

ASX:AEE AIM:AURA

Competitive Advantage and Comparison Presentation 7 October 2021

## AURA ENERGY A Near-Term Uranium Producer

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#### NOTES TO PROJECT DESCRIPTIONS

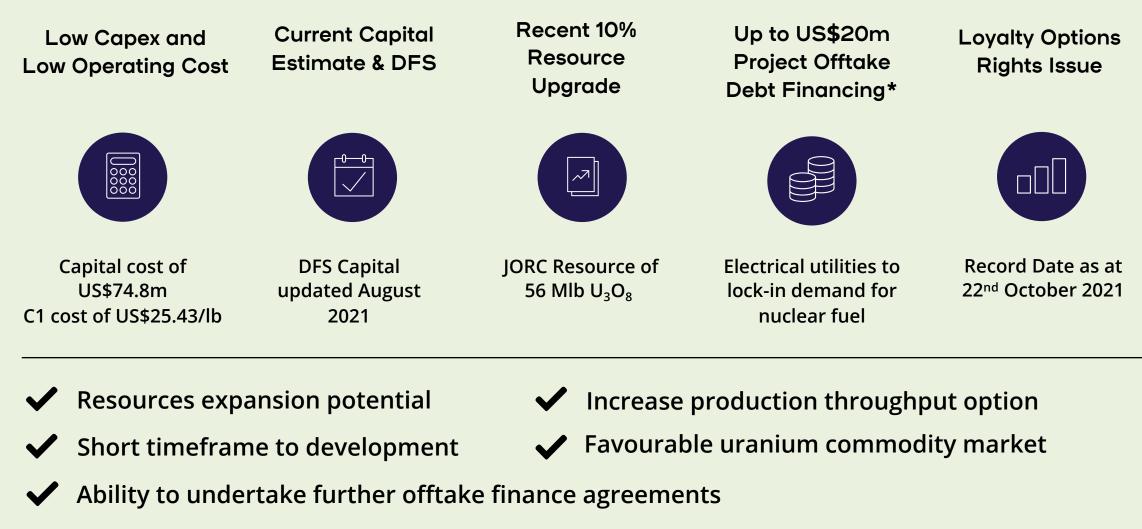
The Company confirms that the material assumptions underpinning the Tiris Uranium Production Target and the associated financial information derived from the Tiris production target as outlined in the Aura Energy release dated 18 August 2021 for the Tiris Uranium Project Definitive Feasibility Study continue to apply and have not materially changed.

The Tiris Uranium Project Resource was released on 27 August 2021 "Resource Upgrade of 10% - Tiris Uranium Project". The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

In respect to Resource statements there is a low level of geological confidence associated with inferred mineral resource and there is no certainty that further exploration work will result in the determination of indicated measured resource or that the production target will be realised.

## **INVESTMENT HIGHLIGHTS**





# LOW CAPITAL & OPERATING COST

#### HOW DOES AURA ENERGY COMPARE TO PEERS?

#### **TIRIS URANIUM PROJECT**

- No Drill and Blast
- <u>No</u> Crushing or Grinding
- 🗸 <u>Shallow</u> Ore
- Upgrade <u>Cuts 80%</u> Volume

### OTHER URANIUM PROJECTS



Significant drill and blast through the expensive use of explosives and other methods including gas pressure blasting pyrotechnics to break rock for excavation.



- Use substantial crushing and grinding equipment to reduce particle size an energy intensive and high cost method.
- Have uranium mineralisation from a depth of 100 metres 500 metres, significantly increasing the cost of mining.
- Require more complex beneficiation processes which need larger plants for processing

### THIS RESULTS IN A LOW CAPEX AND OPEX FOR TIRIS DUE TO:

- No energy intensive crushing and grinding equipment
- Low energy and fuel consumption

No need for expensive earth moving equipment



## AURA ENERGY COMPETITVE ADVANTAGE



WHO CAN BE FIRST TO CASHFLOW?

#### PROJECT ATTRIBUTES FOR FAST DEVELOPMENT

- Capital cost must be low
- Operating cost must be low
- Low threshold uranium price to commence production
- Time to production
- Key development permits granted
- Potential to increase production
- Potential to increase resource size

### AURA TICKS ALL THE BOXES

- US\$74 million
- ✓ US\$25.81/lb
- ✓ ~US\$30's/lb
- 18 months
- Environmental & Development
- Allowance to expand to 3 Mlb  $U_3O_8$  pa
- Further drilling to expand the resource

