Decarbonising Auckland's Ferry Fleet

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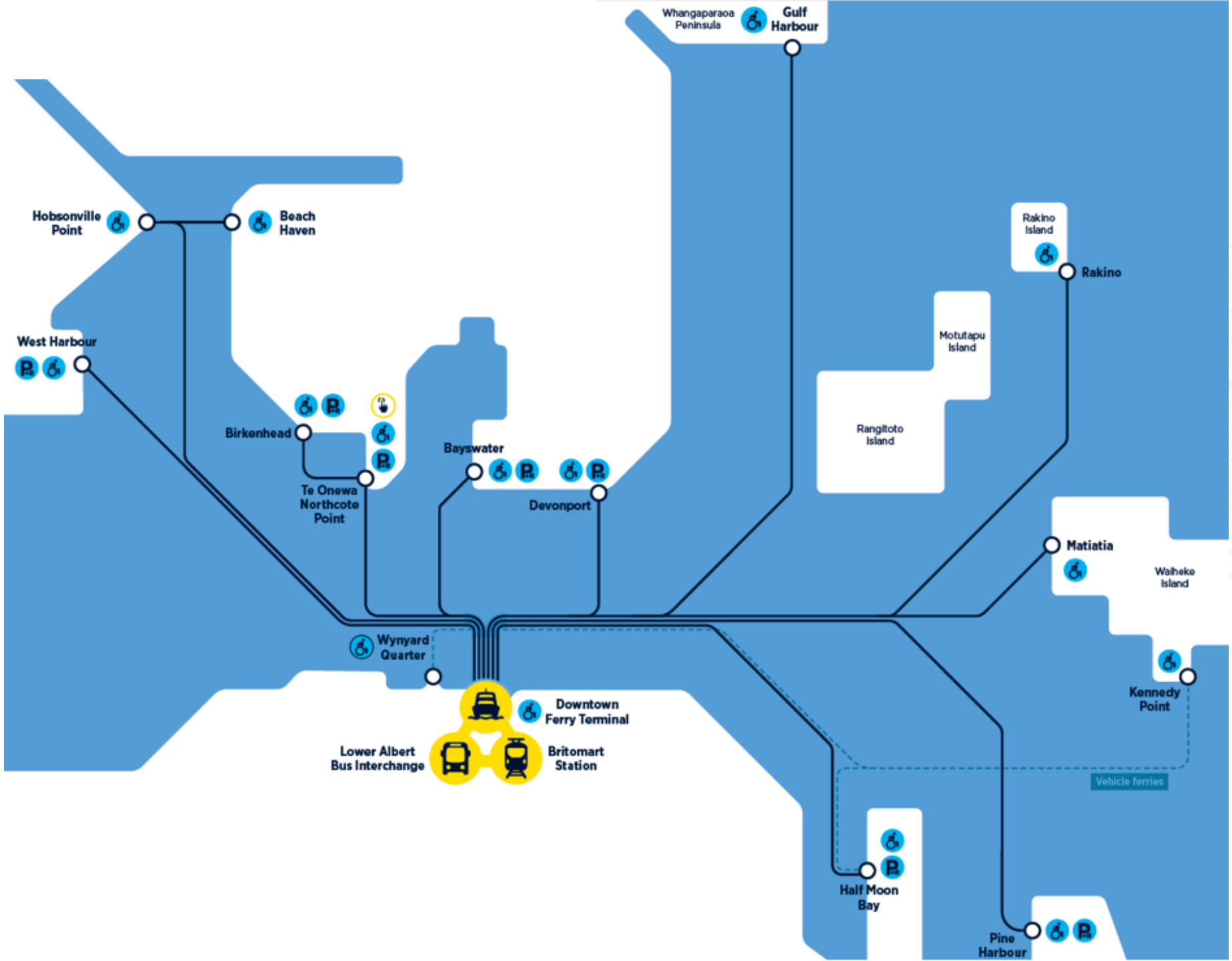
Michael Eaglen, Co-Founder & Chief Executive, EV Maritime

New Zealand Electromobility Summit

5 September 2023


Whangaparaoa Peninsula
Gulf Harbour
Hobsonville Point
Beach Haven
West Harbour
Birkenhead
Te Onewa Northcote Point
Bayswater
Devonport
Rakino Island
Rakino
Motutapu Island
Rangitoto Island
Matiatia
Waiheke Island
Kennedy Point
Wynyard Quarter
Downtown Ferry Terminal
Lower Albert Bus Interchange
Britomart Station
Vehicle ferries
Half Moon Bay
Pine Harbour


