



# SYNGAS

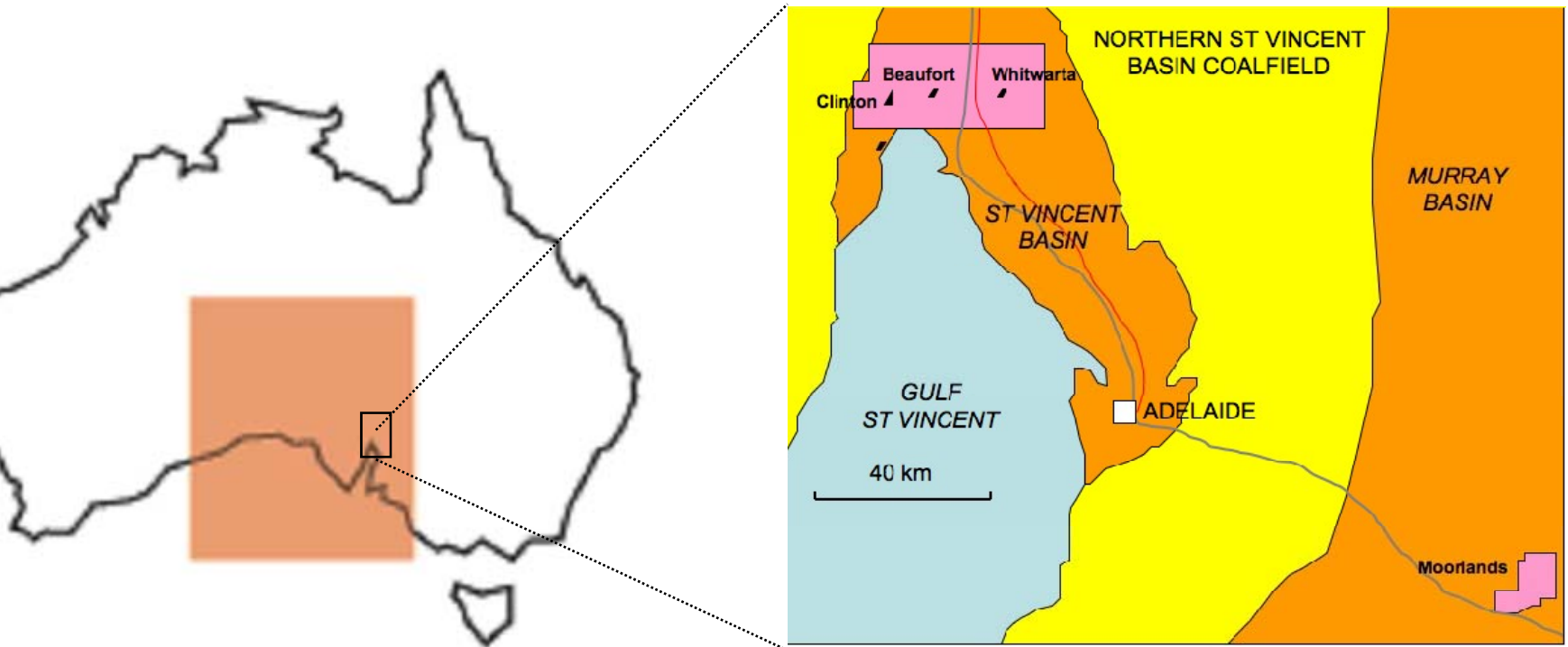
part of GulfX Limited  
(ASX Code: GLX)

*November 2007*

# The Syngas Coal Deposits

- Extensive past exploration
  - Published coal deposits 1.4 billion tonnes
- R.K. Johns, Tertiary Coal Report, South Australian Department of Mines, 1975*

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Source: PIRSA, SARIG 2007



# Potential Production

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- **30,000 bbl/d of Premium Diesel**
- **500 MW Power plant**  
– 50% to National Grid
- **120,000 t.p.a. of Pure Sulphur**



# Project Snapshot

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- **“Clean Coal” technology (Reductions in Carbon, Nitrogen and particulate emissions)**
  - Producing energy: Premium Diesel and Power
- **Low Risk project**
  - Two granted mineral exploration licences over lignite deposits containing hundreds of past drill holes,
  - Using commercially proven existing technologies
- **Large Scale project**
  - Published lignite deposits of 1.4 billion tonnes
  - Mirrors investments by Shell (Vic) and BP (WA)



