



**toro energy**  
AUSTRALIA'S URANIUM

CLEAN ENERGY FOR  
A GROWING WORLD

ers  
al  
se  
only

**POSITIONING A PERMITTED PROJECT  
FOR A RETURNING MARKET**

**SEIZING AN OPPORTUNITY IN A WORLD CLASS  
GOLD DISTRICT**

JUNE 2018

# THE COMPANY

## EXPERIENCED URANIUM FOCUSED TEAM

<b>Financial</b>	
Shares on issue	2,008M
Share price – ASX:TOE (21 June 2018)	\$0.026
Options	117M
Cash on hand (31 March 2018)	\$4.77M
Shareholder loan – Sentient	\$6.0M
Enterprise value	\$53.5M
Oz Minerals	21%
Mega Uranium	20%
Sentient	18%

### **Richard Homsany**

*Executive Chairman*

*Extensive experience in resource companies, specifically uranium*

### **Michel Marier**

*Non-Executive Director*

### **Richard Patricio**

*Non-Executive Director*

### **Dr Greg Shirtliff**

*Technical and Geology Manager*

*PHD Geology ANU – 15+ years in industry - prior roles include Cameco, ERA-Rio Tinto*

### **Katherine Garvey**

*Legal Counsel and Company Secretary*

*Corporate lawyer with significant experience in the resources sector*

# WHY URANIUM?

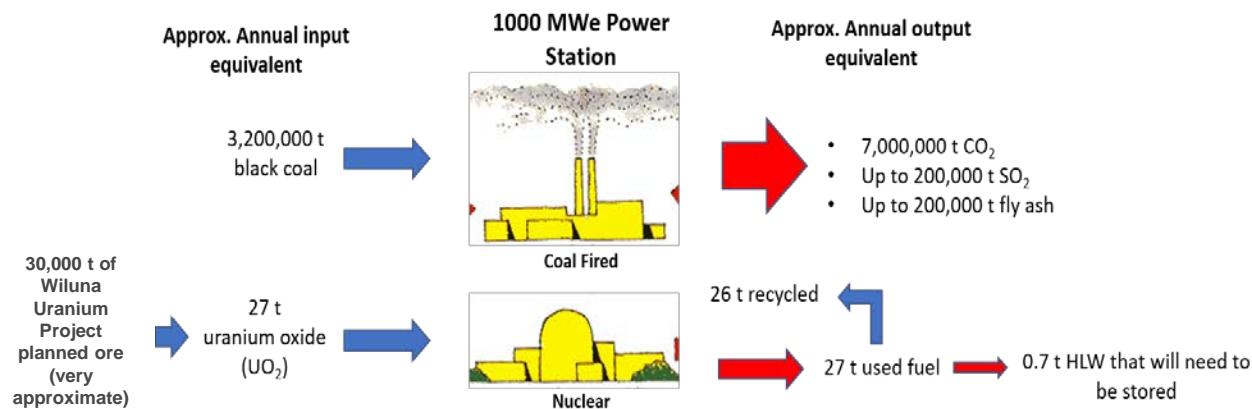
## **NUCLEAR POWER IS PART OF THE SOLUTION TO THE WORLD'S ENERGY CHALLENGE – MEETING RAPIDLY GROWING DEMAND WHILST REDUCING CO<sub>2</sub> EMISSIONS**

### THE KEY FACTS

- Currently nuclear power provides 11% of the world's electricity – 30% of the world's low carbon electricity.
- Despite the strong international support for intermittent renewable electricity sources, in 2016 global atmospheric concentrations of CO<sub>2</sub> rose by 0.8%, the largest annual rise ever observed.
- In 2015, 66% of the world's electricity was generated from fossil fuels – virtually unchanged since 2005 (66.5%).
- Electricity demand is increasing twice as fast as overall energy use – the electrification of the urbanised world is increasing....electric transport, space cooling/heating, tools, large appliances, information technology etc....
- The world's population is expected to increase by 29% to 9.8 billion in 2050 – a population the size of Shanghai is urbanised every four months.

