

V O L V O

VOLVO GROUP AUSTRALIA

Here and Now in Australia

Tim Camilleri – E-Mobility Solutions Manager

iMove Conference, Sydney 2022

Ambitious targets guiding our transition

50%

CO₂ reduction* by

2030

100%

CO₂ reduction* by

2040

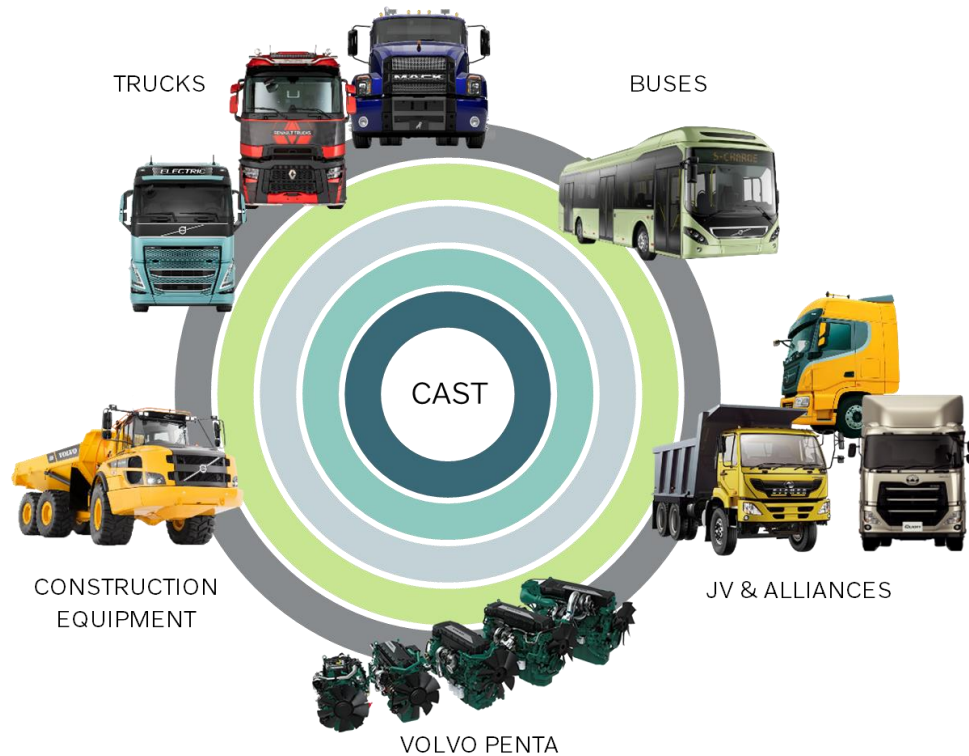
NET ZERO

CO₂ emissions

BY 2050

CAST – Common Architecture & Shared Technology

A modular approach that benefits all business areas



- Volvo Group and its partners can benefit from the Group's modular platform: Common Architecture & Shared Technology (CAST).
- The ambition with CAST is to develop a competitive set of modular products and services that are easy to integrate, that meet future legal, market and society needs, and that exceed customer expectations.
- This modular approach enables Volvo Group to share technology for engines, electronics, transmissions, chassis, connectivity, electromobility and automation among its business areas.

