# Why Uranium? Why now? Why Vimy? Low Emissions Technology Minerals Conference

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Cautionary statements: The information regarding the Pre-feasibility Study (PFS) was released to the ASX on 17 November 2015. The Company advises that the PFS is based on lower-level technical and preliminary economic assessments, and does not provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the PFS will be realised. The Production Target referred to in the PFS is partly based on Inferred Mineral Resources (which comprise approximately 28% of the Inferred Resource mined during the project payback period of 7 years at the capital breakeven uranium price). There is a low level of geological confidence associated with the Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated or Measured Mineral Resources or that the production target or preliminary economic assessment will be realised.

**No new information:** Other than in respect of the matters outlined in the Significant Uranium Resource Upgrade Announcement (discussed below), Vimy confirms that all the material assumptions underpinning the information in the PFS continue to apply and have not materially changed.

The Resource Estimate referred to in this presentation was released to the ASX on 12 July 2017. Vimy is not aware of any new information, or data, that affects the information in that announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

The Reserve Estimate referred to in this presentation was released to the ASX on 4 September 2017. Vimy is not aware of any new information, or data, that affects the information in that announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

On 12 July 2017, Vimy released an announcement to ASX entitled "Significant Uranium Resource Upgrade – Mulga Rock cracks 90Mlbs" disclosing higher Resource Estimate and expected improved economics of the Mulga Rock Project arising from increases in contained uranium metal. Vimy is currently carrying out a Definitive Feasibility Study and from work conducted to date, the Company expects significantly improved project economics in comparison to the Prefeasibility Study published in November 2015.

The Uranium sector has seen...



- Brutal 6-year bear market
- The spot price has declined 85%
- Equities have followed price down
- Listed companies from 500 to under 40 (but value in the ones who are left)





## The Uranium Myths



### "Uranium is an awful sector"

- Uranium companies have taken a pounding
- Nuclear power declining
- Market in oversupply
- Mulga Rock not economical at today's U price







## **Opportunity**

Bear market

+

Demand > Supply

**Bull market** 



## Why now?



## The Opportunity – ignore The Narrative, do the maths

### **Demand**

- Reactors can't run out of fuel – U<sub>3</sub>O<sub>8</sub> price not important
- Utilities buy on LT contract
   NOT on spot market
- Utilities' contracts are 40% uncovered 2020, 80% for 2025

### Supply

- No-one makes money at \$20
  - NO ONE
- Production cuts by Kazakhstan who control 40% of world's uranium
- Few near term, new mine start-ups
- New and existing mines will not meet expected demand
- Long permitting time lines
   →1,234 days for our PER

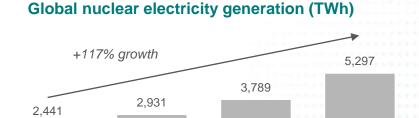
Fundamental disconnect between spot price (\$20 = low sentiment) and reality (US contract ~\$46 in 2016)

## Why Uranium?



### Uranium is the predominant fuel for nuclear power generation Nuclear power is a secure, cheap, and clean energy source

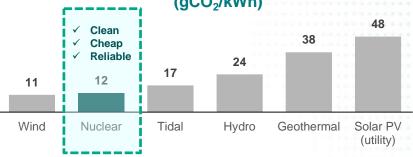
- Nuclear energy contributes ~11% of current global electricity, including:
  - France 72%
  - USA 20% (60% of clean energy)
  - UK 20%
  - Canada 16%
- Nuclear energy NEEDED to meet
   RAPIDLY increasing electricity demand:
  - Reliable baseload supply
  - VERY LOW emissions of CO<sub>2</sub>
  - Robust economics LCOE better than incurably intermittent renewables





2030

2020



Source: International Atomic Energy Agency (2016, mid-case forecasts) Intergovernmental Panel on Climate Change (2014)

2015

## Electric vehicles – driving demand for clean energy



• 275 g-CO<sub>2</sub>/100km

Nuclear



• 300g–CO<sub>2</sub>/100km

Wind (o/s)

