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Overall investment thesis



Lion is one of the first movers in Australia for supplying commercial scale green hydrogen to the heavy mobility sector. Setting a platform of skills, network and knowledge to be scaled up



The recent completion of the seismic program has allowed Lion to mature a material, deep and diverse portfolio of exploration opportunities attractive to investors seeking exploration exposure



Lion generates USD1m in revenue from oil sales, and is poised to commence green hydrogen sales next year. Lion has USD6m in cash



Market cap approx AUD17m but Lion positioned for exposure to early green hydrogen production at a commercial scale and carried high impact oil exploration drilling.

Oil and Gas

Oil and Gas summary

- The oil and gas business is in the best shape it has been in since 2018
- The East Seram seismic program is complete with on shore data interpretation underway. Lion has no more commitments under the PSC and is earmarked to drill a well in 2024 or relinquish/get extension.
- Seismic prog. completed on schedule, within 10% of overall budget and largely funded by our partner.
- The Seram Non-Bula JV is currently testing the Lofin gas field, one of Indonesia's largest onshore discoveries and gas rates are very promising

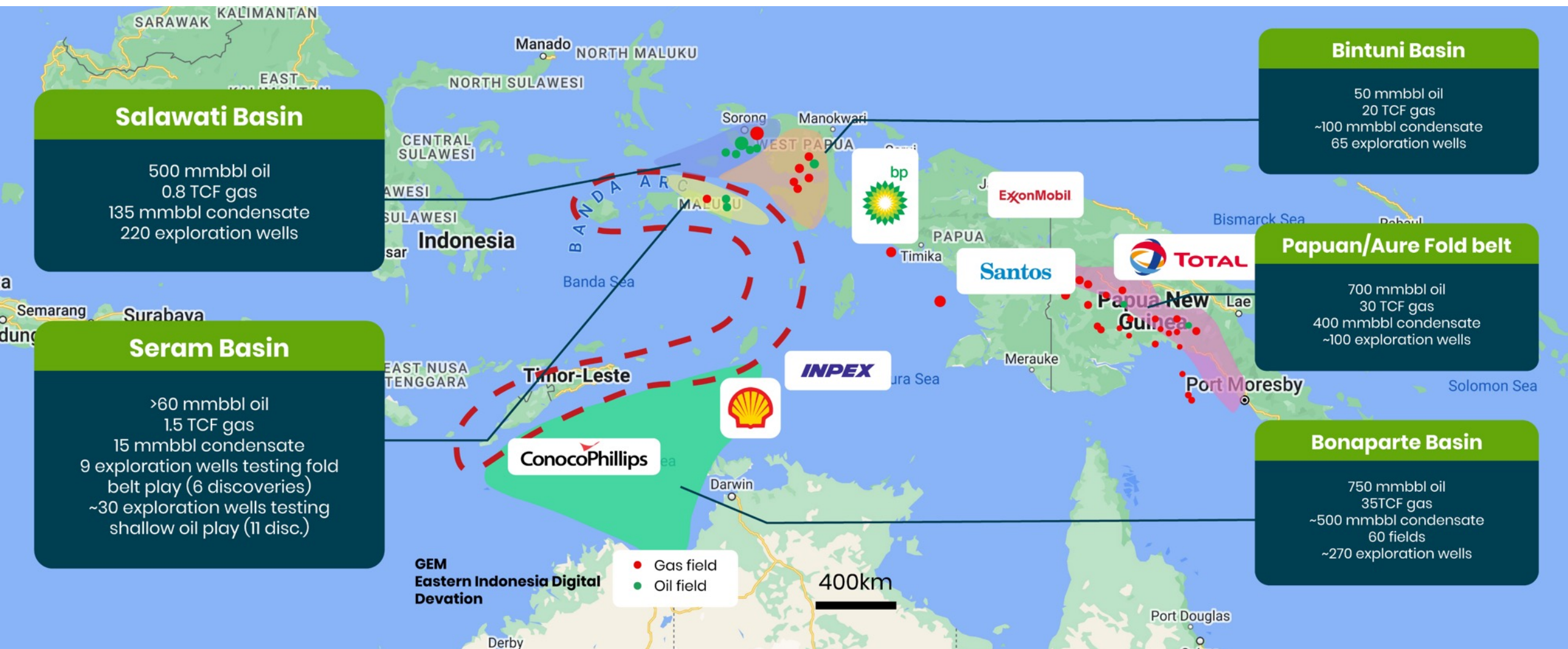
*Compressor shot hole drilling
crew 2022 seismic*



