



**BOSS**  
ENERGY LTD

**AUSTRALIA'S NEXT  
URANIUM PRODUCER**

121 Mining Investment EMEA

25<sup>th</sup> – 27<sup>th</sup> May 2021

ASX: BOE | OTC: BQSSF | @BOSS\_ENERGY



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The information in this document relating to the Feasibility Study is extracted from the announcement entitled ‘Honeymoon FS confirms Boss Resources as Australia’s next uranium producer’ dated 21 January 2020. The Company confirms that all the material assumptions underpinning the production targets, or the forecast financial information derived from the production targets, continue to apply and have not materially changed. The information in this document relating to the Mineral Resources is extracted from the announcements released to the ASX on 20 January 2016, 8 April 2016, 14 June 2016, 15 March 2017 and 25 February 2019. The information relating to the Exploration Results for the Jasons Deposit is extracted from the Company’s announcements dated 6 December 2016, 8 December 2016, 14 December 2016 and 3 February 2017. The information relating to the results from the Field Leach Trial and Ion Exchange Pilot Plant have been extracted from the announcements released to the ASX on 19 June 2017, 31 July 2017, 13 September 2017, 4 and 26 October 2017, 1 and 15 November 2017. The information in these announcements has been compiled and/or reviewed by Dr Marat Abzalov, who is a Competent Person as defined in the 2012 edition of the “Australasian Code for Reporting Mineral Resources and Ore Reserves”. Dr Abzalov has consented to the inclusion of the information in this presentation in the form in which it appears and confirmed that the form and context in which the Competent Person’s findings are presented have not materially changed since initial release to the ASX.

The information relating to the Exploration Target is extracted from the announcements released to the ASX 8 December 2015 and 25 March 2019. The Exploration Target is conceptual in nature as there has been insufficient exploration to define a Mineral Resource. It is uncertain if further exploration will result in the determination of a Mineral Resource under the JORC Code 2012. The Exploration Target is not being reported as part of any Mineral Resource or Ore Reserve.

