

## Developing High Margin Uranium Projects

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# Uranium & Nuclear – Current Sentiment Drivers



- Future uranium demand from new Chinese builds and Japanese reactor restarts are key
- However supply and contracting issues biting in the broad uranium/ nuclear sector:
  - Cigar Lake 2015 guidance was 16 Mlbs; now 6-11Mlbs
  - Olympic Dam 6 mth shutdown; 3 Mlb loss
  - Lack of term contracting now seemingly critical
- Chinese demands for clean air
- EU nuclear reductions challenged
- Renewable energy's saviour status fading
- Environmentalists nuclear support growing



## Aura Energy Summary



- Aura Energy prepared for uranium recovery with two development projects
- Aura's 100% owned uranium resource base is globally significant:
  - Tiris : 50 Mlbs Mauritania
  - Häggån : 800 Mlbs Sweden
- Scoping Studies completed on both projects
- Tiris Definitive Feasibility Study has now commenced

The Tiris project provides near term production & cashflow – current focus

- <u>C1 Cash costs of US\$30/lb U<sub>3</sub>O<sub>8</sub></u>
- US\$45m capex competes with In-Situ Leach projects
- Häggån presents a large long term value option
  - C1 Cash costs of US\$13.50/lb incl credits

### Aura C1 Cash Costs Vs Contract and Spot Pricing (US\$/Ib)





## Aura's Strategy – Moving to Cashflow

Aura's development strategy as follows:

- Complete the Tiris DFS within18 mths
- Commence Tiris construction late 2016 (finance?)
- Continue project financing discussions H2 2015
- Progress critical path Häggån studies

## Tiris Uranium Project (100%)



Low Capex , Low Opex - Near Term Production and Cash Flow

- 50 m lb Resource in North-East Mauritania
- Initial production profile up to 1mlbs per annum
- Key project attributes creating the low cash cost:
  - 1. Shallow Mining at 1- 5 metres depth
  - 2. Ore Upgrades by 500 700%;
    - 335 ppm to 2,500 ppm  $U_3 O_8$
  - 3. High Leach Recovery and rate;
    - 94% in 4 hours

#### Resulting project:

- 1. Very small physical footprint
- 2. No grinding huge construction and operating savings
- 3. Easily scalable modular, assembled on-site
- 4. Low Capex and Opex ie, US\$45 million and US\$30/lb  $U_3O_8$



## Shallow Trenching Reveals Mineralisation

# Uranium Mineralisation as Carnotite

#### Free digging mining, No drill and blast

# Permitting in a remote desert region



### Possible Tiris Geological Formation







## Tiris Simple Ore Upgrade Steps



au



#### Project

- Shallow mining 1.0 Mtpa @ 420ppm U<sub>3</sub>O<sub>8</sub> for 15 years (~120 tph)
- 25 tph to small leach facility @ 2,500 ppm  $U_3O_8$
- Producing 0.7-1.1 Mlbs U<sub>3</sub>O<sub>8</sub> per year
- 10.8 Mlbs U<sub>3</sub>O<sub>8</sub> LOM Scoping Study mine plan versus 50 Mlb resource

#### **Key Financial Metrics**

- Pre tax cashflow (15 years) : A\$360 M using US\$65/lb U<sub>3</sub>O<sub>8</sub> LT
- Scoping Study utilises only 20% of known 50 m lb Resource
- IRR of 78% before tax and royalties
- Breakeven price of US\$37/lb U<sub>3</sub>O<sub>8</sub>

#### **Operational Milestones**

- Project go ahead within 18 months post DFS subject to funding
- Expand project from cashflow
- Convert anomalies to target +75Mlb uranium Resource

## **Tiris Process Flowsheet**

US\$/t /lined



- Very small plant with <u>no grinding</u>
  - Wash & Screen
  - Alkaline Leach
  - Ion Exchange
  - U<sub>3</sub>O<sub>8</sub> Product Precipitation
- Capital estimate robust direct quotes

