

VOLVO

# Hydrogen as a renewable fuel option



Zero Emissions  
– roadmap and considerations

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WHAT  
WE DO



V O L V O



V O L V O



V O L V O  
P E N T A



UD TRUCKS



# Ambitious targets guiding our transition

**50%**

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CO<sub>2</sub> reduction\* by

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**2030**

**100%**

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CO<sub>2</sub> reduction\* by

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**2040**

**NET ZERO**

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CO<sub>2</sub> emissions

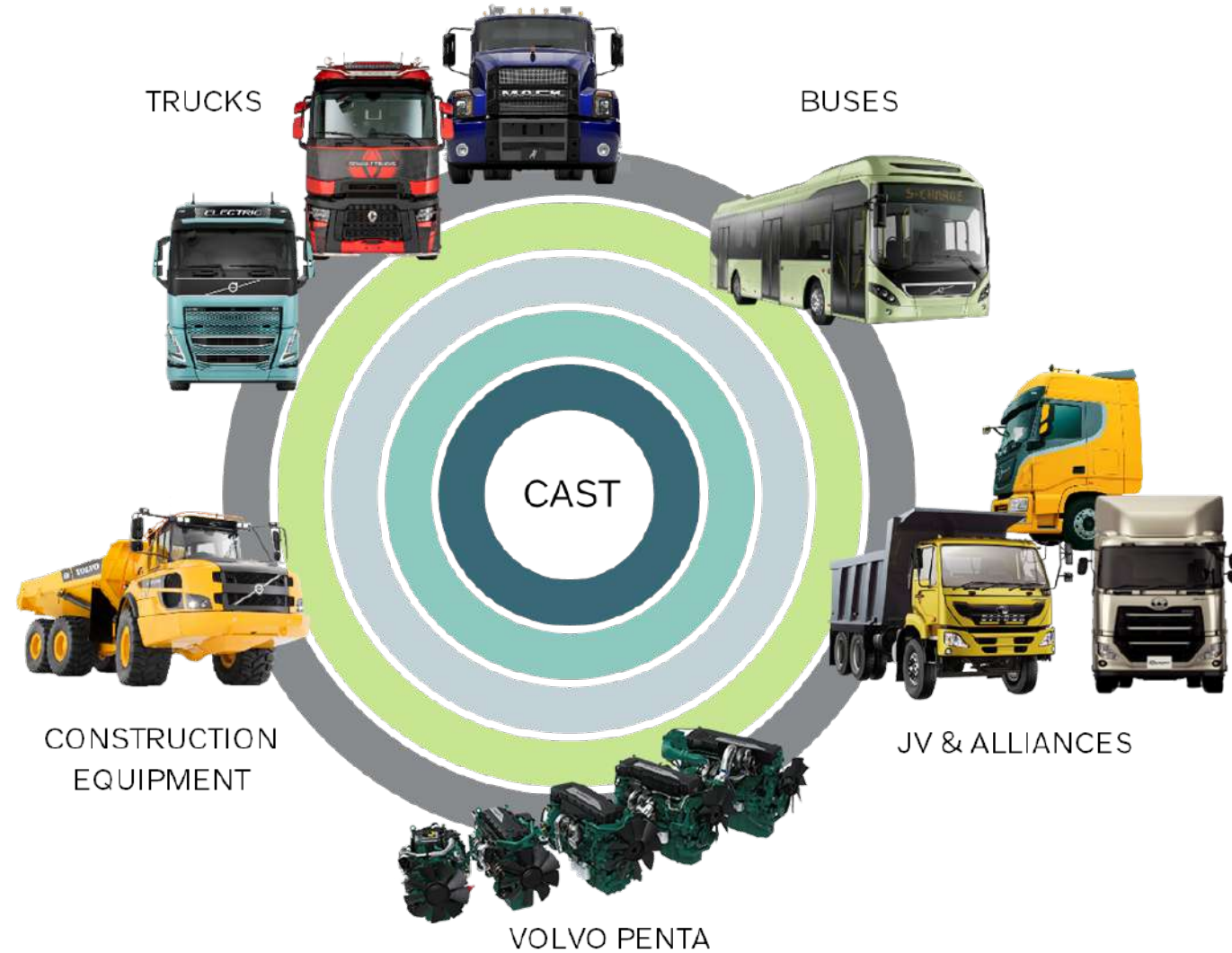
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**BY 2050**