*Current Lofin well test with
flow 15 mmscfg/d*

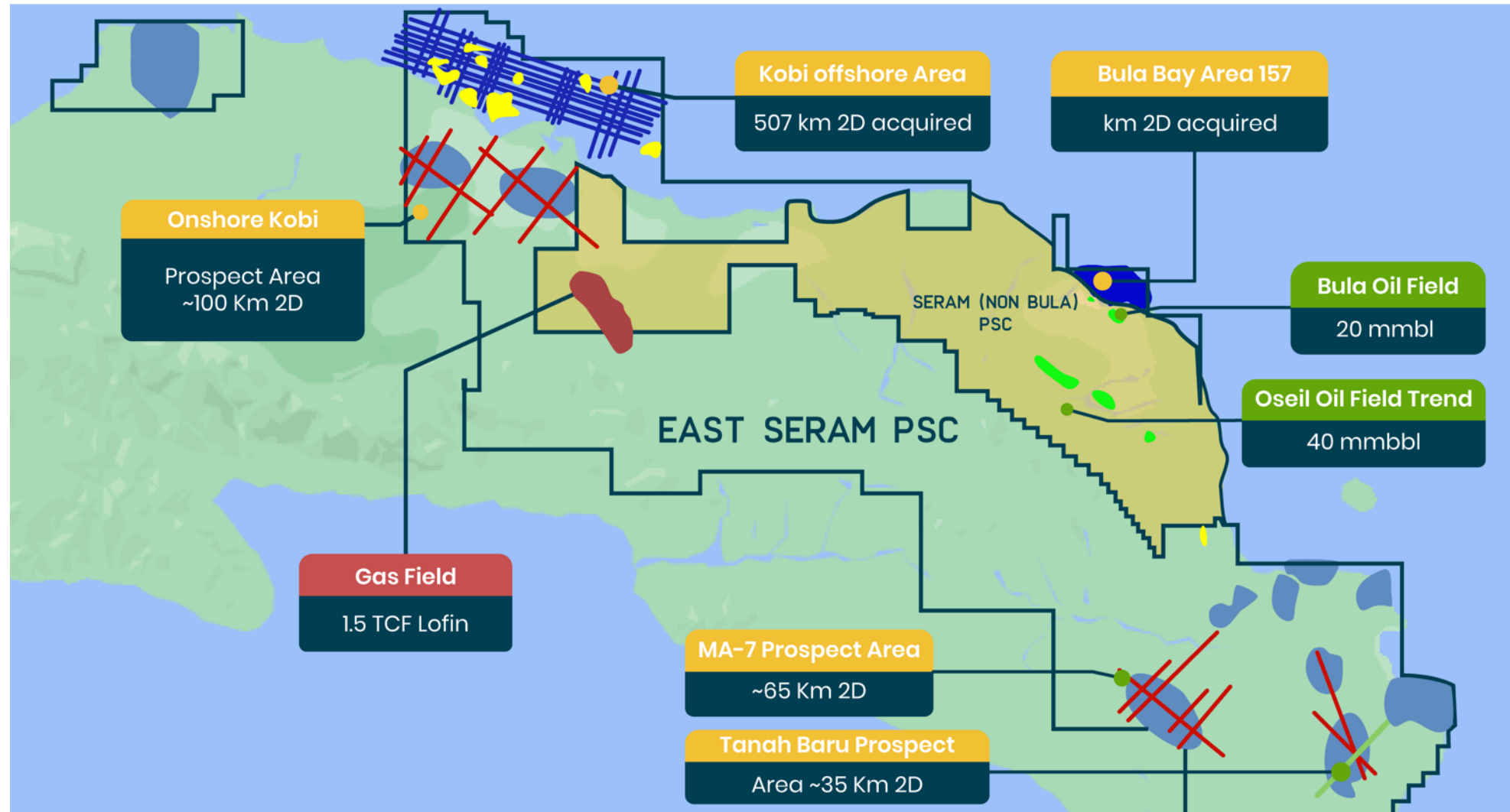


Lion's oil and gas