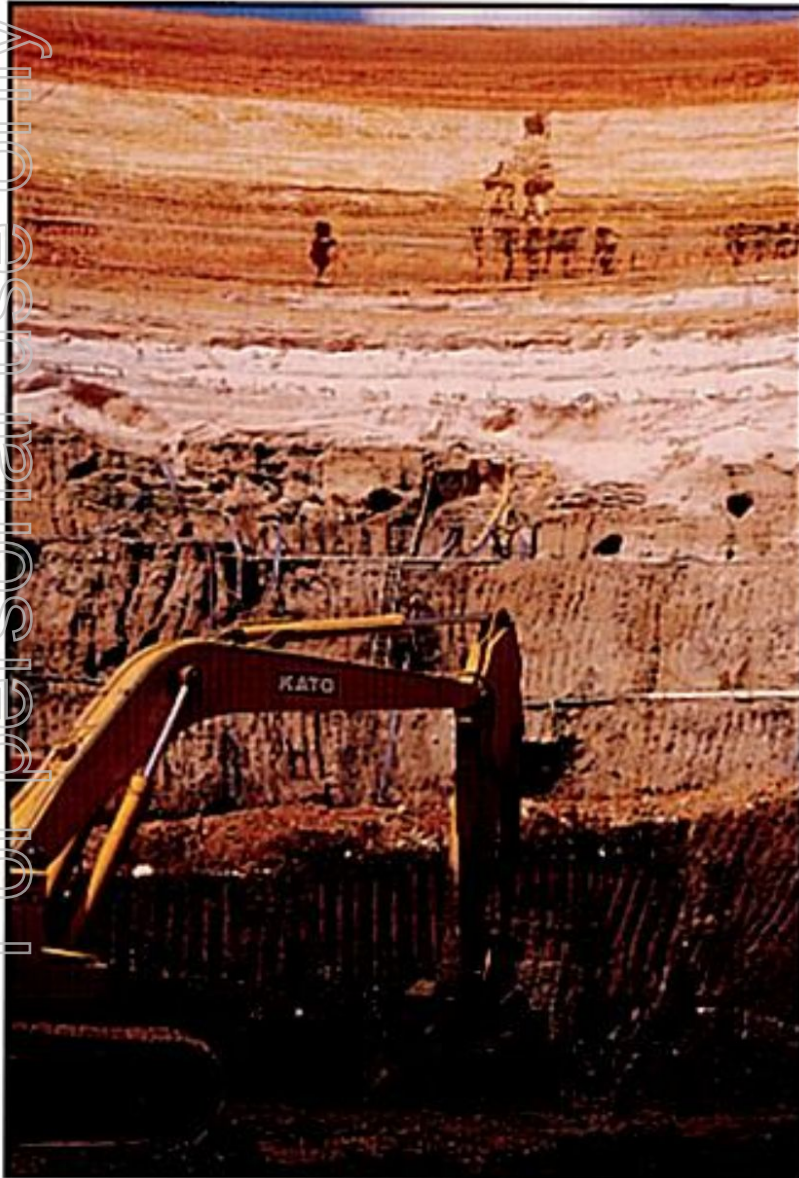
# Project Snapshot

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- **Close to (within 140 km) Adelaide/major Infrastructure**
- **Strong demand for products;**
  - **Power, Premium Diesel, Pure Sulphur**
- **Extensive project development program over the coming 6 to 12 months:**
  - **Exploration: JORC compliant resources**
  - **Gasification: Gas Quality/Technology matching**
- **Well funded to complete the project development program.**



# Low risk Exploration/Near surface deposits.



- More than 330 drill holes have been drilled to date on MEL's held
  - 96 in the Clinton/Beaufort/Whitwarta deposits.
- Current drill data interpretations are:
  - That 50% of the 1.4 billion tonnes of lignite targeted is likely to be within 60m of surface

#### The Clinton Coal Measures

Source: The Geology of South Australia,  
Vol 2 – The Phanerozoic,  
Bulletin 54, Mines and Energy  
South Australia 1995.