CATALINA BAY
HOBSONVILLE POINT
AUCKLAND NEW ZEALAND
THURSDAYS
WHAT'S HAPPENING

Enabling the future

Our big four challenges

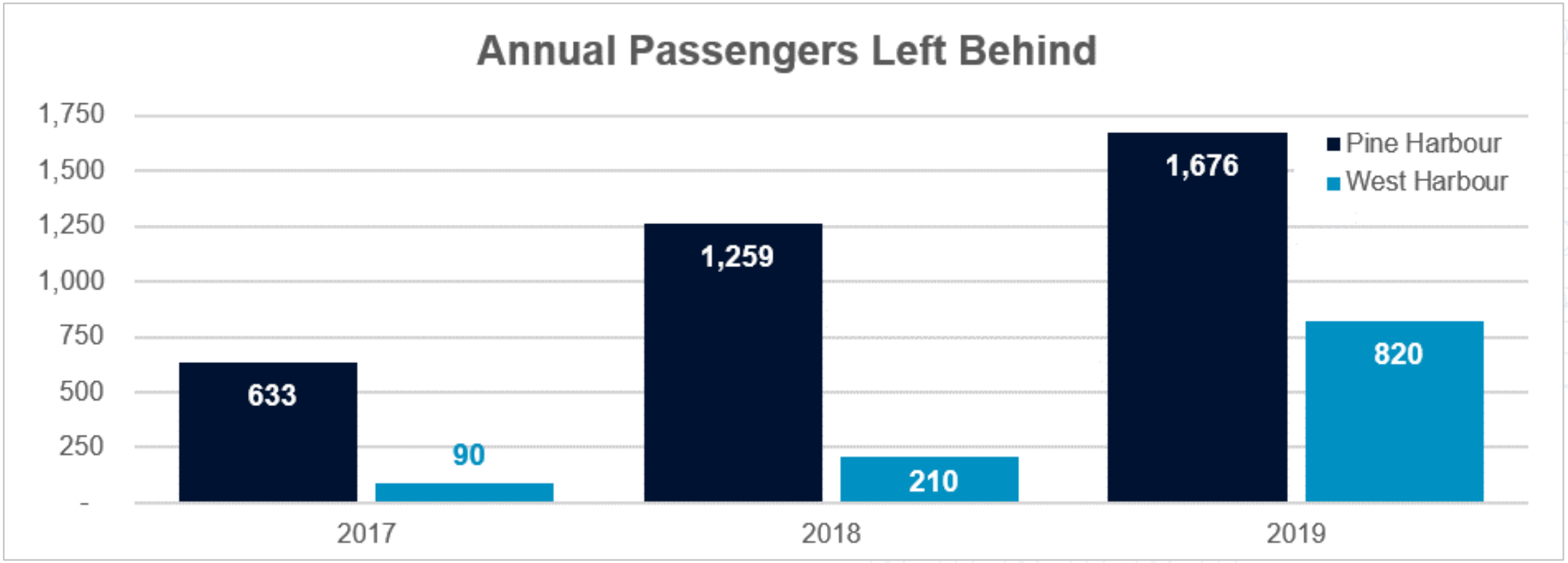
1. Auckland's ferry fleet requires replacement

2. Many designs, sizes, speed, and passenger capacity:
    - Inconsistent customer experience
    - Maintenance and operator complexity
    - Wharf complexity

3. Disproportionate environmental impact:
    - Ferries carry 6% of public transport passengers, generate 20% of public transport greenhouse gas emissions

4. Ferry and wharf ownership sits with multiple parties

Capacity and reliability constraints



Source: Auckland Transport Ferry Public Transport Services Improvements: Single Stage Business Case (2022 -2027)

Enabling the future

Future Ferry Strategy

- Staged replacement of ferries over a ~10 year timeframe
- A shift away from diesel power to low emission technologies
- Standardised, interoperable designs (incl megawatt level charging)
- Transition of vessels and wharf infrastructure to AT ownership

