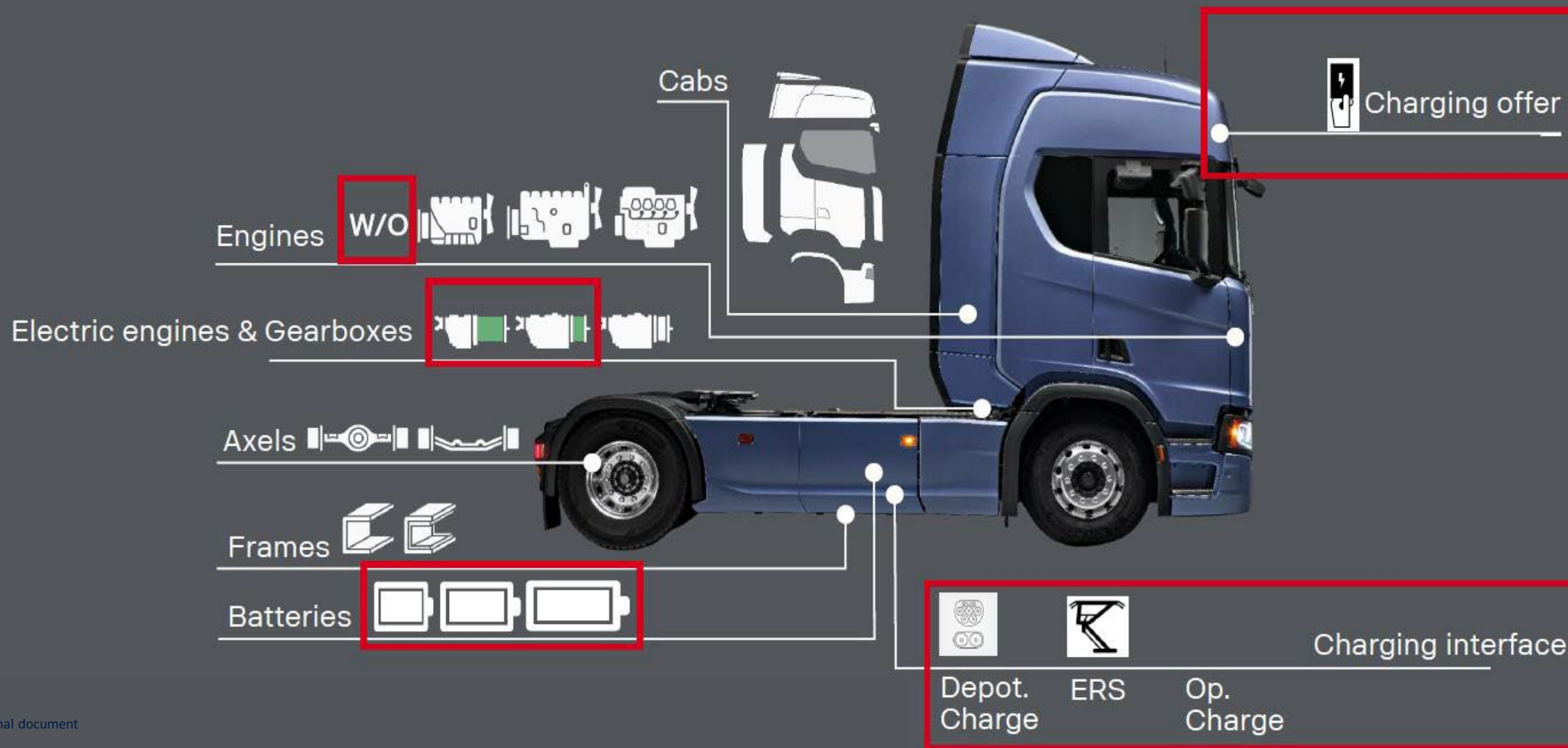


ELECTRIC VEHICLE

THE FULL ELECTRIC Urban Vehicle 16tons<



Scania module system for e-mobility





BATTERY ELECTRIC TRUCK - Gen 1 Urban

TECHNICAL SPECIFICATIONS

WHEEL CONFIGURATION	4x2, 6x2, 6x2*4
AXLE DISTANCE	3950 – 5750 mm
CAB OPTIONS	P, L
PROPULSION	Permanent magnet electric machine with oil spray cooling. ~295 kW 2,200 Nm (peak) ~230 kW 1,300 Nm (continuous) 60 kW electric Power Take-off
BATTERY CAPACITY	9 Lithium Ion batteries, available for all axle distances over 4350 mm: 300 kWh (Installed) → Up to 250km range 5 Lithium Ion batteries, available for all axle distances over 3950 mm: 165 kWh (Installed) → Up to 130km range
CHARGING	CCS type 2 plug-in connection up to 130 kW/ 200A DC charging. 5 Batteries – 55 min charging time (at 130 kW). 9 Batteries – 100 min charging time (at 130 kW).
GTW	Max 29 t