# Exploration Program Next 12 months

	Work Program Component	Timeline
1.	Comprehensive past drill hole and regional data collation, review and interpretation.	End of 2007/ Early 2008
2.	Interpretations finalised and drill priorities established.	Early 2008
3.	Commence Drilling to JORC Resource compliant level*	Q1 2008
4.	JORC Resources	Q2 2008
5.	Scoping Study completed	Q3 2008
6.	JORC Reserve drill program & Feasibility Study commence.	Q4 2008

# Gasification Work Next 12 months

	Work Program Component	Timeline
1.	Gasification test program developed	End 2007
2.	Gasification samples collected as part of the Exploration program.	Q1 2008
3.	Gasification test work defining: <ul style="list-style-type: none"><li>• Transportation &amp; Slagging characteristics,</li><li>• Combustion properties and syngas quality</li></ul>	Q1 2008/ Q2 2008
4.	Large Scale Test work completed	Q3 2008
5.	Technology selection process progressed	Q4 2008
6.	Feasibility Study to commence.	Q4 2008



# Experienced Management & Advisors

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- **Derek Lenartowicz – Proposed Board Chairman.**
  - Over 25 years mining industry experience; Mining Engineer; previously WMC executive and Managing Director of View Resources;
- **Merrill Gray – Proposed Managing Director.**
  - Processing Engineer and Geologist with 20 years experience; ex –WMC production manager;
- **Paul Askins – Geoscientist.**
  - Geologist with 35 years experience, Previously Exploration Manager for Shell Metals for Western Australia. Low rank coal and paleochannel expertise.
- **Jake De Boer – Gasification .**
  - 25 years Gasification industry experience. Previously Chief Chemical Engineer with Sasol in South Africa.



# Estimated Budget Next 12 months

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**1. JORC compliant resources drilling program: \$1,500,000**

- Phase 1: Exploration Program Development
- Phase 2: Drilling and sample collection
- Phase 3: JORC compliant resource report