interests are in a prolific area

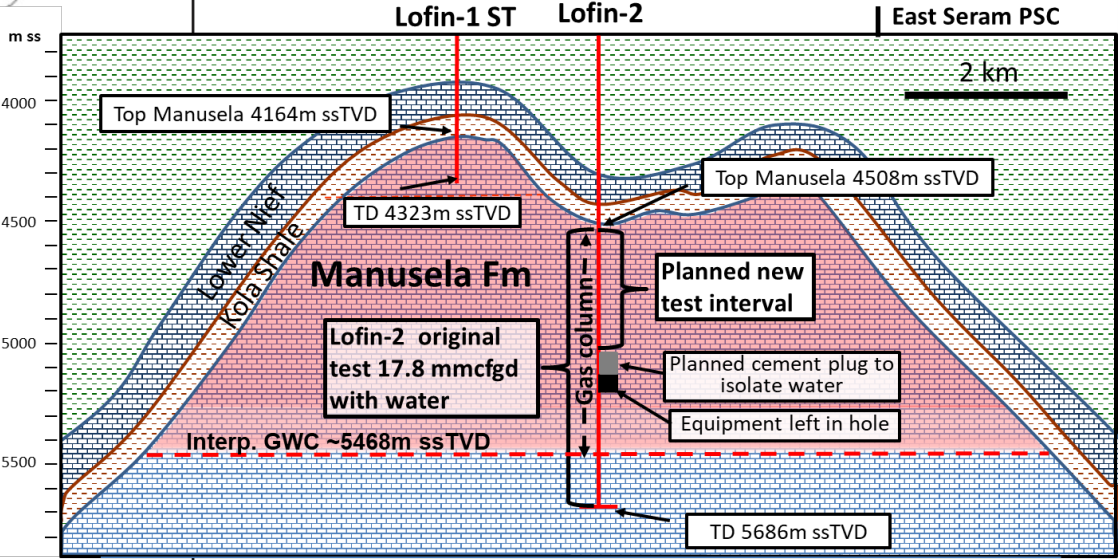
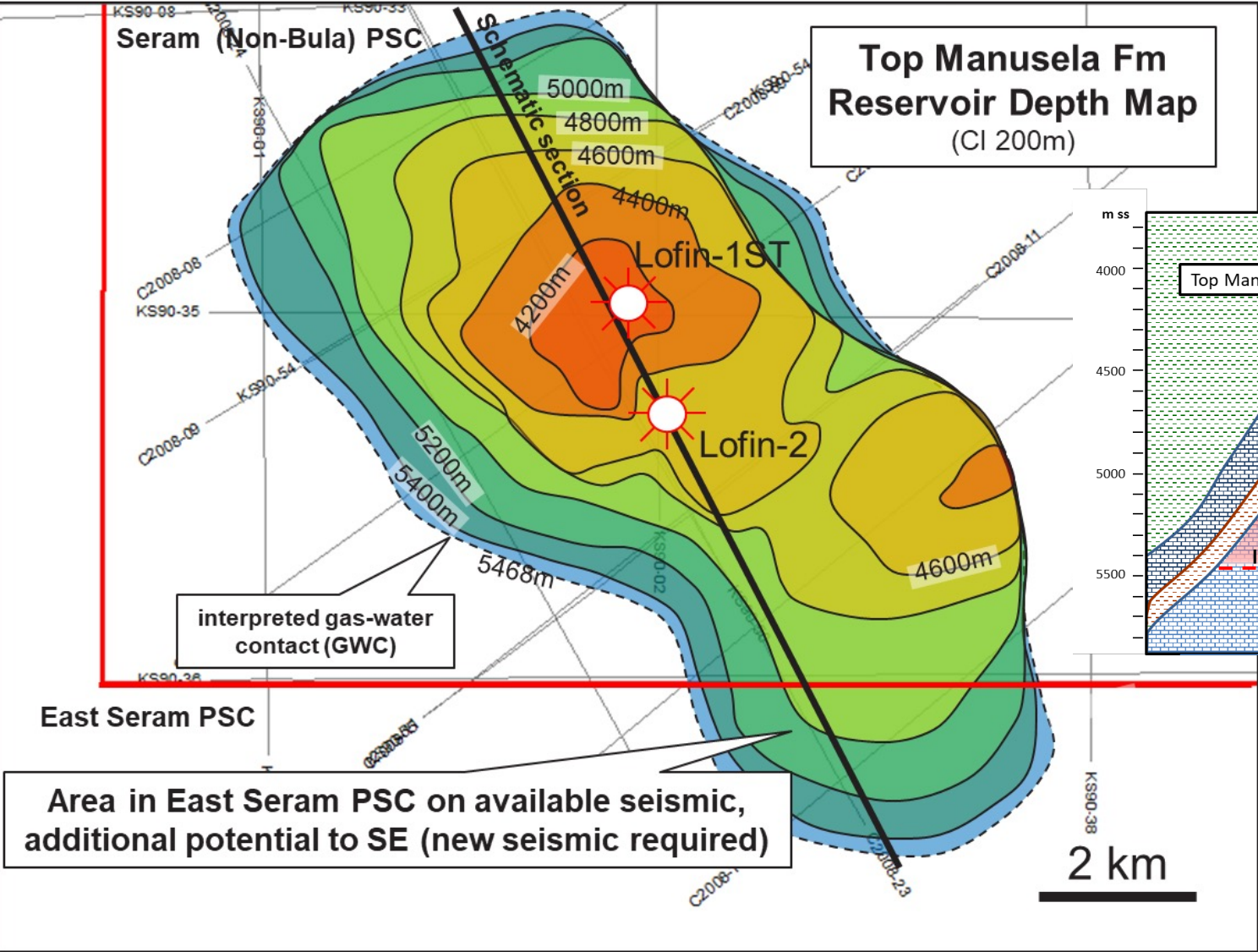


