

Meeting Australia's Energy Needs



Australian Future Energy Pty Ltd
QEC Investment Showcase – 14 June 2018

AFE is in the business of Energy Generation

- Australian Future Energy (AFE) is a **vertically integrated energy generation company**, using world class, proven gasification technology.

- **AFE's core business model** is based upon:
 - **Providing base load energy solutions to large industrial users and markets** requiring a secure energy supply;
 - Having **exclusive Australian rights** to apply NASDAQ listed Synthetic Energy Systems, Inc. (SES) **above ground gasification technology** to produce syngas from low ranking coal deposits;
 - Ownership of or long-term commercial offtake contracts for **coal supply**;
 - Unique **ability to use non-market specification thermal coal** (low rank) in conjunction with biomass, as feedstock; and
 - Ability to **export market quality thermal coal** into international markets that are seeking new sources of long-term supply.

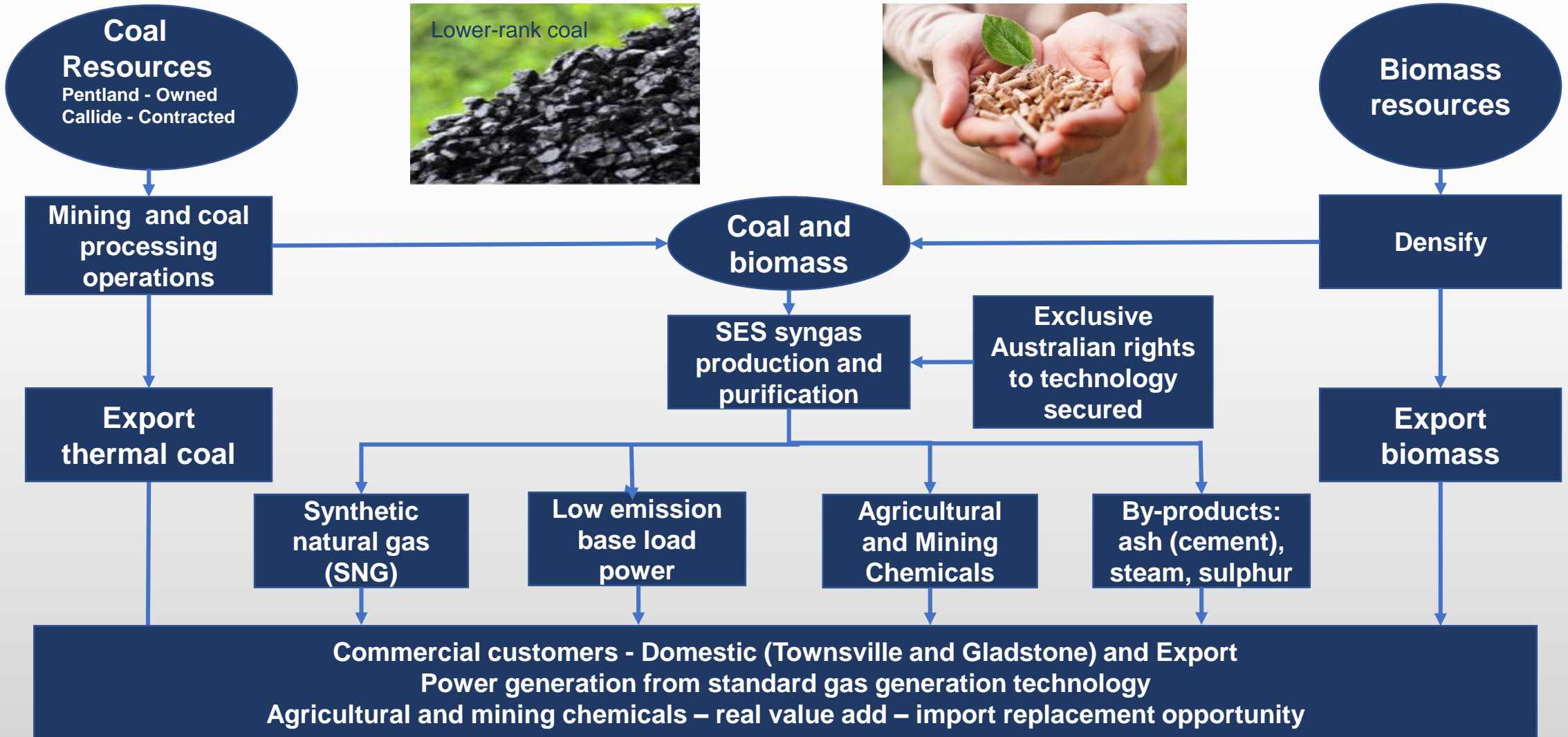
AFE's focus is on actively developing projects that will utilise SES's **efficient and low cost clean syngas production technology**:

- **Gladstone** Energy and Ammonia Project;
- **Townsville** Power and Urea Project; and
- **Pentland** Coal Mine Project.

