TOITŪ NET CARBON ZERO ISO 14064-1 ORGANISATION

EV CO-FUNDED BY EECA

LOW EMISSION FLEET

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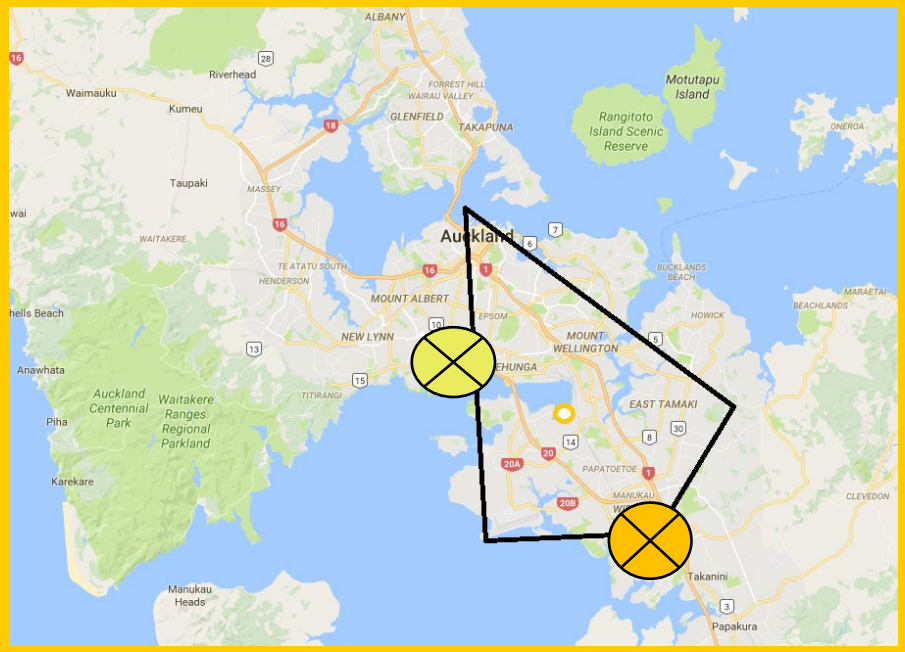
RELIANCE PROFILE

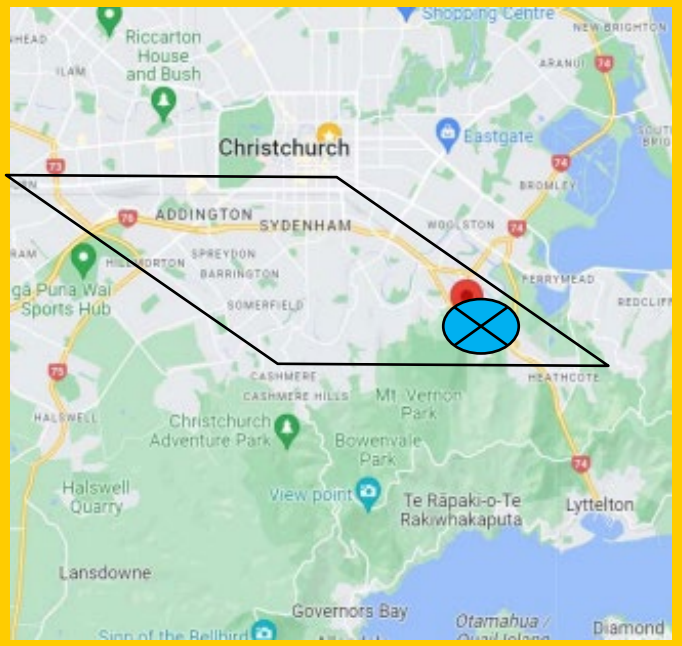
Specialising in Auckland Metro FCL and FTL Deliveries
Christchurch Metro FCL July 2023

RTL AKL, Wiri Container Hub

RTL AKL, Onehunga Container Hub

RTL CHCH, Hillsborough Container Hub





RELIANCE PROFILE

Specialising in Auckland Metro FCL and FTL Deliveries

- 30 x trucks – 3 x rigids, balance tractor units: 4/6x2 6/8x4 inc 2 x 6x2 BEV
- 50 x trailers – swinglift, tipping, skeletal, flatdeck
- 15 - 58t Combinations

- 90 % Metro Deliveries
- 10% regional – Northland/Waikato/BOP

- Double Shift Operation

- Average Shift Kilometers = 145 km
- Average speed = 17 km/h
- High Regeneration opportunities
- Annual Kilometres ≈ 2,250,000 km per annum
  ≈ 1,000,000 l Diesel
  ≈ 3.4 GWH Electricity

- Average FCL Payload = 22 t
- Average FTL Payload = 24 t

- Multiple Depots with Container Handlers

RELIANCE PROFILE

Zero Emission Fleet 2018 - 2023

17 x BEV

- 2 x P230 SCANIA 6x2 Rigids
- 2 x SANY R45 Reachstackers
- 1 X SANY 16t, 4 x 3-7t Li Ion CB ForkHoists
- 4 x EV200 NISSAN, 1 x LDV Bigger E9 Vans
- 3 x Cars (MERCEDES, TESLA,POLESTAR)

<u>7 X CHARGERS</u>

- 2 x 320 KW DC
- 1 x 120 KW DC
- 2 x 40 KW DC
- 3 x 6KW AC

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PROJECT SWITCH

WHY ?

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PROJECT SWITCH

WHY ?

