

# Quarterly Report

1 January to 31 March 2023



## Seismic operations complete, Lofin-2 gas well test completes, H2 project gains momentum.

Lion Energy Limited ("Lion" or "Company") is pleased to report another quarter of substantial progress in both oil & gas and hydrogen.

Highlights include:

- Green hydrogen hub location announcement at the Port of Brisbane
- Purchase of major hydrogen equipment (refueller and tube trailer packages)
- Successful and safe completion of 194km East Seram PSC onshore seismic survey
- Processing of East Seram PSC gravity data completed end March and processing of seismic data 60% complete at quarter-end (expected to be finalised in May 2023). Interpretation is aimed to develop a suite of highly attractive prospects as drilling candidates in 2024.
- Testing program at Seram (Non-Bula) PSC Lofin-2 well in the 1.5TCF Lofin gas field completed on 4<sup>th</sup> March with flows up to 14.8mmscf/d recorded. Activities for completion of the well continued at quarter end, with preparation to run casing to allow further well testing and commercial production.
- Cash at quarter-end was US\$4.4 million (excluding joint-venture cash), compared to US\$6.0 million at the end of Q4 2022.
- Seram (Non-Bula) PSC production for the quarter was 109,877 bbls (Lion's share 2,747 bbls).

Mr Soulsby, Lion's Chairman, commented: "Our work in both oil & gas and green hydrogen stepped up in the last quarter. In the East Seram PSC, data processing continued during the month and the data is expected to deliver a suite of highly attractive prospects for planned testing in 2024. The successful testing results for the Lofin-2 well in the Seram (Non-Bula) PSC was another major milestone with the rig preparing to run casing to allow commercial production from the well."

"Critically, in hydrogen, Lion selected its first site at Port of Brisbane where it intends to build and operate its first hydrogen generation and refuelling hub. We expect to sign the lease agreement during Q2 2023. 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."

## 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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## Directors & Officers

**Tom Soulsby** Executive Chairman  
**Damien Servant** Executive Director  
**Russell Brimage** Non-Executive Director  
**Chris Newton** Non-Executive Director  
**Zane Lewis** Non-Executive Director  
**Arron Canica** Company Secretary

## For more information

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## 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"), where it plans to build and operate its first hydrogen generation and refuelling hub. 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 but has the ability to quickly double production to respond to increasing demand.



In addition to the location news, Lion reported that it signed a General Equipment and Procurement Agreement with Fueltech Hydrogen Pty Ltd ("Fueltech"), an Australian company, for supply of a refuelling package and tube trailers for the POB location. The package is a key component of the hub that is geared towards heavy mobility fleets, with an initial focus on back to base fleets. The equipment includes a compressor, storage banks, dispenser and two tube trailers. The equipment is capable of refuelling zero emission hydrogen fuel cell buses in less than ten 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. We are confident that the Fueltech package meets all the special requirements of the bus industry.

## 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.

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

Stated objective	Response
<b>Stage 1</b>	
Publish broad green hydrogen strategy	Completed
Register business name	Completed
<b>Stage 2</b>	
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
<b>Stage 3</b>	
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
<b>Stage 4</b>	
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

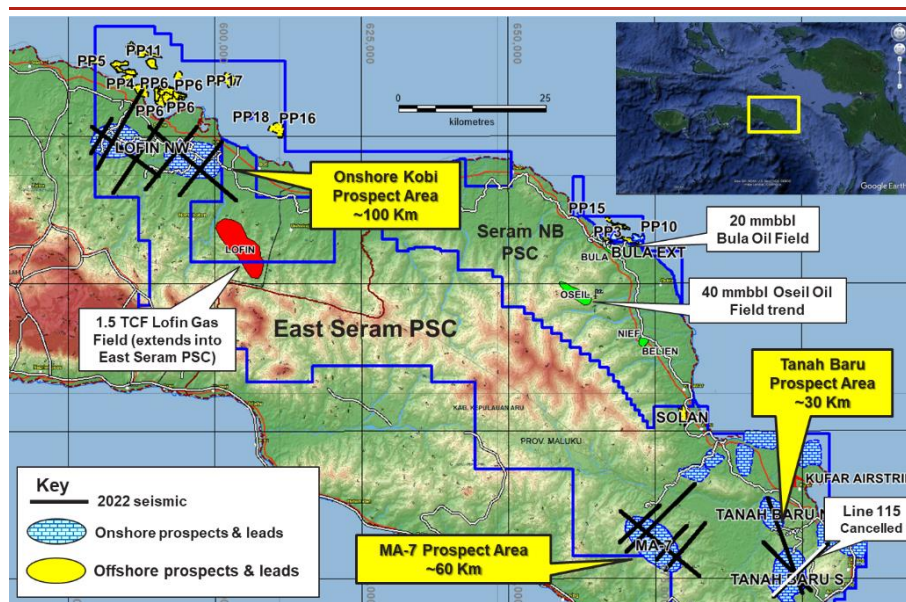
Field operations for the 200km 2D seismic survey were completed in January 2023. The successful completion of the survey, which involved almost a million-man-hour exposure with no lost time incidents (LTI's), is a major accomplishment for Lion. The survey, which targets some of the largest untested structures in Indonesia, was conducted in a remote, challenging location and the final cost was within 10% of the pre-survey budget of US\$7.2m.