Current market characteristics:

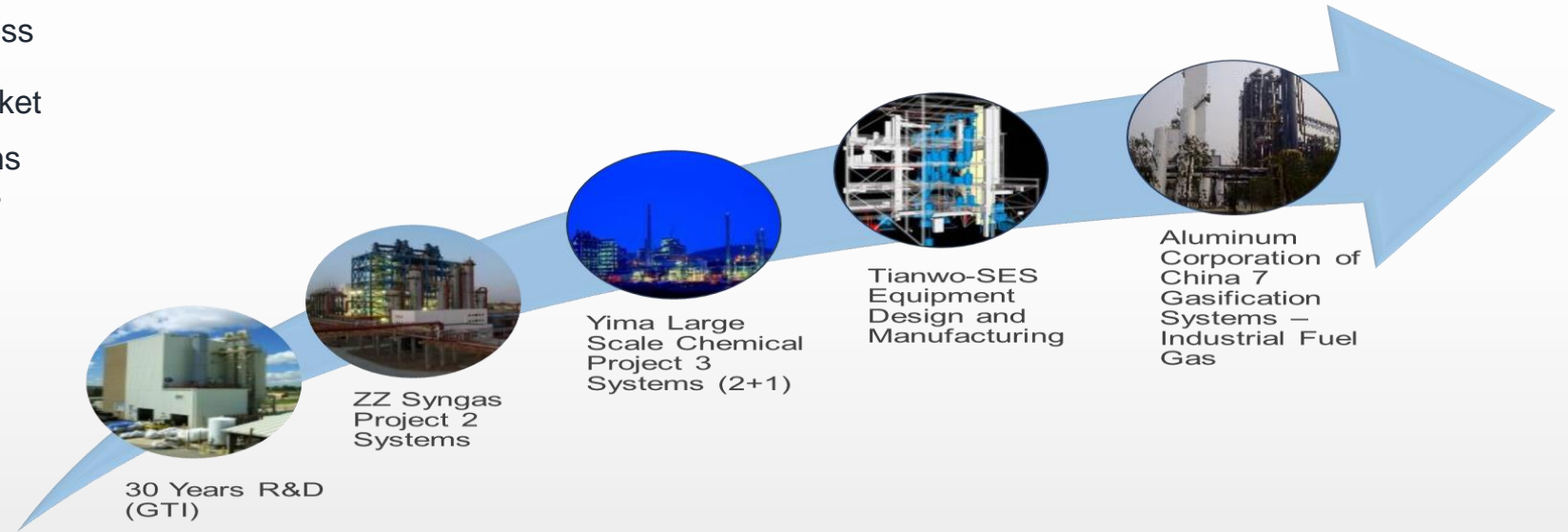
- Increasing demand for reliable energy Australia wide and particularly on the east-coast grid;
- Increasing market prices for gas and base load power;
- Shortages of base load power in Northern Queensland of approx. 2,000MW; and
- Industrial users seeking long term, secure energy supply contracts.

AFE offers a clear solution to these problems.



Proven Gasification Technology being used in Commercial Operating Plants

- AFE holds the exclusive rights and access to SES above-ground gasification technology (SGT) for the Australian market
- 13 commercial scale gasification systems currently operating at 6 project locations around the world (USA and China).
- Outstanding operating performance.
- Proven track record.