NZ's First Electric Scania's 2022



2 units - Delivered up and Running



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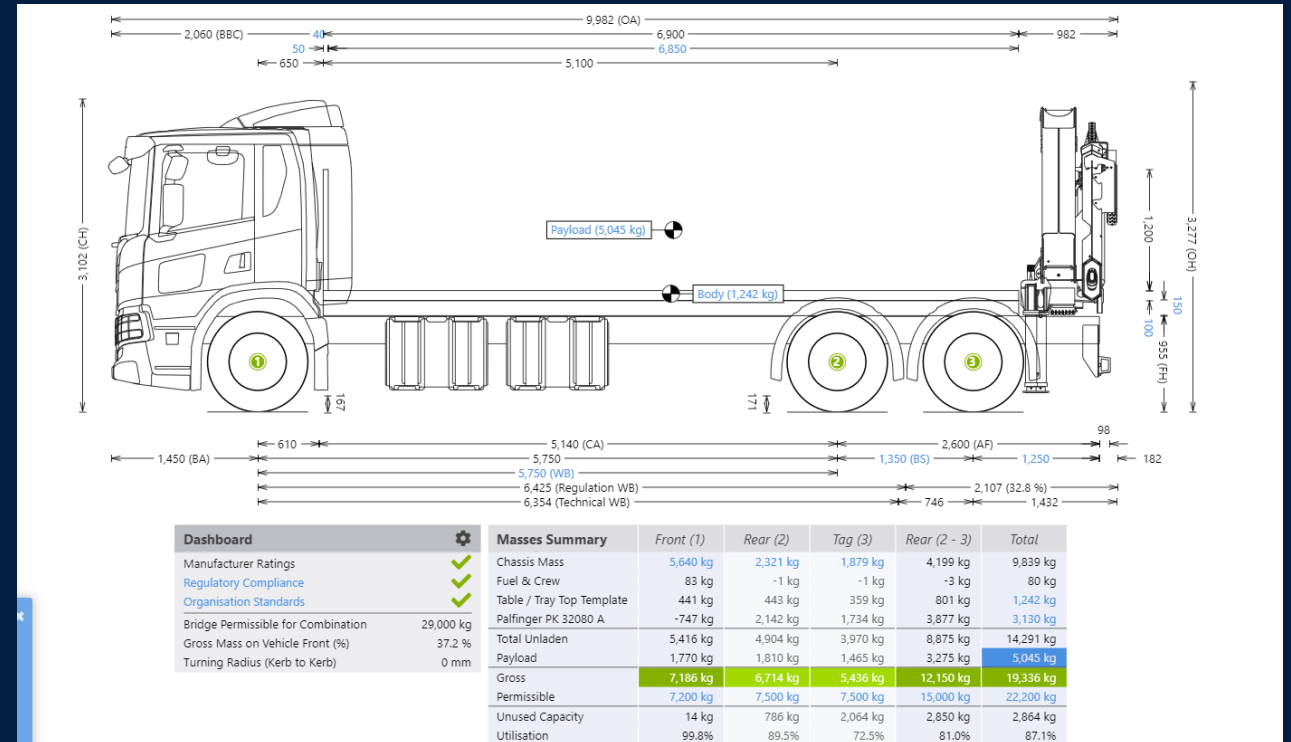


Let's do this !