Ferry procurement – vessels arriving in stages between late 2024 and 2032

Stage 1 | Stage 2 | Stage 3 | Stage 4

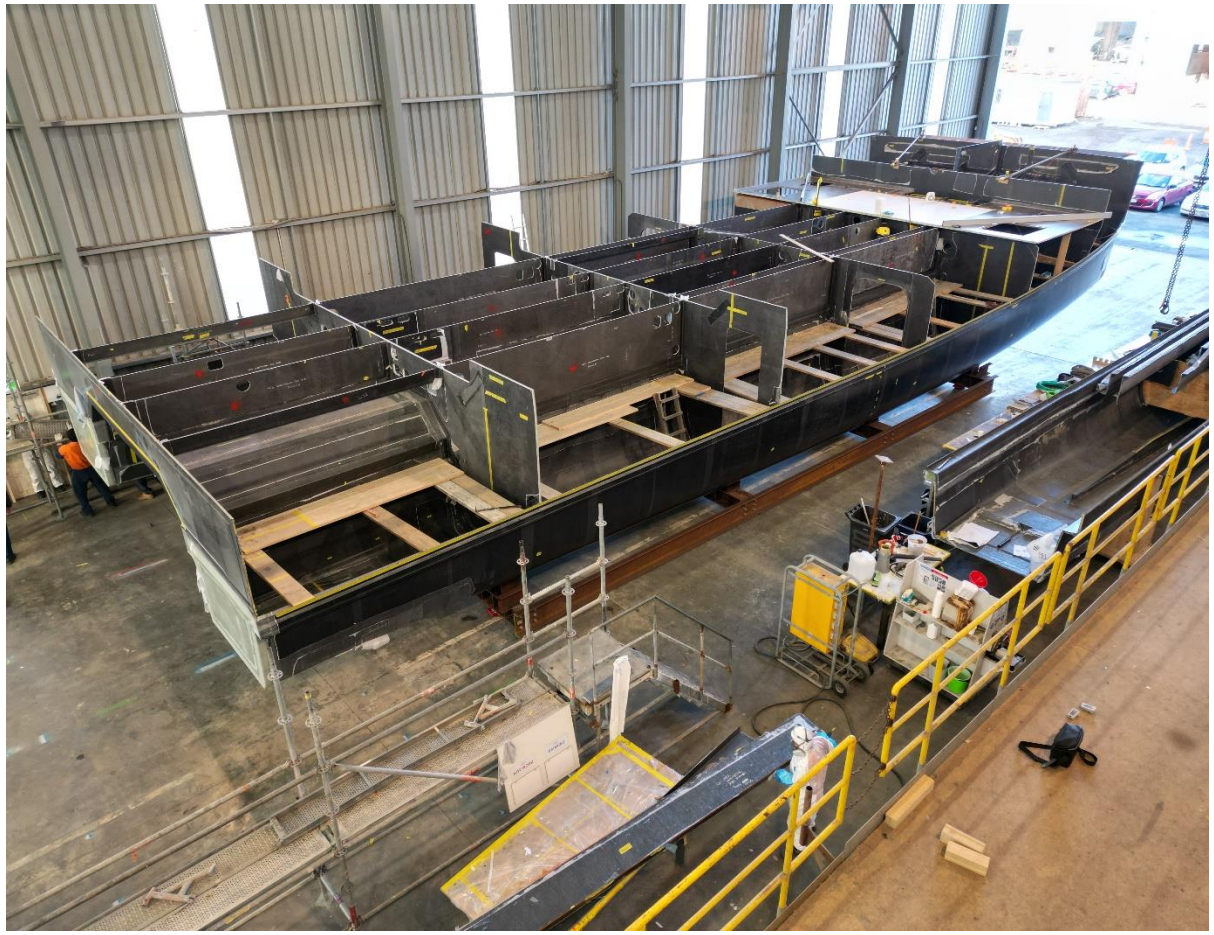
Auckland's ferry future

Our ferry network

- Fast, direct and uncongested
- Popular for commuting and leisure travel
- Provides critical community access and transport choice