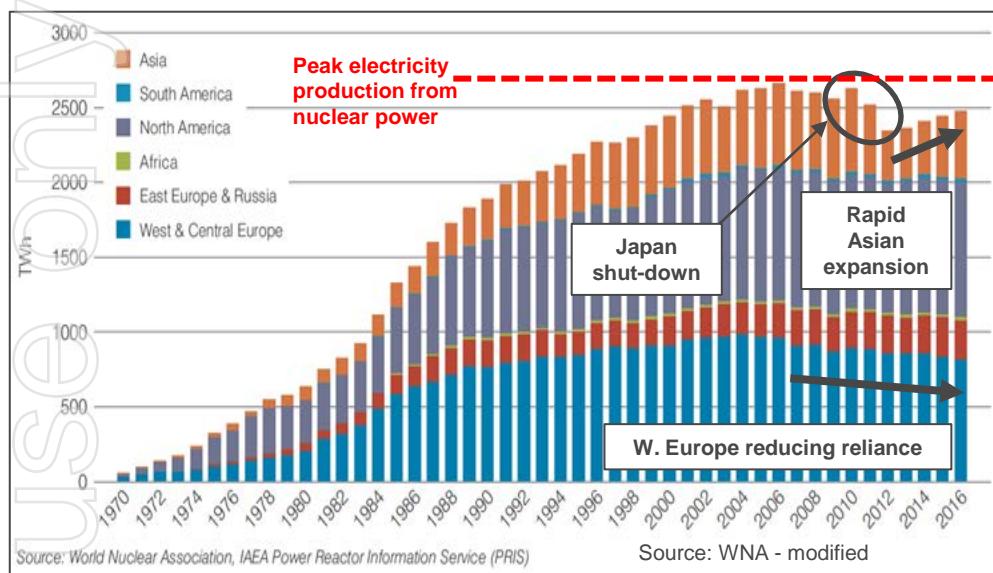
**Nuclear power produces efficient, low carbon, large scale, base load electricity**

**The world's current fleet of reactors save some 2 billion tonnes of CO<sub>2</sub> from entering the atmosphere annually (fossil fuel mix equivalent)**



# WHY URANIUM?

## ELECTRICITY PRODUCTION FROM NUCLEAR POWER IS GROWING AGAIN – INDICATIONS URANIUM PRICES ARE AT A FLOOR



Trends since the Japan reactor shut-down in 2011 suggest a floor has been reached in the uranium spot price and has continued through 2017 to now (June 2018).

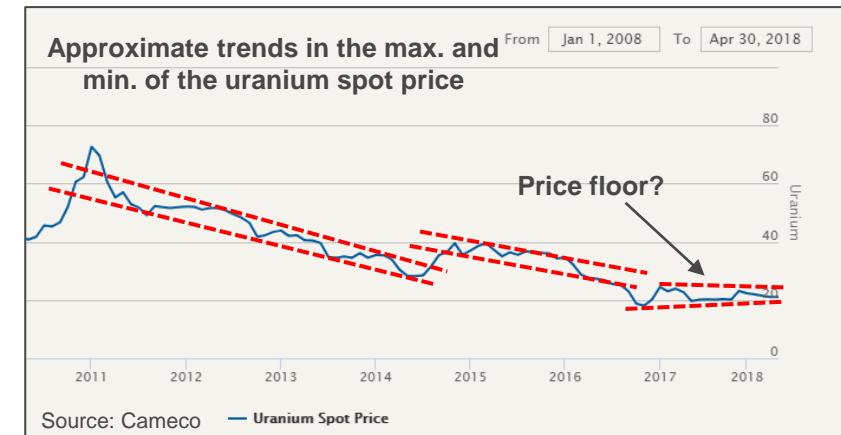
Two of the world's largest producers have signalled that they will not tolerate prices any lower – Kazatomprom is cutting annual production by 20% and Cameco has shut-down production at McArthur River, one of the world's biggest uranium mines.

58 reactors are currently under construction – some 13% of current world stock – 20 of these reactors are in China.

Japan reactor shut-downs combined with reducing reliance in parts of Western Europe, produced a sharp decline in electricity production from nuclear power in 2011-12, one of the few ever seen in the history of nuclear energy.

Despite continued reducing reliance in Western Europe, by 2016 the amount of electricity produced by nuclear power had risen 4 years in a row and at rates not seen since 2002.

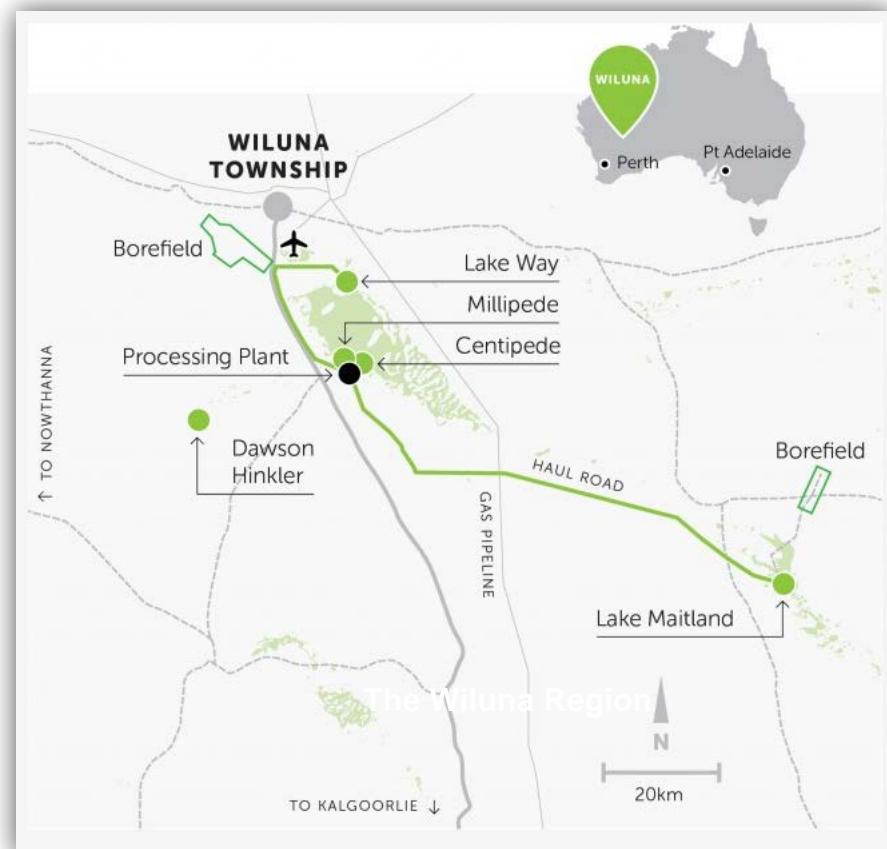
Driven largely by Asia, electricity production from nuclear power will again reach the heights of 2006 and 2010 and consume the build up that has occurred in supply.



