

Quarterly Report

1 October to 31 December 2021



Highlights – green hydrogen partnerships established, Lofin-2 well test approved, onshore seismic set to commence

Lion Energy Limited (“Lion” or “Company”) is pleased to report progress in both green hydrogen and oil and gas in Q4 2021.

Highlights include:

- Signed a partnership with BLK Auto, Australia’s first supplier of hydrogen fuel cell powered coaches.
- Entered into a collaborative agreement with the Pulitano Group, a transport and property group with city bus and coach operations in Queensland and Victoria.
- Progressed the QUT study to close to completion, with the software in its final iteration.
- Signed a co-operative partnership with Foton Mobility, associated with the Foton Group, one of the world’s largest zero emission bus manufacturers.
- Continued discussions with public transport authorities and fleet operators on the supply of green hydrogen.
- Advanced contractual negotiations for the largely partner-funded onshore 2D seismic program in the East Seram PSC planned for 2022.
- Approved the Seram (Non-Bula) 2022 testing plan to re-enter and conduct an extended test of the 2015 Lofin 2 appraisal well which delineated a 1,300m gas column.
- A crude oil lifting of 241,693 bbls was completed in December 2021, with proceeds expected to be received mid Q1 2022.
- Cash at quarter end was US\$8.6m (excluding joint-venture cash), an increase of US\$6.4m from the end of Q3 2021.

Lion continues to develop its business case for green hydrogen in Australia, while preparing for the critical onshore seismic campaign in the East Seram PSC (Lion 60%), and for the Lofin well test in the Seram (Non-Bula) (“SNB”) PSC (Lion 2.5%). The company raised AUD \$9.6m in November, 2021.

Mr Soulsby, Lion’s Chairman said that “we continue to 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 work continues to refine this work. Our modest position in the upcoming Lofin well test gives us leverage to Asia’s tight gas markets. Our East Seram PSC seismic campaign will cover some of the most material oil and gas prospects in Southeast Asia and could lead to drillable targets in 2023.”

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 firmed up its green hydrogen strategy and welcomed new investors as part of a AU\$9.6m capital raise earmarked for working capital and business development opportunities in green hydrogen (see ASX release dated November 17, 2021). Lion is now very focused on a collaborative approach with partners in green hydrogen production and distribution for heavy mobility, incentivised by the following reasons:

- 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 then trucks) to comply with these ambitious targets
- Hydrogen refuelling infrastructure is a key component of the transition, but is currently lagging
- Lion, together with its partners, envisions building and operating a network of hydrogen production hubs and refuelling stations
- Lion is working closely with equipment suppliers, bus manufacturers and fleet operators to open its first hydrogen refuelling station

In November the company advised that it had signed a partnership with Queensland based BLK Auto Pty Ltd (“BLK Auto”) for a collaboration to assess opportunities to grow Australia’s hydrogen transport and infrastructure capabilities. BLK has already delivered Australia’s first hydrogen fuel cell powered coach and is in the process of delivering a further 9 under contract with a leading WA based group. Lion and BLK have regular discussions and meetings with third parties to pursue specific opportunities for both coach and city bus transport solutions.

In December, Lion firmed up a 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. Both these jurisdictions have zero emission targets and Pulitano are keen to position themselves for the transition to zero emission targets.

Shortly thereafter, Lion partnered with one of the world’s leading zero emission bus manufacturers, Foton. Foton Mobility is associated with Foton Group, who have already sold more than 44,000 zero emission buses, including over 600 hydrogen fuel cell buses. Lion and Foton collaborate and jointly market to fleet operators offering integrated solutions.

Lion now believes that the heavy mobility sector is ripe for adopting hydrogen as a solution for zero-emission targets. For the bus industry in particular, some states have ambitious targets, with a requirement for all new public transport bus purchases to be zero-emission by 2025. Hydrogen buses are already commercially available, but the refuelling infrastructure is still missing. Lion is focussed on the potential for filling the gap.

Lion’s rationale for a move into Green Hydrogen are (i) a buoyant market outlook, (ii) significant tail wind from governments, (iii) the wide-ranging potential applications of green hydrogen and (iv) Australia’s global comparative advantage in renewable energy.