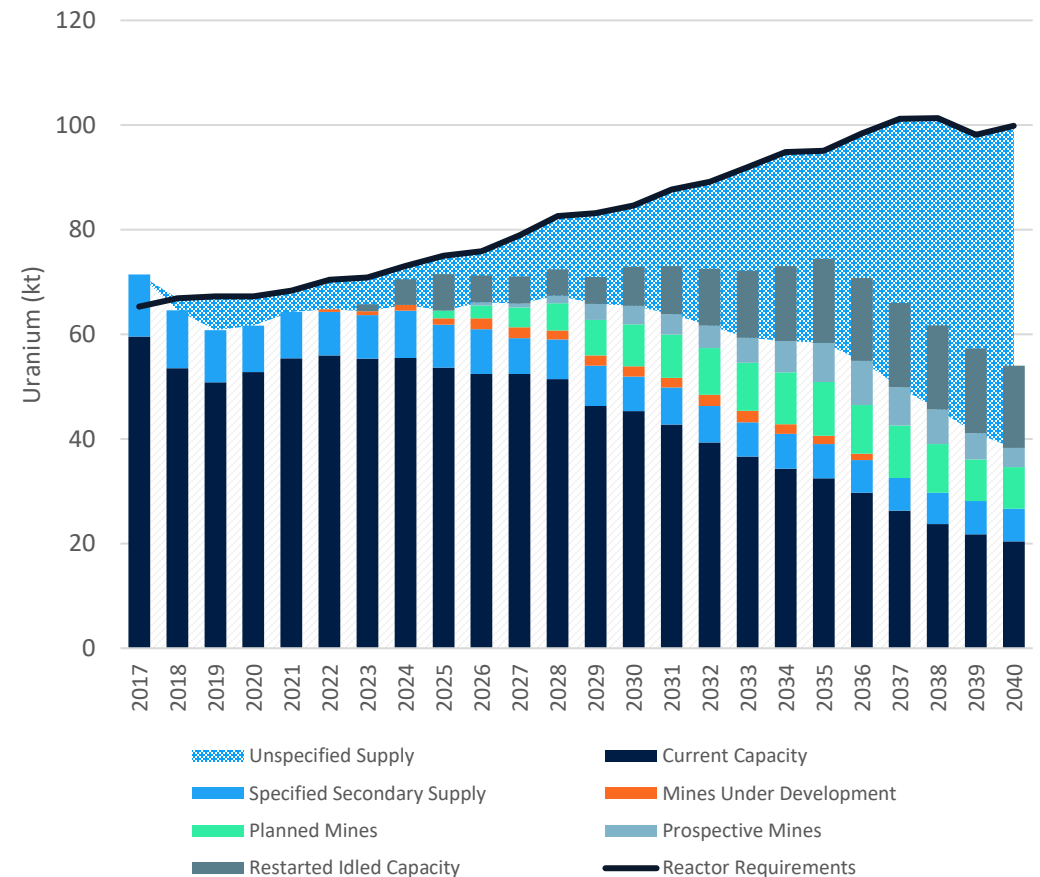


# COMPELLING URANIUM MARKET FUNDAMENTALS



- OPPORTUNITY**
  - Strong fundamentals supporting a positive price outlook
  - 2020 supply deficit estimated at 50-60Mlb (total demand less global production)<sup>1</sup>
  - Global stockpiles available for energy use are dwindling<sup>1</sup>
  - Lack of viable alternatives to provide massive amounts of clean and reliable power
- RISING DEMAND**
  - Demand exceeded global production in almost every year since 1990
  - Highest nuclear power growth in past 25 years<sup>1</sup>
  - 442 operable reactors in 31 countries
  - 53 units in construction
  - 98 reactors planned
  - 326 reactors proposed
- TIGHTENING SUPPLY**
  - Dramatic cuts to global uranium supply in past 12 months<sup>2</sup>
  - Denison Mines Corp., Uranium Energy Corp., Yellow Cake plc, Uranium Participation Corp. and Boss have collectively committed to purchase ~9Mlbs in 2021 to hold as strategic investment<sup>2</sup>
  - Increased activity in utility supply contract enquiries
- BARRIERS TO ENTRY**
  - US\$60/lb incentive price required for majority of new uranium production to be economically viable<sup>1</sup>
  - US\$40/lb incentive price required for majority of idled mines to restart<sup>1</sup>
  - Lack of funding for new exploration
  - Permitting requirements increasingly difficult with long lead time

World Nuclear Association - Reference (Base) Scenario<sup>3</sup>

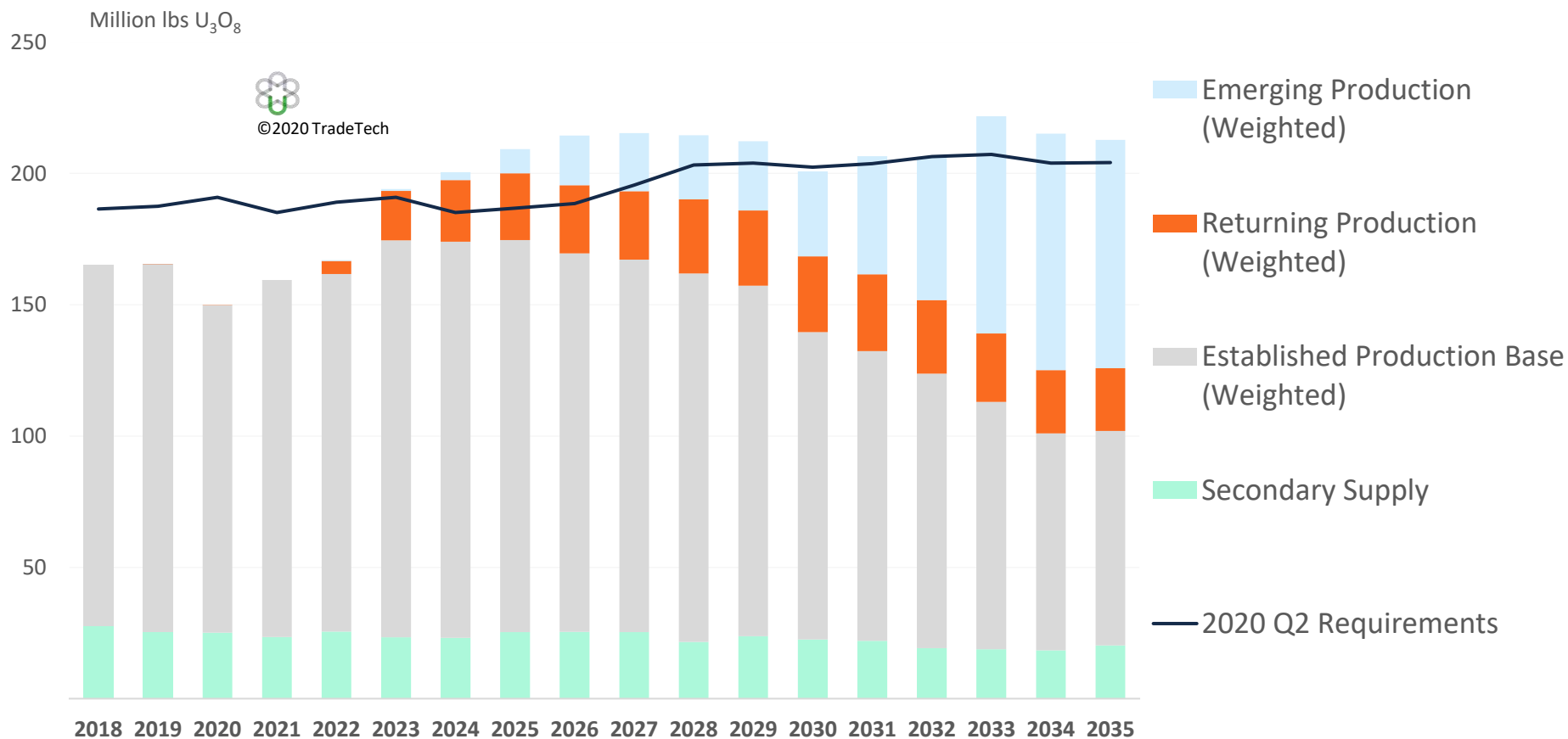


<sup>1</sup> Sourced from UxC, TradeTech and World Nuclear Association publications  
<sup>2</sup> Quantities sourced from various Company announcements  
<sup>3</sup> Sourced from World Nuclear Association at <https://world-nuclear.org/our-association/publications/global-trends-reports/nuclear-fuel-report.aspx>



# GLOBAL SUPPLY AND DEMAND

**Low uranium prices have curtailed supply. Contract prices must rise to incentivise restart production to meet known demand.**





# ESG TOWARDS SUSTAINABLE MINING

- **Uranium miners are critical for a low-carbon economy**, they produce the fuel for nuclear reactors which will be the keystone for a transition to net zero carbon emissions.
- **Boss Energy views sustainability as a core value and fundamental to our successful and profitable to the Honeymoon Uranium operation.**
- **Our Board fully endorses adoption of an ESG framework.** Recently the Australian minerals industry has adopted Towards Sustainable Mining (TSM) as developed by the Mining Association of Canada, providing sustainability tools and indicators to responsibly manage environmental, social and governance performance and record and drive performance.
- **TSM's framework guides principles and protocols over the following three core areas:**
  - **Communities and People** Indigenous and Community relationships, Safety and Health, Crisis Management and Communication Planning, Preventing Child and Forced Labour
  - **Environmental Stewardship** Biodiversity Conservation Management, Tailings Management, Water Stewardship
  - **Climate Change** site-level targets and management.