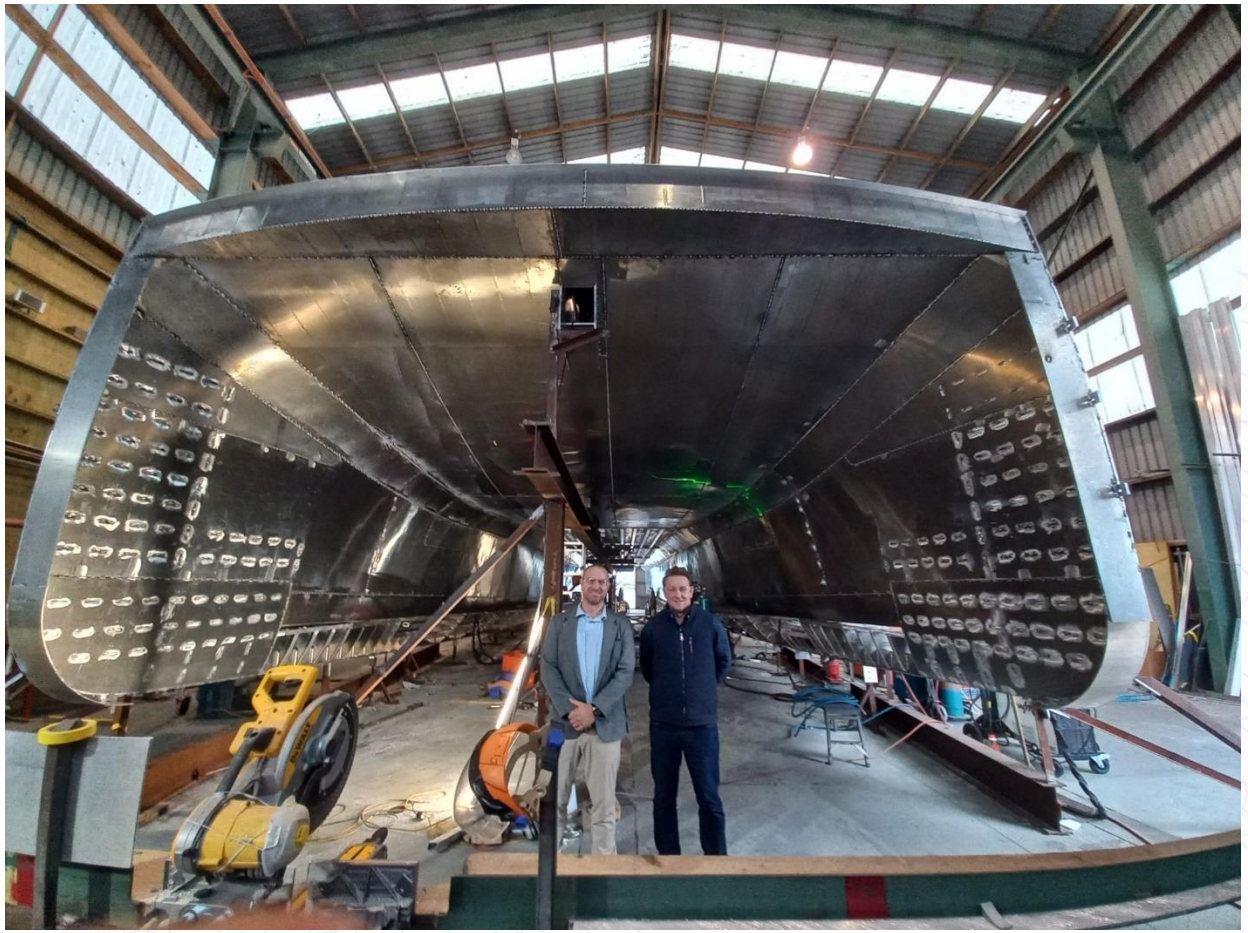
Our future ferry network

- Low emission ferries with greater passenger capacity
- Ferry charging enabled at key wharfs and terminals
- Owned by Aucklanders, with greater fleet flexibility



EV Maritime designed EVM200 200 passenger ferry
under construction at McMullen & Wing Shipyard, Auckland

Launching mid 2024



IncatCrowther 32m 300 passenger ferry
under construction at Q-West Boat Builders, Whanganui