CUSTOMER SUSTAINABILTY

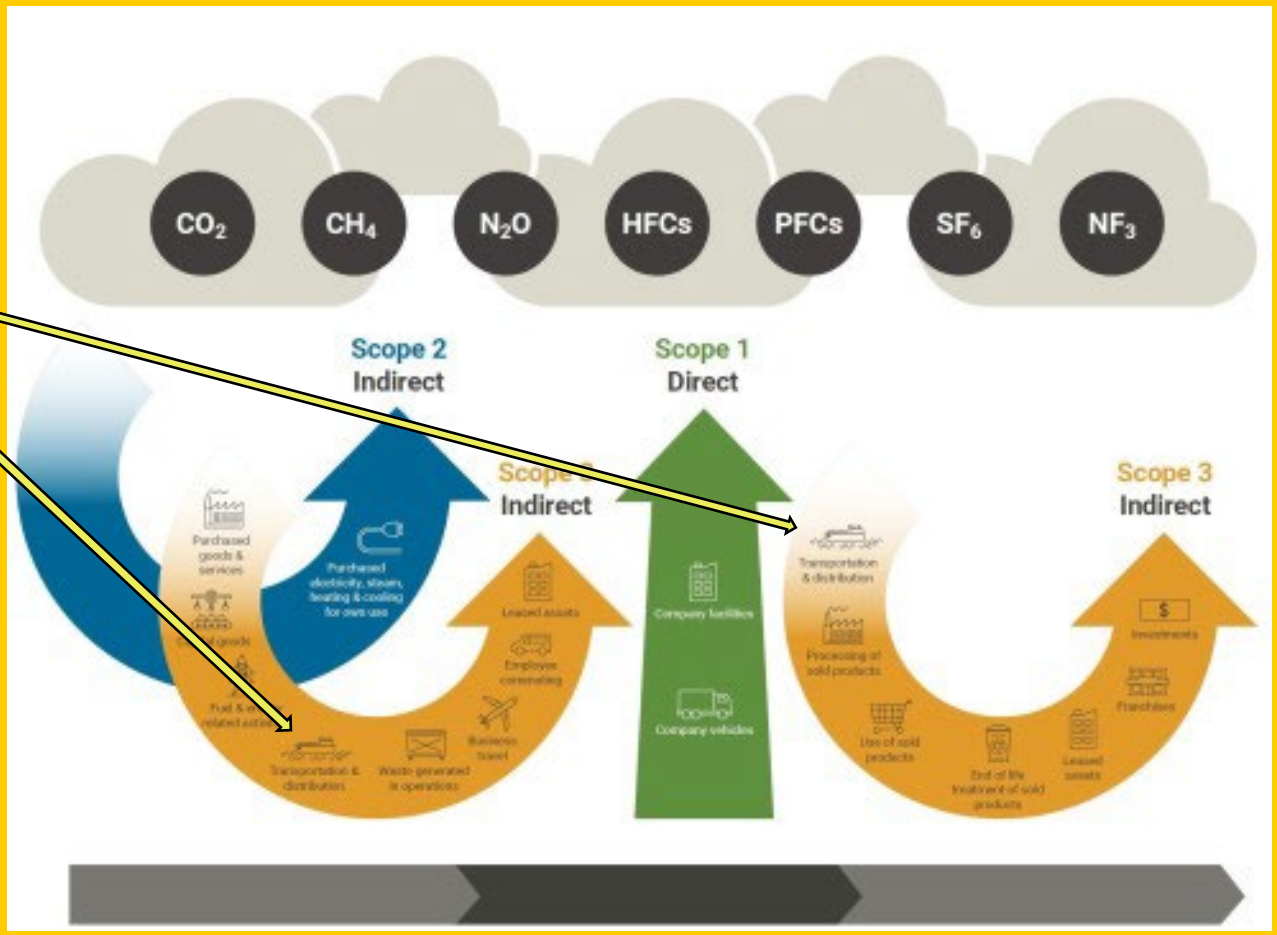
Scope 1 Emissions Direct Energy

Scope 2 Emissions Energy Source

Scope 3 Emissions Indirect

Transport & Distribution

Transport Service Providers will be contractually required to report emissions under Scope 3 Emission Reporting



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PROJECT SWITCH

WHY ?

NZ STATUTORY REQUIREMENT

- 1997 Kyoto Protocol — convention on climate change
- 2015 Paris Agreement — legally binding agreement on climate change

COP 27 Nov 2022 — Limit Global Warming to 1.5 Degrees.

Climate Change Response Act 2002

Sets Emission Budgets to achieve by 2050

- *net zero greenhouse gas emissions – except biogenic methane*
- *24 - 47% reduction in biogenic methane*

2022 - 2025 Budget 1	290 MT $CO^{2\text{-}e}$	72 MT CO^{2}-e per annum
2026 - 2030 Budget 2	305 MT $CO^{2\text{-}e}$	61MT $CO^{2\text{-}e}$ per annum
2031 - 2035 Budget 3	240 MT $CO^{2\text{-}e}$	48 MT CO^{2}-e per annum

COP = Conference of the Parties

27 = 27th meeting
MT = million tonnes

WHY ?

MANDATES – NZ

NZ Carbon Neutral Government Programme

aim is to accelerate the reduction of emissions within the public sector

From December 2023: all Crown agents are to report their emissions, ***gross emissions reduction targets*** *and* ***reduction plans*** *from the 2022/23 financial year onwards*

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PROJECT SWITCH

WHY ?

MANDATES – NZ

The Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 amended the Financial Markets Conduct Act 2013 (FMC Act), the Financial Reporting Act 2013, and the Public Audit Act 2001.

The new law will require around 200 large financial institutions covered by the FMC Act to start making climate-related disclosures. Affected organisations are required to publish disclosures from financial years commencing on or after 1 January 2023, in accordance with climate standards published by the External Reporting Board (XRB)

Includes Banks, Insurance Companies, Publicly Listed businesses

MANDATES – USA

Advanced Clean Fleet (ACF) Rules California

Manufacturer Sales mandate Manufacturers may sell only zero-emission medium- and heavy-duty vehicles starting in 2036.

Drayage (Container) fleets Beginning January 1, 2024, trucks must be registered in the CARB Online System to conduct drayage activities in California. Non-zero-emission “legacy” drayage trucks may register in the CARB Online System through December 31, 2023.

Legacy drayage trucks can continue to operate through their minimum useful life. Beginning January 1, 2024, only zero-emission drayage trucks may register in the CARB Online System.

All drayage trucks entering seaports and intermodal railyards would be required to be zero-emission by 2035.

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PROJECT SWITCH

WHY ?

Advanced Clean Fleet (ACF) Rules California

High priority and federal fleets. High priority and federal fleets must comply with the Model Year Schedule or may elect to use the optional ZEV Milestones Option to phase-in ZEVs into their fleets:

Model Year Schedule: Fleets must purchase only ZEVs beginning 2024 and, starting January 1, 2025, must remove internal combustion engine vehicles at the end of their useful life as specified in the regulation.