**ESG is a journey, not a destination. It requires constant effort, vigilance and re-evaluation.**





# TSM Examples of ESG initiatives at Boss



- **Community and People**

- All Native Title Agreements are in place
- Pre-exploration identification of cultural sites of heritage value undertaken, with local representatives of the Traditional Owners

- **Environmental Stewardship**

- Radiation protection and control. Regulatory formal government reviews to account for processes, emissions, waste facilities, exposure hazards, monitoring and management
- Flora and Native Vegetation Management Plan
- Mine Closure and Rehabilitation Plan

- **Climate change**

- Reducing carbon footprint with renewable energy initiatives
- Measurement and where possible reduction of greenhouse gas emissions in production and supply chains
- Residual emissions to be offset through credits generated from certified carbon reduction projects, which may deliver wider social, economic and health benefits in their local regions



# HONEYMOON URANIUM PROJECT

Global First Mover  
Advantage



# HONEYMOON: meets all the investment criteria for a uranium project

## 1. Stage of Project Development

Honeymoon is a single brownfield/ uranium Restart Project that has produced and exported  $U_3O_8$  to global markets, currently in care and maintenance, fully permitted, with a large JORC Resource of 71.6 Mlbs.

## 2. CAPEX required

Honeymoon has one of the lowest restart capital intensities in the uranium sector of just US\$63.2 million.

## 3. Jurisdiction

First world mining jurisdiction of South Australia, a Tier 1 destination of choice for utilities. The only operating uranium mines in Australia are located in South Australia, with over 30 years of uranium production. Full state and federal government support.

## 4. Permitting and community

Fully permitted, including the permit to export uranium. All Native Title Agreements in place. No timeline drag to restart production.

## 5. Time to Production

Honeymoon can fast-track production within 12 months then ramping production to nameplate capacity 2 – 2.45 Mlbs  $U_3O_8$  per annum. We Recognised global first mover advantage once uranium prices rise to restart production and acknowledged as Australia's next producer.

## 6. Low Operational Cost

All-in costs (before any potential EFS savings) of US\$32/lb  $U_3O_8$ , positions Honeymoon as one of the lowest cost quartile globally. Honeymoon would already be cashflow-positive based on current long-term contracts in the high US\$30s/lb.