\*compared to 2019

V O L V O

# Common architecture and shared technology



# We have extensive experience of electrical vehicles



**1995-2005**  
Environmental  
Concept Trucks  
and Buses

**2010**  
Production start  
Hybrid Truck  
Hybrid Bus

**2016**  
Production start  
Plug-in Electric Bus

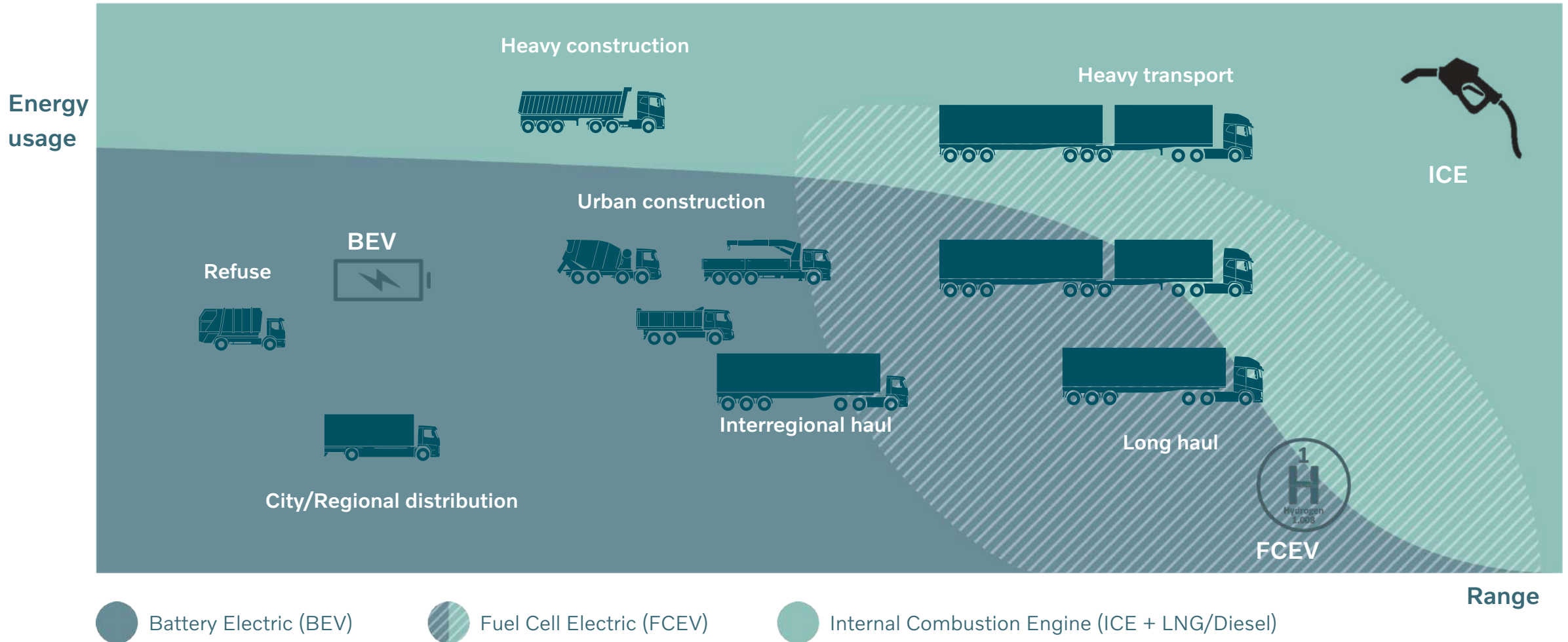
**2017**  
Production start  
Electric Bus