Summary of Lion's oil and gas interests

60% & Operator of East Seram PSC, 2.5% of producing Seram (NB) PSC



Lofin well test ongoing – key step to commercialisation of a 40 sq km gas field



Part of the Lofin Field extends in the East Seram PSC

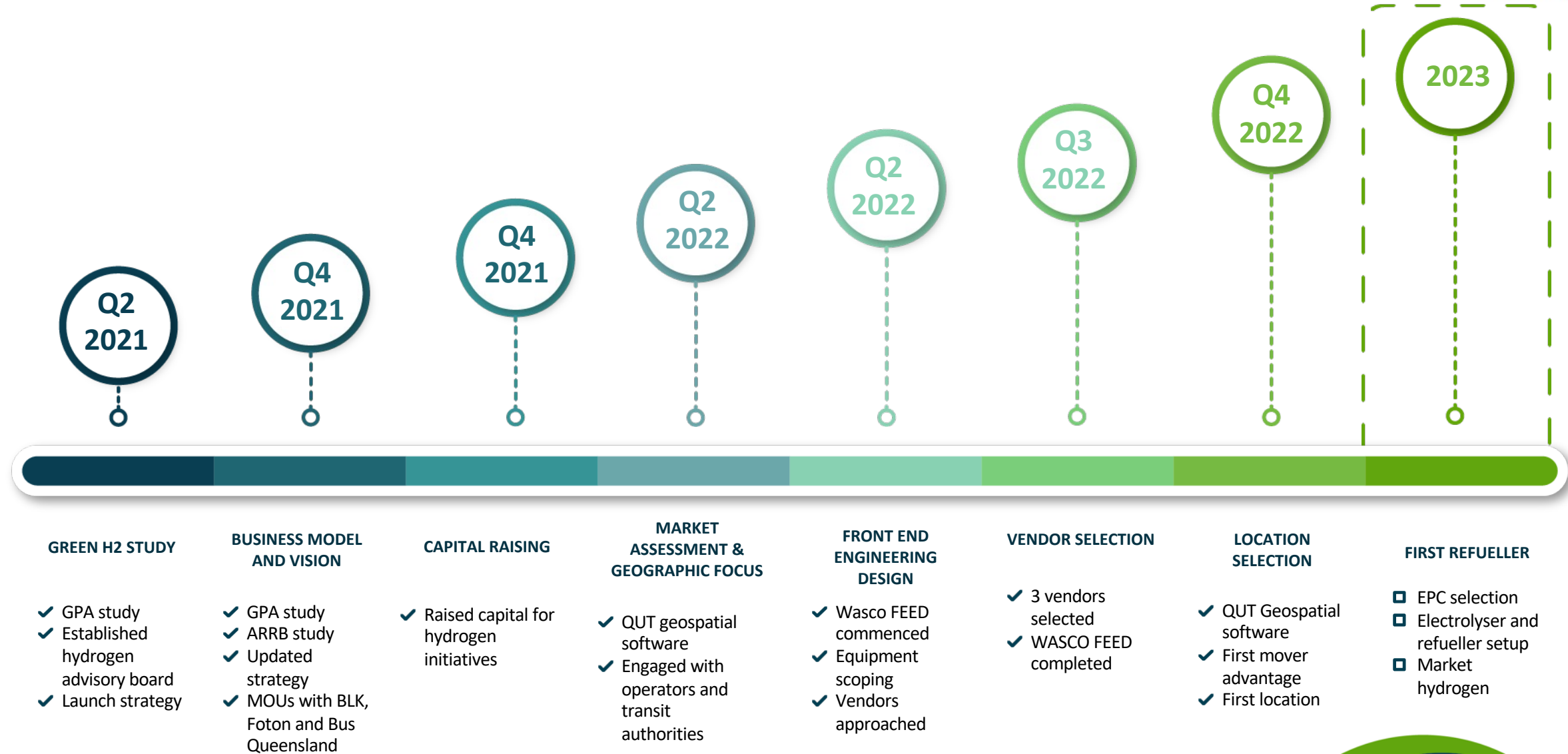
Green Hydrogen

- Three business models are emerging for green hydrogen in Australia

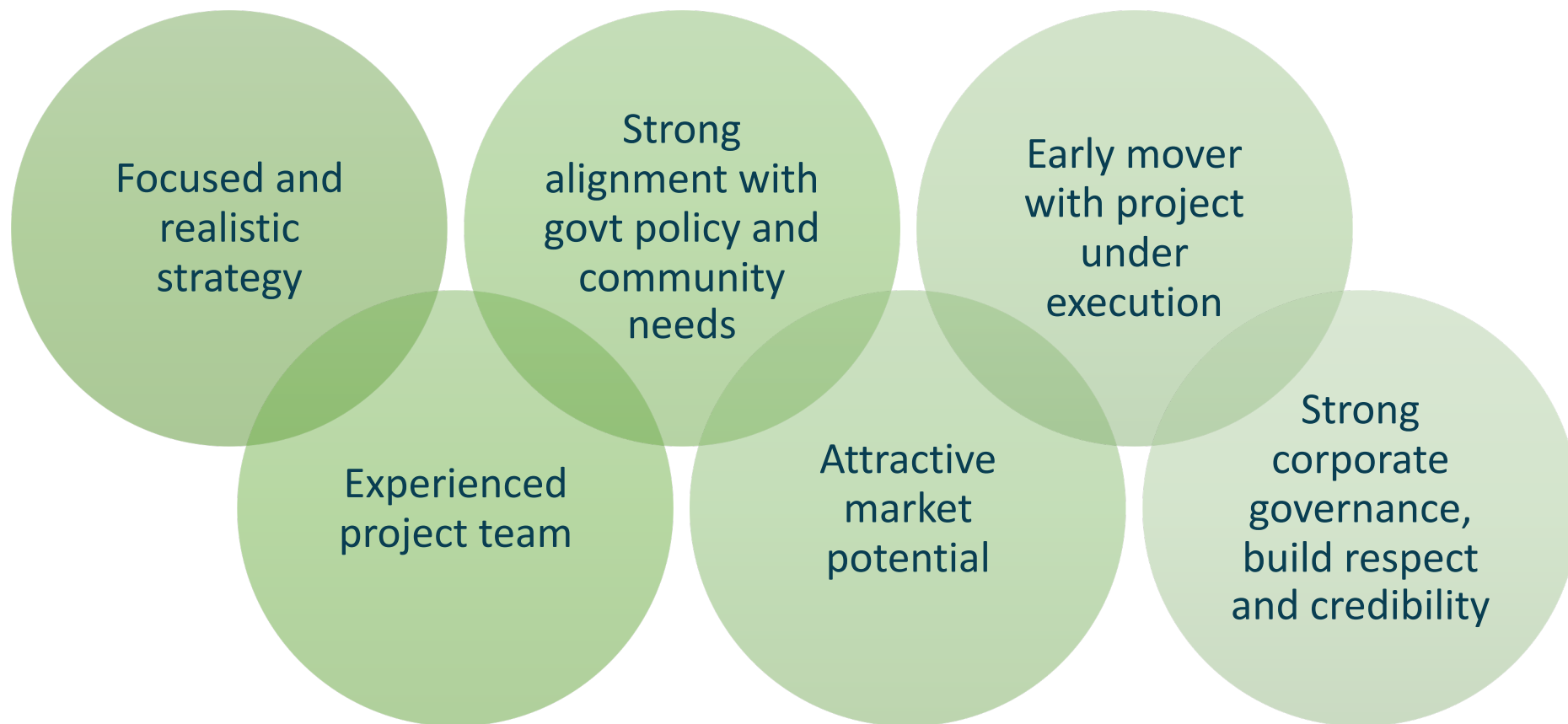
Model	Capital intensity and time to market	Considerations for Lion
Large scale production with integrated electricity production, focused on export markets	High, long	Long gestation period and uncertainty as to which projects will actually materialize
Medium scale production adjacent to an industrial user	Medium, medium	Limited number of industrial users actively looking at green hydrogen. Single customer dependency.
Small scale production targeting the domestic heavy mobility market	Low but scalable, short	Progressive scalability a good fit for Lion size

- The AUD16 billion domestic heavy mobility refuelling market is the most relevant market for Lion initially
- A subset of this market is buses (10% of the total size):
 - Strong regulatory support
 - Vehicles are readily available

The Lion journey into Green H2



Becoming the leading independent producer and distributor of green hydrogen in Australia for the domestic mobility market.



Positioning

- Solution provider for Australia's zero-emission targets commencing 2025
- Production, storage and dispensing of green hydrogen
- Focused/realistic strategy

Markets

- Back-to-base heavy mobility (buses then trucks)
- Later, other transport (lighter vehicles, trains, ships, planes)
- Complement the battery electric vehicles' rollout

Model

- Small-mid onsite production hubs, each servicing a few dispensing stations
- Demand-driven, proximity to customers
- Proven, low-cost technology

Project management team



Tom Soulsby
Executive Chairman

30years



Accounting



Oil & Gas



Investments



Leadership



Damien Servant
Executive Director

20years



Finance



Oil & Gas



Commodities



M&A



Alistair Wardrope
Technical Director

16years



Mech Eng



Renewables



Biomethane



Hydrogen



Andrew Lelliott
Project Director

15years



Mech Eng



Gas Industry



Procurement



Hydrogen



Mitch Blyth
Project Manager

20years



Mech Eng



Oil & Gas



Commercial



Hydrogen



Dr Andrew Dicks
Board Advisor

30+years



Chemistry



Fuel Cell



PhD



Hydrogen

Lion's initial positioning in the value chain



- Establish replicable commercial business model
- Build, market and execute first location
- Start hydrogen production
- Finalize detailed rollout and funding plan for Phase 2