## 7. Management Team

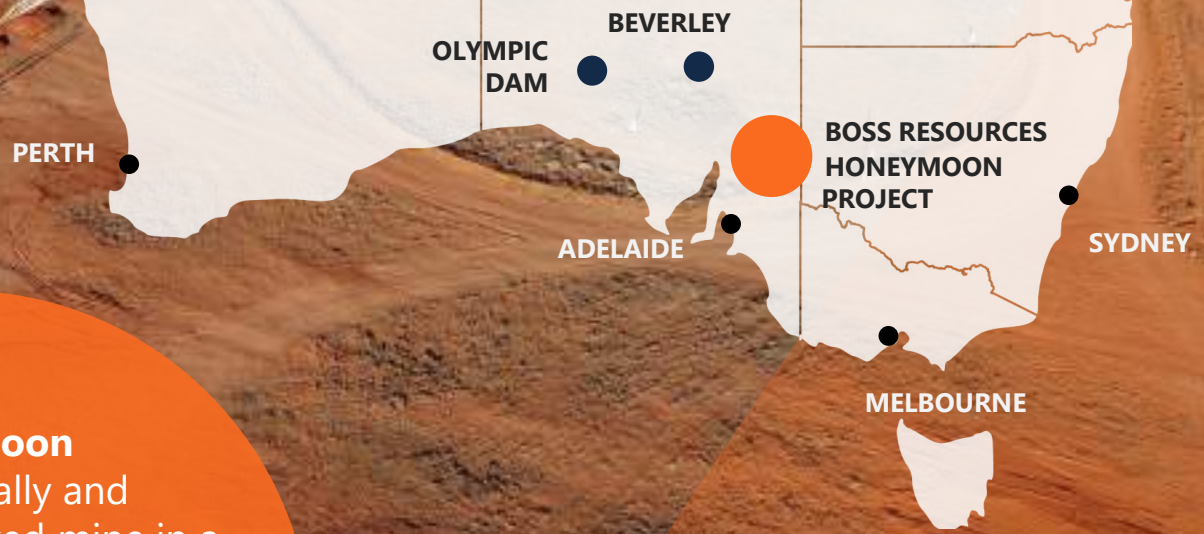
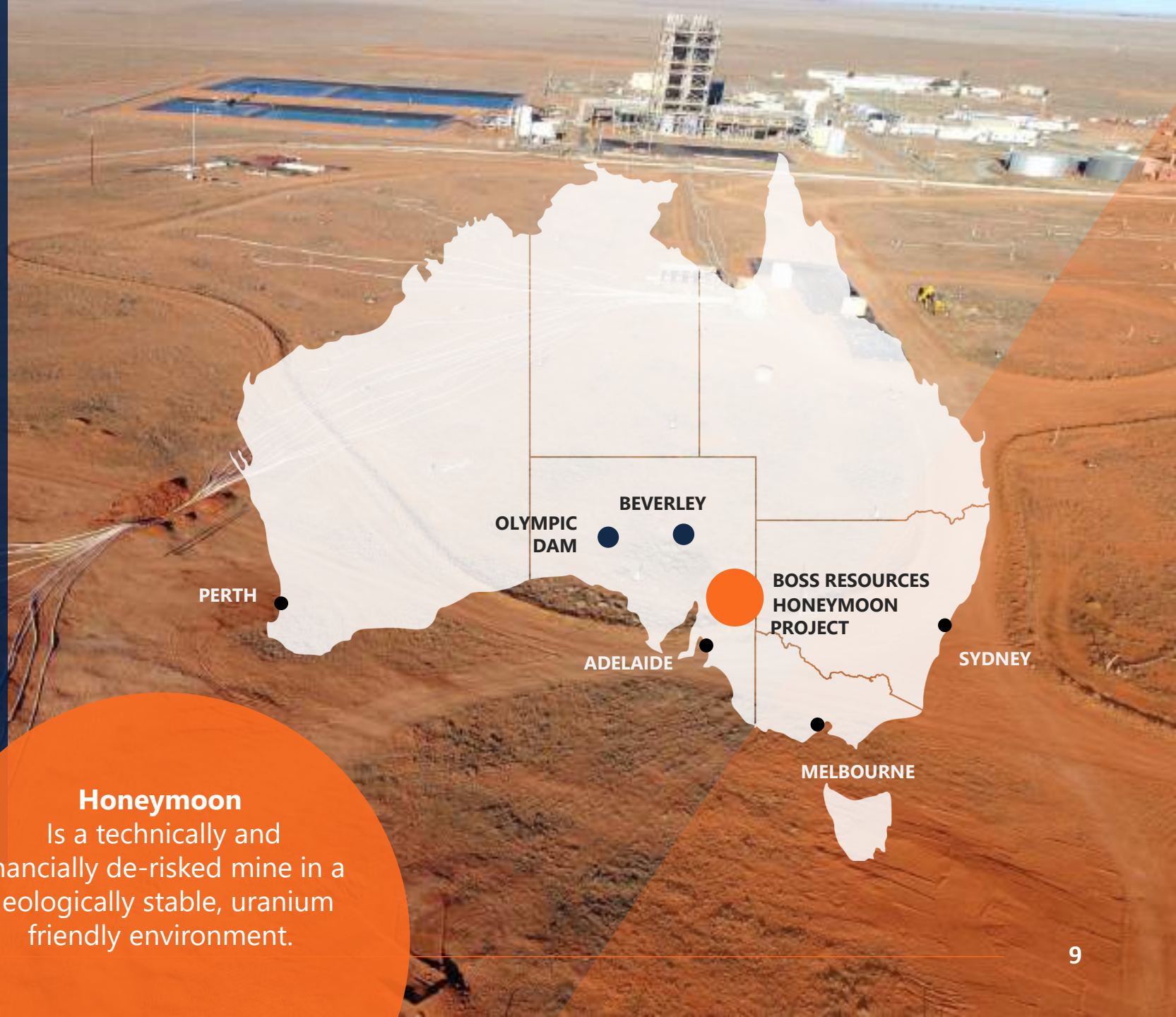
Strong Board and Management team with extensive global uranium and corporate experience





# HONEYMOON RESTART PROJECT

- Three of Australia's four fully permitted uranium mines are in South Australia, 2 of which are In-Situ Recovery (ISR) operations
- An international Tier 1 mining jurisdiction of choice for uranium supply, providing diversification for utilities
- Federal and State government support
- Established shipping routes from Port Adelaide of 30 years so no risk of delay
- 1st world mining jurisdictions attract Tier 1 investment and skilled workforce, specialising in ISR uranium mines



