
PROPOSED HYDROGEN POWERED HEAVY VEHICLE TRIAL - FREMANTLE PORT

We are seeking your support for a trial of a hydrogen powered higher productivity heavy vehicle(s) operating to and from the Fremantle port.

The Hydrogen Highway means a network of roads equipped with hydrogen refilling stations, allowing the use of hydrogen fuel cell vehicles. WA's Hydrogen Highway will focus on heavy transport, helping to introduce zero emission transport, lower cost fuel, and eventually, a secure fuel supply, eliminating the need for importing diesel. Phase 1 will run along Highway 95 from Perth to Port Hedland, linking the state capital with the Pilbara region. The subsequent stages will lead to an expansion of the Hydrogen Highway across the State and then in collaboration with other initiatives across Australia. Each refuelling stop will include tourist, accommodation, food and recreation facilities.

Clean Power Source

Hydrogen is a clean energy power source that can assist in improving the amenity of local residents and the industry. Hydrogen also has:

- 236 times greater energy per kilogram than a battery;
- Unlike electric batteries, increasing the range of a hydrogen powered vehicle does not require a commensurate increase in the vehicle structure and hence mass;
- Can be made anywhere;
- Helps address the critical fuel supply issues in Australia - defence:
- Zero pollution if made from renewables;
- Develops new industries and technologies: and
- Cheaper and cleaner alternative to traditional fuels.

Natural Advantage for WA

- WA has an expertise in gas contained within its workforce and tertiary institutions.
- WA companies have developed a hydrogen conversion kit for heavy vehicles.
- Suitable for long distances.

- Diversifies fuel supply.
- Creates new industries and jobs, in particular in regional areas.
- Refilling stations can be tourist hubs in regional Australia.

Opportunity to be a World Leader

WA's heavy vehicle industry operates the largest on-road combinations in the world in some of the harshest conditions.

Combining these operating conditions with our natural advantage provides a realistic opportunity to be a world leader.

Imperative for Change

WA relies on its road transport industry to support the state economy and its communities, including those in remote locations. The road transport industry depends on diesel. WA consumes over 25% of Australia's diesel usage, yet currently holds stores of less than 17 days of diesel, which is well below the internationally mandated 90 days. Given the increasing uncertainty in our region, WA must take action to find alternative secure fuel sources in order to mitigate its risk.

Why Fremantle Port?

The inner harbour supply chain has its challenges, with one of these being to contain community impacts associated with container trucks. A trial of a hydrogen heavy vehicle is a means of testing alternate fuel vehicles in a live operating environment to not only understand the benefits of hydrogen as a vehicle fuel source, but also to understand the additional benefits hydrogen may provide in regards to noise and vehicle emissions.

Trial

It is proposed to conduct a trial of a hydrogen powered heavy vehicle (s) from Fremantle port.

The trial vehicle would be a higher productivity vehicle, to help offset the operating costs incurred by the trial company.

Funding of **\$496,800 Excl GST** is required and is being sought from the Federal government.

The project would begin in February 2019 and the final report would be due by the end of April 2019.

Scope of work

The Scope of Work is detailed below:

- Complete the initial Business Case for the hydrogen highway,

- Complete the financial model,
- Interact with the relevant stakeholders,
- Assist in fund raising,
- Report regularly to stakeholders,
- Prepare initial scenario planning,
- Prepare initial demand modelling,
- Prepare initial operational modelling,
- Prepare the initial project plan,
- Prepare the initial resource plan.

Support for the Hydrogen Highway

- Federal Government (Request involvement)
- Western Roads Federation (Actively involved)
- Innovate Australia (Actively involved)
- Hydrogen Council (Actively involved)
- Freight and Logistics Council of WA (Actively involved)
- Fremantle City Council (Actively involved)
- WA Government (Actively involved)
- ATCO (Actively involved)
- Fremantle Port Authority (Actively involved)