ZEV Milestones Option (Optional): Instead of the Model Year Schedule, fleets may elect to meet ZEV targets as a percentage of the total fleet starting with vehicle types that are most suitable for electrification. The schedule is laid out in Table 1**.**

State and local agencies. State and local government fleets, including city, county, special district, and State agency fleets, **are required to ensure 50 percent of vehicle purchases are zero-emission beginning in 2024 and 100 percent of vehicle purchases are zero-emission by 2027.**

Small government fleets (those with 10 or fewer vehicles) and those in designated counties must start their ZEV purchases beginning in 2027. Alternately, State and local government fleet owners may elect to meet ZEV targets using the ZEV Milestones Option as shown in Table 1.

State and local government fleets may purchase either ZEVs or near-ZEVs, or a combination of ZEVs and near-ZEVs, until 2035. Starting in 2035, only ZEVs will meet the requirements.

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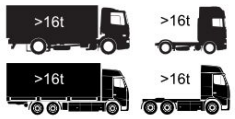
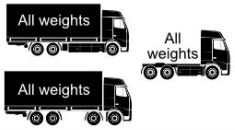
PROJECT SWITCH

WHY ?

MANDATES – EUROPE

Reduction targets relative to baseline	2025	2030	2035	2040	Annual emissions share
	0%	43%	64%	90%	
	0%	43%	64%	90%	
4x2 and 6x2 trucks 	15%	43%	64%	90%	
6x4 and 8x4 trucks 	0%	43%	64%	90%	
	0%	43%	64%	90%	
	0%	100%	100%	100%	
	0%	15%	15%	15%	n.a.
	0%	7.5%	7.5%	7.5%	n.a.
Unregulated	0%	0%	0%	0%	

Proposed Heavy Duty Vehicle CO2 Standards

Targets for Trucks AND Trailers

Scania and Daimler Truck have both pledged to go beyond the 90% target, and to only sell zero-emission vehicles by 2040.

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PROJECT SWITCH

WHY ?

ZERO EMISSION HEAVY VEHICLES - ZEHV

NZ is a Technology Follower – *US/Europe/China have committed to ZEHV*

- BEV = Battery Electric Vehicle
- FCEV = Fuel Cell Electric Vehicle – hydrogen
- RNG = Renewable Natural Gas

Class 8 Tractors ready to order now in California USA

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PROJECT SWITCH

WHY ?

ABUNDANT CHEAP RENEWABLE ENERGY

By the numbers

84%
of electricity usage is renewable in New Zealand
Source: Ministry of Business, Innovation & Employment (2020), Energy in New Zealand

2nd
in the world for energy security
Source: International Index of Energy Security Risk (2020)

2035
target year for NZ to reach 100% renewable energy
Source: Beehive (2019), NZ embracing renewable electricity future

2k+
MW of additional wind generation consented
Source: Ministry of Business, Innovation & Employment (2019), Energy in New Zealand

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PROJECT SWITCH

WHY ?

ABUNDANT CHEAP RENEWABLE ENERGY

Federal Incentives

The US is pouring $60B into EV-related segments

Inflation Reduction Act (IRA) will push $369B into clean energy segments

EV Highlights of the IRA:

- 30% Commercial EV tax credit up to $40,000 through 2032
- 30% EV Charging Infrastructure tax credit through 2032
- 30% Tax credit for solar-paired or standalone storage

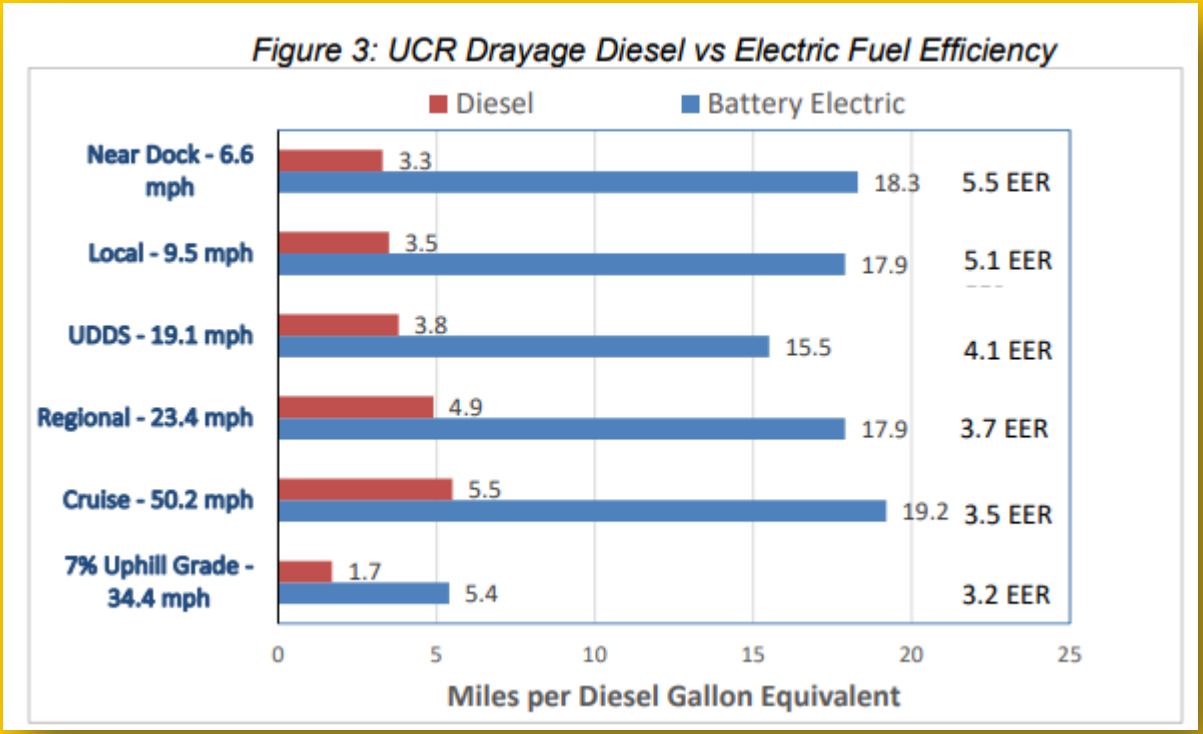
EV in the Bipartisan Infrastructure Law:

- $7.5B for EV Charging
- $10B for Clean transportation
- $7B for EV battery components, critical minerals, and materials

PROJECT SWITCH

WHY ?