**Honeymoon**  
Is a technically and financially de-risked mine in a geologically stable, uranium friendly environment.

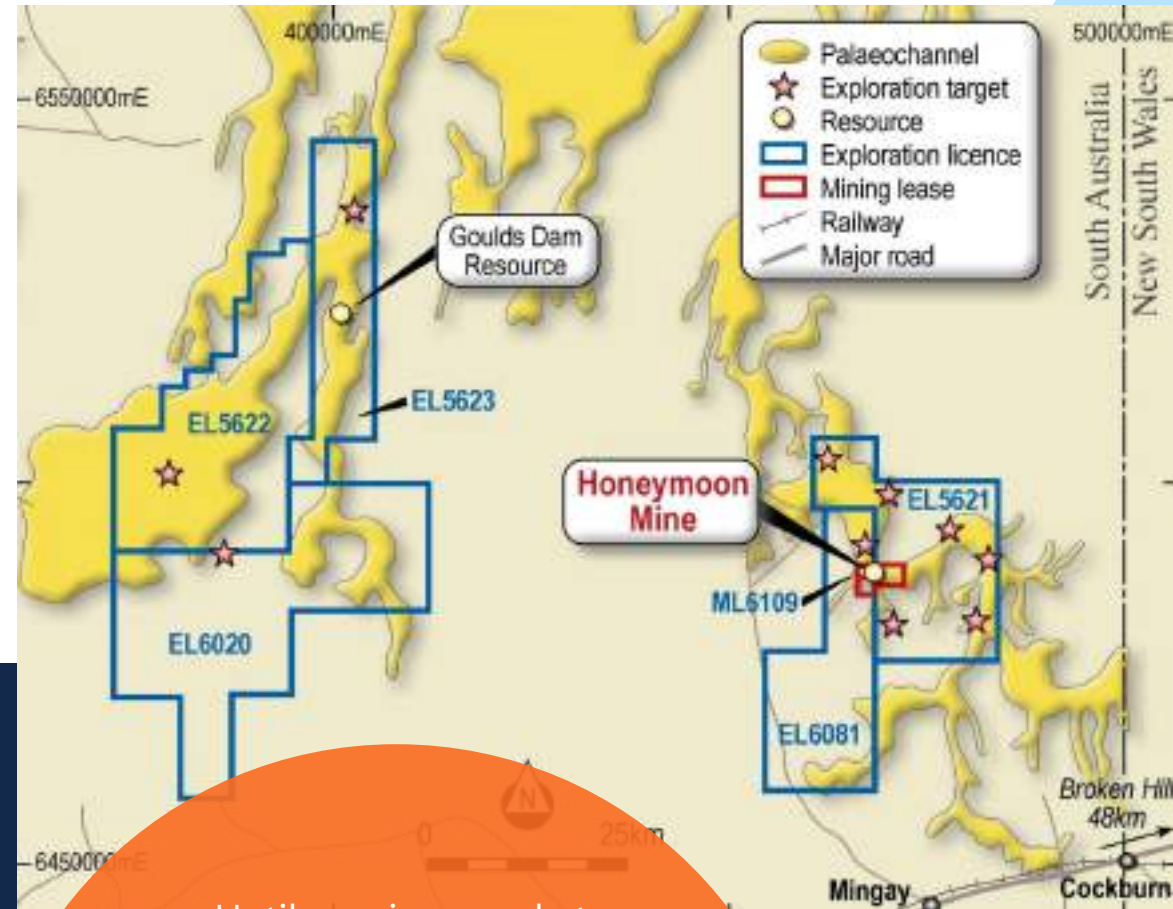


# RESOURCES AND EXPLORATION UPSIDE

- 71.6Mlb U3O8 JORC Resource\*
- Mining License 6109 contains 34 Mlb U3O8
- Average grade 620 U3O8 ppm
- Shallow mineralisation at 90-120m depth
- In-Situ Recovery (ISR) cheapest method of resource extraction
- Significant Exploration Target in addition to JORC Resource > 190Mlbs

Classification	Million Tonnes	U <sub>3</sub> O <sub>8</sub> ppm	Contained U <sub>3</sub> O <sub>8</sub> (Mkg)	Contained U <sub>3</sub> O <sub>8</sub> (Mlb)
Measured	3.1	1,100	3.4	7.6
Indicated	18.4	630	12.0	25.5
Inferred	30.9	570	18.0	38.5
<b>Total</b>	<b>52.4</b>	<b>620</b>	<b>32.5</b>	<b>71.6</b>

\*Refer ASX announcement dated 25 February 2019



Until uranium market conditions improve, exploration activities will **focus on low-cost and non-invasive geophysical techniques**, allowing for more focused drill ready programs.



# EXPLORATION UPSIDE

- **Exploration Target up to 190Mlbs.** In addition to the global Mineral Resource, the Exploration Target estimate for Honeymoon stands at 28Mt to 133Mt of mineralisation at a grade of 340ppm to 1,080ppm U<sub>3</sub>O<sub>8</sub> for a contained 58Mlbs to 190Mlbs U<sub>3</sub>O<sub>8</sub> (26,300 to 86,160 tonnes of contained U<sub>3</sub>O<sub>8</sub>), using a cut-off of 250ppm.
- **5,000 Historic Drill Holes.** Much of the data used in the Exploration Target estimation process came from historical work undertaken around the project area between 1972 and 2003 by many different companies, comprising over 5,000 historic drill holes for analysis
- **Advanced but Cost Effective Exploration.** Boss Resources seeks to employ the most advanced and cost-effective multi-disciplinary exploration alternatives to conduct large-scale exploration while increasing project value for shareholders
- **Potential for Future Large Scale Discoveries.** We look forward to unlocking additional large-scale uranium mineralisation





