

POAL Clean Future: Hydrogen

CHBC Hydrogen in Ports Workshop

Rosie Mercer - October 2018

Today's focus

Our Zero
Emission Future



Why Hydrogen



Our Hydrogen
Project



Our Zero Emission Future

Ports of Auckland will be a global leading sustainable port



We are committed to being Zero Emissions by 2040



We will lead the Energy Transition for NZ Port Sector and drive change for NZ Inc.



We're one of 60 NZ business who has signed up to the Climate Leaders Coalition



We're one of the first Ports in the World to commit to the Science Based Targets Initiative

We are aligning with other NZ and Auckland commitments



New Zealand has signed up the Paris agreement, a commitment to reducing greenhouse gas emissions by 30% below 2005 levels by 2030



Auckland Council is working on a Climate Action Plan which is being drafted this year



Auckland Council has signed up to Fossil Free Streets – C40 Cities which commits to:
procuring, with our partners, only zero-emission buses from 2025; and ensuring a major area of our city is zero emission by 2030

Why Ports of Auckland should ACT

- ✔ We are a **City Port** – need to be the best neighbor and corporate citizen that we can be
- ✔ Maintain our Social Licence to Operate
- ✔ Public expectations are exceeding regulatory commitments
- ✔ Get ahead of the regulation that will eventually be imposed – so we drive change rather than being forced to change

What appeals to us about Hydrogen

- ✔ Green hydrogen is achievable...100% clean energy
- ✔ Greater potential operational productivity for our new autonomous straddles with refueling being easier and quicker than recharging battery electric
- ✔ Hydrogen vehicles have a greater range than battery electric vehicles
- ✔ Appears to be more suitable than battery electric for heavy vehicles given the high energy density by weight of hydrogen
- ✔ Hydrogen shows potential to be the preferred zero-emission fuel for heavy vehicles and freight in the future
- ✔ POAL can contribute to fostering the development of a hydrogen market in NZ

Other benefits of hydrogen for Ports of Auckland

- ✔ Greater control over fuel costs when coupled with on-site renewables
- ✔ Improved air quality for both driver health and public health
- ✔ Creating an alternative fuel source – building resilience
- ✔ Security of fuel supply
- ✔ Opportunity to be first to showcase the technology in NZ
- ✔ Community and reputational benefits – through our leadership
- ✔ Effective for energy storage – potential benefits beyond transport fuels

Our Demonstration Project

Install a hydrogen generation and refuelling station on site at the Port of Auckland

Demonstrate safety and success

of New Zealand's first green hydrogen transport fuel production plant

Demonstrate the versatility

of hydrogen fuel within the port and Auckland City e.g. cars, buses, and in time trucks and container handling equipment



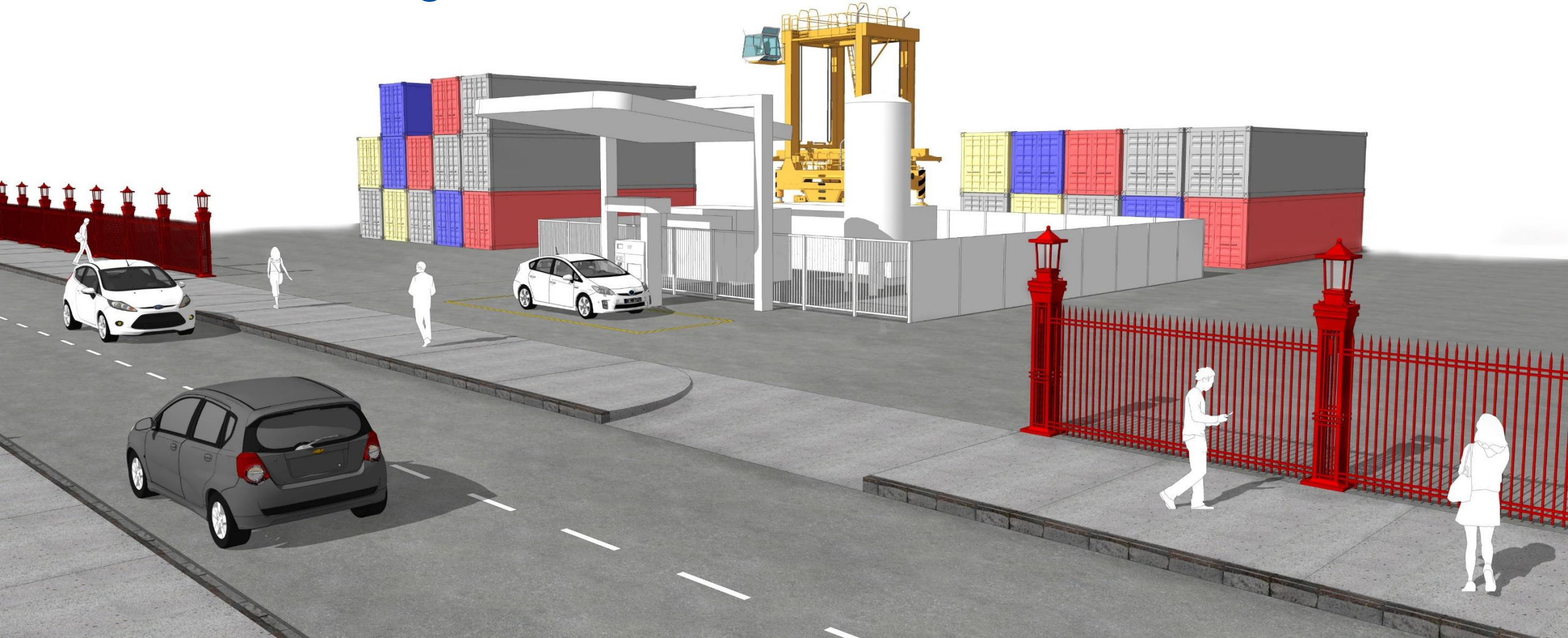
Show how we're taking action

to meet our zero emissions targets by 2040

Bringing our partners along

- ✔ Brought together four like-minded organisations under a Memorandum of Understanding to work collaboratively on this project
- ✔ Partners will get an opportunity to trial hydrogen vehicles and to learn about hydrogen and the role it might play in their future
- ✔ If it goes to plan we will lead in delivering NZ's first H₂ refueling plant
- ✔ Usher in the use of hydrogen for buses, cars and container handling equipment, and pave the way for further developments to allow trucks, trains and ferries to follow

What this might look like



Summary

1

Ports of Auckland will demonstrate leadership and drive change because we believe this is the right thing to do for our community and stakeholders

2

Hydrogen is well suited to port operations and has wider potential for Auckland City

3

Ports of Auckland will deliver a demonstration hydrogen refueling station to pave the way for our zero emission future

4

Ports of Auckland is bringing its partners along to enable them to trial hydrogen vehicles and for the project to have a wider impact on Auckland and New Zealand



Thank you