BEV v DIESEL ENERGY EFFICIENCY



Battery Electric Truck and Bus Energy Efficiency Compared to Conventional Diesel Vehicles
California air Resources Board 2018

WHY ?

GOOD BUSINESS

KWH / Km V Litres / Km

60-90%* Reduction in $ / Km For Energy

* Based on energy source, energy price and application

Offset against
- capital price
- residual price
- payload penalty
- productivity – charging time

Support From EECA LTEF
RUC Discount until 2025

SUSTAINABILITY

PROJECT SWITCH

1	Convert Diesel fleet to Euro 6 Convert Light vehicle fleet to BEV	Completed
2	Commit to Netcarbonzero - reduction and offsets	Completed
3	Commission HD BEV trucks and BEV Reachstackers	Completed
4	Build scalable MCS capable Microgrid c/w BESS	2023 - 2029
5	Complete Roll out of HD BEV Fleet	2024 - 2029

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PROJECT SWITCH

STAGE 1

CONVERT TO EURO 6 DIESEL

COMPLETED 2022

- *28 x Mercedes, Freightliner, Fuso*

- Pilot PV installed in 2021 – 60 kw

17 x Light Forkhoists, Vans and Reachstackers converted to BEV 2022

PROJECT SWITCH

STAGE 2

NetCarbonZero

Measured emissions to **ISO 14064-1:2018** and **Toitū requirements**

Committed to managing and reducing against **Toitū requirements** *SBTi target requires 4.2% reduction from base year every year, and reduce by 90% by 2050. All the "avoidable" should be reduced, rather than offsetted*

Compensated remaining emissions following **Toitū requirements** and covering minimum of **total Toitū boundary**

Avoidance credits: 3,316 (18 from #0410a, GYAPA COOK STOVES PROJECT IN GHANA, 2,781 from #0410b, GYAPA COOK STOVES PROJECT IN GHANA and 517 from #0410c, GYAPA COOK STOVES PROJECT IN GHANA

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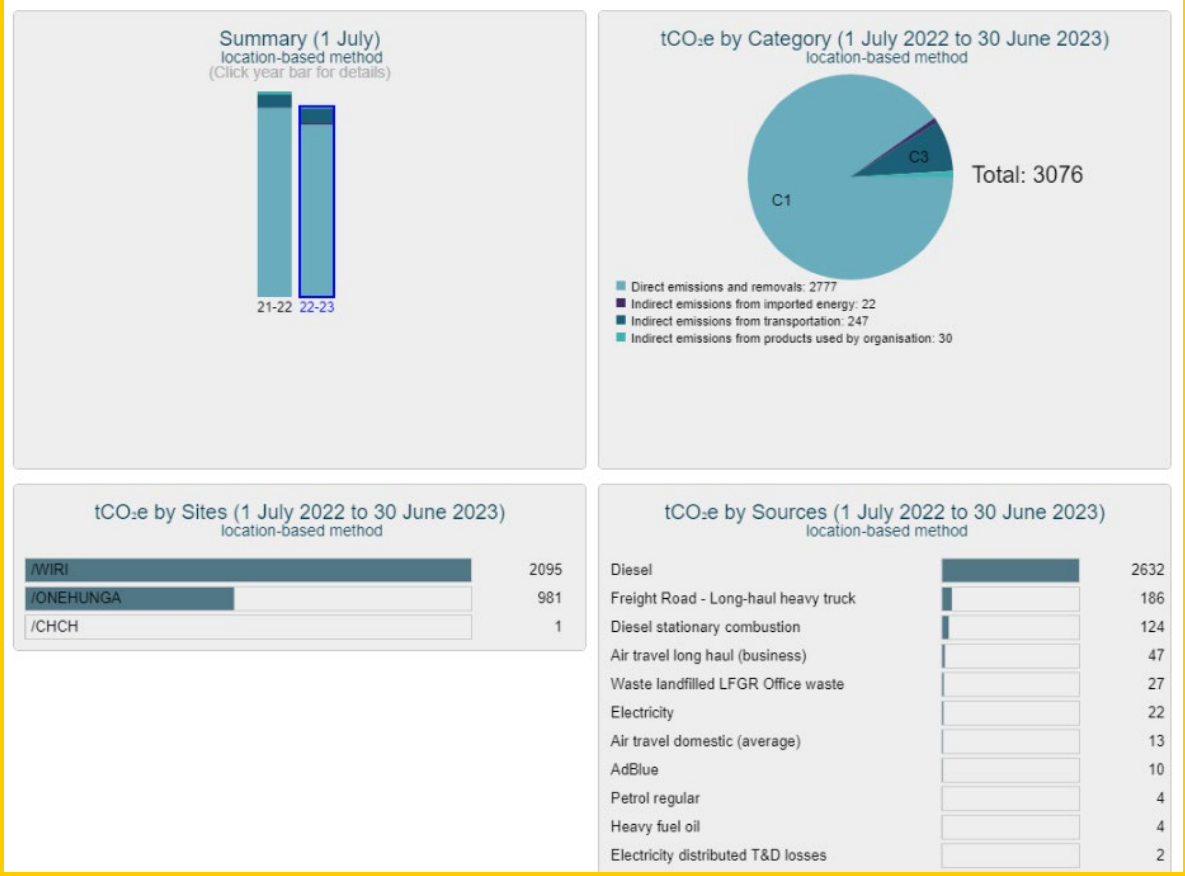
PROJECT SWITCH

STAGE 2

Reliance certified NetCarbonZero by TOITU in Dec 2022

Reliance has supplied the offset as part of our service since 2021



PROJECT SWITCH

STAGE 3

COMMISSION HD BEV TRUCKS

EECA LEVCF Round 10: July 2021

25P SCANIA 2 x HD Rigid Trucks - Commissioned Dec 2022

- 6x2 Rigid Flat Deck LTL Steel Products
- 6x2 Rigid / 40'Semi Empty Containers

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PROJECT SWITCH

STAGE 3

MONITORING REPORT..

