

Quarterly Report

1 April to 30 June 2022



Highlights – FEED commences on first hydrogen project, onshore Seram Island seismic commences, strong oil sales performance

Lion Energy Limited (“Lion” or “Company”) is pleased to report progress in both green hydrogen and oil and gas in Q2 2022.

Highlights include:

- Appointed Wasco to undertake a front-end engineering and design for Lion’s first hydrogen production and refuelling station.
- Advanced proposals to work with bus operator delivery partners of the Queensland and New South Wales state governments.
- Lion started implementing recommendations from the Australian Road and Research Board (ARRB) study in combination with the learnings of the Queensland University of Technology (QUT) work.
- Signed contract with one of world’s largest seismic contractors, BGP, for a 200km onshore 2D seismic survey in Lion’s exciting East Seram PSC, with mobilisation commencing in May and good progress made on surveying, logistics and commencement of shot hole drilling by quarter end
- Cash at quarter-end was US\$7.9 million (excluding joint-venture cash), compared to US\$8.8 million at the end of Q1 2022.
- Seram (Non-Bula) PSC production for the quarter was 123,809 bbls (Lion’s share 3,095 bbls), representing zero decline from the previous quarter.
- A crude oil lifting at the Seram (Non-Bula) PSC was completed 25 June 2022, total lifting 202,800 bbls net of Government share (Lion 5,070 bbls) at USD106.80/bbl, net pre-tax revenue to Lion USD541,486 to be received in Q3, 2022.

Lion continues to develop its business case for green hydrogen in Australia and is close to finalising its first commercial location. Good progress was also made for the critical onshore seismic campaign in the East Seram PSC (Lion 60%).

Mr Soulsby, Lion’s Chairman said that “*we continue our aim to position Lion at the forefront of hydrogen production and refuelling in Australia at a time when zero emissions are becoming more and more important for Federal and State Governments. Our new relationships and business development continues to refine this work. Concurrently, Lion is making excellent progress in our East Seram PSC with our ongoing seismic campaign which will cover some of the most material oil and gas prospects in Southeast Asia.*”

Lion at a glance

- ASX listed oil and gas E&P company with two conventional PSCs in Seram Island, Indonesia.
- Net production of around 37bopd from the Seram PSC which also contains the Lofin gas/condensate discovery.
- New focus on green hydrogen opportunities in Australia.

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Green Hydrogen

During the quarter, Lion continued its focus on a collaborative approach with government and partners in green hydrogen production and distribution with multiple proposals being progressed with public transport bus operators in Australian states including Queensland and NSW. This focus is driven by:

- State governments are driving the zero-emission transition through regulatory measures and financial commitment largely by 2025.
- Lion is focusing on working with the heavy mobility sector (buses and trucks) to comply with these ambitious targets.
- Hydrogen refuelling infrastructure is a key component of the transition but is currently lagging.
- Lion is working closely with equipment suppliers, bus manufacturers and fleet operators to open its first hydrogen refuelling station.
- Lion, together with its partners, envisions building and operating a network of hydrogen production hubs and refuelling stations.

Action implemented post ARRB Study

Lion reported in the previous quarter that The Australian Road and Research Board (ARRB) completed their work. ARRB concluded that two key Zero Emission Bus (ZEB) technologies will effectively support a transition to net zero emissions by Australian states:

- Battery Electric Buses (BEB's) enjoy low operating costs but are constrained by limited depot space for charging infrastructure, high infrastructure investments (chargers, energy storage and electricity connection/substation upgrades), shorter range and longer charging times of BEBs likely requiring additional BEBs to maintain service levels.
- Fuel Cell Electric Buses (FCEB's) are currently more expensive, but have fewer operating constraints, such as small footprint of H₂ refuelling infrastructure, fast refuelling, no range restrictions (comparable with current internal combustion engine buses) and simpler depot management. FCEB (vehicle and gas) purchase prices will further reduce as the technology matures and production volumes increase.

As such, Lion is moving quick to establish key refuelling infrastructure for FCEB's and on 25th May 2022 appointed Wasco to conduct front end engineering and design for its first hydrogen production and refueling station in Australia. The FEED is expected to be completed by the end of July 2022 and will allow the final investment decision ("FID") for the first hydrogen production and refuelling station to be made by the Board. Subject to FID, Lion would aim to start major equipment procurement process by August 2022, for a project completion by early 2H2023.

Wasco is an Engineering and Procurement Contractor (EPC) and Operations and Maintenance (O&M) contractor based in Brisbane. Wasco is part of the international Wasco Energy Group, headquartered in Kuala Lumpur, Malaysia. Wasco was the EPC contractor for Australia's first major hydrogen station, the Jemena West Sydney project, completed in 2021. In that project, Wasco constructed a new PEM Electrolyser facility with underground hydrogen storage pipeline and hydrogen storage and handling systems.