Tiris Capital Cost		Tiris Operating Cost		
Description	Cost (US\$ m)	Description	Cost US\$ Ore Mine	
Mining	1.12	Mining	2.59	
Process Plant	22.0	Processing	11.77	
Infrastructure	9.03	Services	3.00	
Engineering	3.19	G & A	4.08	
Owners Cost	1.58	Total	21 42	
Contingency	8.05	- otai	21.12	
Total	45.0			



# **Recent Tiris Drilling Program**





## Sadi Deposit Exploration

- Follow up drilling on previous high grades
- Known mineralisation under sand – Sadi Sands
- Untested targets
- Untested known radiometric anomalies







## **Recently Drilled Exploration Targets**



## Project Water – Plentiful Occurrences



- Water source study completed by Golder Associates
- Shallow drill holes hit water at 10-15 metres
- First target the shallow Reguibat Shield surrounding the Project
- Second target the Taoudeni Basin (Glencore, SNIM)
- Same source as the iron ore mines at Zouerate



## Mauritania – Substantial Foreign Mining Investment







## Häggån Project – Sweden (100%)



- Strategic European uranium deposit;
  - One of largest undeveloped globally
- Inferred Resource of 803mlbs U<sub>3</sub>O<sub>8</sub> with significant base metals of Mo, Ni, Zn, V
- Scoping study completed in 2012
- Strong project economics with low operating costs;
  - C1 cash costs of US\$13.50/lb after by-product credits (Mo, Ni)
- Flat lying resource from surface amenable to large scale, bulk open pit mining
- Bio heap leaching provides exceptionally low processing costs
- 30mtpa scale with smaller scale start sizes studied



# Häggån - Excellent Project Location



- Excellent service infrastructure
- Located Berg Commune, strong rural community
- Berg Commune population is 7,500
- Employment important factor for region
- Häggån project area is largely forest and swamp





# Häggån Exploration



Pyrite

### Bio Heap Leach Drives Low Capex

- Bacterial heap leaching provides low capital intensity
- Consistent 85% leach recovery 3 test series completed;
  - Bench test, 0.5m and 2.0m column tests
- Low acid consumption confirmed
- Leach uses bacteria found naturally in the ore
- Bacterial heap leaching widely used in copper and gold

Definitive project test requires;

- 1. Scoping column leach tests ~ \$1m
- 2. Crib Leach Test real life test ~ \$1m

Method	U %	Mo %	Ni %	Zn %
Bacterial column leach	85%	22%	66%	51%





# Häggån – Low cost, Low risk, Mining Project



Project	Capital Cost	Produced U <sub>3</sub> O <sub>8</sub>	C1 Cash Cost \$/lb ~ Credits	
Mtpa	\$m	MIbs	US\$/lb	
30	540	7.8	13.50	
5.0	190	1.4	25-30	







Source: Company data, Macquarie Research, April 2015

# Aura Financial Position



- Completed Placement recently for A\$1.02 million
- Share Purchase Plan Underway to raise a further A\$1.0 million
- Ability to bid for shortfall
- Shortfall Application bids already very strong
- Cash on Hand circa \$1.5 million
  - \$0.532 million as of 31/3/15
  - \$1.02 million subsequently raised 13/4/15
  - Excludes any SPP proceeds; up to \$1.0 million
- Main cost DFS Completion
- Corporate funding options being pursued
- Minimise dilution



# Aura Energy News Flow

- Tiris Resource upgrade drilling results
- Tiris Resource expansion drilling results
- Tiris new exploration prospect results
- Tiris Revised Resource estimate
- Häggån drilling results
- Tiris Feasibility Study updates
- Beneficiation testwork results
- Financing and corporate discussions







# Aura Energy - Summary



- Aura is progressing low capex and low opex project developments
- High margin projects imply significant value
- Tiris Scoping Study successfully completed; Capex US\$45m; Opex US\$30/Ib
- Häggån a "free option" on a uranium price recovery
- Häggån cash costs US\$13.50/Ib. incl. credits = Lowest quartile
- Excellent exploration upside in both projects