RELIANCE TRANSPORT LTD

WEEKLY OVERVIEW: 05/06/2023-12/06/2023

Changes in energy consumption
+130 kwh
Total change

+16.5 %
Percentage change

Total distance driven
+769 km
SUMMRY_TotalChange

Total energy consumption
914 kwh

Equipment	Odometer (km)	Distance (km)	Scania Driver Support (%)	Idling (%)	Harsh brake applications (#/100 km)	Energy consumption (kwh/100km)
AVERAGE	9,733	385	96	-	-	118.9
PMD664	11,758	↑370	98	-	0	115
PMD665	7,707	↓399	↓95	-	0	↑122.5

25P SCANIA 2 x HD Rigid Trucks

6 MONTH REPORT

19,465 km @ 118 Kwh/100 km

19,465 km @ $ 0.21 / Km

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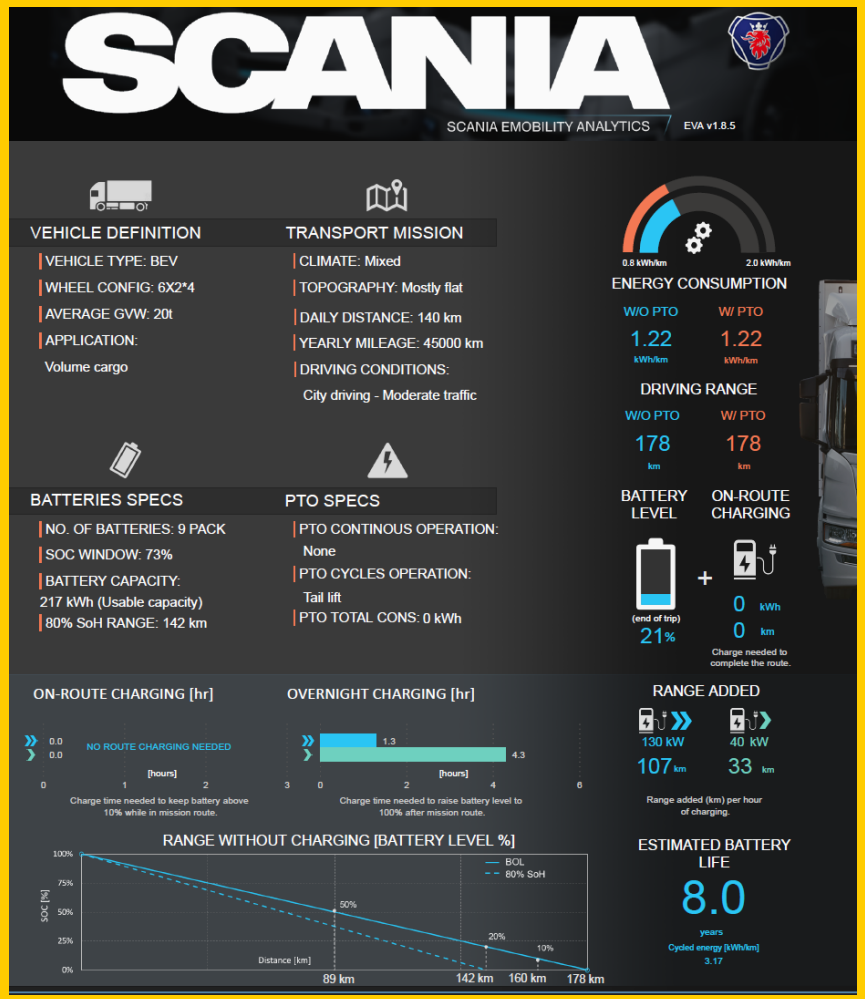
PROJECT SWITCH

STAGE 3



25P SCANIA 9 cell 300 KWH
2 x HD Rigid Trucks

- SOC = 73% = 217 KWH = 178 KM
- 80% SOH = 143 KM
- (300*0.73*0.80) = 175 KWH/1.22 KWH/KM =142 KM
- 5 year battery warranty, under R&M Contract
- Estimated battery life – 8 years !!
- Scania Diesel warranty 3 Yrs/600,000 km

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PROJECT SWITCH

STAGE 4

Build scalable MCS capable Microgrid c/w BESS

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PROJECT SWITCH

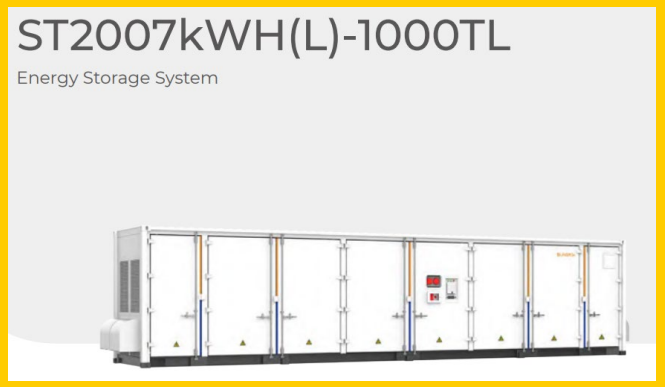
STAGE 4

EECA LOW EMISSION TRANSPORT FUND: Round 7

RTL Ash Rd Wiri: 2023 - 2024

BEV Reachstacker, 16 t Hoist and 350 Kw Microgrid

- 300 KW Solar PV
- 2 MWH/1 MW BESS Battery Energy Storage System
- EMS Energy Management System