# A\$170m SITE INFRASTRUCTURE

WATER  
TREATMENT  
PLANT

PRODUCTION  
WELL  
FIELDS

CONTROL  
CENTRE

ADMIN  
BUILDINGS

CAMP

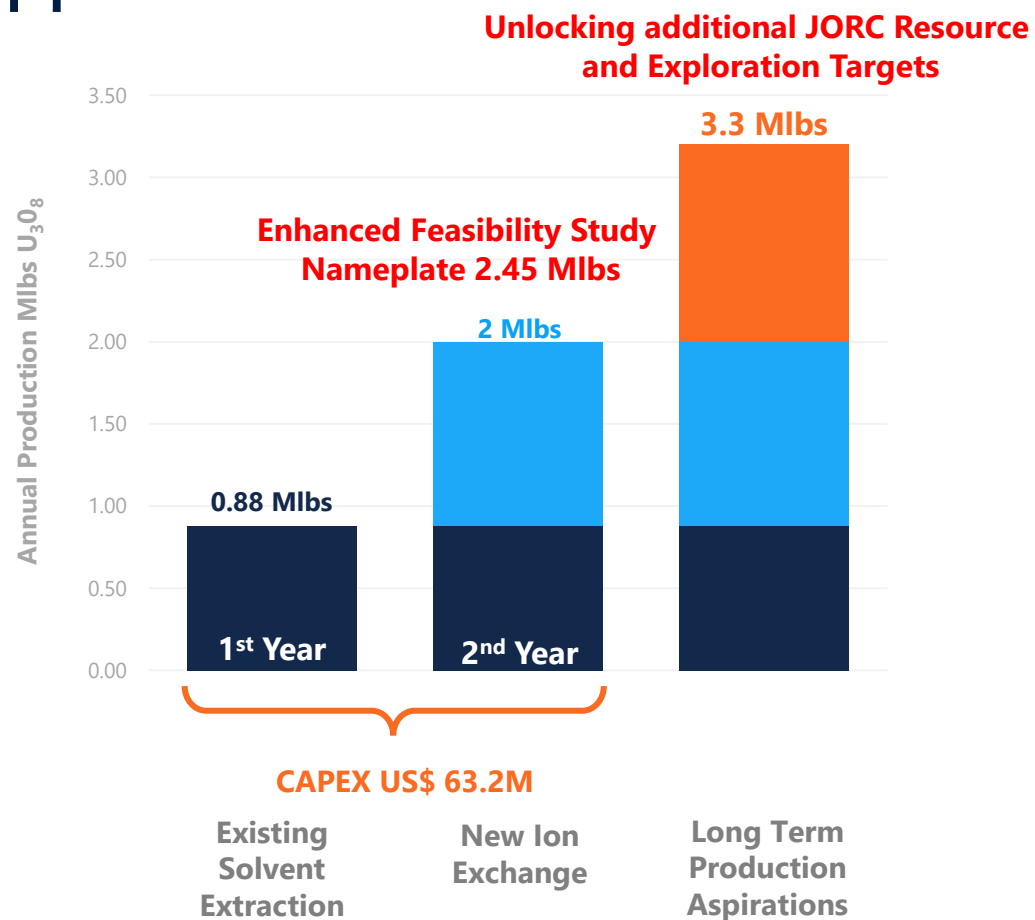
PRODUCTION  
FACILITY

WORKSHOP

PLS  
PONDS



# STAGED PRODUCTION APPROACH



Fully permitted to export 3.3Mlbs/ annum U<sub>3</sub>O<sub>8</sub> equivalent

Fast-tracked production, within 12-months, with low capital outlay, to seize upon a rising uranium market



# FINANCIAL SENSITIVITIES

Key financial summary with contract uranium price range of US\$40/lb to US\$60/lb at an exchange rate of A\$1: US\$0.68

Financial Metric	Unit	US\$40/lb	US\$45/lb	US\$50/lb	US\$55/lb	US\$60/lb
Revenue	\$M	813	910	1,006	1,103	1,200
EBITDA	\$M	324	414	504	594	685
Free Cash flow (Pre-tax)	\$M	154	244	334	424	514
Free Cash flow (Post-tax)	\$M	119	185	248	311	375
EBITDA margin (avg over LOM)	%	39.86%	45.53%	50.11%	53.89%	57.06%
IRR (Pre-tax)	%	22.10%	32.80%	42.90%	52.63%	62.11%
IRR (Post-tax)	%	17.25%	25.57%	33.29%	40.67%	47.97%
NPV 8% (Pre-tax)	\$M	60	112	163	215	266
NPV 8% (Post-tax)	\$M	39	77	113	149	185
Capital Cost	\$M	63.2	63.2	63.2	63.2	63.2
AISC <sup>1</sup>	\$/lb U <sub>3</sub> O <sub>8</sub>	26.7	27	27.3	27.7	27.9
AIC <sup>2</sup>	\$/lb U <sub>3</sub> O <sub>8</sub>	31.7	32	32.3	32.6	32.9
Total Project Payback post tax	years	9.3	6	4.5	3.8	3

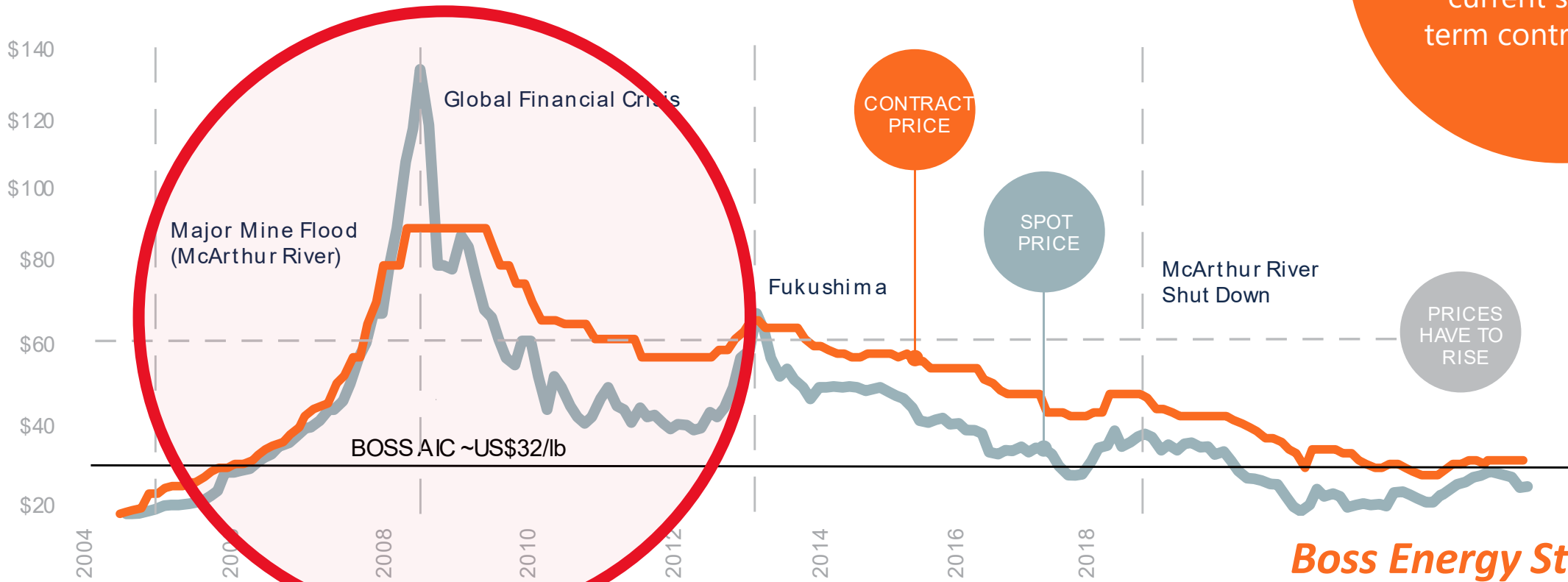
1 AISC = wellfield operating, processing, site G&A, freight, marketing, royalties and sustaining capital expenditure