# WILUNA URANIUM PROJECT

## A PROJECT POISED FOR THE RETURN IN THE URANIUM MARKET WITH TRANSFORMATIONAL OPPORTUNITIES AND A BONUS GOLD EXPLORATION ASSET

- Mining Agreement in place with Traditional Owners in respect of Lake Way and Centipede deposits
- State and Federal approval to mine 62 million pounds of uranium (JORC 2012)<sup>1</sup>
- Additional 22 million pounds of uranium in satellite deposits<sup>1</sup>
- Current research providing opportunity for paradigm shift in CAPEX and OPEX
- Bonus gold exploration asset in world class gold district – drilling imminent
- Proximal to all essential infrastructure – Established mining district for over 100 years



(1) Refer to slide 16 for table of resources and slide 17 for competent persons' statements.

## TESTED AND PERMITTED BASE CASE MINING OPERATION

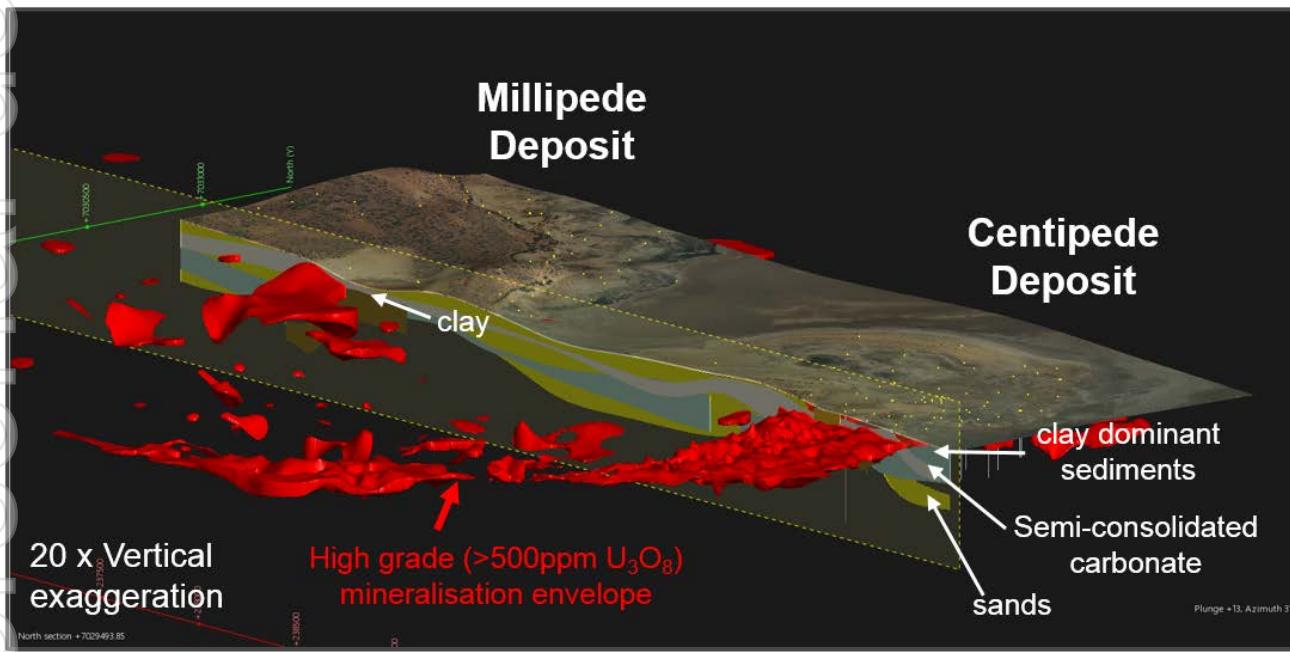
- Preliminary feasibility level engineering and design completed – 1.3 mt/a mining throughput – 2 mlb/a  $U_3O_8$  production
- Access to power, water and infrastructure secured
- Mining method evaluation completed – surface miner and truck to mill
- Tailings barrier trials for in-pit deposition of tailings completed
- Traditional alkaline leach processing technique tested to lab based pilot plant scale on Centipede deposit ore
- Mining agreement successfully negotiated with traditional owners in respect of Lake Way and Centipede deposits
- Environmental approvals in place for proposed mining operation at both state and federal level
- Communities consulted along product transport route through to Port Adelaide (fully licensed) for export