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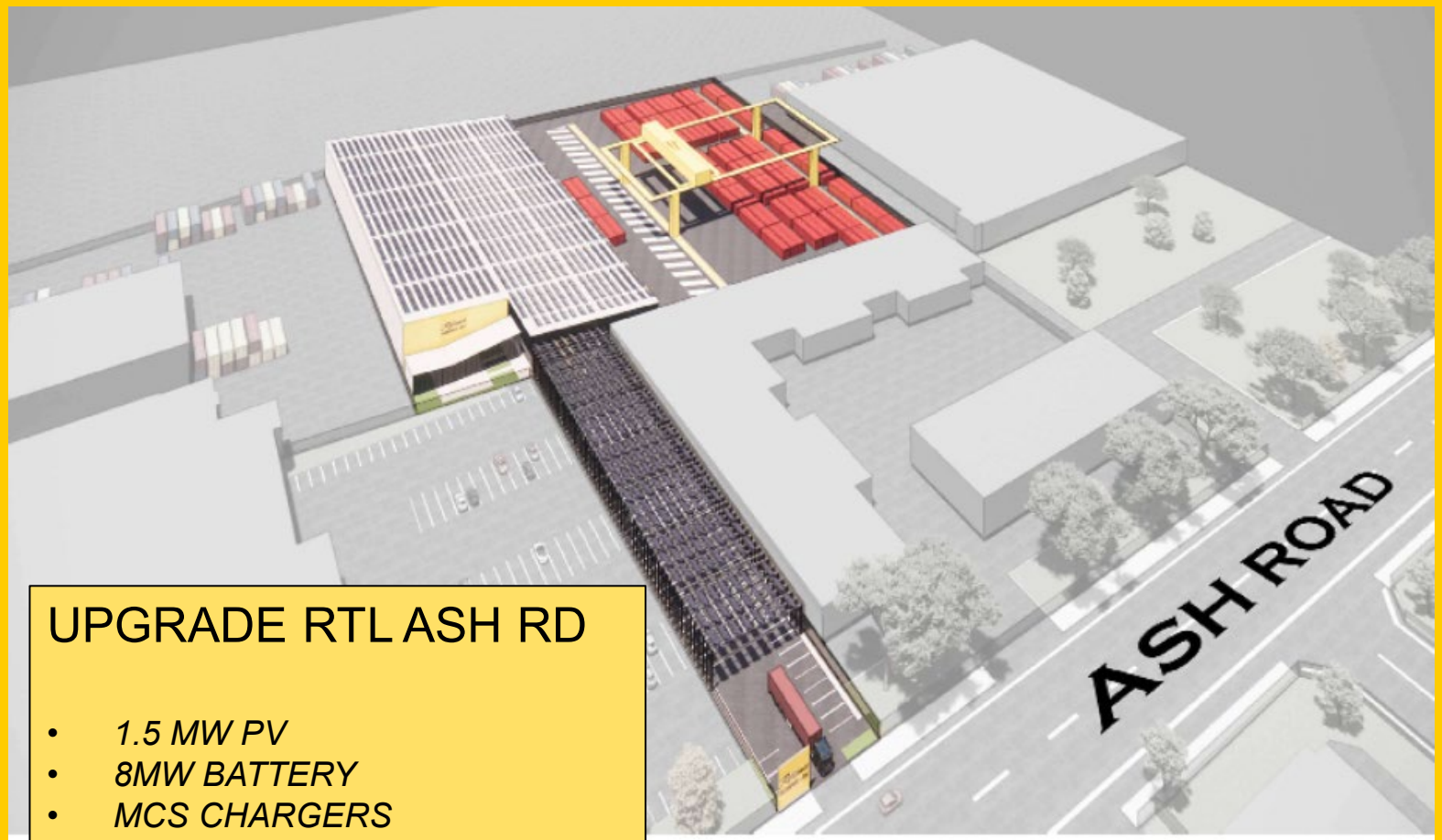
PROJECT SWITCH

STAGE 4



UPGRADE RTL ASH RD

- *1.5 MW PV*
- *8MW BATTERY*
- *MCS CHARGERS*

RENDER IMAGE 1
33 ASH ROAD, WIRI

t. plus architects

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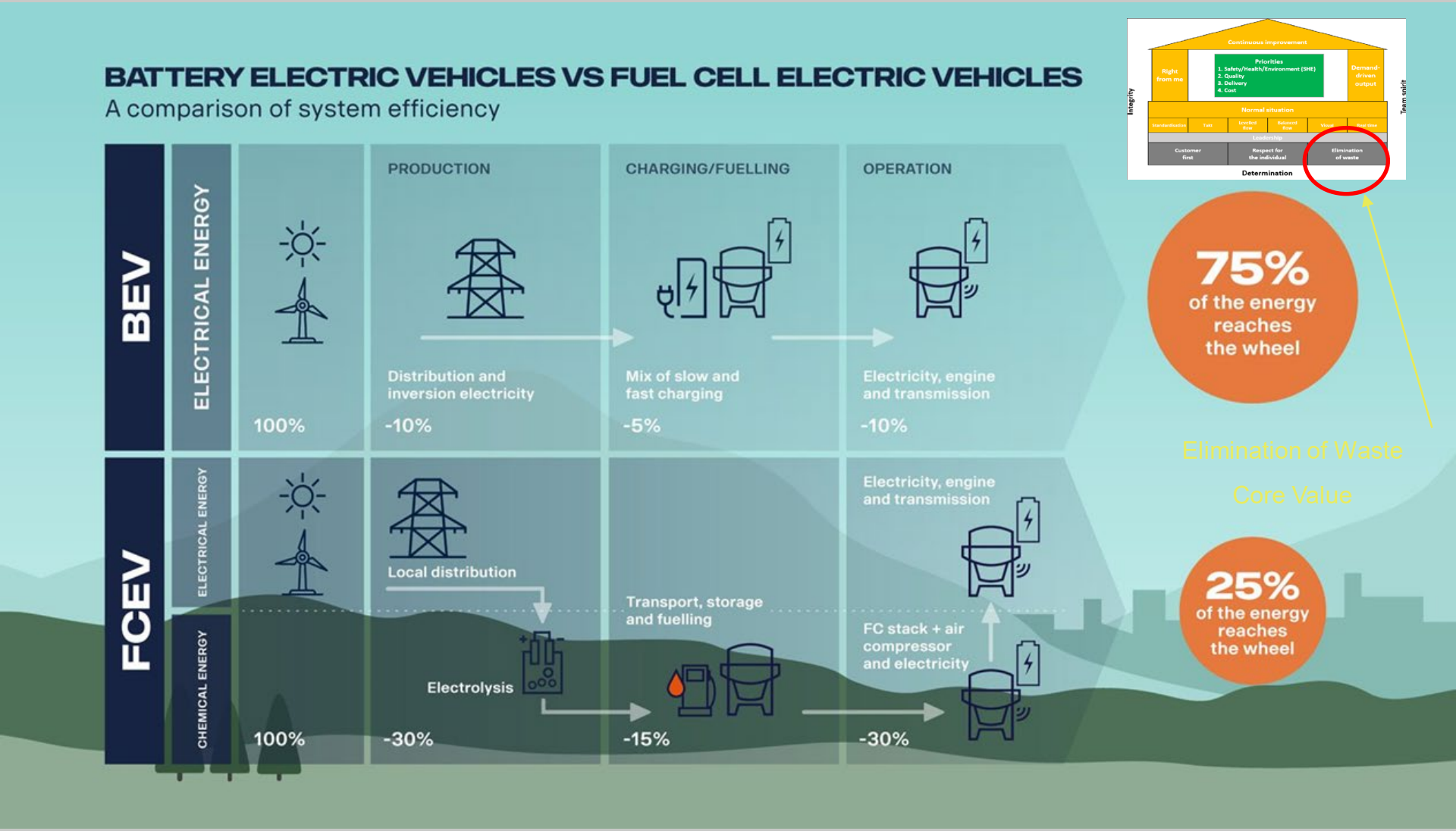
PROJECT SWITCH