Processing of the seismic data commenced in late November 2022 and was approximately 60% complete by quarter end. Processing on the 1000 station gravity survey, acquired at the same time as the seismic, was completed during the quarter. The processing of the seismic is due for completion in May 2023.

The new survey data when received in 2Q will be integrated with existing seismic and well data with the aim 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 resource<sup>1</sup> 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 resource<sup>1</sup> of Low (P90) 39 mmbbl, Best (P50) 190 mmbbl, and High (P10) 881 mmbbl and a chance of success currently estimated at 24% (refer Lion ASX release dated 4 March 2019).

<sup>1</sup>Prospective 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 showing 2022 seismic survey





## 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.

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.

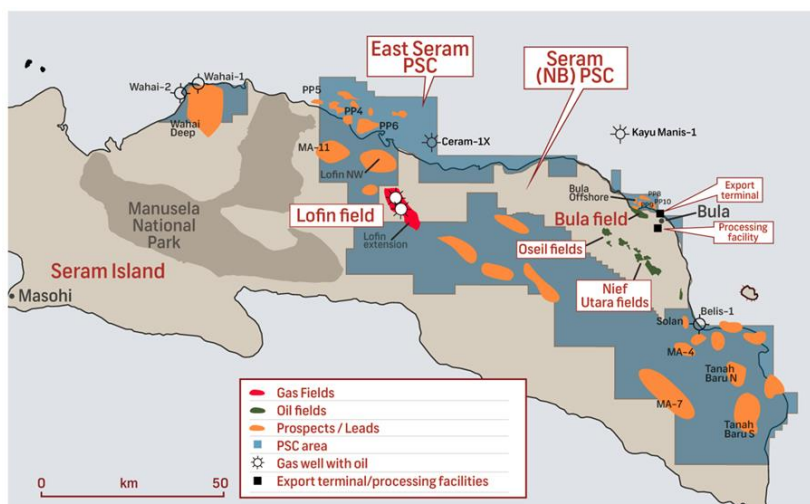
Re-entry and testing of the Lofin-2 well commenced on 18 December 2022. The testing completed on March 4<sup>th</sup>, with completion of the final pressure build-up. The land rig remained on location to complete the well ready for production. The completion involves running chrome casing and chrome production tubing. Chrome casing and tubing are manufactured from an alloy containing a high proportion of chrome, to safely withstand corrosive fluids.

The primary objective of the well test was to isolate the water zone and determine hydrocarbon fluid characteristics of the Manusela limestone formation to enable the Joint Venture to move forward with commercialisation. A number of attractive development options are currently under review by the PSC Operator. Preliminary well test results (refer ASX Release 16 February 2023) were encouraging and in-line with expectations. Gas rates up to 14.8 mmscfd were recorded on an 80/64" choke during the clean-up phase of the testing program. The Seram (Non-Bula) joint venture is currently reviewing results. The company will provide ongoing updates on joint venture decisions in relation to the Lofin gas field and progress of the completion of Lofin-2.

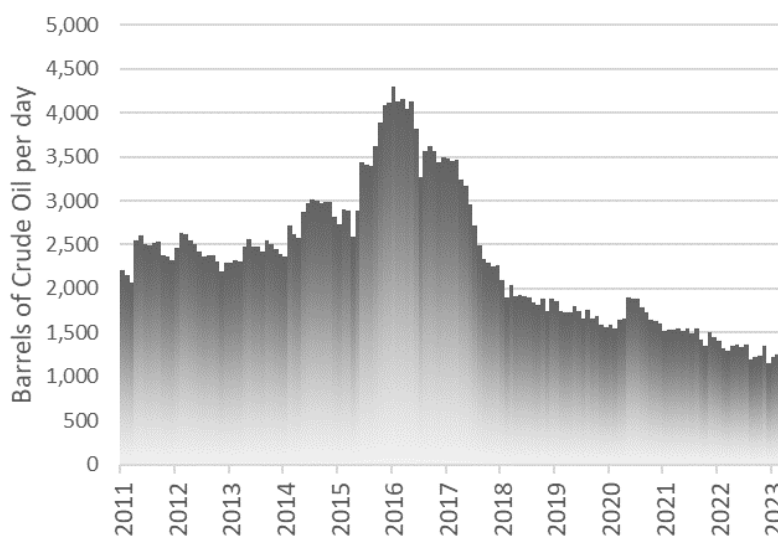
## Production

During the quarter, gross crude oil production from Oseil and surrounding oilfields was 109,877 bbls (Lion's gross share 2,747 bbls). Daily production averaged 1,221 bopd (Lion's interest being 31 bopd). Crude oil available for lifting as of 31 March 2023 was 112,225 bbls. Operating costs were down at US\$18.4 per barrel for the Quarter, reflecting the operator's ongoing focus on production cost containment.

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



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



## Regulatory update

In January 2021, CITIC Seram, as 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.

The process remains unresolved as the Seram (Non-Bula) joint venture continues negotiations with the Government of Indonesia to resolve the issue to the satisfaction of all parties. At completion, Lion's participating interest in the 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.

## Related Party Payments

During the quarter, the Company made payments of US\$182,000 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 31 March 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