*Vermeer surface miner in operation at the Centipede deposit trial mine*

## HIGH CONFIDENCE AND DETAILED UNDERSTANDING OF THE RESOURCE

- A decade of resource development and geological research over all deposits has provided a detailed understanding of the Wiluna Uranium Project resources
- Conservatively estimated resource compliant with Australian and international standards (JORC 2012)<sup>2</sup>
- Over 96% of permitted resource proven to Measured and Indicated categories (JORC 2012)<sup>2</sup>
- A unique ore formation means mining will be no deeper than 15m with no drill and blast required



(2) Refer to slide 16 for table of resources and slide 17 for competent persons' statements.

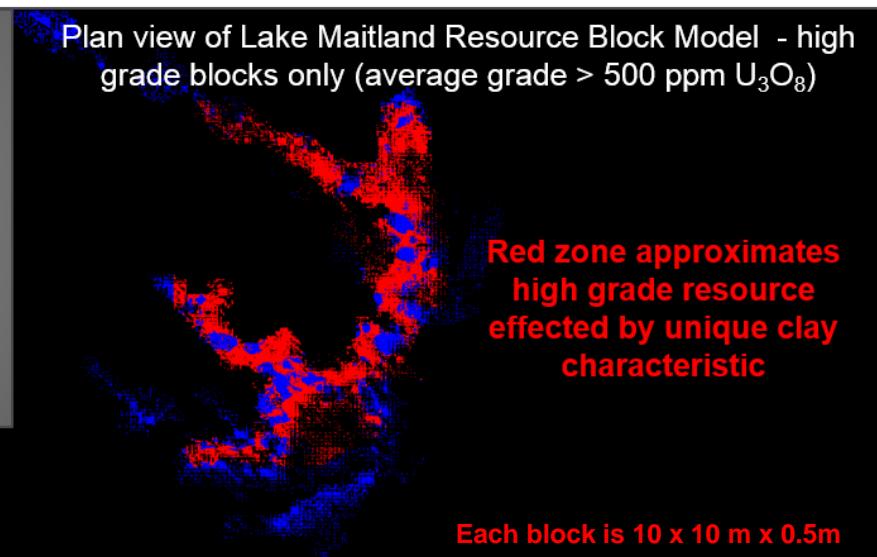
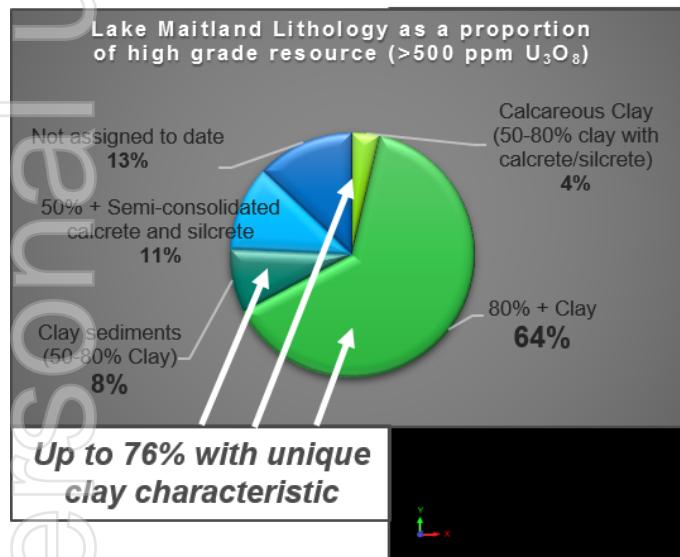
## ***WELL FUNDED WITH REPUTABLE FINANCE PARTNER ENTITLED TO EARN UP TO A 35% INTEREST IN LAKE MAITLAND***

- JAURD and ITOCHU are, through their respective subsidiaries, parties to a farm-in agreement and a joint venture agreement with Toro's subsidiary Redport Exploration Pty Ltd under which they are entitled to earn an aggregate 35% interest in the Lake Maitland project, upon which the parties will enter into a joint venture in respect of that project.
- Aggregate payments of US\$49M are payable by JAURD and ITOCHU under the farm-in agreement and joint venture agreement, with a balance of US\$39M yet to be paid (US\$1.50/lb of total Mineral Resource).
- JAURD is a Japanese company mandated to acquire uranium resources in Australia on behalf of its shareholders, being three Japanese utilities - The Kansai Electric Power Company, Incorporated (50%), Kyushu Electric Power Company, Incorporated (25%) and Shikoku Electric Power Company, Incorporated (15%) - and ITOCHU Corporation (10%), one of the world's largest uranium trading houses.
- JAURD's expertise in the uranium industry and their specific experience of the Australian uranium market makes them an ideal partner in this project.
- Seeking to acquire uranium supply from 2020.