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

Table 1: Lion's provisional green hydrogen roadmap vs response

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, QUT work in final iteration
Review the best value and fit for purpose solar, wind and electrolyser technologies	GPA phase 2 work commenced, 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 GPA and 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	Conditional upon stage 2 work being completed
Secure any required land rights conditional upon Lion proceeding with an opportunity	Conditional upon stage 2 work being completed
Investigate investing in a pilot or demonstration plant including H2 distribution and hydrogen fuel cell heavy equipment and vehicles	MOU's signed with Wagners and Censtar, work in progress
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

Lion aims to be among the first movers in green hydrogen production and distribution infrastructure development in Australia and is mobilising its resources to meet this objective with a focus on the Eastern States of Australia.

Lion appointed the Australian Road Research Board ("ARRB") on a business case for hydrogen buses in Queensland. ARRB will deliver an economic case and a transition plan. This will be provided to Lion with the co-operation of regulators, bus fleet owners and operators to assist with their decision making and transition planning. ARRB's work is close to completion.

Lion's work with QUT, which was announced June 2, 2021, regarding a draft geospatial tool which will enable Lion to quickly ascertain the suitability of larger hydrogen production locations factoring in market and renewable energy delivery infrastructure. QUT's work is largely complete and in its final iterations.

The work with Wagner Corporation also continues with discussions ongoing in relation to fuel cell trucks.

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Operations update

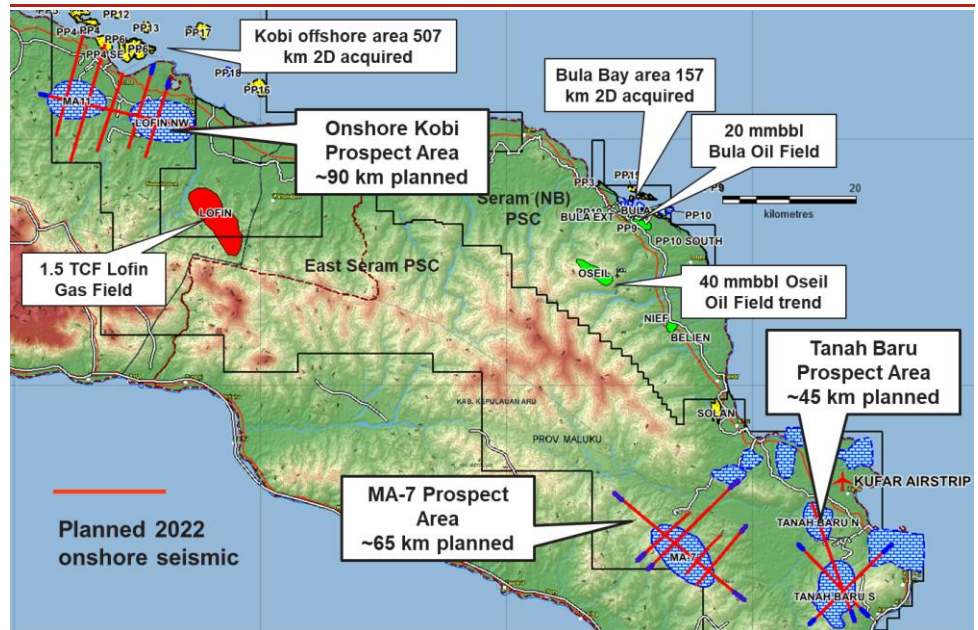
East Seram PSC

During Q4 2021 Lion continued progressing the operational planning and contractual negotiations for the planned 200km onshore seismic operations in 2022.

This survey is strategically planned to mature the high-graded prospects and leads of the exciting Manusela fold belt play to "ready to drill" status.

Key contracts were either executed or are close to being executed at quarter-end and work on necessary Government approvals as well as appropriate Covid protocols is well advanced. The upcoming seismic program is largely funded by Lion's partner, OESC.

Figure 2: East Seram PSC – location map of planned 2022 seismic survey



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.

The East Seram PSC, located in the proven yet under-explored Seram Basin, is interpreted to have some of the largest undrilled structures in Southeast Asia.

The 2020 664 km marine seismic targeted the shallow Plio-Pleistocene play and allowed Lion to mature a highly attractive offshore portfolio (refer ASX release dated 16 June 2021). Work is continuing by way of feasibility and economic studies of potential drilling of high-graded shallow prospects.

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Seram (Non-Bula) PSC

Lion, via its wholly owned subsidiary Lion International Investment Ltd, holds a 2.5% participating interest in the 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 19,260,210 barrels since production started in January 2003 through to 31 December 2021.

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 have been approved by the joint venture (refer Lion ASX Release 21 December 2021). The test, expected to commence in H1 2022, is a key step toward commercialisation of the Lofin Gas Field Contingent Resources (2C) of 1450 bcf (100%) / Lion share 36.3 bcf. The Government of Indonesia approval was received during the Quarter for this program as part of the 2022 work program and budget.