STAGE 5

ZERO EMISSION HEAVY VEHICLES - ZEHV

- BEV = Battery Electric Vehicle
- FCEV = Fuel Cell Electric Vehicle – from green hydrogen
- Hydrogen Enrichment
- RNG = Renewable Natural Gas
- BIOFUEL = from animal/plant sources
- E FUEL = synthetic Fuel from green electricity

BEV or FCEV ??


BATTERY ELECTRIC VEHICLES VS FUEL CELL ELECTRIC VEHICLES
A comparison of system efficiency
BEV
ELECTRICAL ENERGY
PRODUCTION
CHARGING/FUELLING
OPERATION
100%
Distribution and inversion electricity
-10%
Mix of slow and fast charging
-5%
Electricity, engine and transmission
-10%
FCEV
ELECTRICAL ENERGY
CHEMICAL ENERGY
Local distribution
Electrolysis
Transport, storage and fuelling
Electricity, engine and transmission
FC stack + air compressor and electricity
100%
-30%
-15%
-30%
75% of the energy reaches the wheel
25% of the energy reaches the wheel
Elimination of Waste
Core Value

Continuous improvement
Right from me
Priorities
1. Safety/Health/Environment (SHE)
2. Quality
3. Delivery
4. Cost
Demand-driven output
Integrity
Team spirit
Normal situation
Leadership
Customer first
Respect for the individual
Elimination of waste
Determination

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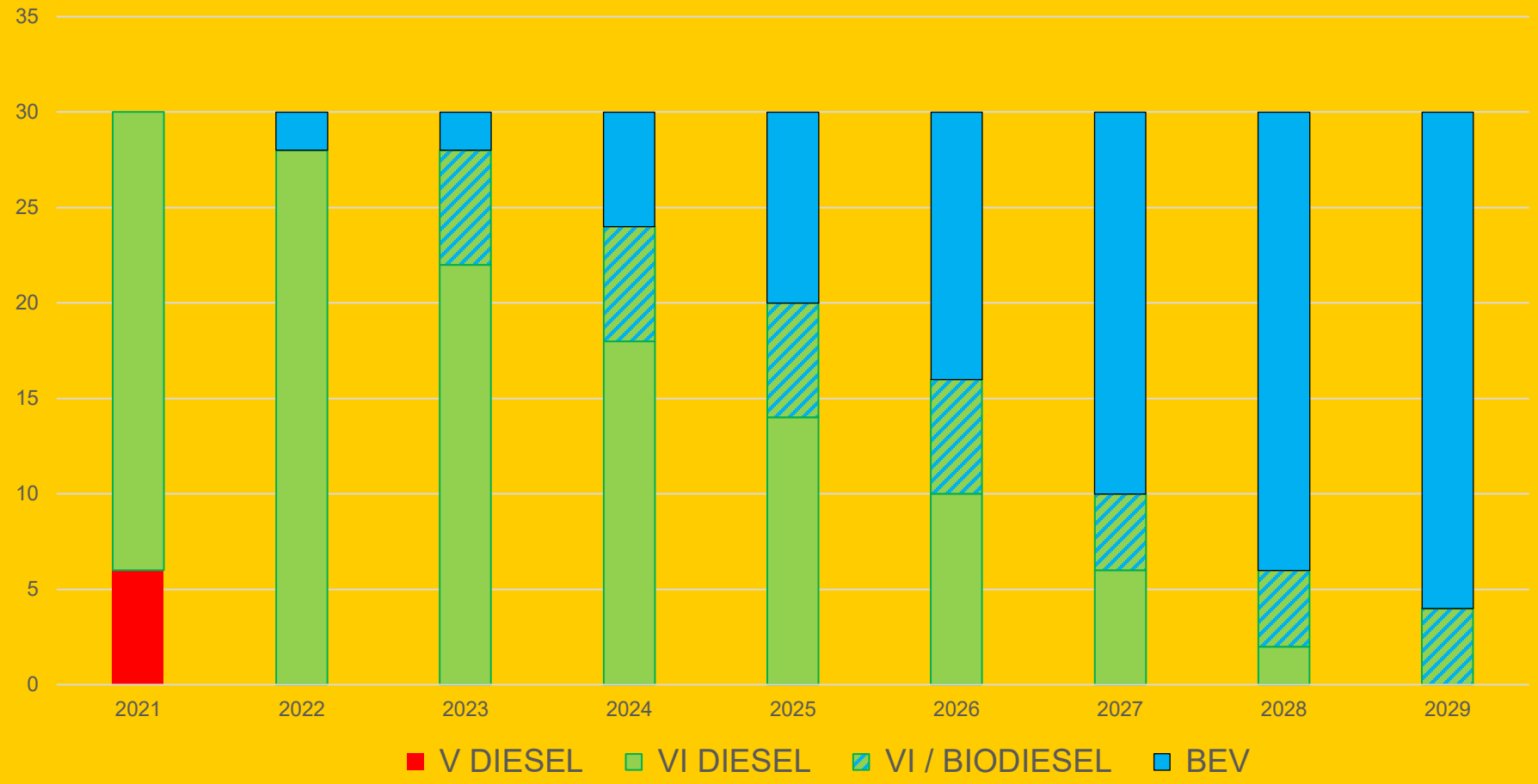
PROJECT SWITCH

STAGE 5

RTL FLEET 2020 - 2030



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PROJECT SWITCH

STAGE 5

HYDROGEN FCEV

2 X UNITS ORDERED THROUGH TR GROUP / EECA

DUE Q3/4 2022
DUE Q1 – 2024 ?