Launching early 2025

Thank you

Auckland Council
Te Kaunihera o Tāmaki Makaurau

WAKA KOTAHI
NZ TRANSPORT AGENCY

EECA
TE TARI TIAKI PŪNGAO
ENERGY EFFICIENCY & CONSERVATION AUTHORITY

Crown Infrastructure Partners

EV MARITIME

Q-west.com
BOAT BUILDERS NEW ZEALAND

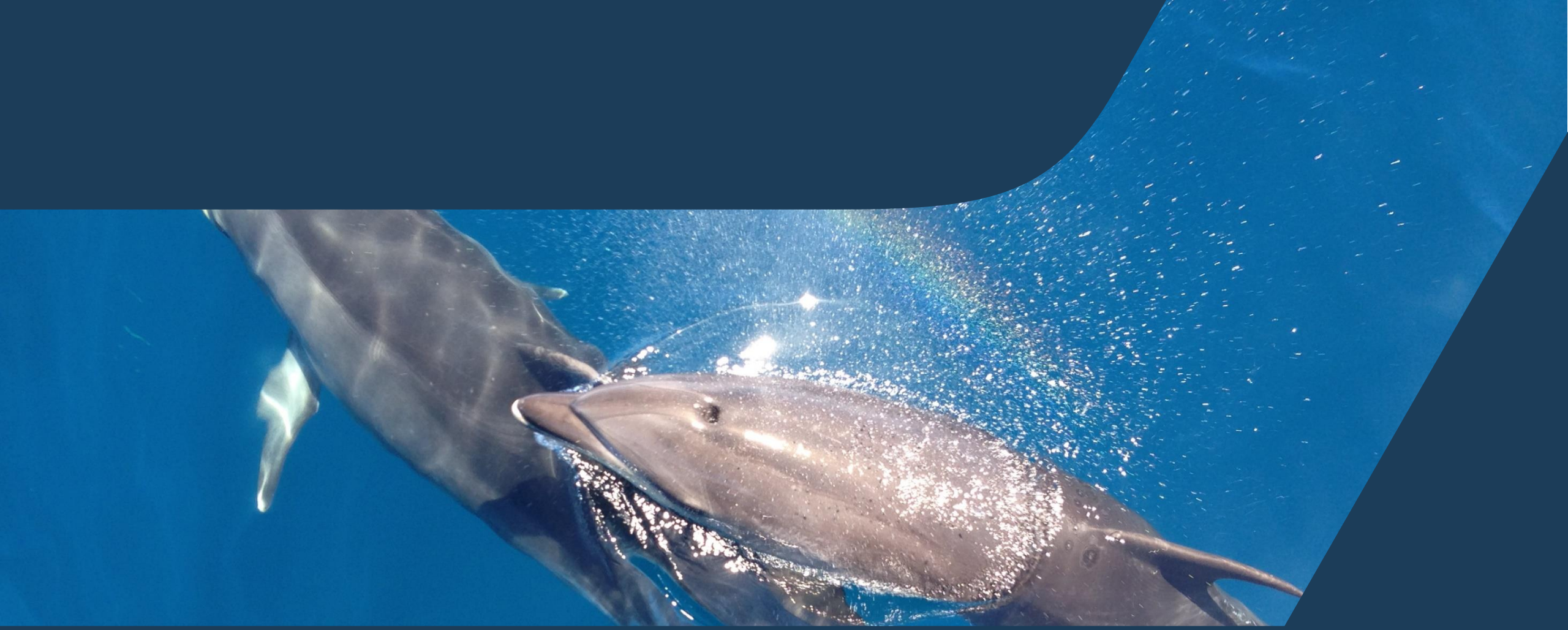
HamiltonJet

Fullers360

Beca

Tonkin+Taylor

BRIAN PERRY CIVIL