2 AIC = AISC + development and deferred capital expenditure



# CONTRACT PREMIUM TO SPOT PRICES

US\$60/lb incentive price required for majority of new uranium production to be economically viable



**Honeymoon AIC**  
~ US\$ 32/lb  
is lower than  
current spot and  
term contract prices

Source: Cameco

**Boss Energy Strategic Inventory Acquired at Prevailing Spot Price**



# FINANCIAL STRENGTH AHEAD OF HONEYMOON RE-START

A strategic investment acquiring 1.25Mlbs U308 that complements the Honeymoon Uranium Project



## OPTIMISE RESTART TIMING

- Provides restart optionality
- Exercise patience in a rising price environment – platform to maximise shareholder value
- Enhanced visibility to uranium price movements



## OFFTAKE FLEXIBILITY

- Boss presents as an attractive counterparty
- Retain off-take contract execution flexibility
- Potential to sell into offtake(s) either before Honeymoon's restart, during commissioning or into the future



## STRONG BALANCE SHEET

- Strengthens the balance sheet - leverage to the uranium price
- Deliver optionality - ability to use inventory as collateral to support Honeymoon's future funding requirements
- Provide initial funding towards Honeymoon's re-start capital requirements



## ALIGNED WITH HONEYMOON

- De-risks the commissioning phase for Honeymoon re-start
- Uranium inventory equates to 63% of steady state from Honeymoon<sup>1</sup>
- Purchase price below Honeymoon's current LOM average all-in cost (AIC) of US\$32/lb<sup>1</sup>



## MARKETING ADVANTAGES

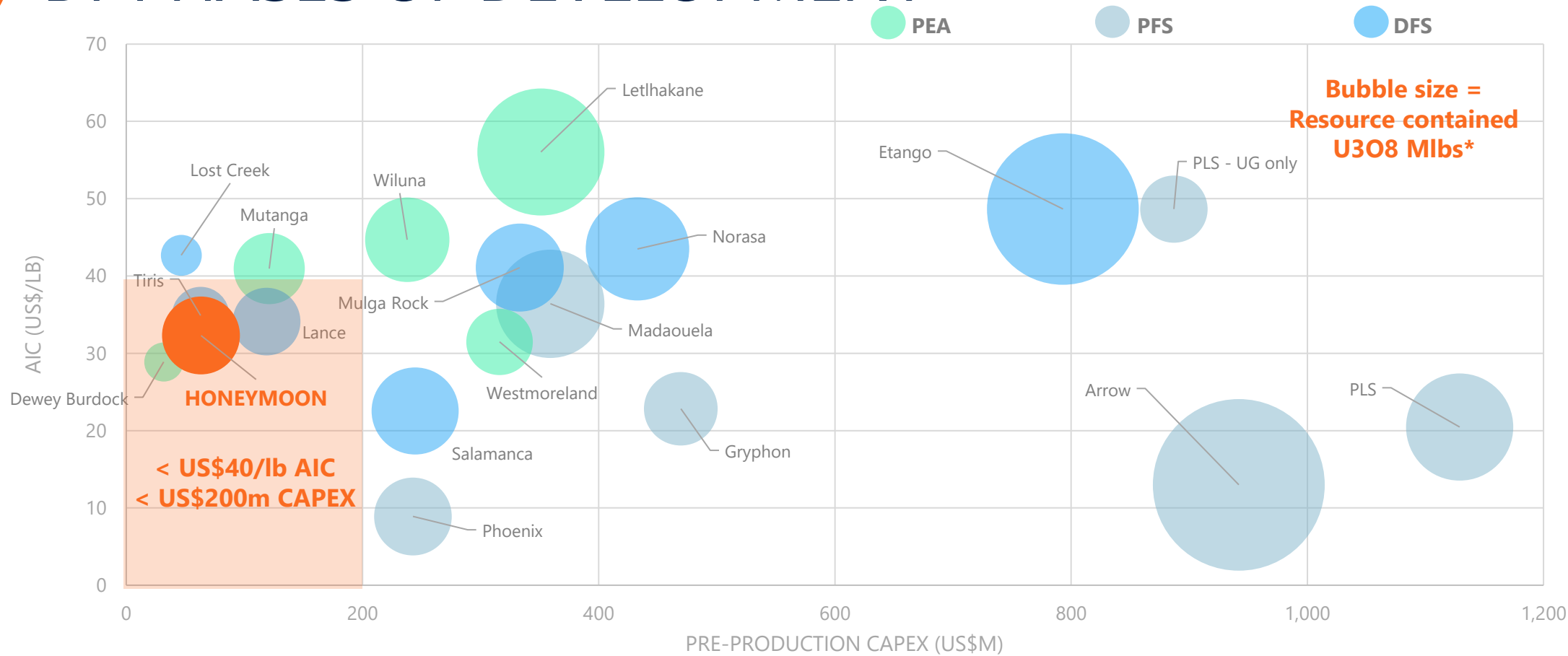
- Significant benefits for uranium marketing
- Strengthening the marketing infrastructure and in-house management expertise for the purchase and trading of uranium
- Ability to layer contracts over time - first mover advantage amongst ASX peers