# PROJECT TRANSFORMATION OPPORTUNITY

## UNIQUE GEOLOGY AT LARGEST DEPOSIT PROVIDES OPPORTUNITY TO TRANSFORM PROJECT TO A LOWER COST PARADIGM

- Geological research using new drilling techniques has found large proportions of the Wiluna resources associated with clay – different from previous thinking – unique characteristic
- At Lake Maitland, the largest deposit in the project, some 76% of the resource planned to be ore has the unique clay characteristic
- Metallurgical testing has shown that de-sliming using industry standard cyclone technology can separate the clay from the ore
- This simple step has the potential to transform the project and shift it into a lower cost paradigm



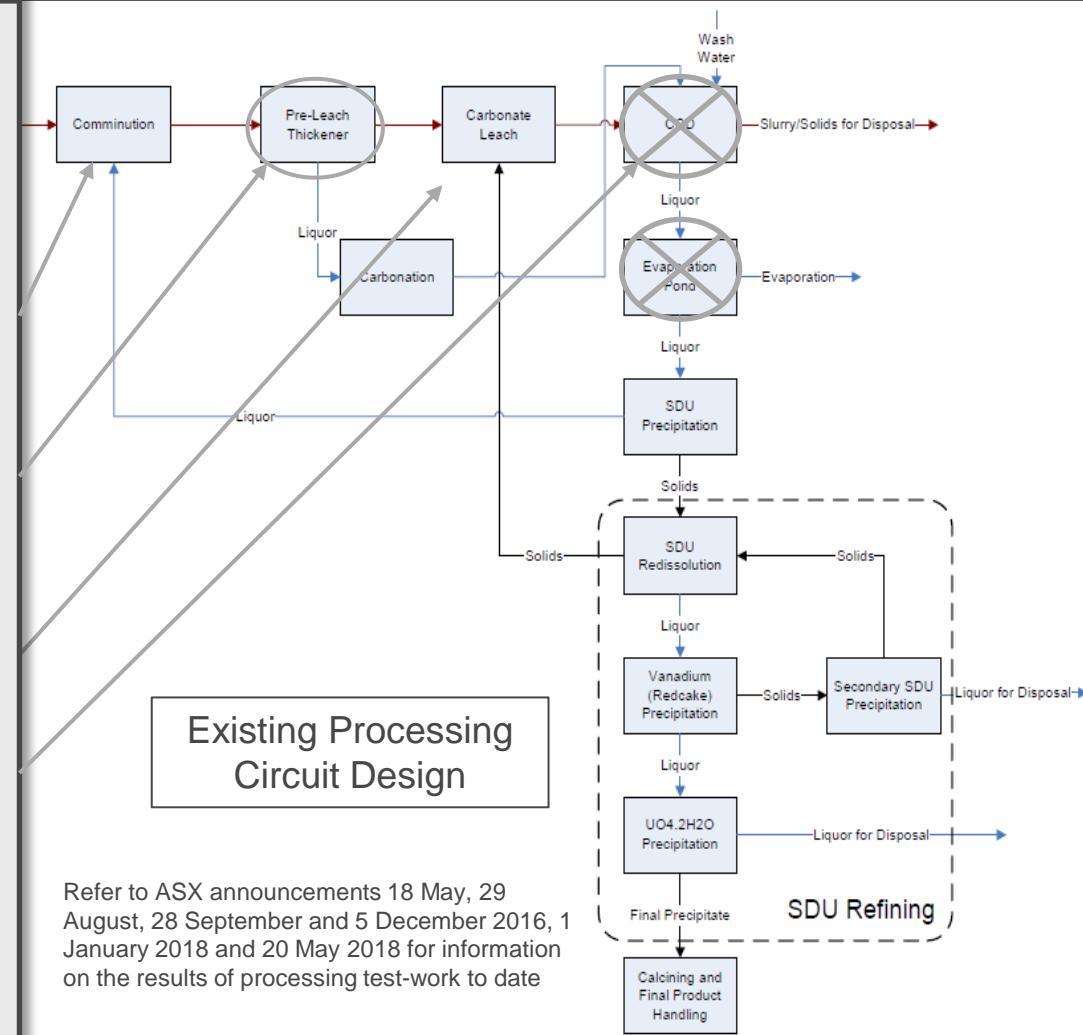
Refer to slide 16 for table of resources and slide 17 for competent persons' statements.

# PROJECT TRANSFORMATION OPPORTUNITY

## LAB BASED METALLURGICAL RESEARCH SHOWS DE-SLIME HAS TRANSFORMATIONAL EFFECT ON PROCESS DESIGN

Removing clay from Lake Maitland planned ore feed (to date research has focused on Lake Maitland) allows for a low mass, high grade feed to the mill and a complete redesign of the processing circuit.