Lion is now confident hydrogen will play a major role in the decarbonisation of the Australian heavy transportation industry, including the bus sector. It envisions to build and operate a network of hydrogen generation and refuelling stations across the eastern states of Australia, which will complement the Hydrogen highway project announced by the New South Wales, Victorian and Queensland governments on 25th March 2022

Partnerships

Lion and BLK Auto, Australia's first supplier of hydrogen fuel cell powered coaches, continue with regular discussions and meetings with third parties to pursue specific opportunities for both coach and city bus transport solutions.

Lion continues to develop its relationship with the Pulitano Group, a leading transport and property group headquartered in Queensland. The Pulitano Group is a major bus operator in Australia managing more than 400 buses in Queensland and Victoria. In the quarter, Lion and the Pulitano Group continued to work up proposals to their government counterparty.

Also in December 2021, as previously reported, Lion partnered with one of the world's leading zero emission bus manufacturers, Foton Mobility. During the quarter, Lion worked with Foton on largely city bus transport solutions to Australian based bus operators.

Lion is also exploring working with international partners from Europe and Asia that have expressed an interest in green hydrogen in Australia. These discussions are ongoing.

Roadmap

As part of recent announcements, Lion presented the following provisional roadmap and has responded to the objectives as listed in Table 1, in the quarter under review.

Lion is currently assessing multiple locations for its first hydrogen production and refuelling site.

Table 1: Lion's provisional green hydrogen roadmap vs response (as at end June 2022)

Stated objective	Response
Stage 1	
Publish broad green hydrogen strategy	Completed
Register business name	Completed
Stage 2	
Establish team of hydrogen experts	Completed
Appoint experts to systematically analyse optimal electrolyser locations in Australia	Completed
Review the best value and fit for purpose solar, wind and electrolyser technologies	GPA phase 2 work completed, appointed Armana Energy as special advisors
The review of opportunities in which Lion may be able to combine its expertise and resources with a suitable market and partner to progress a green hydrogen development using identified electrolyser locations and appropriate technologies	Partnerships expanded: Wagners, Censtar H2 Technology, Foton Mobility, BLK Auto and Pulitano Group. Lion is working with public transport authorities and bus fleet operators in NSW, Vic and NSW.
Expand the scope of the Advisory Board to review opportunities in H2 distribution and hydrogen fuel cells for heavy equipment and vehicles	Advisory board have an ongoing role and involvement in the work being undertaken by Wasco, Armana including reviewing submissions by Censtar and other equipment providers
Stage 3	
Appoint consultants to undertake a feasibility study to ascertain the economic viability of a short listed opportunity and the anticipated cost	Commenced
Secure any required land rights conditional upon Lion proceeding with an opportunity	Work in progress
Investigate investing in a pilot or demonstration plant including H2 distribution and hydrogen fuel cell heavy equipment and vehicles	Submissions made to back to base fleet businesses
Stage 4	
Subject to a positive feasibility study, progress the opportunity by participating in the development of a smaller or larger solar/wind farm and relevant energy storage facilities to produce green hydrogen at low cost for domestic or export markets	Conditional upon stage 3 work being completed
Form a joint venture with a suitably experienced and funded partner	Conditional upon stage 2 work being completed

Operations update

East Seram PSC

Efforts during Q2 2022 were focussed on our 200km seismic survey. The contract with BGP, one of the world's largest most experienced seismic contractors, was signed on 13th April 2022. Mobilisation of personnel and equipment to Seram commenced in early May with production recording expected to commence in late August 2022.

Key ongoing activities include:

- community engagement
- camp preparation
- surveying
- line clearing
- equipment testing
- shot hole drilling

This survey, which includes gravity data acquisition, is designed to mature the high-graded prospects and leads of the exciting Seram fold-belt play. The play has the Jurassic age Manusela Formation fractured carbonate reservoir objective and is already proven with the oil producing Oseil Oil Field and the 1.5 tcf Lofin Gas Field.

A combined, unrisks, P50 (Best estimate) prospective resource¹ of 675 mmmboe is calculated for the 5 key targeted leads (MA-7, Tanah Baru North, Tanah Baru South, MA-10 and MA-11). The largest lead, MA-7, has an oil prospective resource¹ of Low (P90) 39 mmmbbl, Best (P50) 190 mmmbbl, and High (P10) 881 mmmbbl and a chance of success currently estimated at 24% (refer Lion ASX release dated 4 March 2019).

The onshore seismic program has an estimated cost of USD7.2mm and approximately 80% of this cost is funded by Lion's partner, OESC. Lion, via its wholly owned subsidiary Balam Energy Pte Ltd, holds a 60% participating interest in the East Seram PSC, located on and offshore east Seram Island in eastern Indonesia.