• 1,125g-CO<sub>2</sub>/100km

Solar (roof)

- 20,500g-CO<sub>2</sub>/100km
- Coal (DE)



- 25,500g-CO<sub>2</sub>/100km
- Petrol

Context: Average e-car usage p.a. uses 3.8 MWh (x 1.9)
Average Australian home p.a. uses 6.4 MWh

## Why Uranium?



### <u>Demand</u> is being driven by non-OECD growth in nuclear power

### Nuclear reactors built and coming

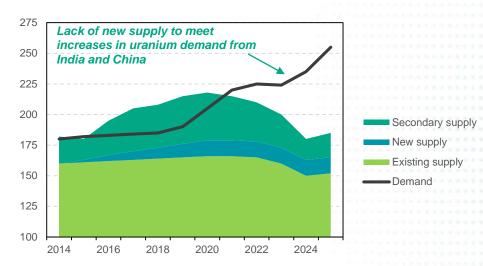
- 447 reactors in 31 countries 392 GWe
- 56 under construction ~61 GWe
- 160 planned or permitted ~165 GWe
- 351 proposed ~402 GWe

### **CHINA DOMINATES DEMAND**

- 37 reactors
- 20 under construction, +54%
- 40 planned, +108%
- 143 proposed, +386%

## Driven by air pollution crisis Limit to number of new coal plants

#### Uranium supply and demand forecast (Mlbs U<sub>3</sub>O<sub>8</sub>)



Source: Raymond James research

### New builds outstrip GLA populist closures\*

(Seriously? you close reliable green power to build less reliable green power?)

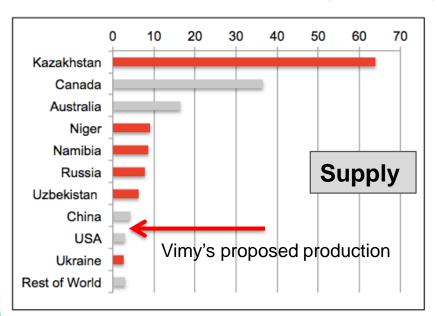
\* Green-Left Alliance (pronounced 'galah')

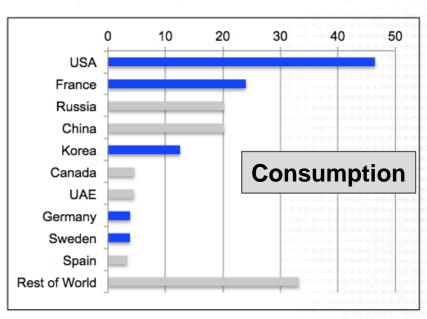
## Why now?



### **Demand and supply dynamics**

- Price of UOC is a small part of a reactor's overall costs
- Utilities' priorities: security of supply, diversity of supply, price of supply...





### Kazatomprom and Cameco are THE main players on the supply side

- Macarthur River closure cuts 12% primary supply
- Cameco taking lead in U market dynamics
   won't write loss-making contracts GOOD THINKING!
- Kazatomprom wants to be "OPEC of uranium"

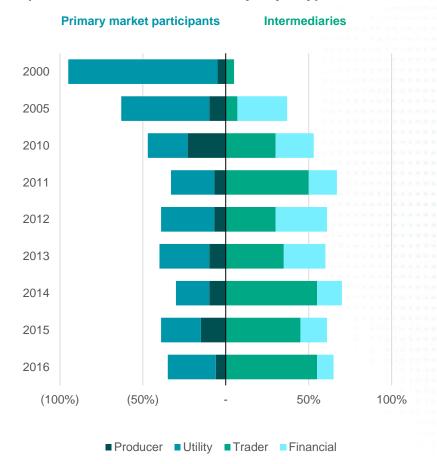
## Uranium pricing dynamics



### Very little of annual U production is sold through the spot market

- Vast majority of uranium sold under LT contracts between producers and utilities
  - LT terms are NOT DISCLOSED
- Spot market is a thinly traded, arbitrage market dominated by off market trades
  - SM terms ARE DISCLOSED(ISH)
  - Currently around US\$20/lb
- Spot market DOES NOT reflect current U<sub>3</sub>O<sub>8</sub> contract prices
- Existing uranium contracts
  - Peninsula Energy realised price of US\$54/lb
  - Cameco 2016 average realised price of US\$41/lb
  - US utilities average contract price of US\$46 in 2016