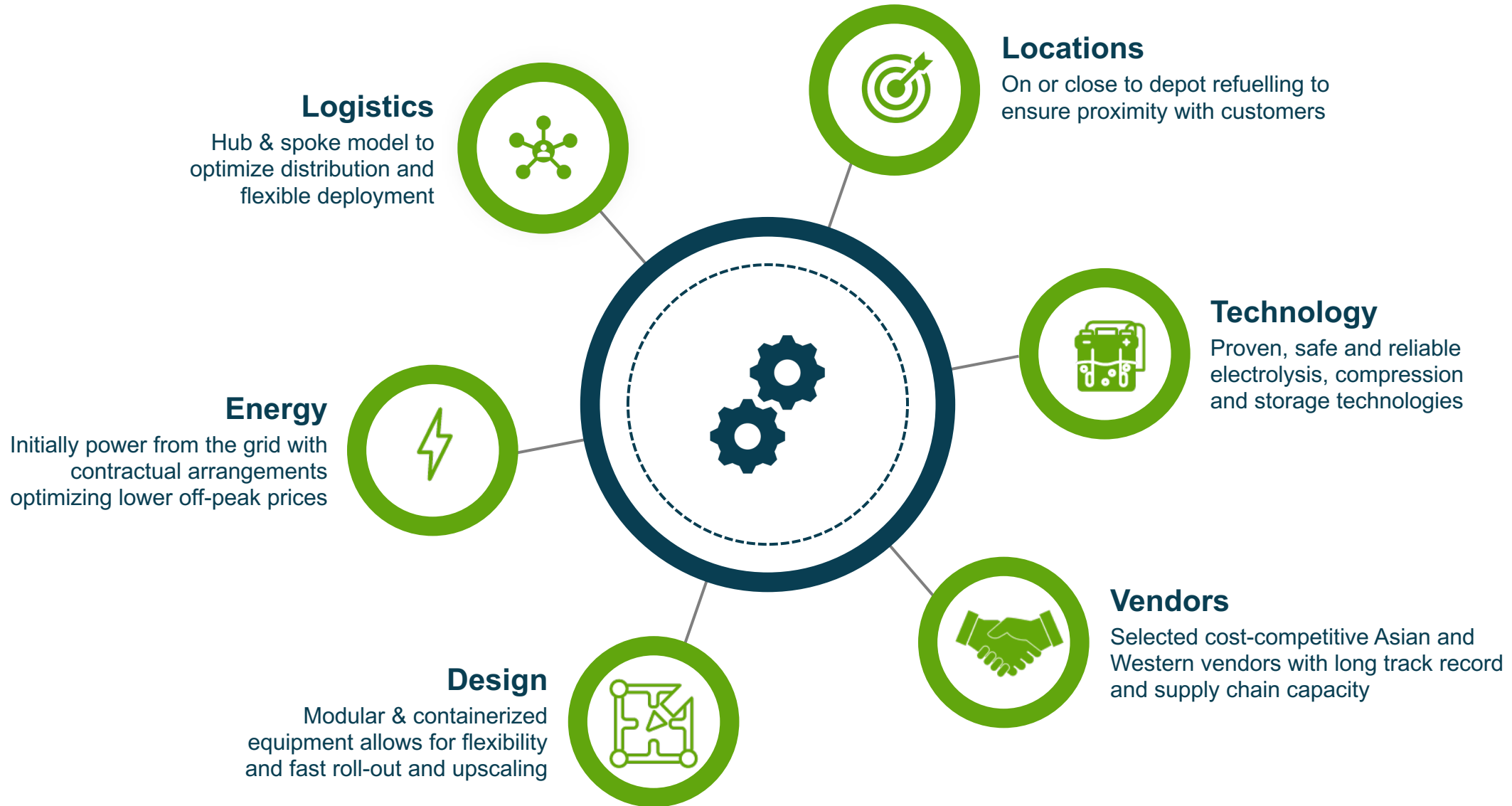
PHASE 1 (“Initiate”)
2022-2023

- Execute off-take contracts with broader customer group
- Signing EPC contract for 20 stations
- Set-up inhouse O&M team
- Build, market, execute
- Finalize detailed rollout and funding plan for Phase 3

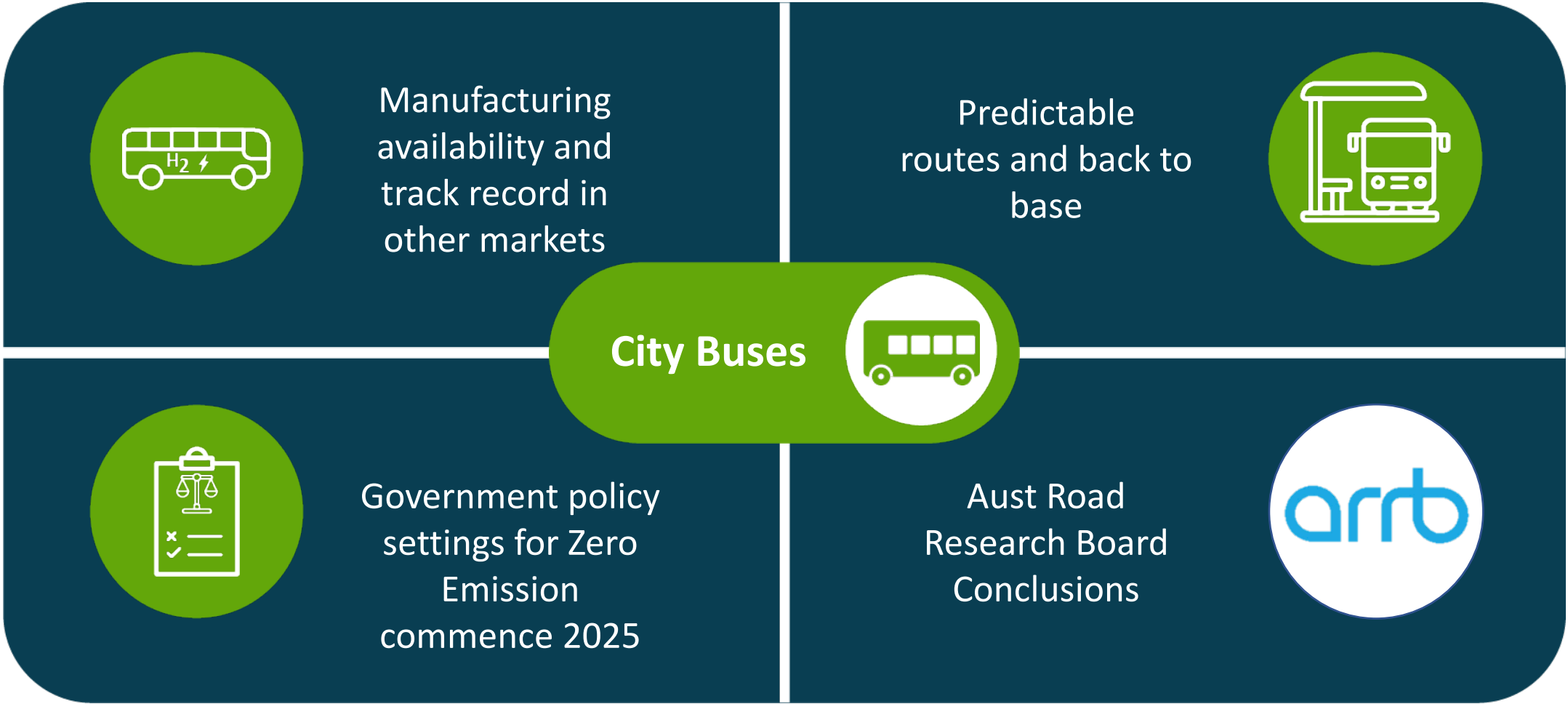
PHASE 2 (“Replicate”)
2023-2025

- Replicate for an additional 30 locations
- Begin “merchant” roll-out (i.e. non-back-to-base) to other transport sectors
- Enlarge hub, consider renewables
- Optimize hydrogen production storage and infrastructure