In 2020 Lion shot 664 km of marine seismic which targeted the shallow Plio-Pleistocene play and allowed Lion to mature a highly attractive offshore portfolio (refer ASX release dated 16 June 2021). Work conducted in 2021 showed some of these offshore structures, including the PP9 reefal prospect, can be drilled from onshore greatly enhancing their economic attractiveness.

¹Prospective Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of geologic discovery and a chance of development. Prospective Resources are further categorized in accordance with the range of uncertainty associated with recoverable estimates, assuming discovery and development, and may be sub-classified based on project maturity. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

Figure 1: East Seram PSC – location map of planned 2022 seismic survey

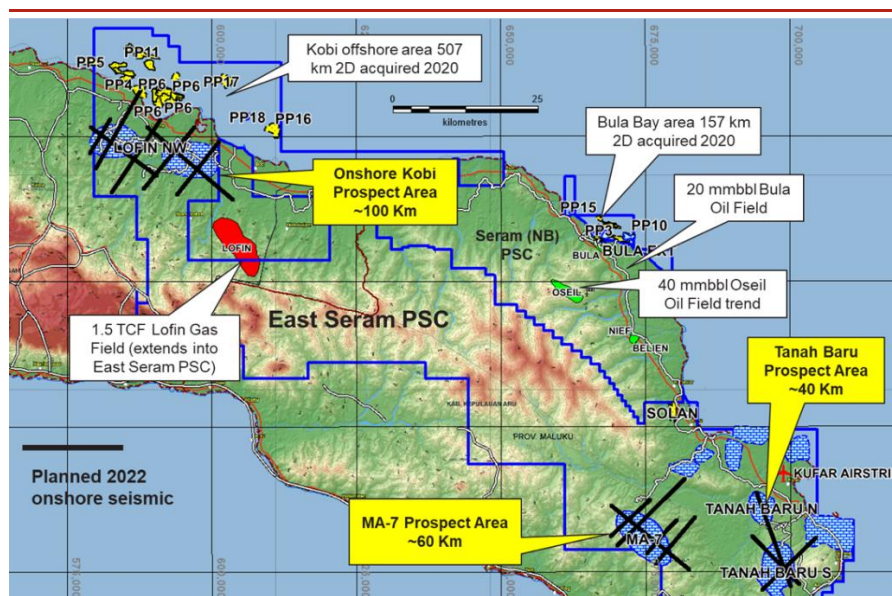


Photo 1 Equipment testing



Seram (Non-Bula) PSC

Lion, via its wholly owned subsidiary Lion International Investment Ltd, holds a 2.5% participating interest in the Seram (Non-Bula) PSC ("SNB PSC"), located onshore Seram Island in eastern Indonesia.

The block contains the Oseil oil field and surrounding structures that have yielded cumulative crude oil production of 19,506,262 barrels since production started in January 2003 through to 30 June 2022.

As previously reported by Lion, in 2015 the Lofin-2 appraisal well confirmed a highly material gas discovery in the SNB PSC. Re-entry and testing of the Lofin-2 well has been approved by the joint venture (refer Lion ASX Release 21 December 2021) and by the Government of Indonesia as part of the 2022 work program and budget. The test, expected to commence in September 2022, is a key step toward commercialisation of the Lofin Gas Field Contingent Resources (2C) of 1450 bcf (100%), Lion share 36.3 bcf.

Production

During the quarter, gross crude oil production from Oseil and surrounding oilfields was 123,809 bbls (Lion's gross share 3,095 bbls). Daily production averaged 1,361 bopd (Lion's interest being 31 bopd).

Crude oil available for lifting as of 30 June 2022 was minimal following the crude oil lifting completed 25 June 2022. The crude lifting amount was 246,535 bbls of which Lion's share after Government entitlement was 5,070 bbls.

Lion's pre-tax revenue from the crude oil lifting was USD541,486.

A well service was performed on Oseil-T1.

Operating costs were up marginally from the previous quarter at US\$24.39 per barrel

Regulatory update

In January 2021, CITIC Seram, the operator of the Seram (Non-Bula) PSC, was requested by the Government of Indonesia, in accordance with the terms of the PSC, to offer a 10% participating interest to a Regional-Owned Company appointed by the local Government of Maluku. The 10% would be transferred by the existing participants in the PSC pro-rata to their respective participating interests.