Difference EU vs NZ - Govt Incentives

Urban BEV Crane Truck "example" Norway

EU= 2 ton dispensation on any group or any Axle = no loss of payload

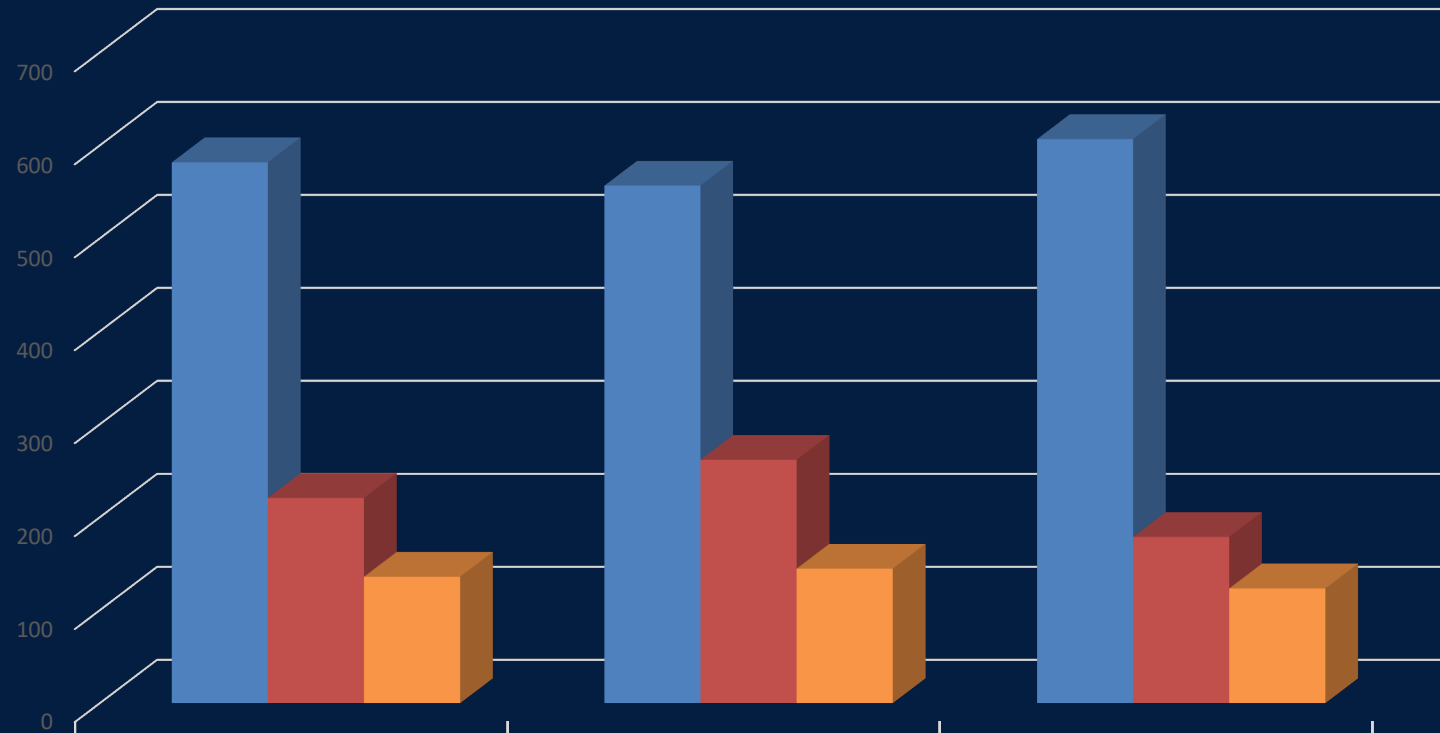


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NZ's First Electric Scania's 2022 Energy consumption Trend



Energy Consumption Trend kwh 100km @ GVW 22.2 Ton's



	Average	1/11/2022 3/10/2022 2189065 PMD664	1/11/2022 5/10/2022 2188979 PMD665
■ Odometer (km)	582	557	607
■ Distance (km)	221	262	179
■ Energy consumption (kWh/100 km)	136.2	144.9	123.6

■ Odometer (km) ■ Distance (km) ■ Energy consumption (kWh/100 km)

NZ's First Electric Scania's 2022 Key Aspects



- It's a Journey not a destination !
- Specify the Electric drive line as efficient as possible
- Reduce friction where possible
- Lower Rolling Resistance i.e. chip seal causes concern for wasting grid Energy icw with to many axles or dual drive or wide tire application
- Tires must be energy efficient as possible , local supply a concern.
- Use lift axles on return on Truck and Trailer , steer axles to reduce friction.
- Use E Trailer Axles if you can to gain efficiency
- Driver Training Critical like in Ice “ Diesel Trucks” for fuel efficiency safety increases as the driver is less fatigued and much more aware of his surroundings
- Future VDAM should reflect and reviewed this to conserve energy not just pavement.
- Charging is whole subject on it's own “left out of this presentation”

SCANIA



Thank You

Q & A