

Quarterly Report

1 April to 30 June 2023



New seismic confirms world-class potential, H2 project development approval submission imminent

Lion Energy Limited ("Lion" or "Company") is pleased to report exciting developments in oil & gas and steady progress in hydrogen.

Highlights include:

- Completion of processing of the 2022 onshore seismic survey in Lion's East Seram PSC.
- Highly promising results from interpretation of the new data with all structures targeted by the new data confirmed with closure potential up to 90 square kilometres and hydrocarbon column potential up to 1200m.
- The Lofin-2 well testing was successfully completed, following which the well was completed with the installation of a chrome casing liner and is now awaiting further well testing of the completed well, in readiness for commercial production of the 1.5 TCF field.
- Following on from key equipment procurement in our Port of Brisbane hydrogen project, development approval documents largely prepared ready for Queensland government submission.
- Fielding hydrogen offtake enquiries
- Cash at quarter-end was US\$3.5 million (excluding joint-venture cash), compared to US\$4.4 million at the end of Q1 2023.
- A crude oil lifting of 206,525 bbls was completed 28 June 2023 (Lion share 4,566 bbls pre government share, with Lion gross revenue entitlement of ~USD280,000 expected end July 2023).
- Seram (Non-Bula) PSC production for the quarter was 104,781 bbls (Lion's share 2,620 bbls).

Mr Soulsby, Lion's Chairman, commented: "We are particularly excited by the progress in oil & gas and development plans for our green hydrogen hub are largely submission ready. The interpretation results of the new seismic and gravity surveys in our operated East Seram PSC have exceeded expectations. Given the extremely large size of the prospects confirmed by the new seismic, we are confident we have a world-class prospect portfolio. Our focus is now on continuing our technical work aimed at proposing the best prospect to drill. Lion is well placed with a 60% participating interest to farm down and get a carried interest through a well. With the Lofin-2 well now completed we look forward to continued testing with the goal of commercial production initially serving local markets identified by the Operator."

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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“Critically, in hydrogen, after selecting its first site at Port of Brisbane where it intends to build and operate its first hydrogen generation and refuelling hub, Lion has spent the last three months preparing its development submission documents for the Port of Brisbane’s development approval prior to submission to the Queensland Government for State Planning Approval. Lease agreement negotiations are well advanced. The hub is geared towards heavy mobility fleets with an early focus on supplying domestic bus fleets. This is exciting because I believe this to be the first of its scale in Australia with plant commissioning targeted for early 2024.”

Green hydrogen update

Lion announced that it signed a milestone Heads of Agreement (HOA) with Port of Brisbane Pty Ltd (“PBPL”) for a long-term lease of land within the Port of Brisbane (“POB”) in Q1 2023, where it plans to build and operate its first hydrogen generation and refuelling hub. In Q2, Lion and PBPL advanced well on the lease agreement negotiations and the parties have actively engaged on the development approval document preparation. Lion has now formally submitted the development approval request and associated documents to POB for their development approval.

The hub is geared towards heavy mobility fleets with an early focus on public bus fleets. The POB project is the first site of a planned wider network and constitutes a major step in Lion’s hydrogen strategy and integral to a broader hub and spoke/depot supply model.

The location is strategic due to its proximity to the majority of Brisbane’s 70+ bus depots, and also the significant heavy vehicle traffic to and from the Port. The site will initially produce and dispense some 420kg/day of green hydrogen but has the ability to quickly double production to respond to increasing demand. The image below is a representation of the architects drawings for the development approval submission and should closely resemble the actual hydrogen generation and refilling station .



Lion reported that it signed a General Equipment and Procurement Agreement with various vendors for supply of electrolyzers, a refuelling package and tube trailers for the POB location. The equipment includes 2 x 1MW alkaline electrolyser packages, a compressor, storage banks, dispenser and two tube trailers and we have used our time in Q2 2023 to refine design documents and progress local compliance requirements with each vendor. The equipment is capable of refuelling zero emission hydrogen fuel cell buses in ten to sixteen minutes on a back-to-back basis.

Lion has been working closely with the bus industry on their requirements around refuelling reliability and speed as part of its green hydrogen strategy. Lion is currently responding to requests for proposals for green hydrogen supply for bus operators in South East Queensland. Lion is also fielding enquiries for hydrogen from a marketing campaign that commenced in Q2, culminating in the following features in the Australian Bus and Coach magazine for July, 2023.



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.

Table 1: Lion's provisional green hydrogen roadmap vs response (as at end June 2023)

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	FEED completed, work in progress
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	Working up proposals with counterparties

Oil and Gas Operations update

East Seram PSC

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

Lion holds a 60% interest and is Operator of the 4557 km² East Seram PSC. During the Quarter the time migration processing of the 200km onshore seismic shot in late 2022 was completed. The initial interpretation of the new seismic and gravity data was completed during June 2023 confirming all structures targeted by the survey were present.