Figure 2 Seram (Non-Bula) Block PSC - location map

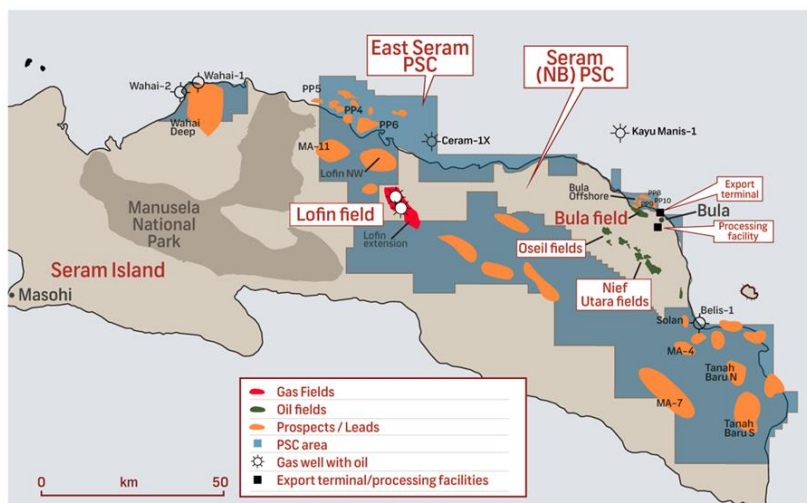
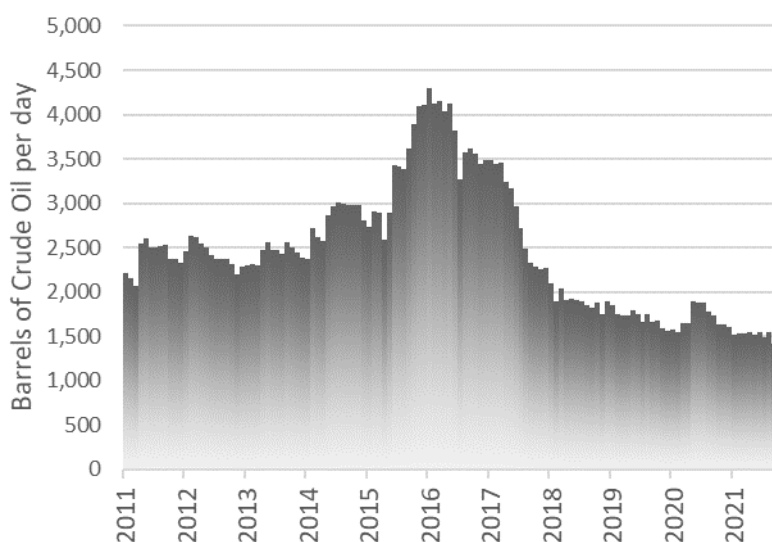


Chart 1 Seram (NB) Block - daily production per calendar month (bopd)



In March 2021, CITIC Seram received a first Letter of Intent from the Regional-Owned Company requesting to start a due diligence process. In January 2022, the Regional-Owned Company advised that it had completed its due-diligence and intends to acquire the 10% participating interest subject to commercial terms to be agreed. Based on a letter issued by the Minister of Energy and Mineral Resources in the Republic of Indonesia, the price for the 10% participating interest will 10% of the performance bond provided by the PSC at the time of the PSC extension in 2019.

The process continues and is now expected to complete by Q3 2022. At completion, Lion's participating interest in Seram (Non-Bula) PSC will reduce to 2.25% from 2.5% currently.

Corporate

The Company continues to maintain a focus on costs, whilst pursuing activities in Indonesia and in Green Hydrogen in Australia. Lion expects G&A costs to track steady year on year below US\$1m. During the quarter the Company incurred US\$77k in production costs from the operations of the Seram Non-Bula operation.

Related Party Payments

During the quarter, the Company made payments of US\$111,000 to related parties and their associates. These payments relate to the existing remuneration agreements for the Executive and Non-Executive Directors.

Summary of petroleum tenements held as of 30 June 2022

	% interest	Tenement	Location
Held at end of quarter	60%	East Seram PSC	Seram Island, Indonesia
	2.5%	Seram Non-Bula PSC	Seram Island, Indonesia

ENDS

This ASX announcement was approved and authorised for release by the Board of Directors.

Qualified petroleum reserves and resources evaluator requirements

In accordance with ASX Listing Rule 5.43 the Company confirms that references to petroleum reserves, contingent resources and prospective resources have previously been announced (7/9/2018, 10/9/2018, 04/03/2019, 13/04/2021 and 16/06/2021). The Company confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all the material assumptions and technical parameters underpinning the estimates in this announcement continue to apply and have not materially changed.

Glossary

bbl: barrels	JV: joint venture	PSC: Production Sharing Contract
bcf: billion cubic feet	KB: Kelly bushing	psi: pounds per square inch
bopd: barrels oil per day	mmscfd: million standard cubic feet of gas / day	tcf: trillion cubic feet
BOP: blow out preventer	mmbbl: million barrels	Sq.km: square kilometres
ESP: Electric submersible pump	mmboe: million barrels oil equivalent	ss TVD: sub-sea true vertical depth
FTP: first tranche petroleum	MD: measured depth	TD: total depth