Volvo Group — extensive experience of commercial electrical vehicles



1995-2005
Environmental
Concept Trucks
and Buses

2010
Production start
Hybrid Truck
Hybrid Bus

2016
Production start
Plug-in Electric Bus

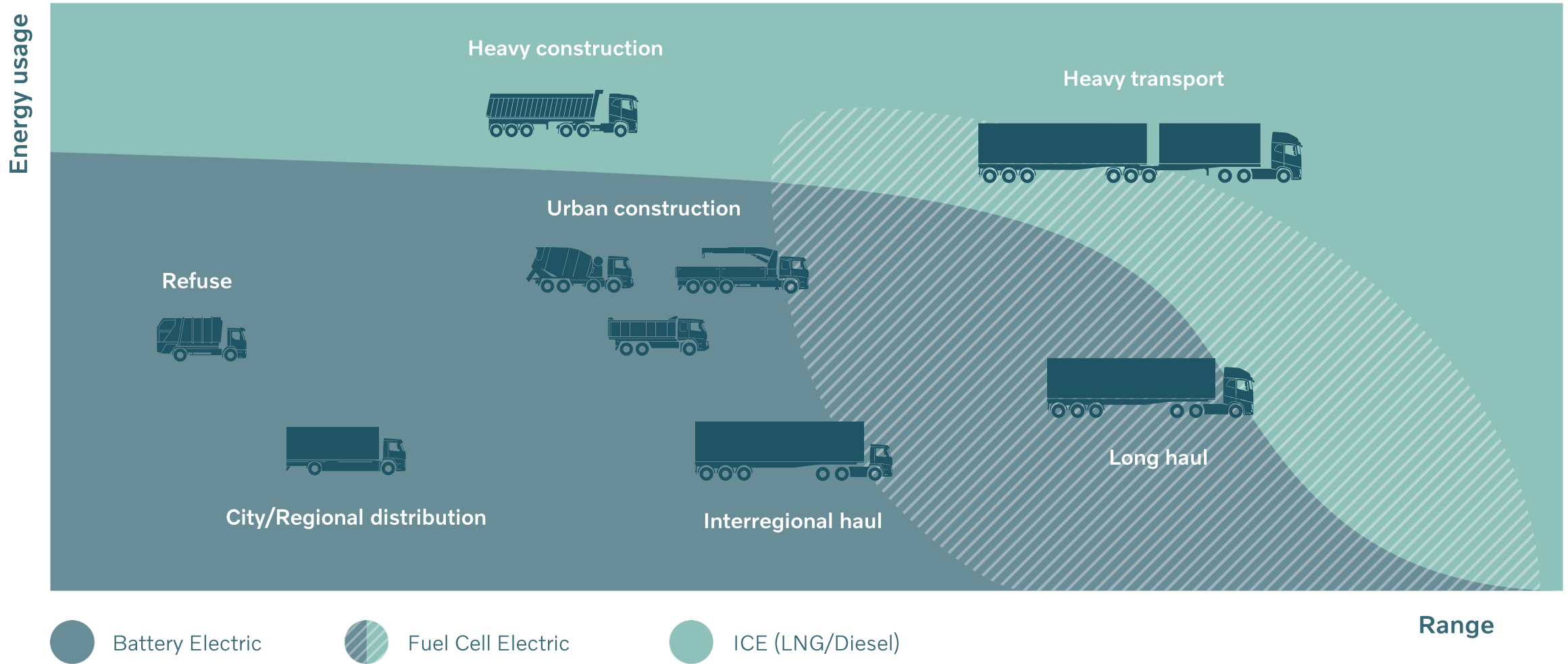
2017
Production start
Electric Bus

2019
Production start
Electric trucks