## AURA ENERGY COMPETITIVE ADVANTAGE

#### NEAR TERM URANIUM PRODUCERS

	Aura Energy	Bannerman Energy	Boss	Global Atomic	Fission	Denison	Paladin Energy	NexGen
Stock Code	ASX:AEE	ASX:BMN	ASX:BOE	TSE:GLO	TSE:FCU	NYSE:DNN	ASX:PDN	TSE:NXE
Mkt cap (AU\$)	\$81.8m	\$340.4m	\$575.3m	\$549.3m	\$613.7m	\$1,717.8m	\$2,467.1m	\$3,195.9m
Project	Tiris	Etango	Honeymoon	Dasa	PLS	Wheeler River	Langer Heinrich	Arrow
Location	Mauritania	Nambia	Australia	Niger	Canada	Canada	Nambia	Canada
Status	DFS	PFS	Care/Maint	PFS	PFS	PFS	Care / Maint	DFS
Permits	Permitted	EA permit	Permitted	Permitted	EA submitted	EA restarted	Permitted	EA Started
Ownership (%)	85%	100%	100%	90%	100%	90%	75%	100%
Study	2021 DFS	2021 PFS	2020 PFS	2020 PEA	2019 PFS	2019 PFS	2020 PFS	2020 PFS
Resources (Mlbs U308)	56	(project specific) 142	71.6	189	135.2	128.3	119.7	337.4
Recovery (%)	88.00%	87.80%	?	84.30%	96.00%	89.70%	88.50%	97.60%
Sales Royalty (%)	1.25%	3.40%	6.50%	9.14%	7.25%	7.25%	3.50%	7.25%
Annual production (Mlbs)	1	3.5	2.0	4.5	13.7	11.4	5.9	28.8
Life of mine Capex (US\$)	\$90m	\$317m	\$205m	\$203m	\$937m	\$753m	\$81m	\$1,035m
Operating cash cost (US\$/lb)	\$25.6	\$39.5	\$18.5	\$4.6	\$7.2	\$7.4	\$27.0	\$5.7
AISC (US\$/lb)	\$29.8	\$40.3	\$25.6	\$18.4	\$10.7	\$8.9	\$30.9	\$11.2
Enterprise Value (AU\$)	\$86.80m	\$325m	\$526.02m	\$509.58m	\$539.73m	\$1398.63m	\$2326.03m	\$2593.15m
EV / Resource (AU\$/lb)	\$1.55	\$2.28	\$7.35	\$2.70	\$3.99	\$10.90	\$19.43	\$7.69

## AURA ENERGY DFS

#### **PROJECT ATTIBUTES**

- Shallow flat-lying surface mineralisation (1-5 metres)
- Low-cost mining (free digging)
- Simple extraction method (92% in leach)

#### KEY OUTCOMES OF THE STUDY

- Low capital cost of US\$74.8 million
- Low C1 cash cost of US25.43/lb U $_3O_8$

For further information on the 2019 DFS, please see: https://cdn-api.markitdigital.com/apiman-gatewav/ASX/asx-research/2

For further information on the 2021 DFS update, please see: https://cdn

- All-In Sustaining Cost (AISC) of US\$29.81/lb  $U_3O_8$
- Production is 12.4 Mlbs  $U_3O_8$  over 15 years Potential to increase
- Maiden Ore Reserve Estimate for Tiris is 10.9 Mt @ 336 ppm  ${\sf U_3O_8}$



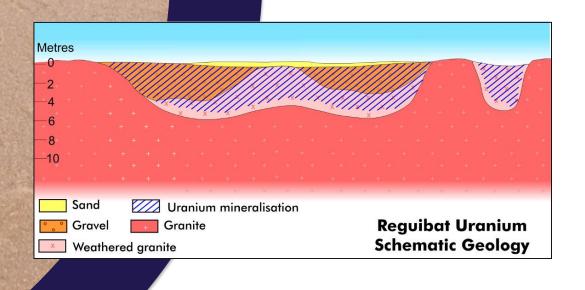


### CALCRETE DEPOSIT WITH CARNOTITE URANIUM IN A WEATHERED GRANITE HOST

URANIUM MINERALISATION AS CARNOTITE

## SHALLOW FREE DIGGING MINERALISATION

- No Drill and Blast
- <u>No</u> Crushing or Grinding
- Drives lower capex and opex
- Permitting in a remote desert location easier
- Excellent water discoveries