Specialists in Maritime *Decarbonisation*

EV MARITIME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HSBC
JARDEN
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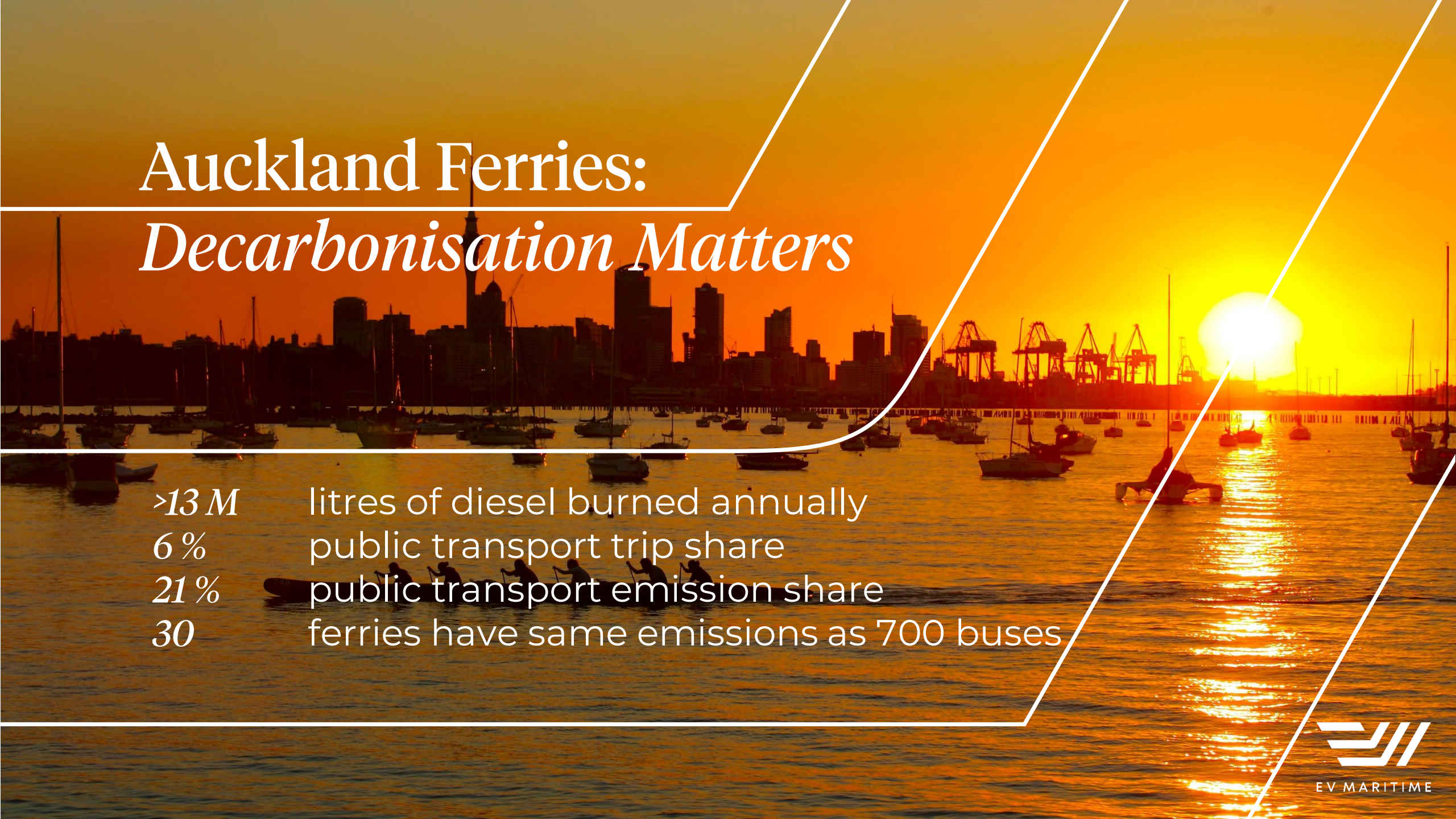
Auckland Ferries:
Decarbonisation Matters



>13 M	litres of diesel burned annually
6 %	public transport trip share
21 %	public transport emission share
30	ferries have same emissions as 700 buses