distribution

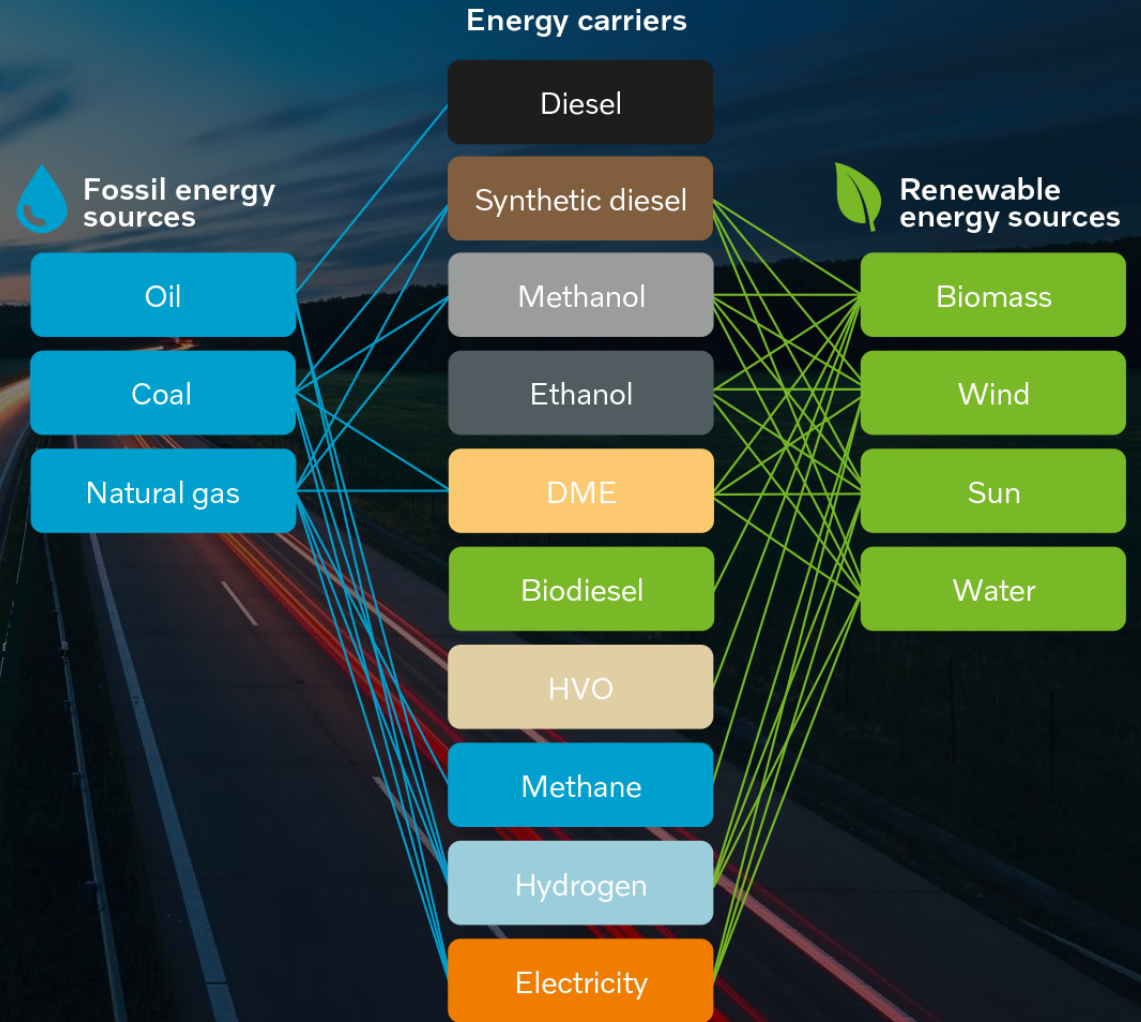
2021
Production start
Electric trucks
distribution
conventional

2022
Production start
Electric trucks
regional haul and urban
construction

A mix of products will be required to meet net zero



ALTERNATIVE FUELS THE WAY FORWARD



Electric Trucks are here.