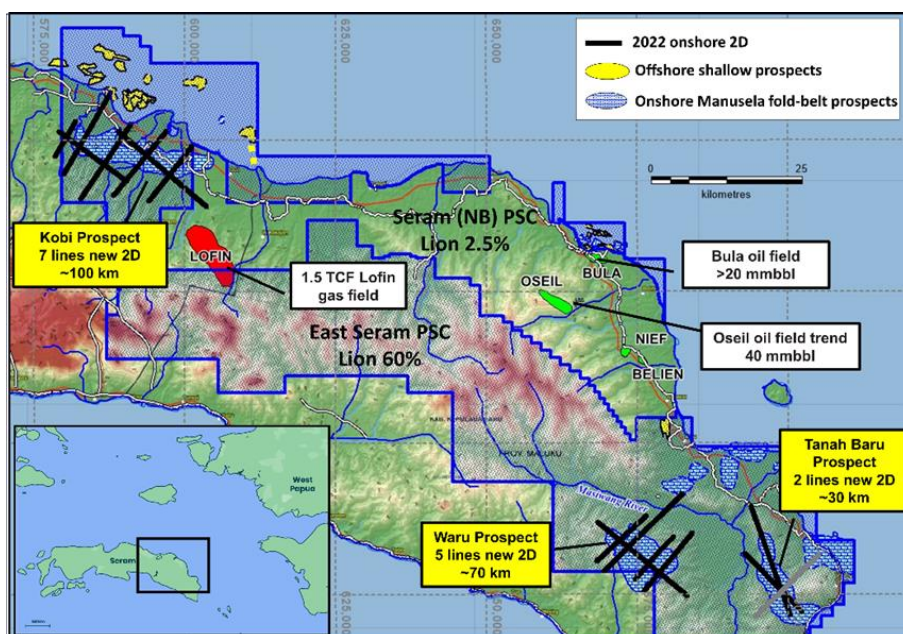
The 200km survey was acquired in late 2022 and early 2023 by BGP, one of the world's largest seismic contractors. Both seismic and gravity data were acquired and, designed to mature high-graded leads and prospects of the Manusela carbonate fold-belt play to drillable status.

The pre-survey combined, unrisked, P50 (Best estimate) prospective resource¹ of 675 mmbbl was calculated for the 5 key targeted leads (MA-7, Tanah Baru North, Tanah Baru South, MA-10 and MA-11).

Key results of the interpretation (refer ASX release 6 July 2023 for additional details) are:

- New data greatly improves imaging and geological understanding of targeted prospects.
- The Kobi Prospect (previously MA-10, MA-11), located only 10 km NW of the 1.5 TCF Lofin gas field, has areal extent of up to 90 km² and hydrocarbon column potential of up to 1200m.
- The Waru Prospect (previously MA-7) is shown to have a potential areal closure of up to 70 km² and hydrocarbon column potential of up to 1100m.
- The Tanah Baru Prospect has areal potential over 60 km² and hydrocarbon column potential of over 1000m.
- All prospects are supported by positive gravity anomalies.
- Processing and interpretation work is ongoing to update prospective resource assessment and to refine potential drill locations.

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.



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.

Lion expects the divestment of 0.25% interest in Seram (Non-Bula) PSC to be finalized during the second half of 2023. At completion, Lion’s participating interest in the Seram (Non-Bula) PSC will reduce to 2.25% from 2.5% currently.

As previously reported by Lion, in 2015, the Lofin-2 appraisal well confirmed a highly material gas discovery in the SNB PSC. The Lofin Gas Field has Contingent Resources (2C) of 1450 bcf (100%), Lion share 36.3 bcf.

Re-entry and testing of the Lofin-2 well commenced on 18 December 2022. The testing completed on 4 March 2023, with completion of the final pressure build-up. The land rig remained on location to complete the well ready for production. The running of the completion was completed, and the rig was released on 15 June 2023.

For details of the Lofin-2 testing and completion, refer to the Company’s ASX release of 11 July 2023 “Lofin-2 well completed following successful well testing program”.

The Operator is currently preparing to conduct an extensive 4 rate flow test of the completed well, the results of which are required as part of imminent commerciality negotiations with prospective customers.

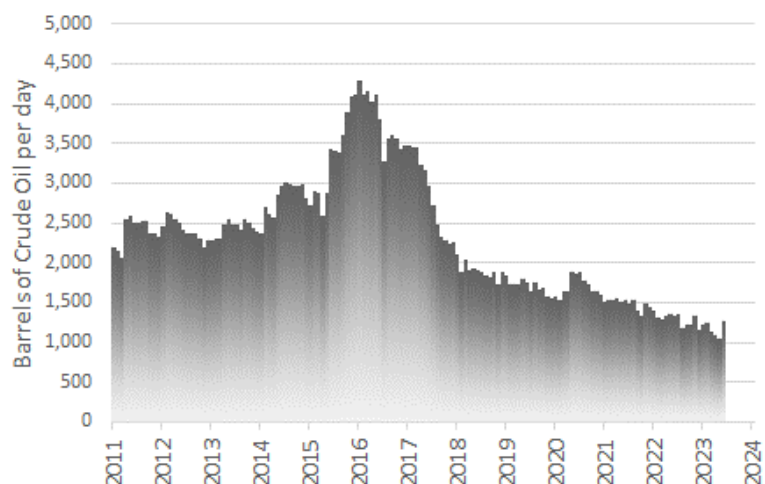
Production

During the quarter, gross crude oil production from Oseil and surrounding oilfields was 104,781 bbls (Lion’s gross share 2,620 bbls). Daily production averaged 1,151 bopd (Lion’s interest being 29 bopd). Crude oil available for lifting as of 30 June 2023 was 10,531 bbls following the crude lifting completed 28 June 2023. Operating costs were US\$30.97 per barrel for the Quarter, higher than the annualised operating cost (\$23.62/bbl in 2022), due to annual staff incentives paid in July 2023.

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



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



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.

Related Party Payments

During the quarter, the Company made payments of US\$188,000 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 2023

	% 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