**2. Gasification Test work: \$700,000**

**Total: \$2.2 million**



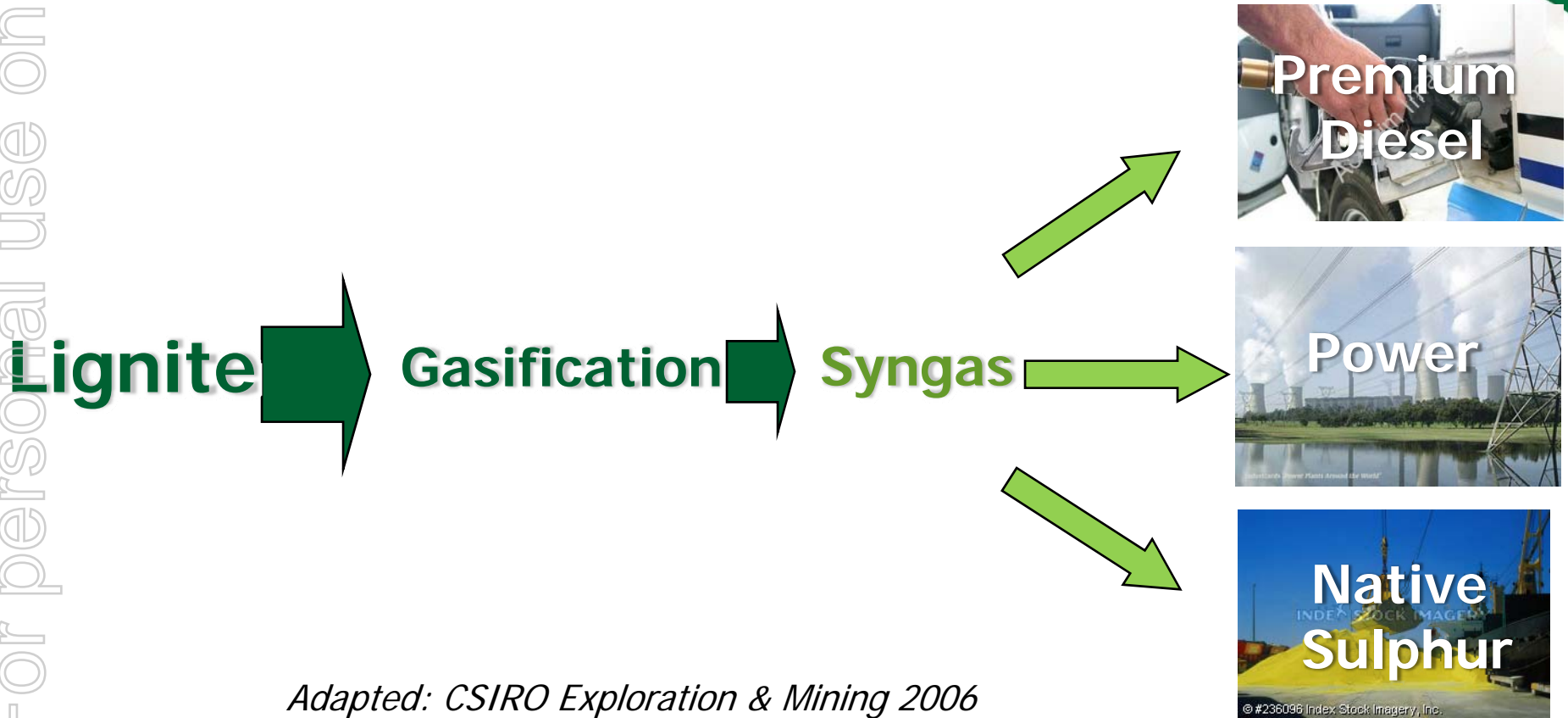
# Corporate Structure

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<b>GLX Shares on issue post Syngas deal settlement (within 3 months)</b>	<b>157 m</b>
<b>Market Capitalization @A\$0.10 per share (current price)</b>	<b>A\$15 m</b>
<b>Cash in bank now</b>	<b>A\$3 m</b>
<b>No. of Shares held by Management &amp; Former Board post deal settlement (within 3 months)</b>	<b>26 m or 17%</b>

# How it Works

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*Adapted: CSIRO Exploration & Mining 2006*



# The Physical Process

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**500 MW  
Power**

**30,000 bbl/d  
Premium  
Diesel**

**120,000 tpa  
Native  
Sulphur**

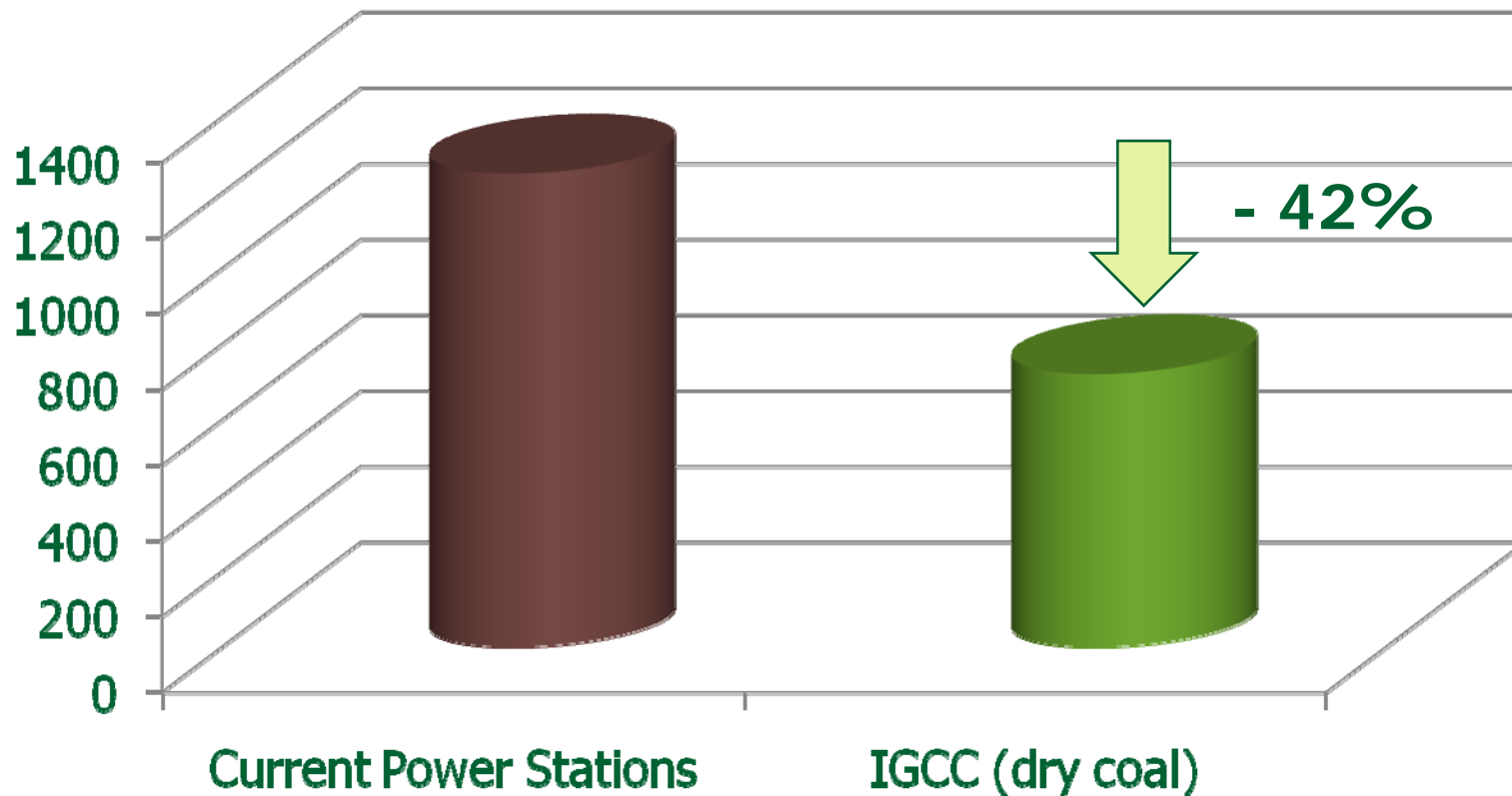
- Mine the Lignite.
- Pre-treat Lignite on site.
  - Recycling of water & use
- Gasify the Lignite on site using Integrated Gas Closed Circuit (IGCC) technology.