<sup>1</sup> Refer ASX Announcement 21/01/2020 Feasibility Study Results





# CAPEX & ALL IN COST BY PHASES OF DEVELOPMENT



\*Refer Appendix for further information on each Company and Project including full details of Mineral Resource by category.



# BOSS ENERGY: Australia's Next Uranium Producer

**Strategy will see Enhanced Feasibility Study (EFS), project funding and offtake agreements progressed in parallel to ensure Boss capitalises on forecast increase in uranium price**

- **Strategic Timetable** aimed at ensuring we are in a position to sign long-term offtake agreements when prices strengthen, locking in robust margins and substantial free cashflow in the process.
- **Near Finalisation of the EFS**, reducing operating costs and increasing nameplate capacity up to 2.45Mlb/annum  $U_3O_8$  by adopting one production process of Ion Exchange with NIMCIX columns.
- **The EFS provides a base case to fast-track uranium production** from Honeymoon's restart area from only 35.9Mlb of the Project's global mineral resource (JORC 2012) of 71.6Mlb.
- **No further permitting is required** and Honeymoon has a valid Uranium Mineral Export Permission for 3.3Mlb/annum.
- **Substantial scope to extend the mine life and increase the production profile** from the remaining identified JORC resources. There are also genuine growth opportunities from Honeymoon's significant defined Exploration Target of 190Mlbs.
- **Potential to increase free cashflow generation substantially**, with combination of increased production rate and the lower costs
- **Engagement with potential debt providers underway**. The estimated CAPEX funding requirement for Honeymoon is just US\$63m



# CORPORATE OVERVIEW

## BOARD OF DIRECTORS

<b>Non-Executive Chairman</b>	Peter O'Connor
<b>Managing Director/ CEO</b>	Duncan Craib
<b>Technical Director</b>	Bryn Jones
<b>Non-executive Director</b>	Wyatt Buck
<b>Non-executive Director</b>	Dudley Kingsnorth

## STRATEGIC & MARKET ADVISER

<b>Strategic Adviser</b>	Sashi Davies
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## ANALYST COVERAGE

<b>Sprott</b>	Justin Chan
<b>Canaccord</b>	James Bullen
<b>Shaw &amp; Partners</b>	Michael Clark
<b>EurozHartleys</b>	Steven Clark

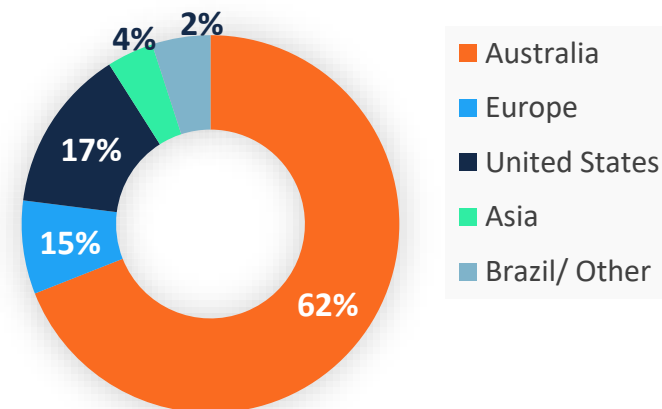
## KEY METRICS (ASX:BOE)

<b>Shares on issue</b>	2,278 million
<b>Share price</b>	16 cents
<b>Market cap</b>	A\$ 366m
<b>Cash (+restricted)</b>	A\$ 20m (+A\$ 8.8m)
<b>Debt</b>	NIL

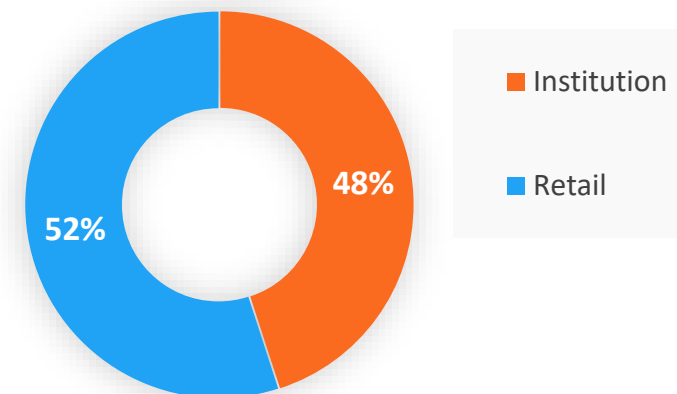
## SUBSTANTIAL SHAREHOLDERS

<b>Paradice Investment Mgt</b>	8%
<b>Sachem Cove</b>	7%
<b>Tribeca Investment Ptners</b>	7%
<b>Segra Capital Management</b>	
<b>L2 Capital Partners</b>	

## SHAREHOLDER LOCATION



## SHAREHOLDER SUMMARY





# HONEYMOON RESTART PROJECT

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