PHASE 3 (“Expand”)
2026 onwards



Target market : Hydrogen buses – the early adopters



Commissioned by Lion Energy in 2022

Leading zero-emission charge led by State Governments



Regulatory-driven demand



Hydrogen refuelling stations

We estimate at least 65t/day required to meet FCEB demand

Low hanging fruit



Bus segment

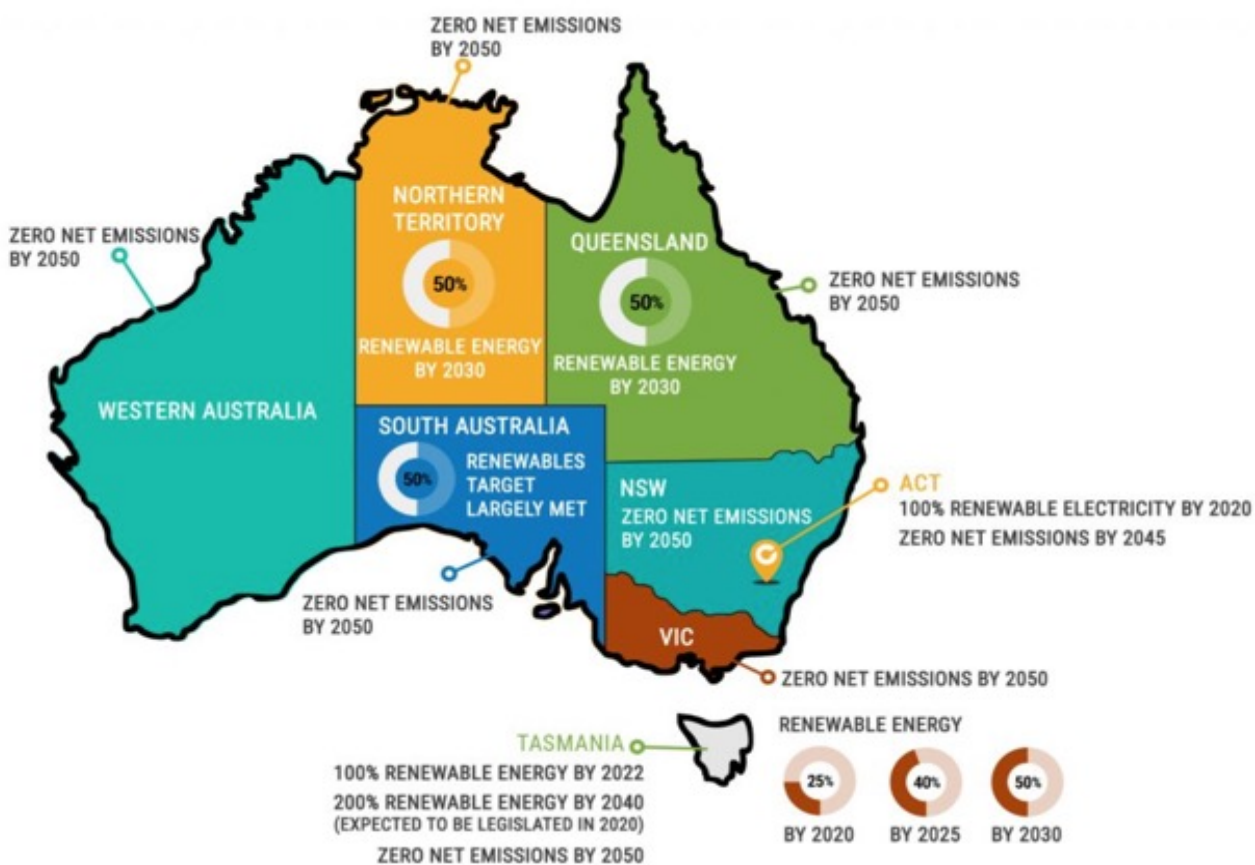
Regulatory impetus
Vehicle availability

Best fit for technology



Truck segment

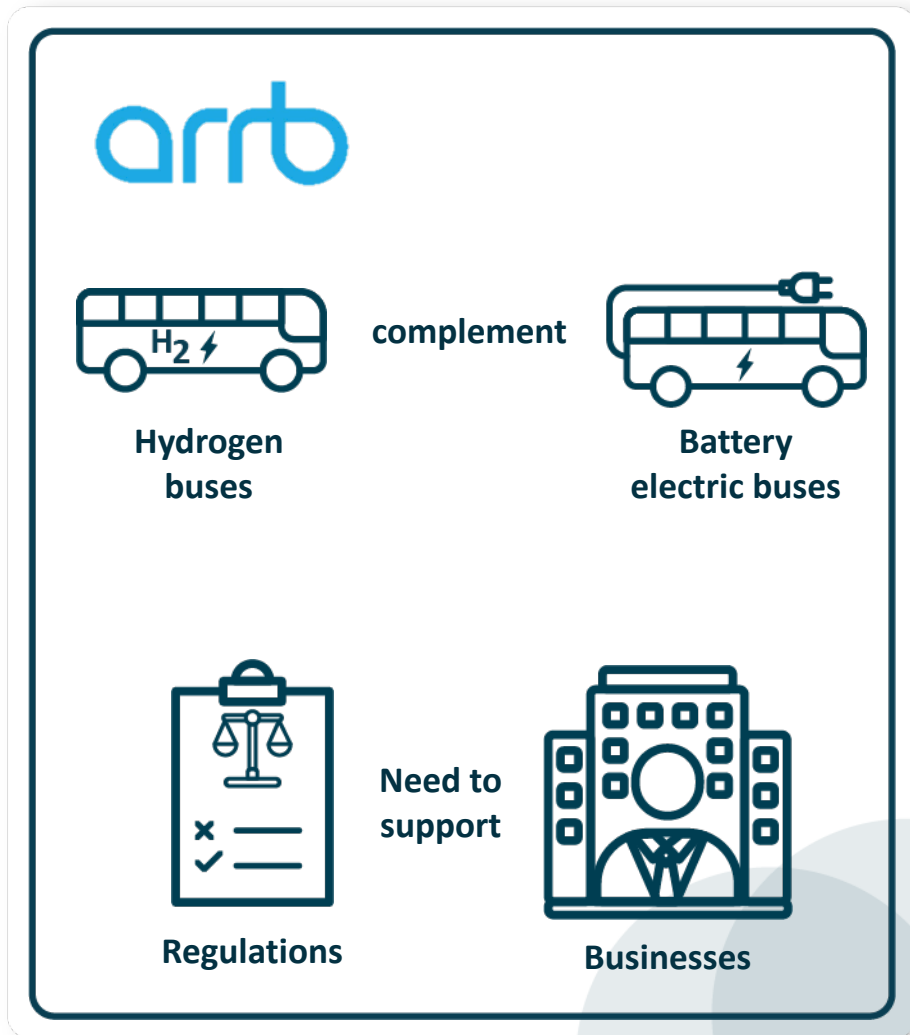
Lacks regulatory impetus now
Phase 2 focus and bigger market



