

## Clean Economy Jobs Bill 2024

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**Submitted by:** Lion Energy  
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# Submission re Clean Economy Jobs Bill 2024



March 8, 2024

Committee Secretary  
Clean Economy Jobs, Resources and Transport Committee  
Parliament House  
George Street  
Brisbane Qld 4000  
Email: [cejrtc@parliament.qld.gov.au](mailto:cejrtc@parliament.qld.gov.au)

Dear Committee Secretary

## **RE: Inquiry into Clean Economy Jobs Bill 2024**

On behalf of Lion Energy Limited, please find our comments on the *Clean Economy Jobs Bill 2024*.

### Background

Lion Energy is applying its skills in oil and gas to exploring green hydrogen opportunities in Australia. Lion Energy believes that managing resources, matching the right technology and producing and managing gas molecules close to market are skills that are in its upstream oil and gas DNA. Lion Energy has assembled a team of experts, adopted a clear green hydrogen strategy and is actively executing that strategy.

Lion Energy has conventional oil and gas exploration, development and production skills. It applies those skills to its Indonesian portfolio which is characterised by existing oil production, an exciting 1.5Tcf Lofin gas discovery and lookalike exploration opportunities both onshore and offshore Seram Island, in East Indonesia.

In hydrogen, Lion Energy worked with one of Australia's foremost engineering experts in green hydrogen, GPA Engineering (Brisbane office), to develop a technically feasible and economically sound model from real cost inputs including green electricity costs. This work allowed Lion Energy to quickly understand the key cost drivers in delivering green hydrogen at a small to medium scale. Lion also worked with the Queensland University of Technology to develop a geospatial tool to assist us locate the best hydrogen generation and distribution location matching resources, market and technology. As a result, Lion aims to build the first hydrogen production facility at the Port of Brisbane with support of the Port Authority, targeted at providing hydrogen for local bus fleets, heavy duty transport and distributed fuel cell genset applications.

### Clean Economy Jobs Bill 2024

Lion Energy supports the main objective of the Bill to reduce greenhouse gas emissions in Queensland by stating emissions reduction targets of:

- 30 per cent reduction below 2005 levels by 2030 ■
- 75 per cent reduction below 2005 levels by 2035 ■ net zero by 2050.



According to the Government's report "Queensland's 2035 Clean Economy Pathway: 75% by 2035" released with the Bill's introduction to State Parliament, projects that: "Delivering these [existing] plans and working with the Commonwealth on key policies will deliver Queensland to 60% emission reductions".

These existing plans include the Queensland Zero Emission Vehicles Strategy 2022-32, which includes the commitment that: "Every new TransLink funded bus added to the fleet to be a zero emission bus in South-East Queensland from 2025 and across regional Queensland from 2025–2030".

Specifically, the Strategy acknowledges on hydrogen:

*"There are several exciting applications for hydrogen fuels across maritime, rail, bus and other heavy vehicles that will support decarbonisation of the transport sector and Queensland's burgeoning hydrogen industry.... We will also explore optimal refuelling station locations. Hydrogen plants for domestic applications are expected to be more distributed compared with an export industry. It is likely smaller scale plants would be located close to the user of the fuel or along major freight routes. For example, a hydrogen refuelling station could consist of a 10MW electrolyser with 40MW of solar as its energy source, either from the network or from behind the meter. Water would be acquired locally. A station of this size could produce about 1,000 tonnes of hydrogen per year, which would enable about 50 trucks to be refuelled each day (assuming 50kg tank). Supporting refuelling stations on major freight and passenger road corridors is a commitment outlined in the National Hydrogen Strategy. Heavy haulage vehicles have been identified as key to unlocking domestic application of hydrogen for further future uses."*

Yet, the accompanying Action Plan 2022-24 only requires "Explore optimal refuelling station locations to create a Queensland hydrogen superhighway."

The transition of the TransLink funded bus fleet under the Strategy is delivered through the Zero Emission Bus Program, and based on trials of battery electric buses during 2020-22, the Department of Transport and Main Roads has determined, as a result of these trials, that "battery electric technology is suitable for our public transport network and will be charged by renewable energy".

Consistent with the Government's Zero Emission Vehicles Strategy, Lion Energy believes the role for hydrogen-fuelled heavy vehicles, including buses, complements the adoption of electric buses. Hydrogen fuelled bus have the distinct advantage for longer range and not requiring long period of static "re-fuelling" of battery electric that mean more downtime for buses and more land required at bus depots with the capital costs of charging stations.

Currently hydrogen buses do not yet have the mature distribution network of battery electric buses, but this is due to offtake. At the current scale of the industry, small trials and demonstrations are not comparable as the volumes of hydrogen required for trials require relatively expensive infrastructure, whereas large scale trials are much more indicative of real-world costs expected. These costs are anticipated to become cheaper for longer routes and drive cycles on a km basis than battery electric infrastructure. The Queensland Government can play a critical leadership role in stimulating this industry by increasing the number of hydrogen fuel cell electric buses amongst the Translink fleet. In turn, this will increase public sector investment in this space.



Supporting local offtake for hydrogen is particularly important with regard to stimulating local supply chains. As the hydrogen industry grows, many large scale (and therefore low cost-hydrogen) projects are focusing on export markets. To avoid the detrimental impact to local consumers seen by the LNG export market, in terms of gas prices, the Queensland Government should be focusing efforts on ensuring local networks are sufficiently mature to ensure that these are included as part of favourable off-take agreements as the production capacity is locked in.

## Recommendations


Consistent with the objectives of the Bill, Lion Energy recommends the Committee:

- acknowledge the role of hydrogen and its application in heavy vehicle transport to reduce emissions compared to fossil fuel
- seek an update on the Queensland Zero Emission Vehicles Strategy, noting the current Action Plan is for the period 2022-24
- consider specific targets for numbers of hydrogen fuel cell electric buses, and larger trial size fleets, both for the purposes of demonstrating the benefits of the technology at scale, but critically supporting the role out of local infrastructure, ensuring a local market for the large volumes of low-cost hydrogen expected to be produced across the state.
- include in the qualifications of the membership of the Clean Economy Expert Panel, to be created by the Bill, to include experience with hydrogen and alternative fuels.

In conclusion, Lion Energy would welcome the opportunity to appear before the Committee to provide more information and provide any clarification on this submission.

Lion Energy understands the Committee has recently visited the Port of Brisbane as part of its Energy (Renewable Transformation and Jobs) Bill 2023 inquiry, but Lion Energy would welcome the opportunity to work with the Committee Secretariat through the Port of Brisbane, to visit the site of the refuelling station.

Sincerely

  
Thomas Soulsby  
Chairman – Lion Energy 