Volvo FE Electric
Compact but
capacious

NOW AVAILABLE
Volvo Trucks

Volvo FM Electric
Flexible regional
assignments

AVAILABLE SOON

Volvo FH Electric
From city to city in
comfort

AVAILABLE SOON

Volvo FMX Electric
Fit for building and
construction

AVAILABLE SOON

Volvo FL Electric
Door-to-door
deliveries

NOW AVAILABLE



BEV & FCEV applications 2026>

 16-26t

 300kms

 0.8 kWh per km

 >44t

 300kms

 1.5 kWh per km

 >76t

 ~800kms

 TBA kg/kWh per km



FL/FE Battery
Electric

NOW



FM/FH Battery
Electric

2023

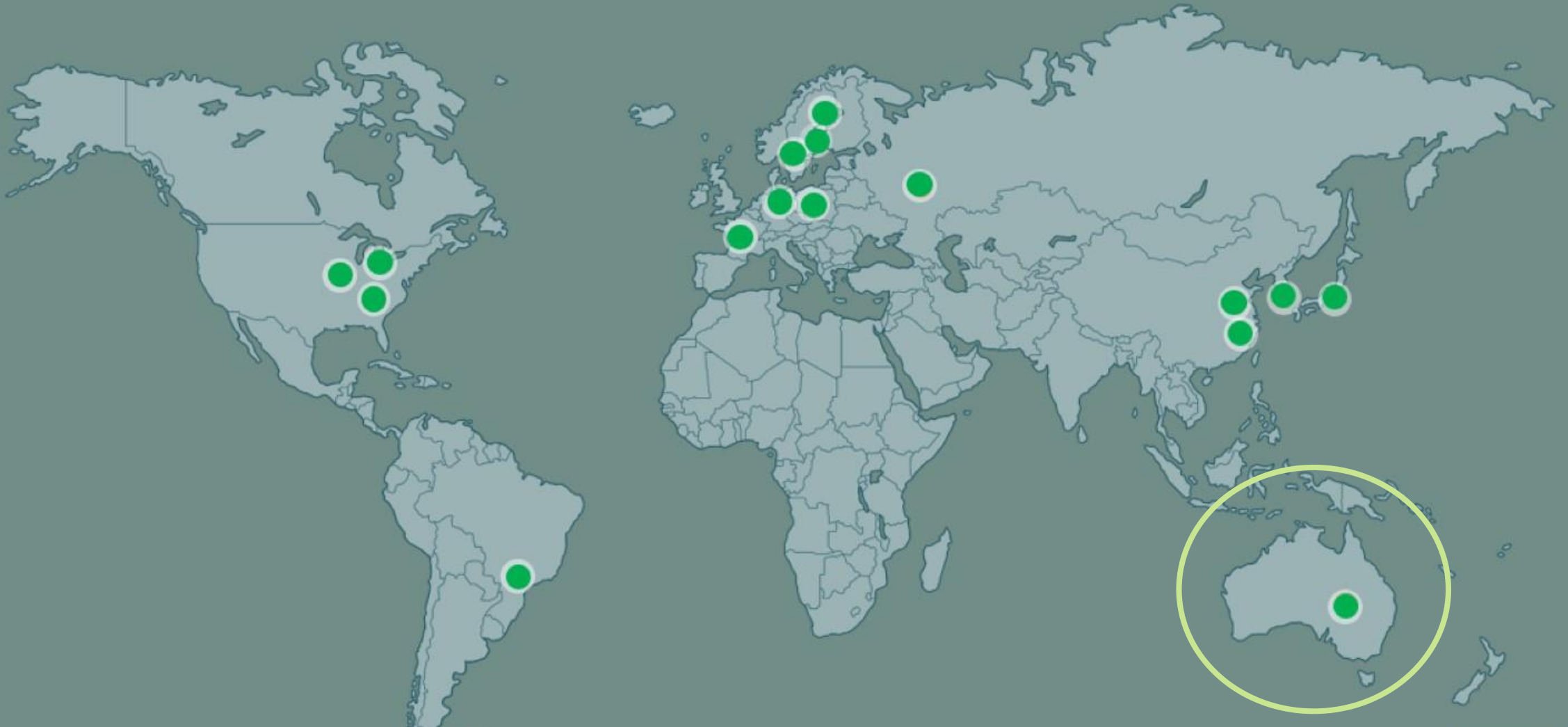


FM/FH Hydrogen
Fuel Cell

2026 onwards

2025

Electric production roll-out



Production facility in BNE since 1972



Best practice for the transition

Charging

WINDOW

ENERGY ON
SITE

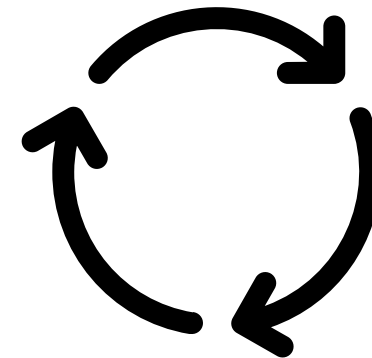
HYGEINE

Implementation

START
CONSERVATIVE

MONITOR

ADJUST



Safety – never compromised

- Driver Training – Safe drivers are efficient drivers
- Vehicle hand over, who needs to be involved?
- Road Users



Connectivity during pre-study - ERS Tool

1

Vehicle specification

- Curb weight
- Max payload
- Specify PTO

2

Route

- Way points
- Setup charging stations

3

Travel plan (operation)