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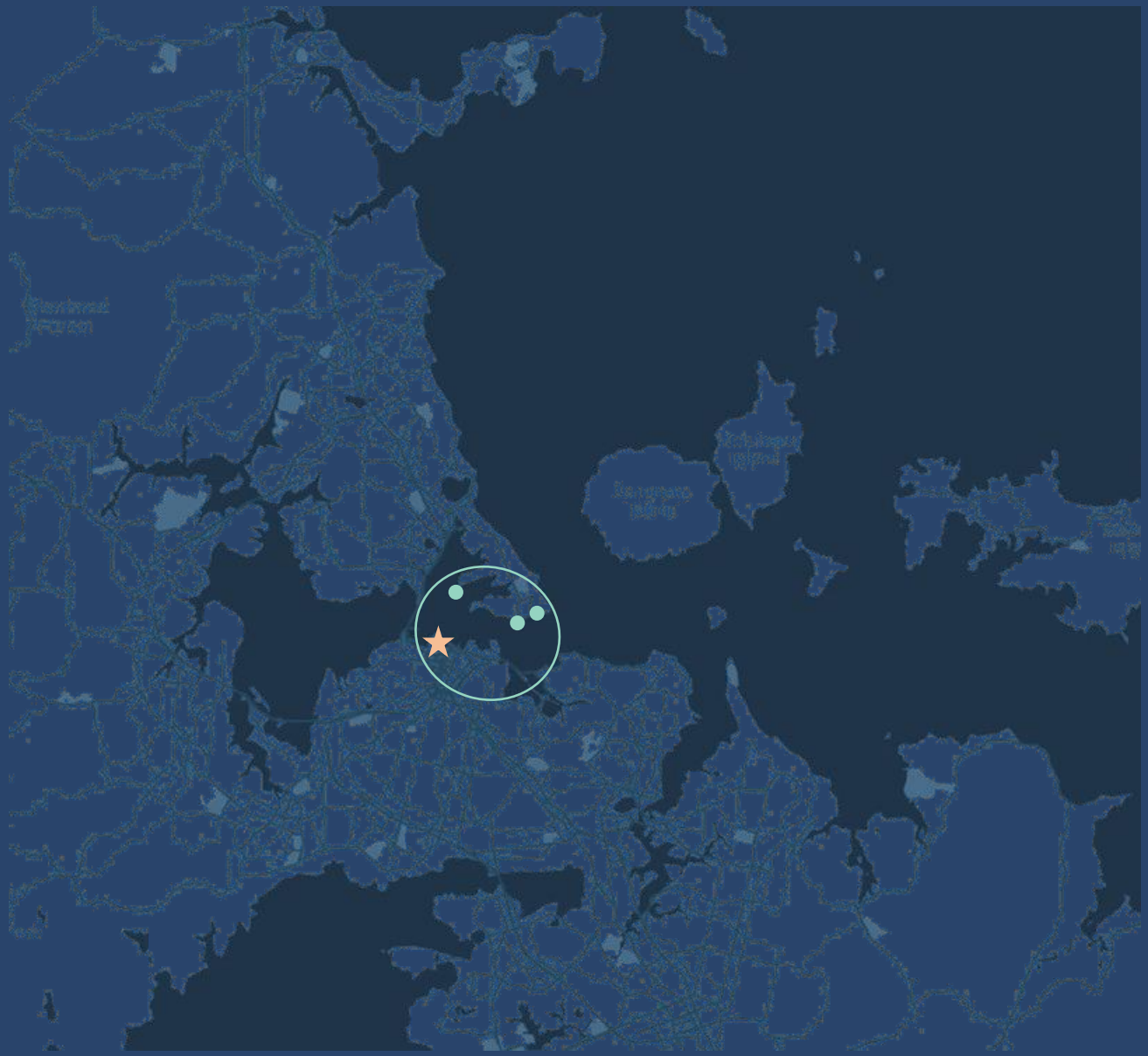

Auckland, New Zealand - ferries overview

9 commuter routes	sailings share	GHG share	dist. vs road	GHG vs bus	Charge mins
3 inner harbor (0-2 nm)	45%	6%	15%	< 1	1-2