# "Clean Coal" Technology

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## CO<sub>2</sub> Emissions [kg/MWh net]



Source: *Developments in Lignite Drying and Dewatering*, Dr Peter Jackson, CEO  
CRC for Clean Power from Lignite. 1<sup>st</sup> Coal21 Annual Conference 5/4/2005



# "Clean Coal" Technology

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- Sulphur is removed during gasification and sold as a by-product - Less Sulphur released
- Combustion takes place in a reducing environment - Less NO<sub>x</sub>/smog
- Particulates are removed – Links to Asthma
- Premium Diesel produces less carbon monoxide and dioxide with greater fuel economy and power

Emissions [mg/KWh]	Conventional	IGCC Technology
SO <sub>2</sub>	Up to 13,154	100
NO <sub>x</sub>	Up to 1,270	225

Source: Royal Commission for the Environment 1999.



# Proven Gasification Technology

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- Coal Gasification has been in commercial use for more than 60 years (in South Africa & Germany),
- In 1999 160 commercial plants were in operation (Source: U.S. Dept. of Energy),
- In 2005 390 plants were operational or at various stages of planning.
- With 20 plants (5%) fed/to be fed by lignite

## Major Technology Providers:



SIEMENS



*Lurgi*



# Operating Coal Gasification plants



**Negishi, Japan**  
**Built in 2003**  
**342 MW**



**Wabash River  
Power Plant**  
**Indiana, USA**  
**Built in 1995.**  
**262 MW**



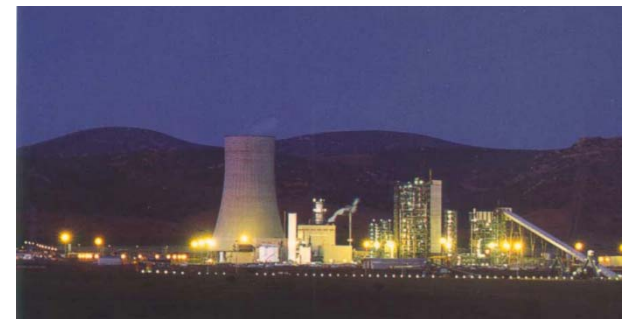
**Tampa Electric's  
Polk Power Station**  
**Florida, USA**  
**Built in 1996.**  
**250 MW**



**Sasol plants**  
**Since 1950's**  
**(Sasolberg & Secunda)**  
**in South Africa**  
**160,000 bbl/d Total**



**Buggenum Netherlands**  
**Built in 1995.**  
**253 MW**



**Puertollano, Spain**  
**Built in 1998.**  
**318 MW**



# The Syngas Project's Feedstock

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	Feedstock to Sasol's Sasolberg plant in South Africa. <i>Sigma Colliery Coal.</i>	Syngas Project Feedstock. <i>Beaufort, Whitwarta, Clinton Deposits.</i>
Coal Type	Low rank coal (Bituminous & Sub) as well as Natural Gas	Low rank coal (Lignite/Brown Coal)
Feed rate	30 m tpa	16 m tpa
Fuel production (BCOE)	+ 20 m bbl/a (75 m bbl/a including production from natural gas.)	10 m bbl/a
Moisture Content [%]	32 ave.	55 ave. – Pre-treat coal
Ash content	10 to 35%	12% ave.