- Load and unload
- Service time
- PTO consumption

4

Result

- Energy consumption
- Analysis (5 yr batt age)
- Iterate 1-4



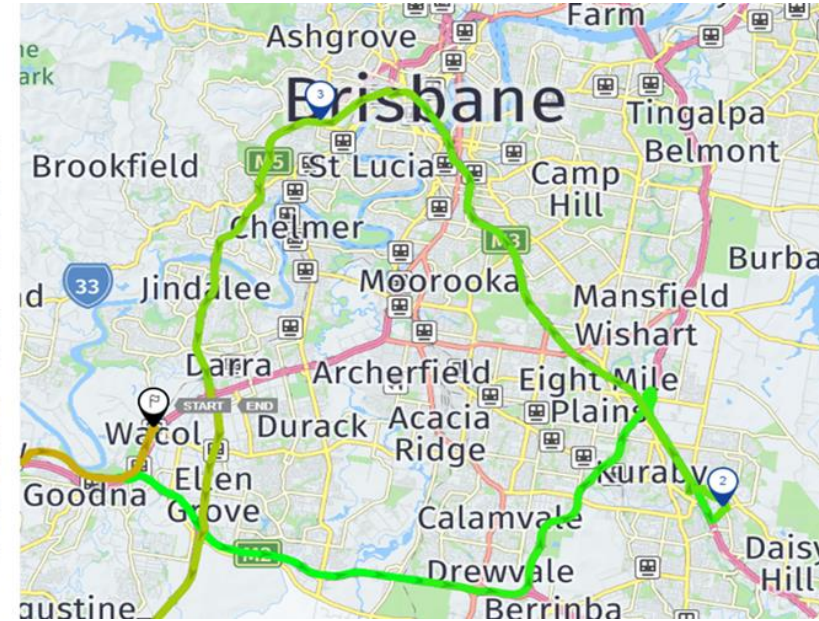
← Test

Brisbane Metro Loop
Brisbane, 5 Waypoints

FL
FL - 4x2, 265 kWh

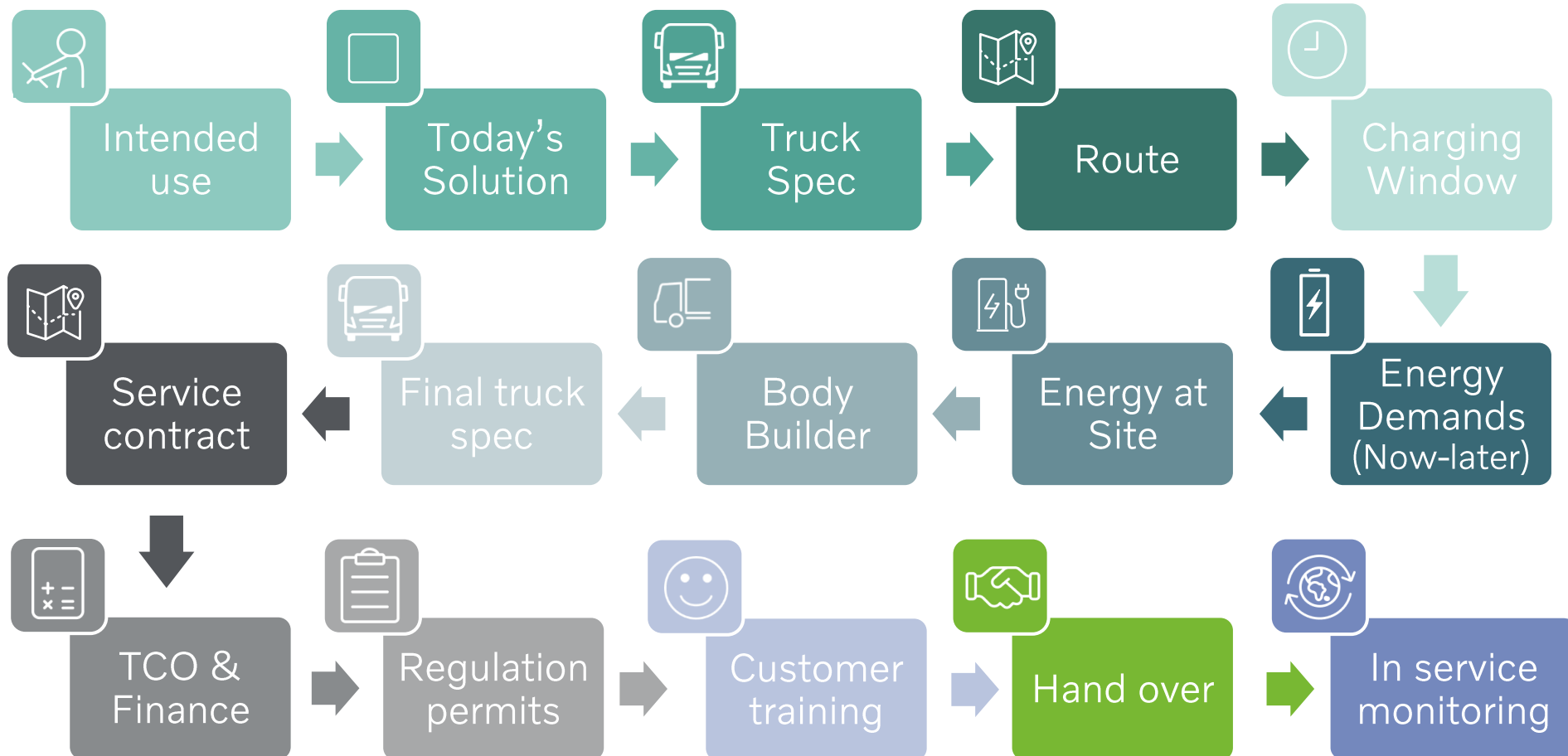
| | 30 °C |
|-----------------------------|----------------|
| Energy consumption | Typical |
| Total consumption, kWh | 104.25 |
| Average consumption, kWh/km | 0.82 |
| Remaining energy, kWh | 63.39 |
| Distance to empty, km | 77.03 |
| Charging | |
| Charging time | 0h |
| Charged energy, kWh | 0.00 |
| Regenerated energy, kWh | 17.73 |
| Route | |
| Route distance, km | 126.67 |
| Total route duration | 5h 14m |
| Driving time | 2h 29m |
| Service and rest time | 2h 45m |
| Max. carried payload, kg | 5000.00 |
| Average speed, km/h | 51 |
| Top speed, km/h | 88 |

