



THE SENTIENT GROUP

AUSTRALIA KOREA BUSINESS COUNCIL

Seoul 2016 Meeting

CREATING THE NEW TOMORROW IN A DEFLATIONARY WORLD

WHO IS SENTIENT?



THE SENTIENT GROUP

Private Capital investment firm established by Australians in 2001

We seek growth markets

Identify world class inter-generational natural resources

Utilise ideas, innovation and disruptive business models as core value drivers

Raised over US\$2.5 bn from investors in North America, Europe, Middle East, China and Australia

TODAY'S PRESENTATION



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Market opportunities in a deflationary world

- Local – Oil shale in Jordan and USA
- Regional – LNG to North Asia
- Global – Lithium



Piceance Basin in Colorado, USA

- Oil shale is the world's largest hydrocarbon resource
- Multi-mineral zone is co-mingling of oil shale with the world's largest and purest Nahcolite (sodium bicarbonate) and Dawsonite (aluminium complex)



Jordan

- Very reactive oil shale at surface can be processed in surface retorts
- Canadian technology, German design, operating in China at Fushun
- Potential Korean E&C



Sentient has funded oil shale research at Monash University

- Trained two Jordanian PhD students

Patented process for in-situ oil production using the in-situ mineralogy to promote liquid production

- Process extracts nahcolite to create a “reactor” void followed by heating with dawsonite and residual nahcolite to produce hydrocarbons
- Approved IR&D project to test the concept in-situ in Colorado

Enhanced the utilisation of all three co-mingled resources

Established a path to become a world leader in sodium chemicals through environmental management

Already No 2 sodium bicarbonate producer in USA

REGIONAL LNG TO NORTH ASIA

Queensland Gas Corporation

Coal Seam Gas in Surat Basin

Sentient investment

- Resolved joint venture issues
- Solved well completion techniques

Acquired by BG

Currently owned by Shell





Acquired Salar del Rincon in 2008

Conventional extraction process was not scalable

Established Enirgi by merging power storage and sodium bicarbonate businesses and Rincon project to provide critical mass

Established new Innovation and Engineering business to create new technology

Established strategic alliance with ANSTO for technical support



ENIRGI'S LITHIUM PROCESS



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In past 5 years Enirgi has developed an industry disruptive technology

SRK has completed 43-101 DFS showing resource will support >25 year operation at 50,000 tpa LCE with resource and plant expansion potential

Capital cost US\$720 million and all in operating cost <US\$2100/t LCE delivered to the Port of Antofagasta in Chile

Environmentally friendly with no evaporation ponds, no waste piles of salt

Cycle time for a lithium atom in the salar to being shipped reduced from ~500 days to <24 hours



Part of the Demonstration Plant delivered to site at Rincon

ENIRGI'S LITHIUM STRATEGY



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Establish Regional Processing Facilities to unlock a diverse source of lithium atoms from smaller salars that cannot sustain their own business

Become a core member of the global lithium supply chain

Target production up to 200,000 tpa LCE

Partner with Tier 1 industry players

IPO in North America in 2017



Technology can be leveraged

- Lithium solution is applicable to increasing efficiencies and margins in sodium bicarbonate production

Success required

- Large supportive shareholder, insightful management and leadership, innovative minds and technical competence

CONCLUSION



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The challenge in a deflationary world is to create the new tomorrow

Market opportunities have to be matched to innovative solutions that deliver high margins and lead to new relationships that crystallise the value

In natural resources it means discovering new Tier 1 assets that are inherently low cost

Or

Creating new technologies that reduce costs to create high margin Tier 1 assets from what may have been lesser quality resources