Zao Zhuang Plant, China

SES project name	Zao Zhuang	Yima	Chalco Shandong	Chalco Shanxi	Chalco Henan
Year commissioned	2008	2012	2015	2016	2016
# of gasifiers	2	3	2	1	4
Main product	Methanol	Methanol	Fuel Gas	Fuel Gas	Fuel Gas
Annual output	90,000mtpa	300,000mtpa	9.33PJ/a	3.27PJ/a	14PJ/a

Gasification Process and Methodology

Unique, proven technology

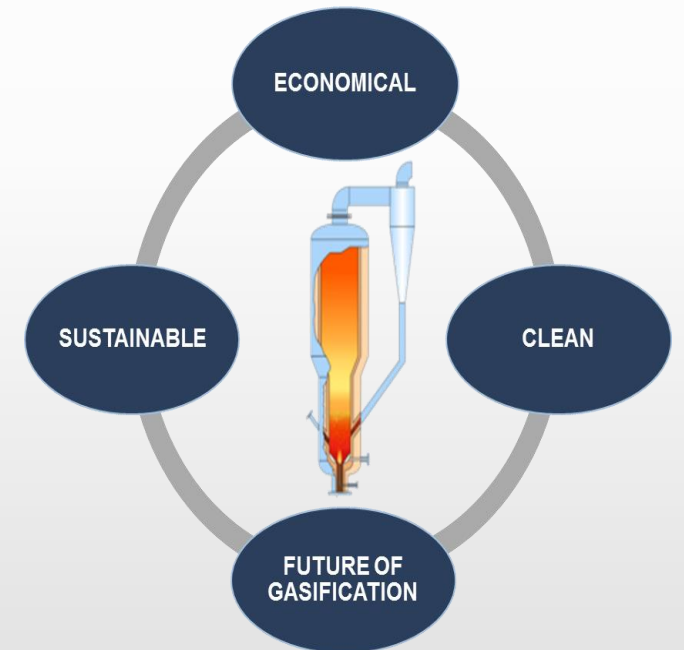
- Extensive USA development over 40 years
- Multiple pilot, demo and commercial-scale plants since 1975
- Twelve commercial gasifiers with increasing capacity at five large operating sites in China

Economic advantage

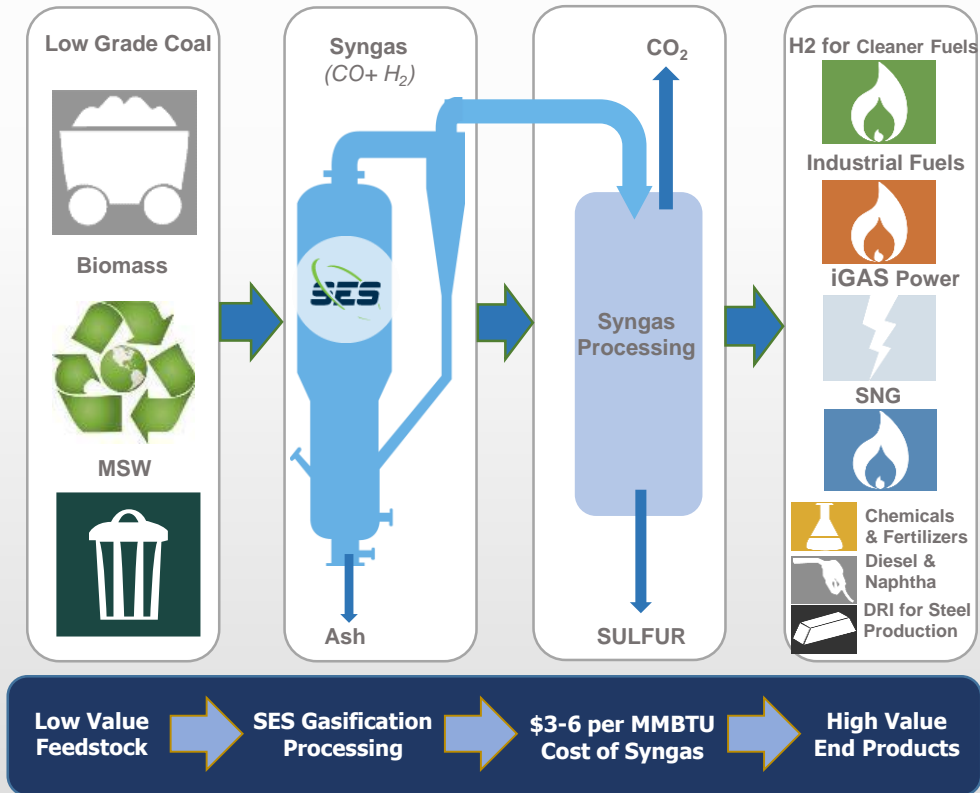
- Fuel flexibility - low rank coals, biomass and municipal solid waste (MSW).
- Low capital intensity and operational efficiency.
- Simple operation, high availability and reliability.