On the map the route is colored to show the batteries energy at the chosen reference temperature



Take the time to ensure the right **solution** for the operational task

We offer solutions, not just trucks



Charging plug standards

| Current type | Region | | | |
|--------------|-------------------|-------------------|-----------------------|-------|
| | Japan | America | Europe, rest of world | China |
| AC | | | | |
| Plug name: | J1772 (or Type 1) | J1772 (or Type 1) | Mennekes (or Type 2) | GB/T |
| DC | | | | |
| Plug name: | CHAdeMO | CCS1 | CCS2 | GB/T |



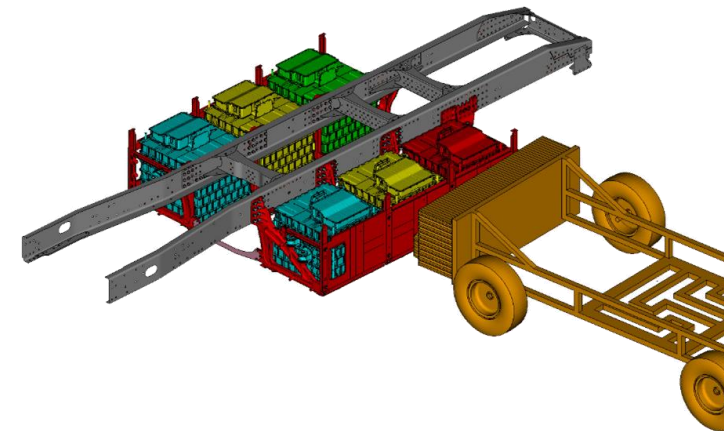
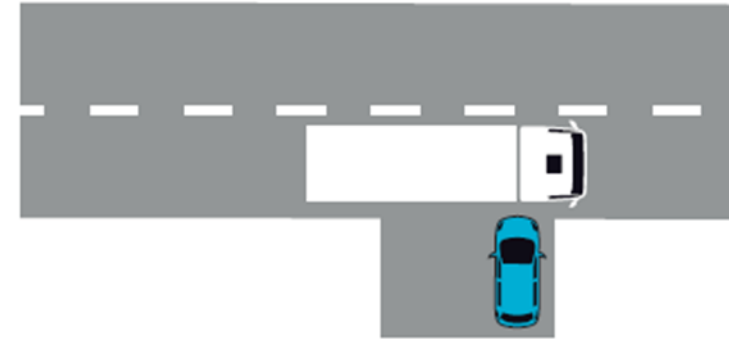
22kW/43kW
8hr

