

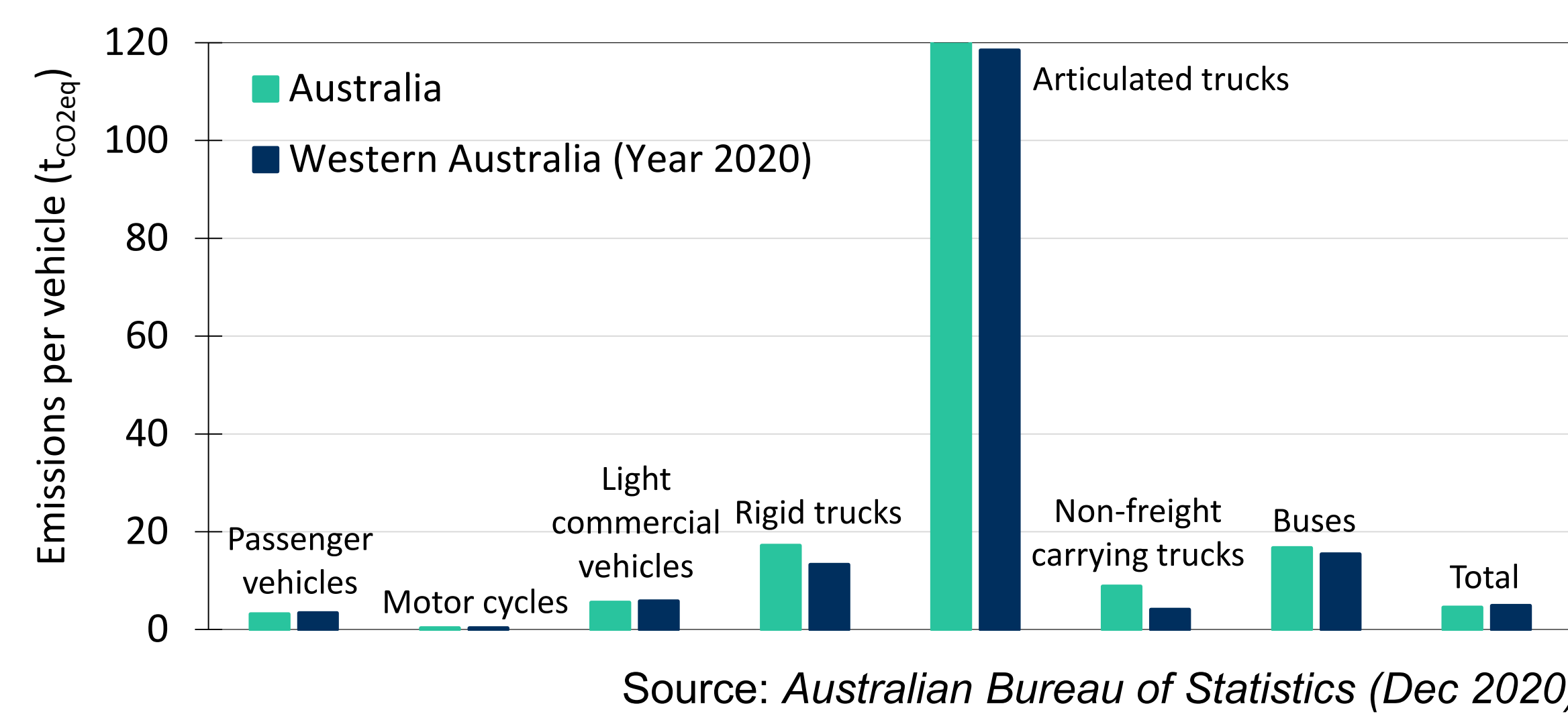
Green Hydrogen for Road Transport in Western Australia - Truck Trials