Regulatory momentum

- Transport for NSW (TfNSW) plans to see its 4,100 Sydney buses fully transitioned by 2035
- Queensland Government committed that every new urban bus added to the fleet in South-East Queensland will be zero-emissions by 2025, followed by state-wide mandate by 2030.
- Victorian Government has pledged that all new bus purchases will be zero emission buses from 2025.
- The aggressive cut-off date for ZEB is driving bus fleet operators to quickly embrace battery and hydrogen technologies
- The Eastern Seaboard has regulatory settings conducive to the take up of ZEB





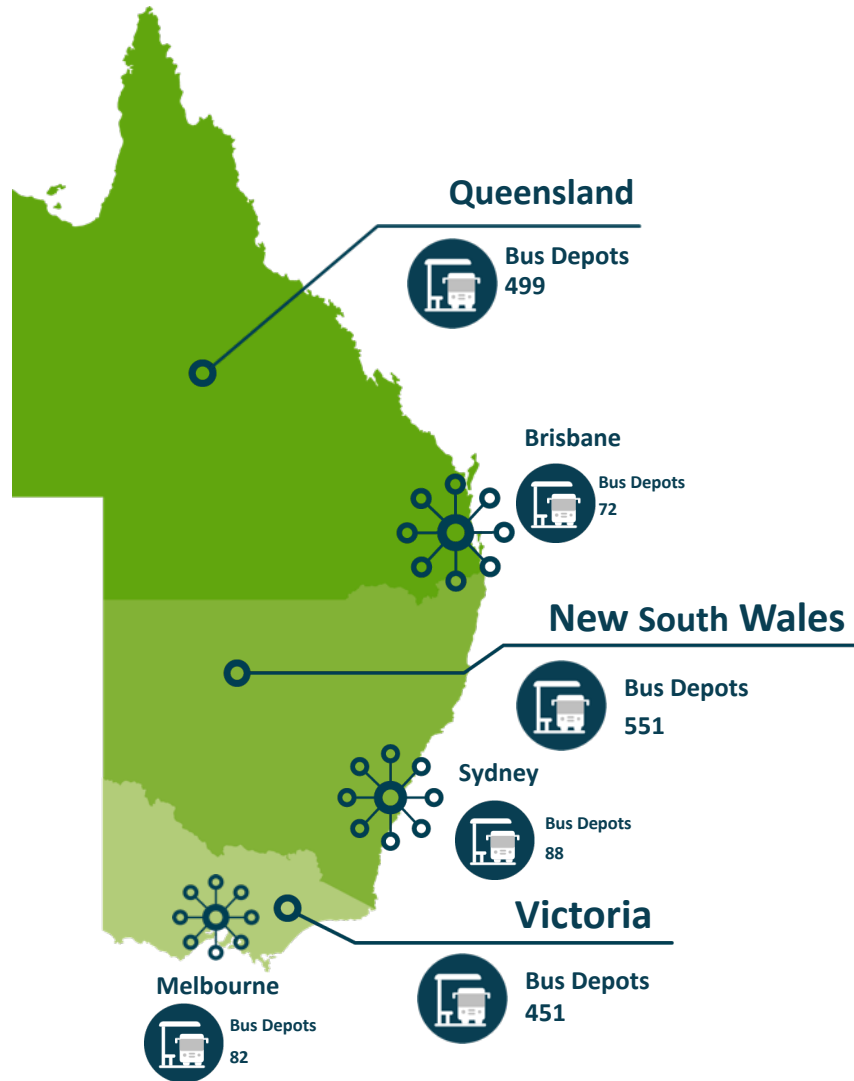
Issues for Battery Electric Buses

- limited depot space for charging infrastructure
- High infrastructure investments (chargers, energy storage and electricity connection/substation upgrades),
- Short range and long charging times of BEBs likely requiring additional BEBs to maintain service levels
- Disruption to operations by rollout of infrastructure

Clear role for FCEB

- Small footprint of H2 refuelling infrastructure and limited disruption to services
- Fast refuelling,
- No range restrictions comparable to current bus fleet
- **FCEB** (vehicle and gas) purchase prices will further reduce as the technology matures and production volumes increase