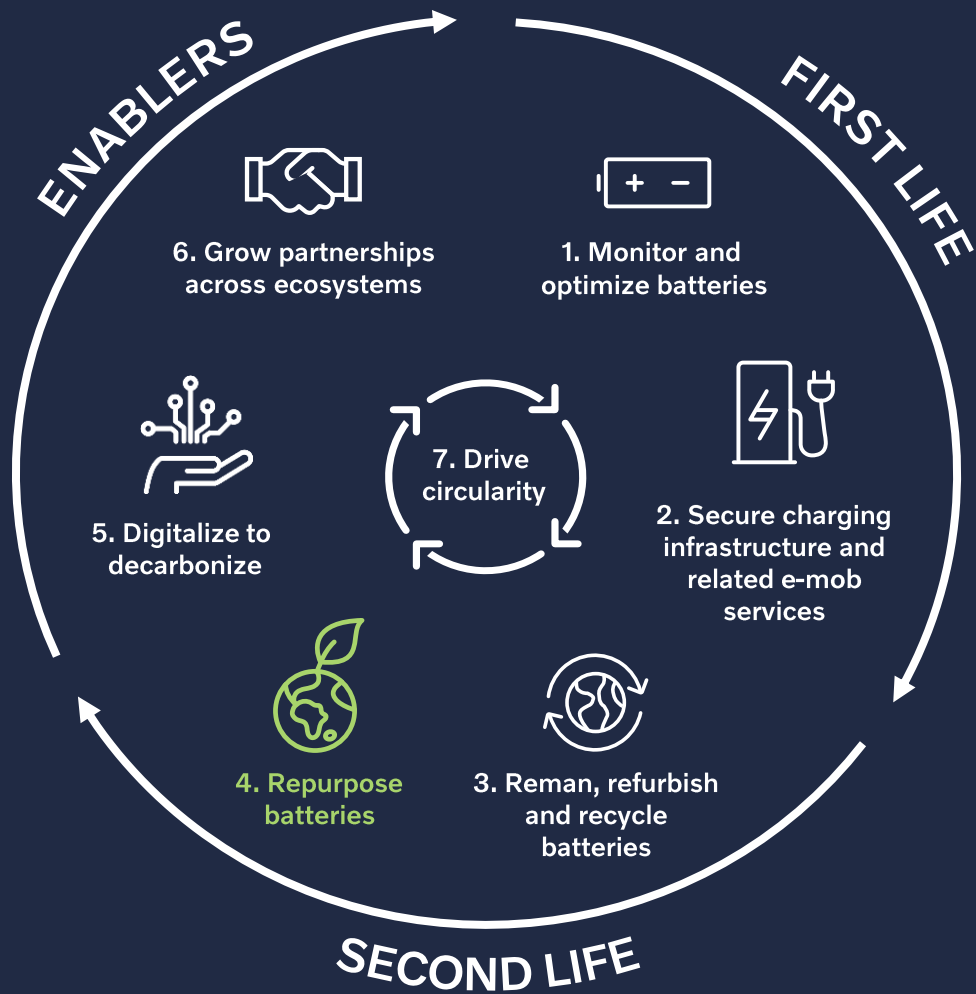


150kW/250kW
1.5hr

Our batteries exceed ECE R100 with Volvo specific testing

- Humidity test
- Immersion test
- Over current protection
- Over charge
- External short circuit
- Thermal runaway
- Temperature cycle





Volvo Energy accelerating electrification and circularity

- **First life:** support Volvo Group brands with sales and service of electrified vehicles and machines.
- **Second life:** create an attractive and circular business model for second-life batteries.
- **Enabling and accelerating** Volvo Group's overall sustainability ambitions.

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ELECTRIC