#### Spot transaction volume share by buyer type

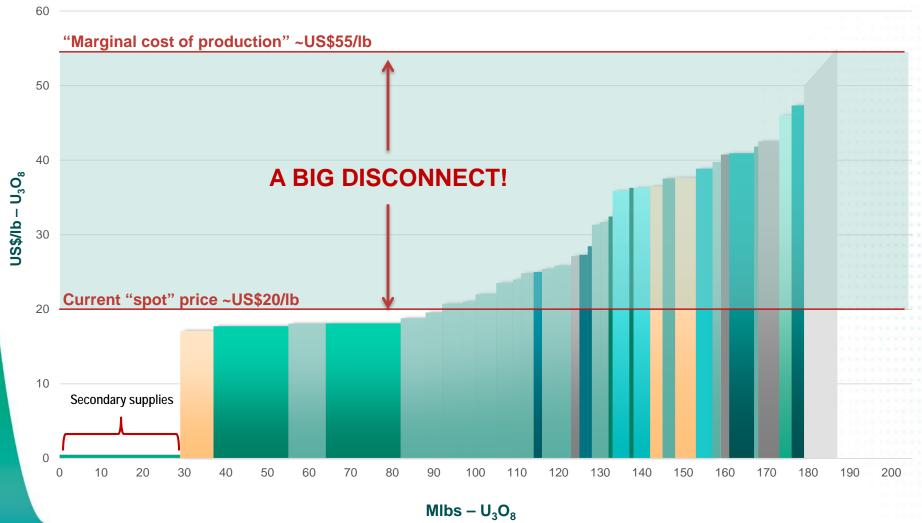


Source: Kazatomprom (2017), TradeTech Uranium Market Study Q1, 2017

## All in cost of production vs spot price







## Why Vimy?



- Bottom of the uranium cycle investment
- Mulga Rock is a large, simple, low operating cost project
- Highly experienced and credible team experienced in building mines
- Low risk, stable operating jurisdiction with FULL MINISTERIAL APPROVALS
- Well advanced, and fully leveraged to the uranium market









## Mulga Rock Project

VIMY RESOURCES

- One of Australia's largest and most advanced, undeveloped uranium resources
- High-grade start up strategy ~1500ppm
- DFS showing well improved project economics on PFS
- WA Labor Government confirms that "projects approved by the previous government will be able to proceed"
- Annual production targeted at 3.5Mlb U<sub>3</sub>O<sub>8</sub> per year







## Significant Mineral Resource Update – July 2017



Deposit	Resource Estimate Classification	Cut-off grade (ppm U <sub>3</sub> O <sub>8</sub> )	Tonnes (Mt)	U <sub>3</sub> O <sub>8</sub> (ppm)	Total metal U <sub>3</sub> O <sub>8</sub> (Mlb)
Mulga Rock East	Measured	150	5.2	1,100	12.6
	Indicated	150	16.8	800	29.6
	Inferred	150	15.5	420	14.3
Sub-total			37.4	680	56.4
Mulga Rock West	Indicated	150	2.2	680	3.2
	Inferred	150	31.7	440	30.4
Sub-total			33.8	450	33.6
Total Resource			71.2	570	90.1

- Mulga Rock Project now at 90.1Mlbs U<sub>3</sub>O<sub>8</sub>
- High-grade comprises 25Mlbs at 1,500ppm U<sub>3</sub>O<sub>8</sub>
- A 30% increase in Mulga Rock East resource since November 2016
- 50% of the global Mineral Resource is in Measured and Indicated status

## • Mining a Cleaner Tomorrow



The quality of our DFS will highlight the world class scale and economic development potential of the Mulga Rock Project