Environment-friendly

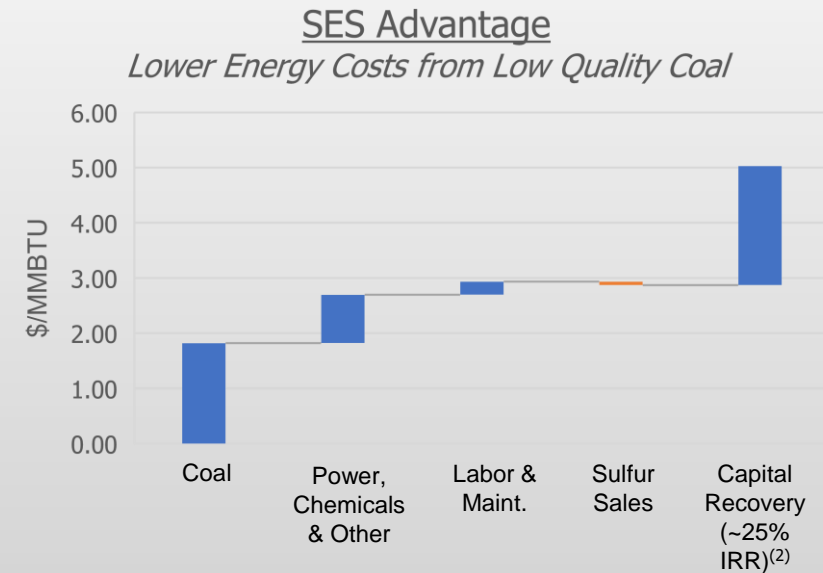
- Low emissions (in line with recent “Finkel Report” power generation guidelines).
- Low water consumption, able to utilise industrial waste water.
- Able to produce green energy using renewable biomass.



SES Gasification Technology



- High efficiency conversion to syngas (CO & H₂).
- Syngas can be converted to multiple useful products alternatively made from natural gas.
- Economic alternative to expensive natural gas.
- Clean use of coal – greener solution.



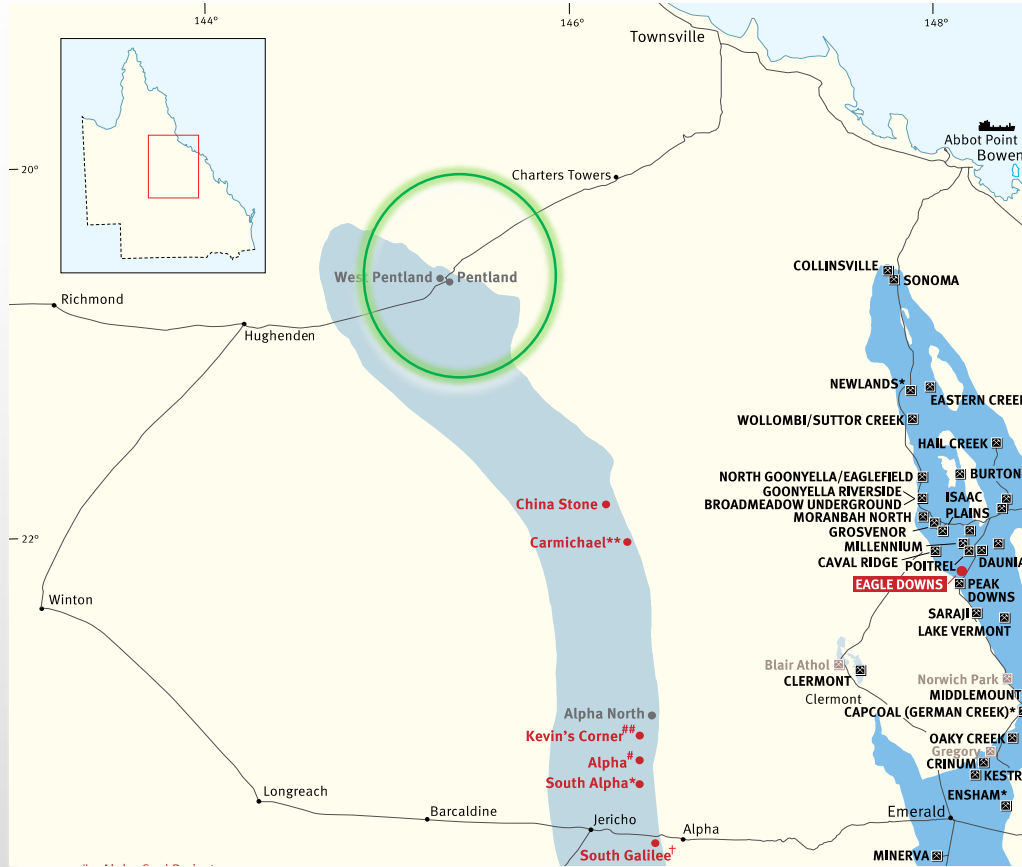
Overview of Gladstone Energy and Ammonia Project