The problem we solve

Road transport emits 15% of total CO₂ (500 Mt in 2020) in Australia

The largest emitters are high utilization vehicles such as trucks and buses

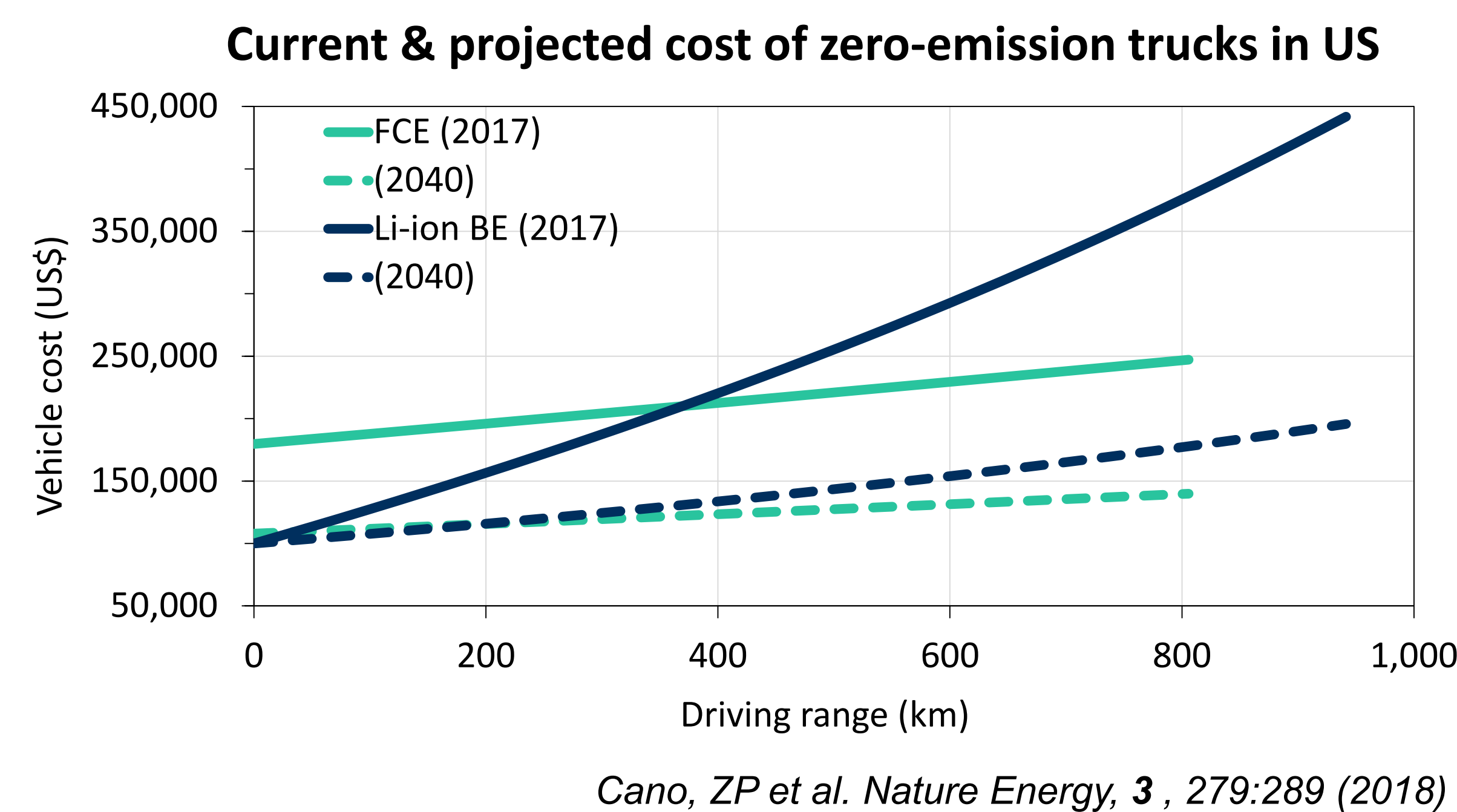


The opportunity

Effectively reduce up to 5% emissions by replacing diesel with green hydrogen to power heavy-duty road transport using H₂ Fuel Cells (zero-emissions FC trucks)

Advantages of FC vs. Battery (BE) trucks

- Longer range
- Quicker refuelling
- Lower weight and projected vehicle cost



Barriers for adoption of FC trucks

Supply: low production and availability
high production costs
reliability and performance of components

Infrastructure: lack of Refuelling Stations
cost of building new RS
cost of H₂ production/delivery
reliability/performance of RS

Demand: low demand & public awareness
lack of incentives



Commercial Fuel Cell Truck



Hydrogen Dispenser

Project aims

- To identify market, cost and technical barriers for deployment of FC trucks and heavy mobile plants in Western Australia
- To conduct a pilot program to demonstrate FC technology for heavy transport in WA's roads