Fast replication to multiple locations

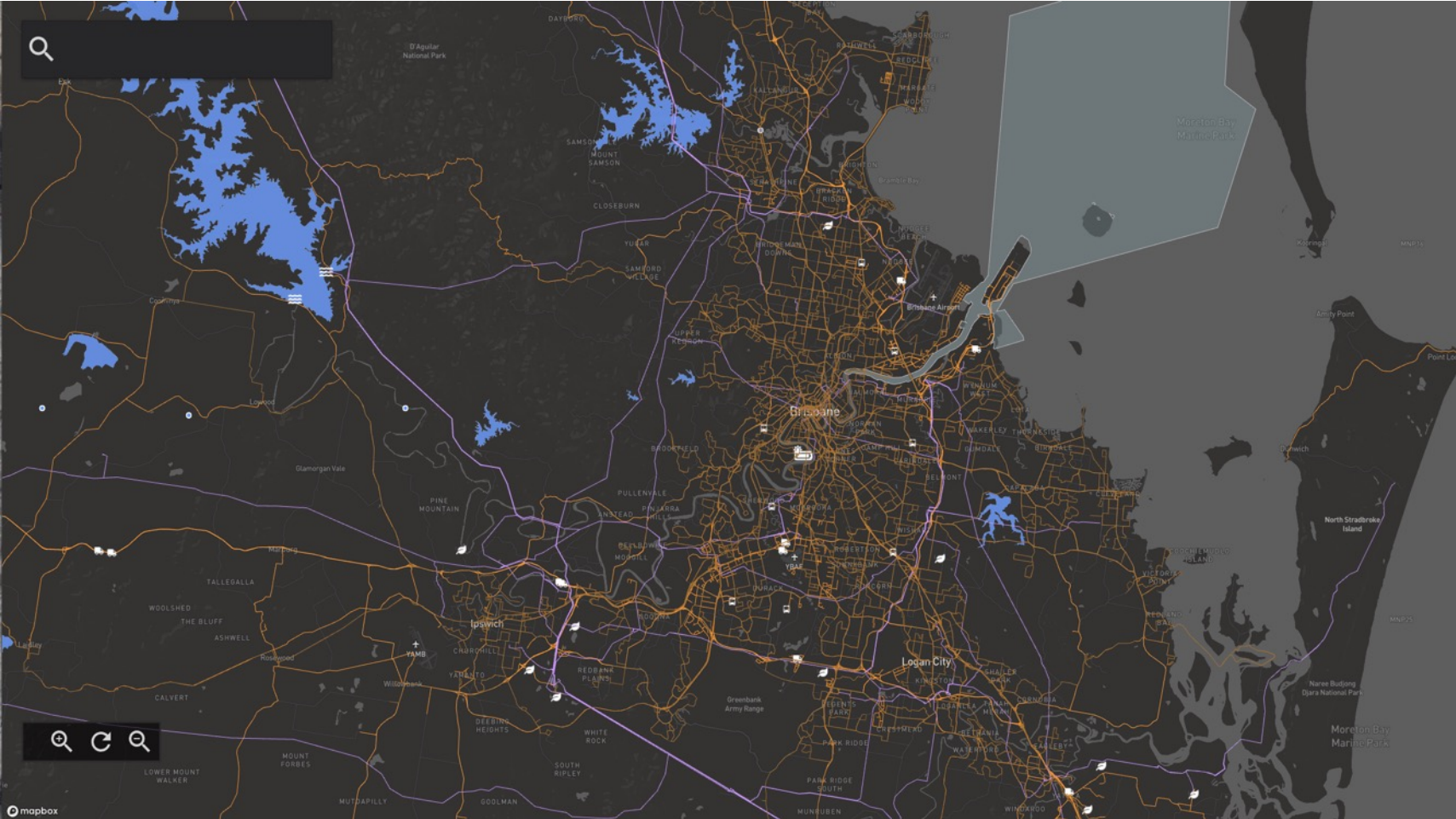


Operate a series of production hubs and up to 50 refuelling stations in Australia, with a focus on the untapped East Coast market.

There are currently no hydrogen refuelling stations for bus operations in Australia

Top 20 operators operate 300 depots with an average of 60 buses per depot

Location optimization tool



Water



Electricity



Renewables



Ports



Heavy Vehicle Routes



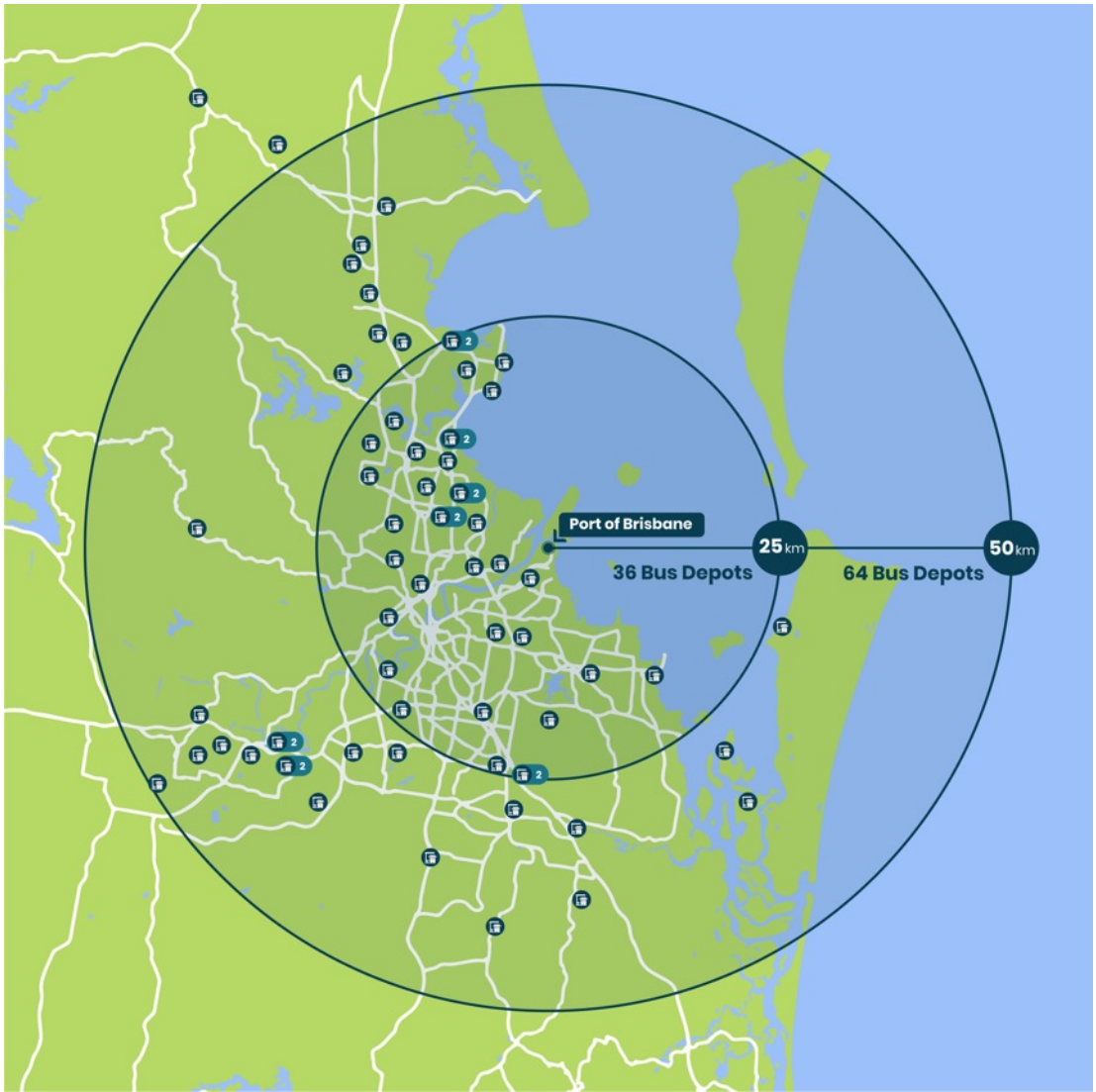
Bus Depot & Routes

Current status

- Site selected at Port of Brisbane
- Hydrogen refuelling station equipment procured
- Electrolysers ready for signing
- Commercial offtake discussion in progress
- Development approval in progress
- First commissioning targeted for 1Q2024
- Total budget: ~A\$12m



Port of Brisbane strategically located



Project schedule