- Development of a **20PJ per annum pipeline spec. gas production facility** for local industrial customers – a truly captive market.
- Significant local demand for low cost reliable energy
- Project to be located in Qld State Development Area in Gladstone near Yarwun
- **Coal to be sourced from mines currently raiing coal to Gladstone area** – Low rank coal - HOA currently in place
- **Offtake arrangements in place for supply of 1,000 tpd Ammonia product** to local industrial player utilising app 8 PJ pa of syngas.
- Offtake arrangements well advanced for **sale of 12PJ of pipeline spec gas.**
- **NAIF funding** being actively progressed.



Overview of West Pentland Coal Project

- AFE has acquired the MDL361 coal project at West Pentland, North Qld - **JORC resource of 266mt.**
- **Located on rail line 230 km to Townsville Port.**
- **Planned initial 6mtpa coal production,** estimated to commence in 2021, expanding to 9 mtpa:
 - 1.3mtpa for Townsville Power and Urea Project; and
 - 4.7mtpa for export markets.
- **Export coal provides early cashflow.**



230km West Pentland to Townsville via Great Northern Line; junction at Stuart with North Coast Line

Overview of Townsville Power and Urea Project

- Development of a **280MW base load power station (Stage 1)**
 - located in Qld State Development Area in Townsville - land secured
- **Stage 2 – 1.6 mtpa urea production.**
- **Significant local demand** for reliable base load power
 - NE Qld region has identified the need for approx 2,000MW of new base load power
- **Coal to be sourced from AFE owned West Pentland Coal Project**
 - 1.3mtpa of low rank coal; co-generation with local biomass sources.
- Townsville’s major industrial energy users :
 - Glencore Copper refineries;
 - Sun Metals Zinc refinery;
 - Rio Tinto
- **NAIF funding** being actively progressed.

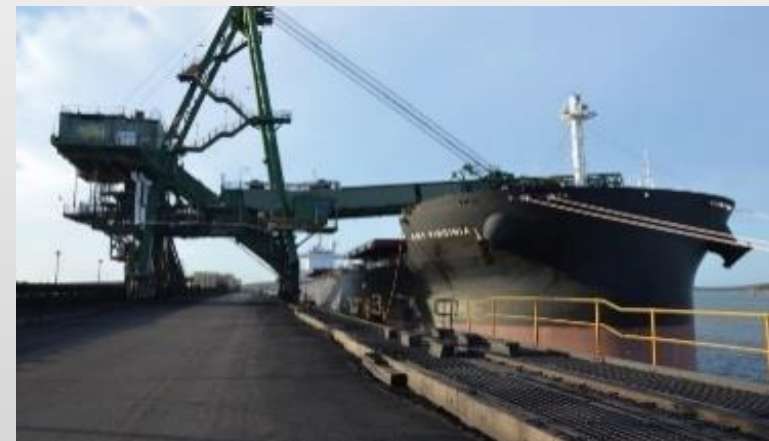


Proven Track Record - Batchfire Resources

- Founded in 2016 as spinoff from AFE (in specie distribution).
- AFE shareholders own approximately 52% of Batchfire.
- Acquired Callide Thermal Coal Mine - 2016.
- ~230mt reserves; ~850mt resource.
- Significant progress since acquisition to increase production and lower costs to near bottom of global cost curve.
- Contracted supply:
 - CS Energy power stations for (c.18% of Qld's electricity)
 - domestic customers in Gladstone
 - exports via Gladstone Port.
- Positive cash flow from operations – only 6 months after acquisition – a true “turn-around”.
- Highly profitable long-life operation.