REFUELLING INFRASTRUCTURE

WIRI Q3 2023 ?

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PROJECT SWITCH

STAGE 5

ReGional Battery Electric Semi (BEV)

WHEEL CONFIGURATION
4x2, 6x2*4

WHEELBASE
4150mm >

CAB OPTIONS
R, S

ELECTRIC DRIVE
410 kW continuous power

PTO
Electrical and mechanical interfaces
from 30 to 260 kW

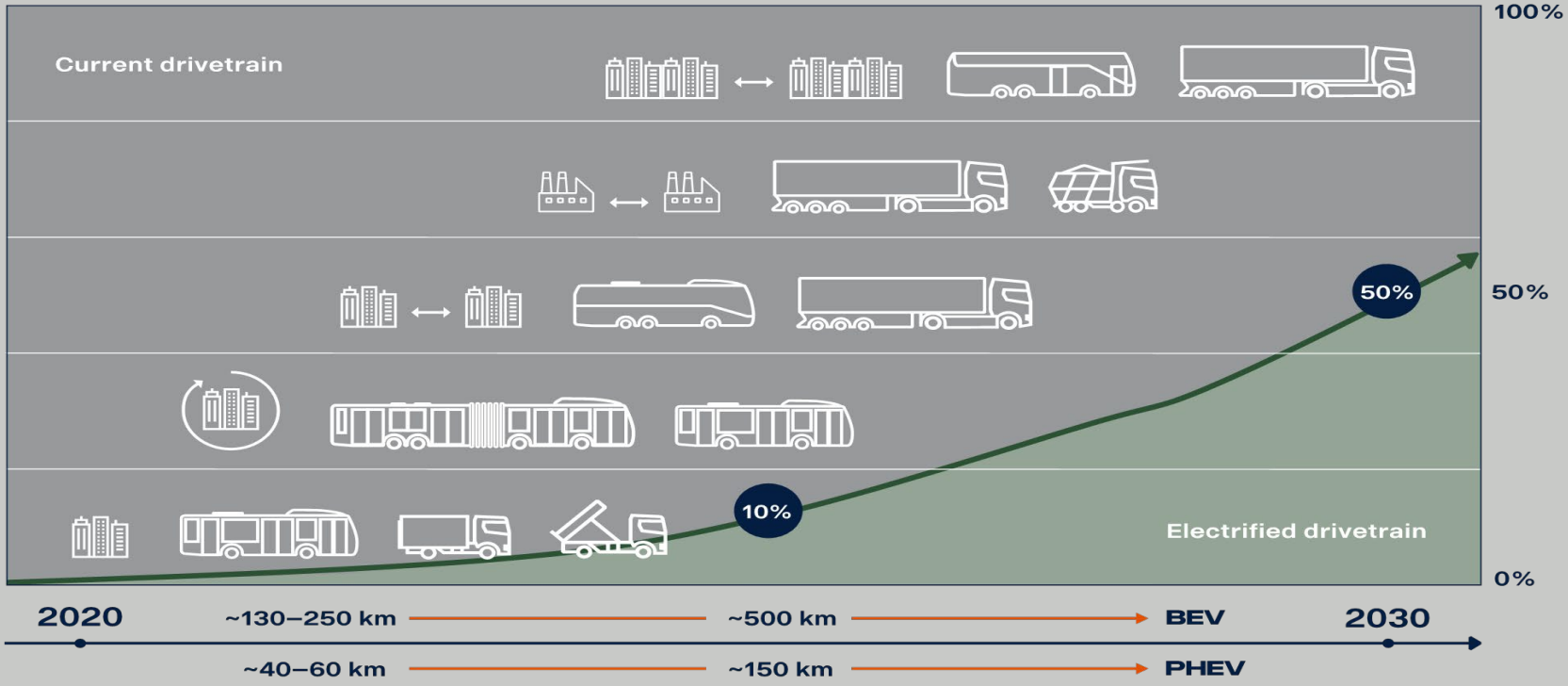
BATTERY CAPACITY
624 kWh (installed),
468 kWh (usable) with 75% SOC –
Up to 350 km range at 40 t GTW
and 250 km range at 64 t GTW

TO UPLOAD
CCS2 375 kW/500 A DC
Fully charged in less than 90 min at 375 kW

Max. 64 t

PROJECTION electrification globally to +/- 72 ton's GCW

a New Product Every Year ! New Zealand is well in Reach if willing to adapt.



MCS Charge Standard upcoming

Ecosystem
Energy & Charging

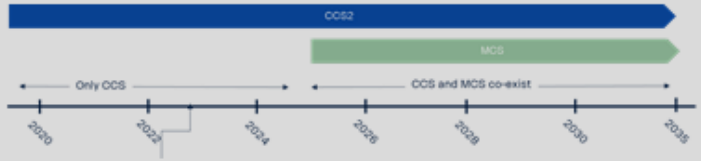
Depot Charging

Destination Charging

En-route Charging

Future standard to solve the charging need of CV is being developed known as Mega Charging System (MCS)

- ✓ MCS will allow charging up to 1250 V and 3 000 A
- ✓ MCS is developed for CV while the CCS was developed for passenger vehicles – CharIn organization takes the lead
- ✓ MCS offers also other benefits compared to CCS such as higher reliability
- ✓ MCS will have a recommended position on the vehicle – left hand side, behind cab, on hip height
- ✓ MCS will offer charging from low to high power
- ✓ MCS will be prepared for V2x services (bi-directional)



SCANIA

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PROJECT SWITCH

Partnerships driving the shift

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PROJECT SWITCH

Keep on Trucking