**2019**  
Production start  
Electric trucks  
distribution

**2021**  
Production start  
Electric trucks  
distribution  
conventional

**2022**  
Production start  
Electric trucks  
regional haul and urban  
construction

# Roadmap - a mix of energy types will be required to meet net zero





We cannot package enough

**BATTERY CELLS FOR INTERSTATE TRANSPORT**



>76T

1  
H  
Hydrogen  
1.008

800 KMS

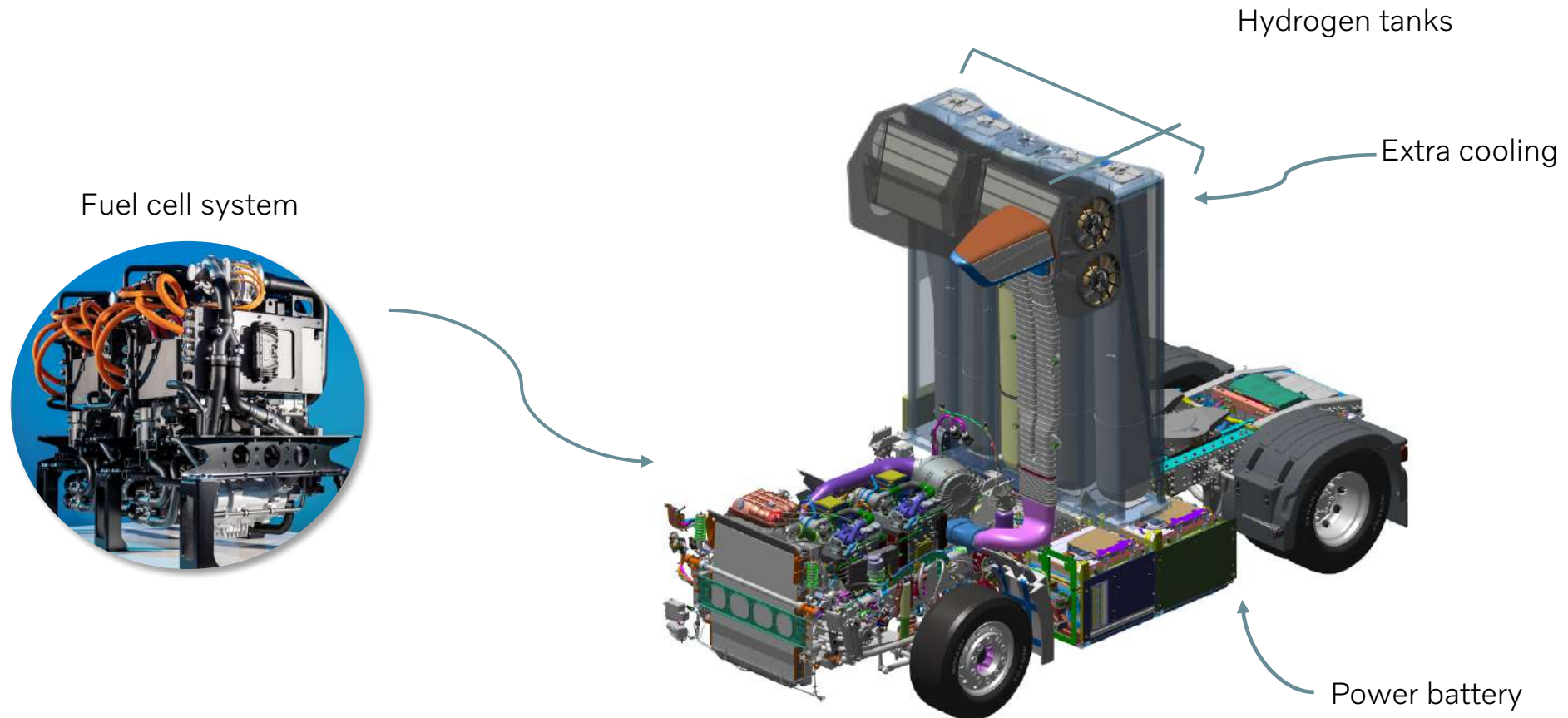


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**HYDROGEN FUEL CELL ELECTRIC**  
- prototype

# What is a fuel cell electric vehicle?



## Development Joint Venture - Cellcentric



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Why?

# FUTURE GENERATIONS