1. Comminution circuit replaced with **Beneficiation circuit** - rejects ~70% of mass as mine waste, potentially no need to store as leach residue.
2. With ~30% of original mass the Pre-leach thickener becomes smaller and more efficient without clay - much quicker settling times.
3. No clay allows a **belt filter and cake washing** to flush out salts, significantly reducing leach reagents.
4. No clay leaves no need for a CCD circuit, replaced with just a simple **belt filter**. Very high CAPEX and high power consumption item no longer needed. Removes saline wash water used in CCD's (high reagent consumption) - allows for dry tailings disposal.



# PROJECT TRANSFORMATION OPPORTUNITY

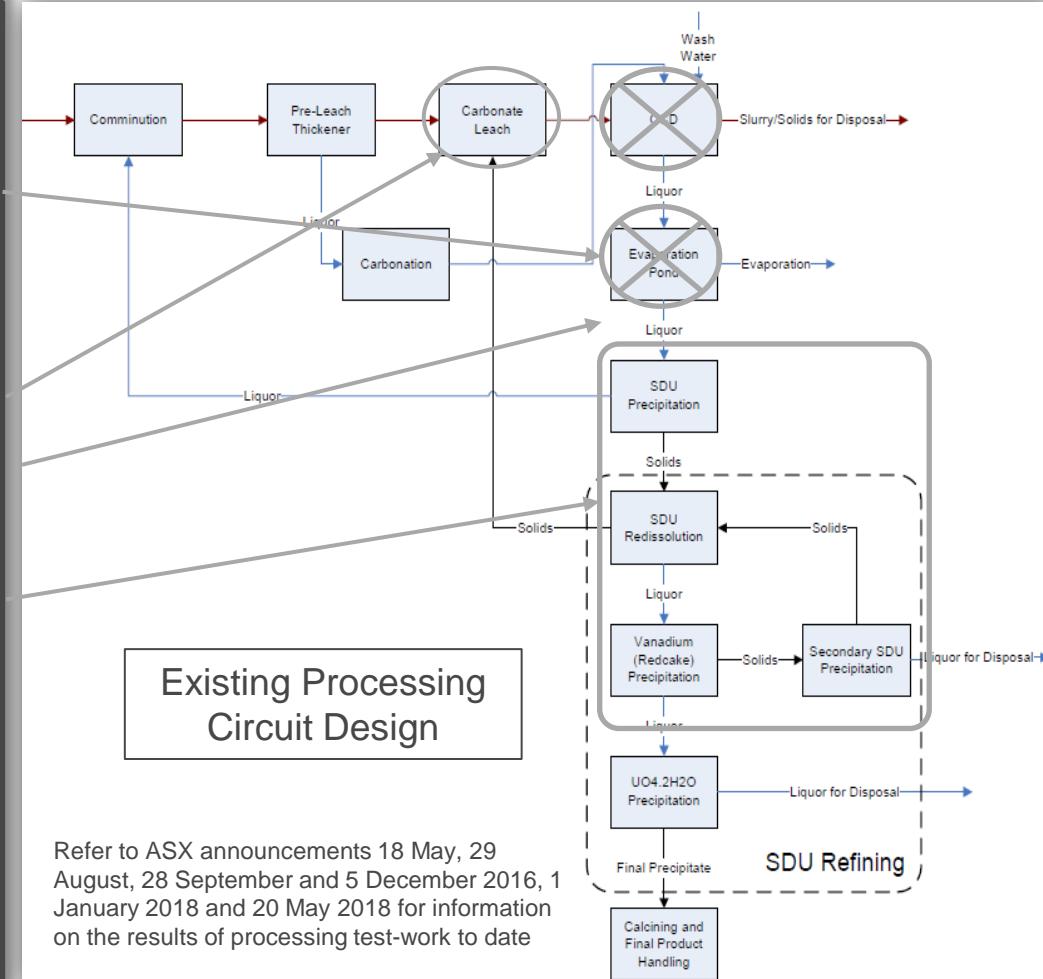
**NEW PROCESS DESIGN COULD DELIVER A PARADIGM SHIFT IN PROCESSING CAPEX AND OPEX – AND POTENTIAL EARLIER ENTRY TO A RETURNING MARKET**

Changes to Process design continued...

5. Leach feed washing removes chloride and allows the introduction of an **IX circuit** to concentrate prior to precipitation of SDU. Removal of high CAPEX and OPEX expense (Very weather dependent large evaporation pond).
6. Massive reduction in reagents used in the leaching process – Big decrease in OPEX.
7. Introduction of lime precipitation circuit, reducing reagent requirements.
8. Higher grades of pregnant solution from the filter- less reagent is needed to precipitate the SDU- Decreasing OPEX.