Production

During the quarter, gross crude oil production from Oseil and surrounding oilfields was 132,943 bbls (Lion's gross share 3,324 bbls). Daily production averaged 1,445 bopd (Lion's interest being 36 bopd).

Crude oil available for lifting as of 31 December 2021 was 4,372 bbls.

A crude oil lifting of 241,693 bbls was completed on 27 December 2021.

During the Quarter:

- A well service was carried out on Oseil-2ST2 well to replace the downhole electric pump. The well service rig was released 10 October 2021.
- Two well services were carried out on Oseil-23, in an attempt to shutoff the water zone. Following the first well service in November, the pump failed and a follow up well service was carried out. The well was reopened 3 January 2022 and performance is being monitored.

Figure 4 Seram (Non-Bula) Block PSC - location map

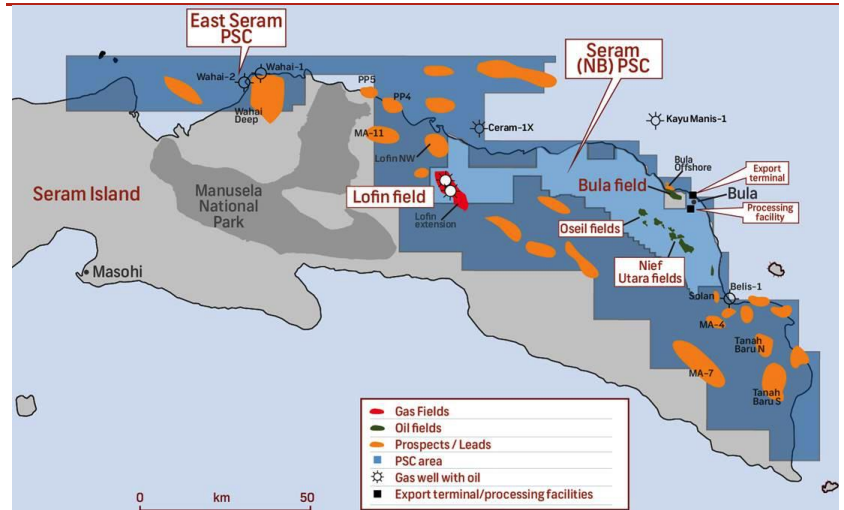
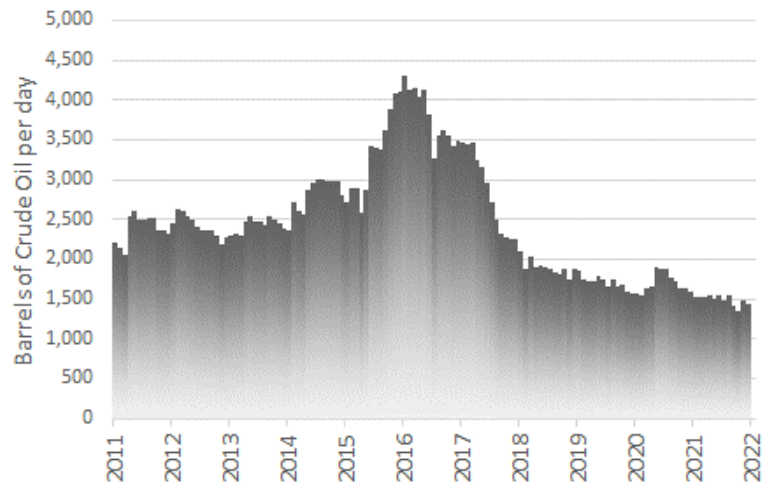


Chart 1 Seram (NB) Block - daily production per calendar month (bopd)



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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 a total of US\$6.92m (AU\$9.53m) was raised from a share issue, option conversions and convertible notes.

Related Party Payments

During the quarter, the Company made payments of US\$113,000 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 at 31 December, 2021

	% 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

bcf: billion cubic feet

bopd: barrels oil per day

BOP: blow out preventer

ESP: Electric submersible pump

FTP: first tranche petroleum

JV: joint venture

KB: Kelly bushing

mmscfd: million standard cubic feet of gas per day

mmbbl: million barrels

mmboe: million barrels oil equivalent

MD: measured depth

PSC: Production Sharing Contract

psi: pounds per square inch

tcf: trillion cubic feet

Sq.km: square kilometres

ss TVD: sub-sea true vertical depth

TD: total depth