## ABILITY TO INCREASE PRODUCTION RATE

WITHOUT SIGNIFICANTLY INCREASING CAPITAL COST

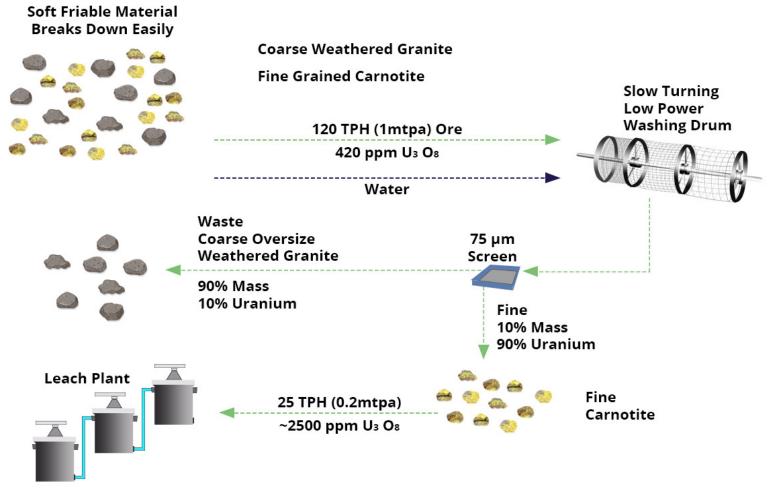
#### POTENTIAL FOR PRODUCTION EXPANSION

- Tiris design has layout allowance to expand to 3 Mlb U<sub>3</sub>O<sub>8</sub> pa
- Previous studies confirmed expansion potential
- Capital to increase production three-fold estimated to be approximately US\$60m
- Study allowed for 2 additional washing trommels and doubling the size of the leach capacity
- The designed recovery section for the current Tiris Project is already rated at 3mlb per annum
- Ability to expand further with additional investment



## **ORE UPGRADE & INCREASING RECOVERY %**

### URANIUM FOR THE ENERGY TRANSITION





## POTENTIAL UPSIDE FOR AURA ENERGY

#### EXPANDING THE EXISTING RESOURCE

- Further drilling to expand the resource from 56 Mlb
- Increase Measured and Indicated from current Inferred Resources
- Refine drilling within and at the edge of resource envelopes

### **EXPLORATION DISCOVERY**

- Actively working on high grade targets
- Potential for new discoveries outside the existing resource
- High-grade hard rock intercepts are a priority for next stage exploration



## CURRENT EXPLORATION ACTIVITIES

- Water drilling currently continuing
- Tiris Uranium Project opportunity review underway to further lower operating costs
- Lowering costs of production through Vanadium by-product recovery
- Results imminent from Net Zero emission study undertaken by mining engineering firm, Wood PLC

# CONTACT



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### APPENDIX JORC RESOURCE - TIRIS URANIUM PROJECT



#### Table 2: Tiris East Resource Summary, August 2021. Cut-off U<sub>3</sub>O<sub>8</sub> Cut-off Resource Clas Tonnes U<sub>3</sub>O<sub>8</sub> U<sub>3</sub>O<sub>8</sub> U<sub>3</sub>O<sub>8</sub> Tonnes $U_{3}O_{8}(g/t)$ $U_3O_8$ (Mlb) Class $U_3O_8 g/t$ (Mt) (g/t) (Mkg) (Mlb) $U_3O_8 g/t$ (Mt) (Mkg) Zone S 100 100 All 56.0 All 83.9 240 20.1 44.3 All 100.3 254 23.4 200 336 200 339 All All All 41.0 17.4 30.6 55.0 17.4 41.0 300 455 444 300 All All 33.0 10.9 32.3 10.9 25.5 All 25.4

#### Table 1: Tiris Resource Summary, August 2021

#### Table 3: Tiris East Resource Classification, August 2021

Cut-off U <sub>3</sub> O <sub>8</sub> g/t	Class	Tonnes (Mt)	U <sub>3</sub> O <sub>8</sub> (g/t)	U <sub>3</sub> O <sub>8</sub> (Mkg)	U <sub>3</sub> O <sub>8</sub> (Mlb)
100	Measured	10.2	236	2.4	5.3
	Indicated	29.0	222	6.4	14.2
	Total M&I	39.2	226	8.8	19.5
	Inferred	44.7	252	11.2	24.8
200	Measured	4.6	355	1.6	3.6
	Indicated	12.8	315	4.0	8.9
	Total M&I	17.4	326	5.7	12.5
	Inferred	23.6	348	8.2	18.1
300	Measured	2.1	497	1.0	2.3
	Indicated	4.7	454	2.1	4.7
	Total M&I	6.8	467	3.2	7.0
	Inferred	18.6	451	8.4	18.5

### APPENDIX JORC RESOURCE - TIRIS URANIUM PROJECT



Table 1: Tiris Resource Inventory as at 27 August 20211:

Cut-off U <sub>3</sub> O <sub>8</sub> g/t	Resource Zone	Class	Tonnes (Mt)	U <sub>3</sub> O <sub>8</sub> (g/t)	U <sub>3</sub> O <sub>8</sub> (Mkg)	U <sub>3</sub> O <sub>8</sub> (Mlb)
100	All	Measured	10.2	236	2.4	5.3
100	All	Indicated	29.0	222	6.4	14.2
100	All	Total M&I	39.2	226	8.8	19.5
100	All	Inferred	61.1	267	16.3	36.0
100	All	All	100.3	254	25.2	55.5