Industry, Government & Academic Partners



Methodology

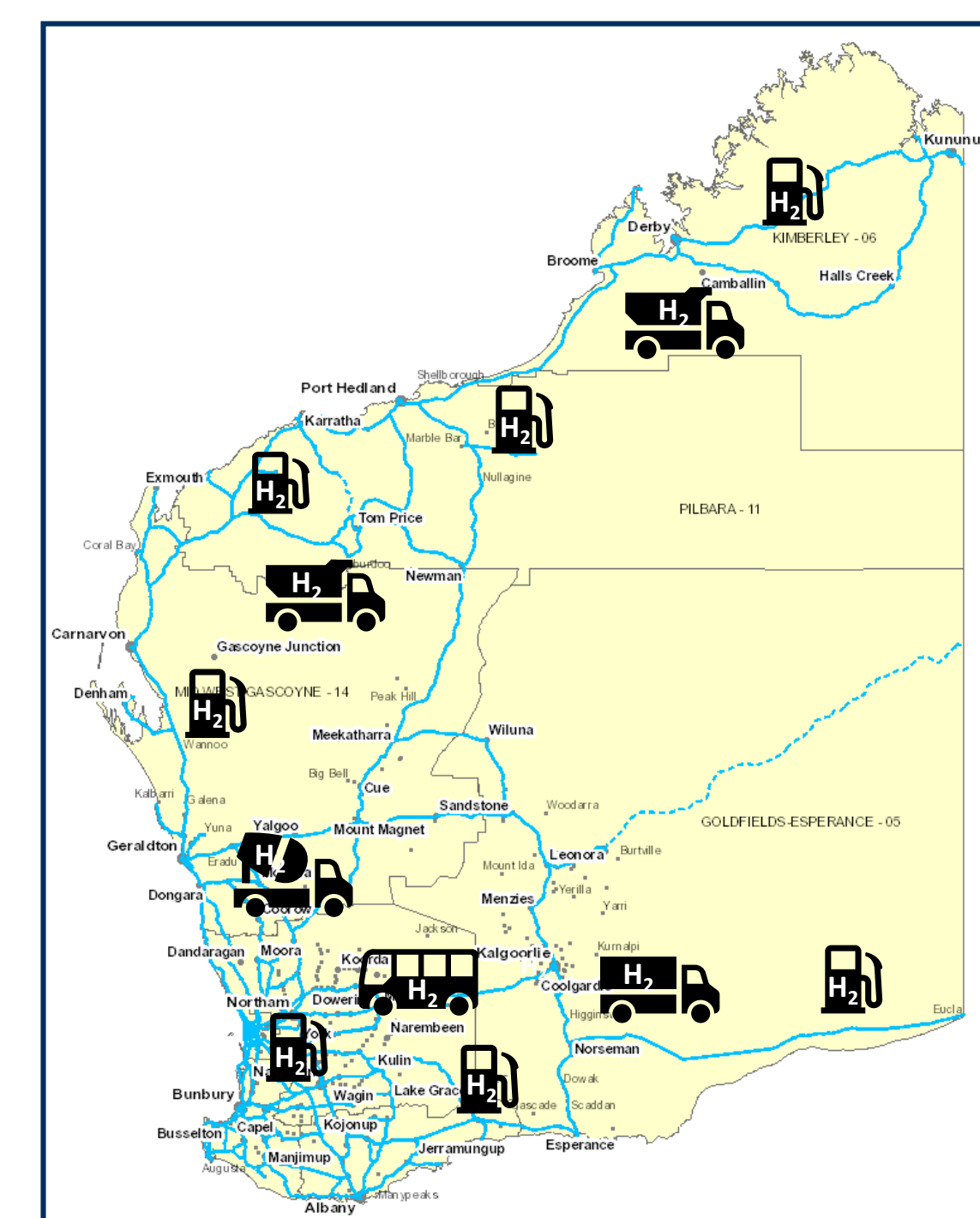
MS1-State of the art review on heavy-duty FC systems & refuelling infrastructure for trucks, buses and mobile plants

MS2-Techno-economic analysis to identify cost-efficient and sustainable routes for zero-emissions road transport in WA (FC vs. incumbent technologies)

MS3-Market intelligence on availability, performance and price of heavy-duty hydrogen fuelled vehicles and infrastructure in Australia

MS4-6A-Pilot program to test the performance of a FC 29-tonne concrete agitator and a 5-tonne maintenance truck in WA's Mid-West and Perth regions

MS5-6B-Techno-economic study of different modes of refuelling & new designs of refuelling stations



Mapping of hydrogen routes in WA

Project timeline