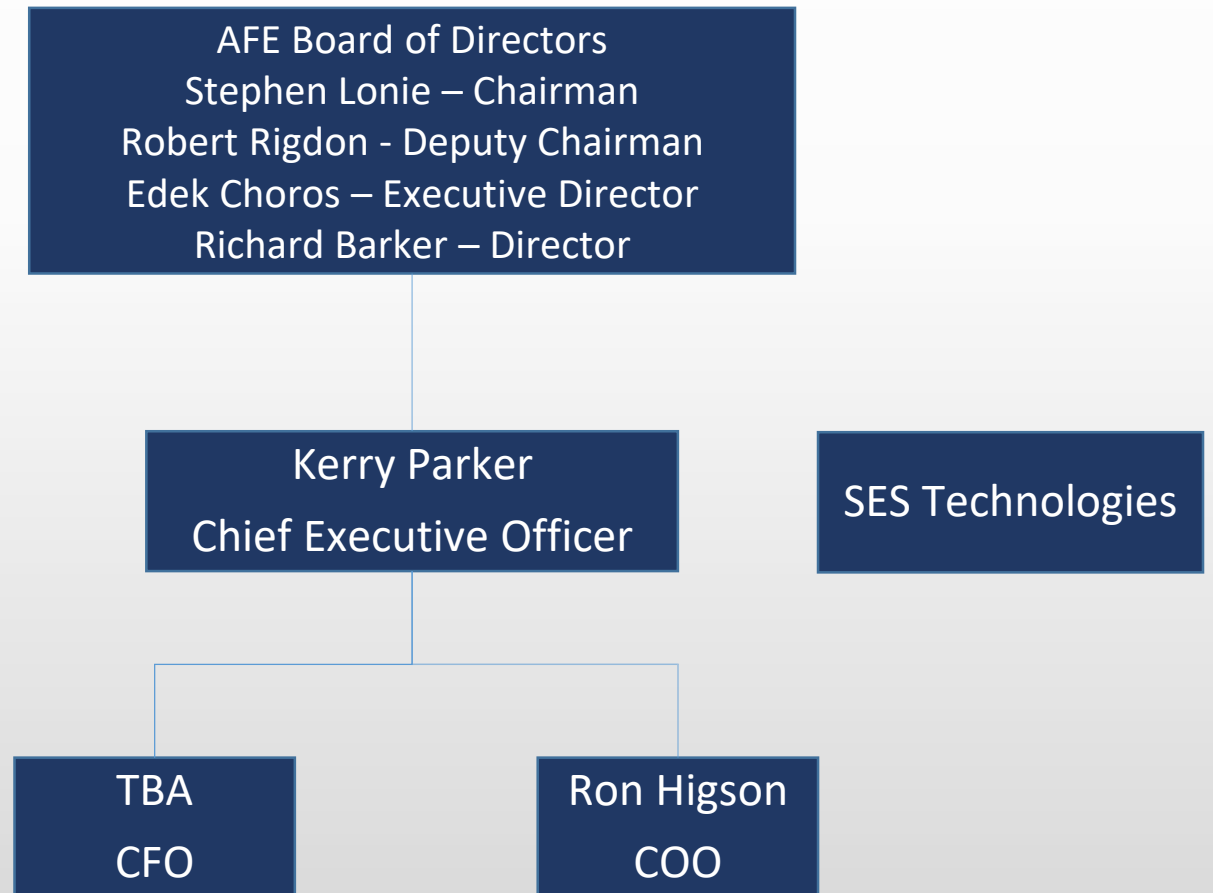
BATCHFIRE 
RESOURCES PTY LTD



Organization Structure and Key Staff

Industry Experienced Professionals

- Australian and International project development.
- Clean energy and coal industry.
- Large scale EPC.
- Financing and debt structuring.
- Environmental modeling & project permitting.
- Technology application and design.



Investment Highlights - Recap

- ✓ **Favourable market dynamics** - Energy (gas and power) supply concerns, AFE meeting a strong need
- ✓ **Attractive financial returns, strong investment case**
- ✓ **Offtake advanced** - Advanced stage of documentation with key industrial energy users
- ✓ **Competitive cost of production** – Delivered gas/power prices compelling
- ✓ **Key alliance partners**
- ✓ **Proven gasification technology** - Exclusive rights, commercially operating plants
- ✓ **Experienced board and management** – Strong successful track record (Batchfire/Callide)
- ✓ **Strong State and Federal government support** – Plant sites secured, recognise need for secure energy supply, jobs and growth
- ✓ **Strong local and community support** – Seeking further industry development and investment
- ✓ **Feedstock secured** - Access to coal resources for gasification projects
- ✓ **Expansion opportunities**





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