# Markets for Power and Sulphur

- Approximately 1500 MW of South Australia's daily power requirements met by Victorian LaTrobe valley coal generated power.
- 750 MW of South Australia's power production is from coal fired plants which are over 20 years old.
  - Playford B (Built in 1960. Refurbished in 1999) and Northern commissioned 1985.
- Strong and increasing Industrial demand
  - BHPBilliton's Olympic Dam Expansion requires 400 MW & Oxiana's Prominent Hill 40 MW
- Domestic demand is increasing



# Strong demand for Diesel Products

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- Premium Diesel commands a \$(5 - 10) premium over Crude Oil,
  - Average price of Crude Oil past 2 years has been \$US63 (*Nov 2007: \$US 100 bbl*),
  - World on road diesel consumption projected to grow by 50% over next 15 years
    - Diesel imports to Australia grew by 180% between 2000 and 2005.
    - In South Australia during harvesting in areas "run dry" of diesel.
  - Strong demand for Sulphur +US \$130/t (*fob Vancouver October 2007.*)





# Listed CTL focussed Cos.

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Company Name	Size of CTL Project	Resource [Billions of tonnes]	Location	Market Capitalisation Mid Sept 2007 [A\$ Million]
Altona Resources Limited	10,000 bbl/d 560 MW	7.5 of Sub bituminous Coal [non-JORC]	SA 800 km from Adelaide	27
Blackham Resources Limited	Undeclared	0.7 of Lignite [JORC]	WA 60 km from Esperance	26
<b>Syngas</b>	<b>30,000 bbl/d 500 MW</b>	<b>(1 to 1.4) of Lignite [non-JORC]</b>	<b>SA 140 km from Adelaide</b>	<b>15 <i>Post Settlement</i></b>

*Sources: ASX website and Corporate websites*



# Companies with CTL projects in portfolios

Company Name	Size of CTL Project	Resource [Billions of tonnes]	Location	Market Capitalisation Oct/Nov 2007 [A\$m]
Shell/Anglo's <b>Monash Energy</b> Joint Venture	Demonstration Plant (5,000 bbl/d in 2009?) 60,000 bbl/d Full Scale Plant	13 bt Lignite	VIC 200km from Melbourne	Shell: 185,000 Anglo: 139,000
BP/Rio's <b>Hydrogen Energy</b> Joint Venture	Power A\$2 million/US\$ 1.5 million dollar plant		WA 45 Km from Perth	BP: 116,000 RIO: 141,000
Strike Oil Limited's wholly owned Hybrid Energy SA Pty Ltd's <b>Kingston Project</b>	Undeclared	0.6 bt Lignite (JORC)	SA 225 km from Adelaide	73
Linc Energy Limited's <b>Chinchilla Project</b>	20,000 bbl/d in 2008	<0.6 bt Bituminous Coal (JORC reserve)	QLD 300 Km from Brisbane	154

# Summary – The Syngas Project.

- **“Clean Coal” technology project,**
- **Low Risk – Substantial past exploration,**
- **Large scale project,**
- **Using commercially proven technology,**
- **Close to Adelaide,**
- **Substantial exploration and technical activity over next 6 to 12 months,**
- **Well funded to progress Exploration program and Gasification test work.**

# Other.

## Geological Information

- The information in this presentation that relates to Lignite deposits is based on information sourced from publicly available open files and was compiled by Mr Paul Askins. Mr Askins is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Askins is the Managing Director of Geotech International Pty Ltd, a consultant to Syngas Energy. Mr Askins has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code of Exploration Results, Mineral Resources and Ore Reserves'.
- Mr Askins has consented to the inclusion in this presentation of matters based on the information compiled by him in the form and context in which they appear.

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