## Target Cost Reductions:

- **40% reduction in Plant CAPEX**
- **US\$25/lb OPEX**

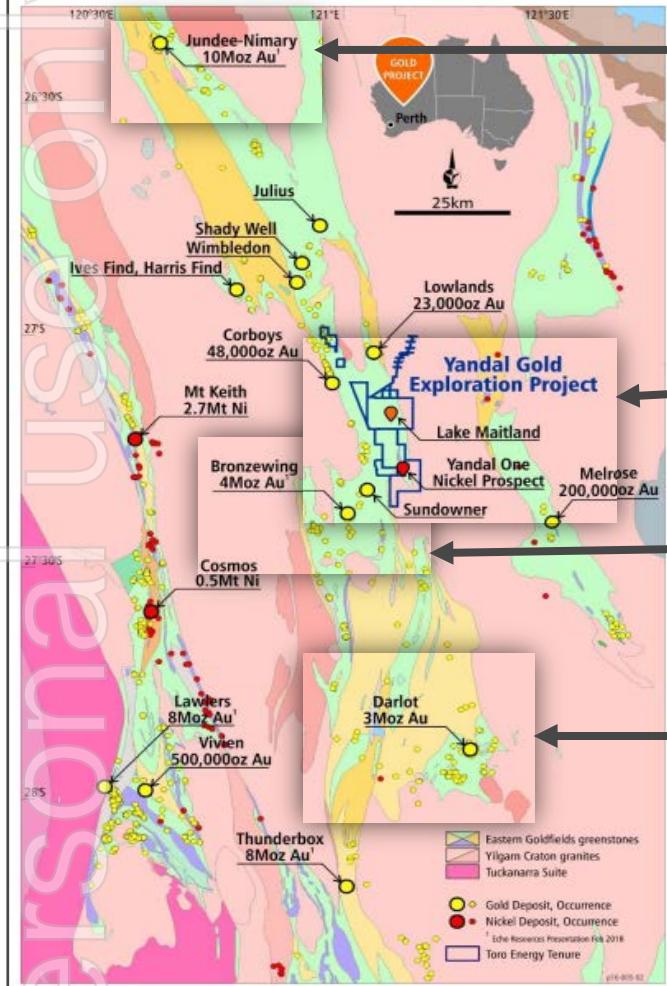


Refer to ASX announcements 18 May, 29 August, 28 September and 5 December 2016, 1 January 2018 and 20 May 2018 for information on the results of processing test-work to date

# BONUS GOLD EXPLORATION



**TAKING ADVANTAGE OF STRATEGIC POSITION IN WORLD CLASS GOLD DISTRICT  
WITH UNTESTED GROUND**



Jundee-Nimary  
10 M oz



## Lake Maitland



Toro Energy's  
Yandal Gold Project

Bronzewing  
4 M oz



Darlot  
3 M oz



(3) Echo Resources Limited ASX release 22 August 2017.  
(4) Echo Resources Limited Mineral Resource and Ore Reserve Estimates, refer to ASX Release 27 November 2017.

Toro's Lake Maitland deposit is located within the Yandal Greenstone Belt, a world class gold district.

Already over 14Moz of gold so far produced from three operations<sup>3</sup> in an approximately 300km long stretch of geology.

Recent exploration by Echo Resources Ltd has so far accumulated a Mineral Resource of 1.7M ounces and Ore Reserves of 856,000 ounces of gold<sup>4</sup> on ground surrounding the Toro project.

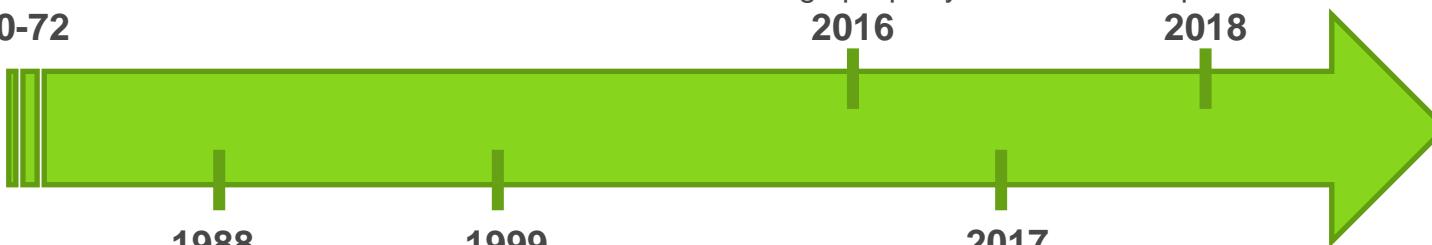
Due to being held by uranium companies the Toro ground has never been tested for gold.

Recent geophysical surveys conducted by Toro Energy show the Toro ground has all the right geological criteria for Yandal style gold mineralisation.

## **TORO GOLD EXPLORATION PREPARATION ALREADY UNDER WAY – DRILLING PLANNED FOR 2<sup>ND</sup> HALF 2018**

### **TORO'S YANDAL GREENSTONE BELT GROUND**

Lake Maitland  
uranium  
deposit  
discovered  
**1970-72**



Toro Exploration  
Drilling planned  
**2<sup>ND</sup> half  
2018**

### **SURROUNDING YANDAL GREENSTONE BELT**

(5) Phillips, G. N. and Anand, R. R. (2000) Importance of the Yandal greenstone belt, In Yandal Greenstone Belt Regolith, Geology and Mineralisation, (eds) Phillips, G. N. and Anand, R. R., CRC for Landscape Evolution and Mineral Exploration, AIG Bulletin No. 32, July 2000.