# Aura Energy - Corporate Snapshot



Capital Structure			Share Price & Volume			
	Share Price	2.4 cps	5			
	Shares On Issue	315 m	4.5 4			
	Options On Issue (ave exercise 10.8c)	46.1m				
	Market Capitalisation	A\$8.0m				
	Cash (28/5/15)	A\$1.56m				
	Enterprise Value	A\$6.44m	0.5 0 May 14 Jul 14 Sep 14 Nov 14 Jap 15 Mar 15			

Board of Directors				
Executive Chairman	Peter Reeve			
Non-Exec Director	Bob Beeson			
Non-Exec Director	Brett Fraser			
Non-Exec Director	Jules Perkins			



Thank You

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# Next Steps – Tiris Feasibility Study

- Initial work in the Feasibility Studies
- Environmental baseline studies
- Social impact studies
- Upgrading first years of production to Measured and Indicated Resource status
- Confirming the beneficiation and leaching results
- Defining water sources
- Safety management plan
- Assessment of infrastructure requirements
- Mining and engineering
- Application for an Exploitation Permit







# Tiris Feasibility Study Team



The Tiris Project team has been confirmed as;

•George Widelski – Project Study Manager

George has over 40 years' experience in the metallurgical and mineral processing industries in Australia, North and South America, Africa, Europe and Asia. His project and study involvement has included gold, silver, copper, lead, zinc, uranium and mineral sands. George was a senior metallurgical consultant with Hatch and Fluor providing metallurgical and engineering support to projects, feasibility studies and worked with Bechtel in Chile as the manager of the global Copper Centre of Excellence. He has worked on several project developments in various parts of Africa and has worked with both large and junior resource companies.

•Neil Clifford – Geology and Mauritanian Country Manager

Neil Clifford is a geologist with extensive and successful experience in international minerals discovery and deposit evaluation. He has played key roles in the discovery of at least 9 major mineral deposits in Australia, South America and Africa, for a variety of commodities including gold, uranium, copper and tin. These discoveries have included 20 million ounces of gold and seven have subsequently become mines. He played the lead role in the discovery of Aura's Tiris uranium deposits in Mauritania. He has held senior management positions in Australia and in Europe including roles as Exploration Manager with Billiton, Acacia Resources, and AngloGold. He has been involved in West Africa since 2005.

•Will Goodall - Metallurgy Study Manager

Dr Will Goodall is a metallurgist with extensive experience in project development and optimization across a range of commodities for both junior and major mining companies, including Barrick Gold, Newcrest Mining, Harmony Gold, Eldorado Gold, Vedanta and First Quantum Minerals. He has managed large scale process development and testwork programs in bio-extraction of uranium, calcrete uranium, tin, copper and gold projects. This included the development of efficient recovery processes for uranium and other metals from the Häggån polymetallic deposit, Sweden. Dr Goodall has held research leadership roles in collaborative research projects with AMIRA International and the University of Queensland in geometallurgy and published extensively in peer-reviewed journals. As an expert in mineralogical characterisation and geometallurgy Dr Goodall brings a unique range of complementary skills to the team.

# Tiris and Häggån Resource Tables



Tiris Resource						
100ppm cut-off	Tonnes	Grade (ppm)	MIbs U <sub>3</sub> 0 <sub>8</sub>			
Indicated	2	300	2			
Inferred	64	335	47			
Total	66	334	49			

\* Using a 100ppm U<sub>3</sub>O<sub>8</sub> cut-off grade

Häggån Resource						
100ppm U <sub>3</sub> 0 <sub>8</sub> Cut-off	Tonnes (Bt)	U <sub>3</sub> O <sub>8</sub> (ppm)	Mo (ppm)	V (ppm)	Ni (ppm)	Zn (ppm)
Inferred	2.35	155	207	1,519	316	431

- Uranium
- Nickel
- Zinc
- Molybdenum

- 803 Mlbs (U<sub>3</sub>O<sub>8</sub>)
- 1,640 Mlbs
- 2,230 Mlbs
- 1,070 Mlbs



## Tiris Mine Permitting Process - Mauritania





- Environmental permitting process in Mauritania in relation to project phases and mining license application process.