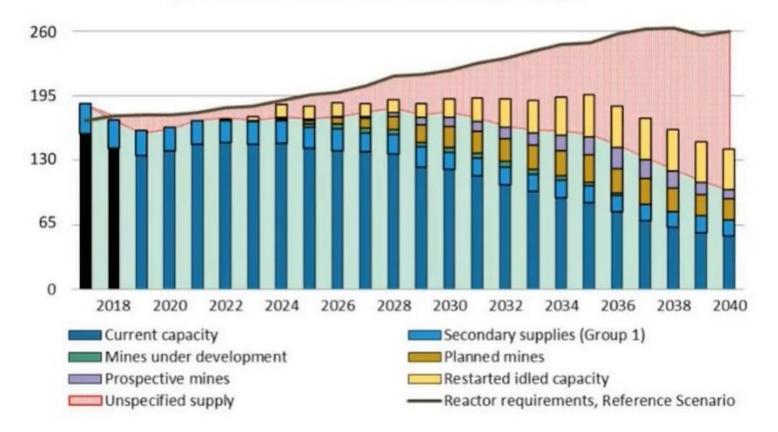
Note: Totals may not add due to rounding.

1 This Tiris Resource Inventory combines the 2021 Resource Estimate at Sadi South with the 2018 Resource Estimates by H&S Consultants Pty Ltd on the Lazare North, Lazare South, Hippolyte, and Hippolyte South deposits and the 2011 Resource Estimates by Coffey Mining on the Sadi, Ferkik West, Ferkik East, Hippolyte West and Agouyame deposits. The 2011 Resource Estimate was the subject of Aura ASX announcement dated 19 July 2011 "First Uranium Resource in Mauritania". Aura confirms that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

### NUCLEAR DEMAND NEEDS ADDITIONAL SUPPLY

2018-2040 Uranium Supply & Demand

(WNA Reference Scenario, mln lbs. U<sub>3</sub>O<sub>8</sub>)



## THE SHIFT TOWARDS NULCEAR



Demand for net-zero carbon dioxide emissions 2050



Sentiment has shifted to Nuclear Power as a safe, reliable and cost effective way to deliver energy



Small modular nuclear reactors are a game changer in technology



New uranium mines will take 18-24 months to be in production



Potential doubling in electricity demand over the next two decades

#### Going for Quite a Reaction

TerraPower's traveling-wave reactor would combine the conventional and the cutting-edge. The design is based on a "pool-type sodium reactor," an existing design that uses liquid sodium to transfer heat generated by the nuclear reaction to drive a turbine that produces electricity. The heat would be created at the reactor's core, using a novel approach of turning spent nuclear material into usable fuel.

the reactor. (2) the core.

Image: Ash Odedra, TerraPower LLC Source: WSJ reporting

The reactor head (1) sits above ground and is in part a safety feature used to contain the nuclear reaction in the event of a problem.

> Below ground, the guard vessel (2) contains the reactor core, submerged in a pool of liquid sodium. The sodium is used to both transfer heat and to cool

Inside the core (3), the secret to the TerraPower machine, enriched uranium creates plutonium from depleted uranium that then burns to make heat. It's a slower and more controlled reaction than in a conventional nuclear plant and continues over many years without need of human intervention.

A group of control rods (4) can be mechanically inserted into the core to adjust the rate of nuclear fission, acting like the accelerator pedal in a car. Parallel to the control rods are safety rods that can be dropped into the core to slow the reaction in case of emergency.

Four mechanical pumps (5) push liquid sodium into the core, where it is heated to about 550 degrees Celsius before it exits at the top of

The sodium exiting the core heats a pool of sodium that in turn heats four heat exchangers (6) that use a system of pipes to direct sodium to generators and turbines (not pictured) that create electricity. The TerraPower reactor is designed to generate about 500 megawatts of electrical power.

## **COMPETENT PERSONS STATEMENT**



The Competent Person for resource information is Mr Neil Clifford. Mr Clifford has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Clifford is an independent consultant to Aura Energy. Mr Clifford is a Member of the Australian Institute of Geologists (AIG). Mr Clifford consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The Competent Person for the Tiris and Häggån Metallurgical Testwork is Dr Will Goodall. The information in the report to which this statement is attached that relates to the testwork is based on information compiled by Dr Will Goodall. Dr Goodall has sufficient experience that is relevant to the testwork program and to the activity which he is undertaking. This qualifies Dr Goodall as a Competent Personas defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Goodall is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Dr Goodall consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.