(6) Refer to ASX announcement and presentation submitted to the ASX on 23 May 2018.

(7) Echo Resources Limited Mineral Resource and Ore Reserve Estimates, refer to ASX Release 27 November 2017.

(8) Great Western Exploration Limited ASX Release 28 November 2017.

(9) Refer to Toro Energy ASX announcement 3 May 2018

## IMMEDIATE PLANS FOR TORO GOING FORWARD

- Proceed as necessary to maintain current state and federal environmental approvals
- Continue research and development work to realize the paradigm shift in cost structure of the Wiluna Uranium Project
- Re-define mining to meet new process flowsheet – mine optimisations, cut-off, mine grades, mine life
- Seize unique opportunity to explore for gold on untested ground within a world class gold district

***POSITIONING THE COMPANY FOR EARLY MOVEMENT  
IN A REBOUNDING URANIUM MARKET***

***TAKING ADVANTAGE OF AN EXPLORATION OPPORTUNITY IN A WORLD CLASS  
GOLD DISTRICT***



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personal use only

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Executive Chairman

**Dr Greg Shirtliff**  
Technical and Geology Manager

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## TABLE OF RESOURCES – WILUNA URANIUM PROJECT

Wiluna Uranium Project Resources Table (JORC 2012) <sup>1</sup>									
		Measured		Indicated		Inferred		Total	
		200ppm	500ppm	200ppm	500ppm	200ppm	500ppm	200ppm	500ppm
Centipede / Millipede	Ore Mt's	4.9	1.9	12.1	4.5	2.7	0.4	19.7	6.8
	Grade ppm	579	972	582	1,045	382	986	553	1,021
	$U_3O_8$ Mlb's	6.2	4.2	15.5	10.3	2.3	0.9	24.0	15.3
Lake Maitland	Ore Mt's	-	-	22.0	8.2	-	-	22.0	8.2
	Grade ppm	-	-	545	929	-	-	545	929
	$U_3O_8$ Mlb's	-	-	26.4	16.9	-	-	26.4	16.9
Lake Way	Ore Mt's	-	-	10.3	4.2	-	-	10.3	4.2
	Grade ppm	-	-	545	883	-	-	545	883
	$U_3O_8$ Mlb's	-	-	12.3	8.2	-	-	12.3	8.2
Sub-total	Ore Mt's	4.9	1.9	44.3	16.9	2.7	0.4	52.0	19.2
	Grade ppm	579	972	555	948	382	986	548	951
	$U_3O_8$ Mlb's	6.2	4.2	54.2	35.3	2.3	0.9	62.7	40.4
Dawson Hinkler	Ore Mt's	-	-	8.4	0.9	5.2	0.3	13.6	1.1
	Grade ppm	-	-	336	596	282	628	315	603
	$U_3O_8$ Mlb's	-	-	6.2	1.1	3.2	0.4	9.4	1.5
Nowthanna	Ore Mt's	-	-	-	-	13.5	2.6	13.5	2.6
	Grade ppm	-	-	-	-	399	794	399	794
	$U_3O_8$ Mlb's	-	-	-	-	11.9	4.6	11.9	4.6
Total	Ore Mt's	4.9	1.9	52.7	17.8	21.4	3.3	79.0	23.0
	Grade ppm	579	972	520	931	368	765	482	916
	$U_3O_8$ Mlb's	6.2	4.2	60.4	36.4	17.4	5.5	84.0	46.4

(1) Refer to slide 17 for competent persons' statements.

## Competent Persons' Statements

### **Wiluna Project Mineral Resources – 2012 JORC Code Compliant Resource Estimates – Centipede, Millipede, Lake Way, Lake Maitland, Dawson Hinkler and Nowthanna Deposits**

*The information presented here that relates to Mineral Resources of the Centipede, Millipede, Lake Way, Lake Maitland, Dawson Hinkler and Nowthanna deposits is based on information compiled by Dr Greg Shirtliff of Toro Energy Limited and Mr Sebastian Kneer formerly of Toro Energy Limited and Mr Daniel Guibal of SRK Consulting (Australasia) Pty Ltd. Mr Guibal takes overall responsibility for the Resource Estimate, and Dr Shirtliff takes responsibility for the integrity of the data supplied for the estimation. Dr Shirtliff is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and Mr Guibal is a Fellow of the AusIMM and they have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012)'. The Competent Persons consent to the inclusion in this release of the matters based on the information in the form and context in which it appears.*

### **Exploration**

*The information in this document that relates to geology and exploration was authorised by Dr Greg Shirtliff, who is a full time employee of Toro Energy Limited. Dr Shirtliff is a Member of the Australian Institute of Mining and Metallurgy and has sufficient experience of relevance to the tasks with which they were employed to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Shirtliff consents to the inclusion in the report of matters based on information in the form and context in which it appears.*