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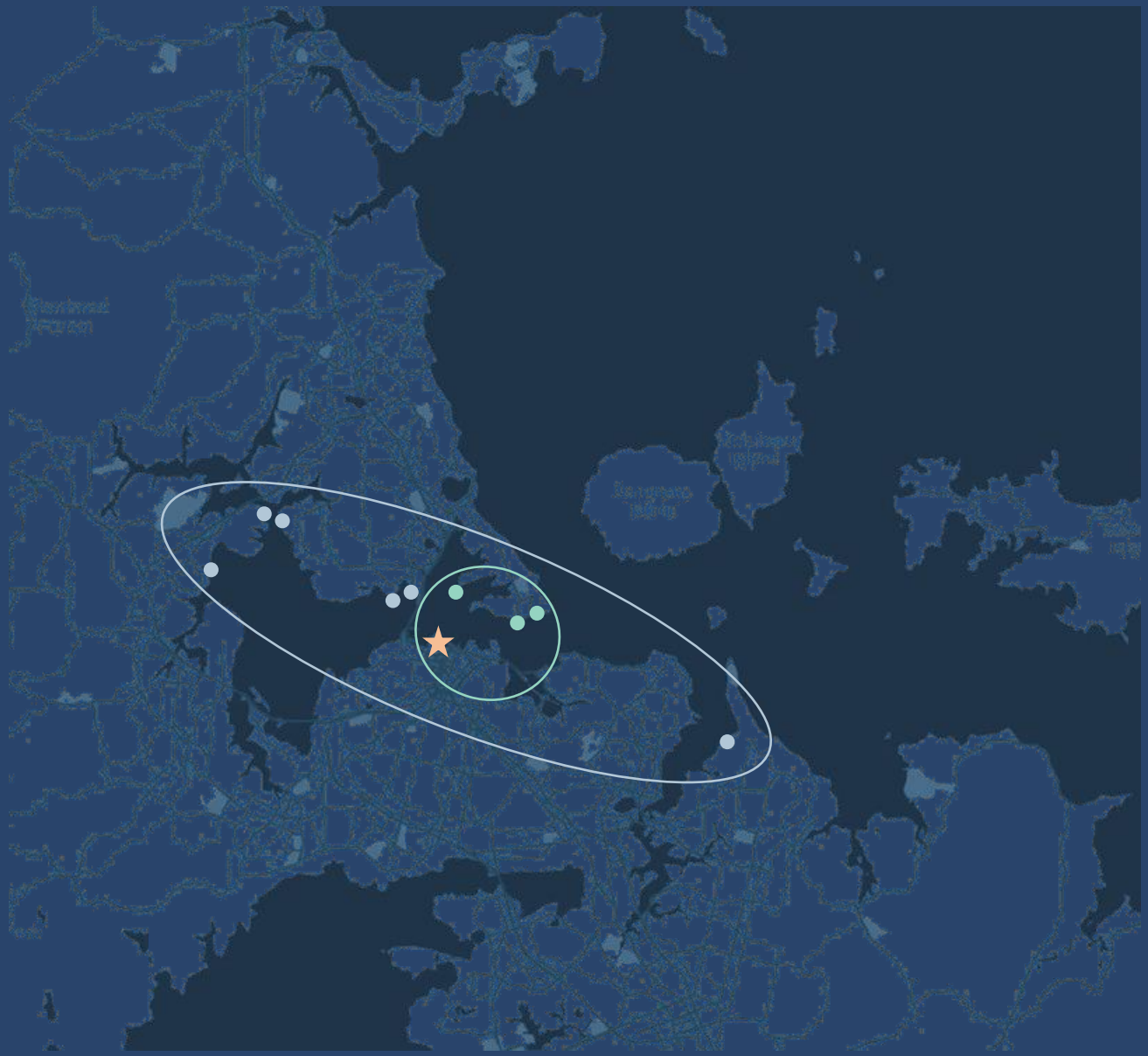

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emissions dominated by long, fast routes

full electric vessels are viable for all routes

outer harbour has schedule challenges, requiring more boats

economic benefits strongest for mid harbor routes

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Real Climate Action

Viable and Affordable Now

Auckland low-emission ferries:

2 x 200 pax full electric launching 2024
2 x 300 pax plug-in diesel hybrids launching 2025

Each full-electric vessel abates up to:

750,000 litres diesel
2,000 tonnes CO2e emissions

Emissions impact equivalent to removing:

434 private vehicles
30 diesel buses

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This is *not* yesterday's ferry.
0% emissions, 100% capable
and designed to *inspire*
EV MARITIME


“A developed country is not a place where the poor have cars. It's where the rich use public transportation”
Gustavo Petro, Mayor of Bogota
EV MARITIME


EV MARITIME

Efficiency is everything

EV MARITIME

EVM200

Full-size battery electric fast ferry

4 x HamiltonJet LTX36 Waterjets for efficiency, reliability and manoeuvrability

4 x 250-300 kW electric motors

Enhanced operational reliability through dual redundant ships' systems to eliminate single point failure

Flexible power electronics package

Extensive PLC alarms, monitoring and control with live ship/shore link and remote data intelligence

Displacement reducing active hydrofoil option

Carbon fibre construction for light weight strength & longevity

Long range battery pack options up to 1500 kWh

Optimised low wash semi-displacement catamaran hull form

24m 200 pax 25 knots long range

0% emissions *100% capable*

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Tēnā koutou
Thank you

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Let's go there