



ACN 109 200 900

## AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

**24 MAY 2007**

Following is an updated Chairman's presentation detailing the current position of the Company's projects.

A handwritten signature in black ink, appearing to read 'Gregory H. Solomon', is displayed on a light yellow rectangular background.

Gregory H. Solomon  
Executive Chairman

*Eden Energy Ltd*

# **A Major Alternative Energy Opportunity**

Presentation by:  
**Greg Solomon, LLB**  
Executive Chairman  
May 2007

## DISCLAIMER- Forward looking Projections

Whilst reasonable care has been taken in compiling the forward projections in this presentation, they necessarily are based on many assumptions and factors that are beyond the control of the company and accordingly there is no representation or warranty given that these projections will be achieved. There are many uncertain risk factors, particularly related to the Indian market, which are beyond the control of the company and which could significantly impact on both the prices that are achieved, the sales turnover and the production and operating costs. These risks include delays in the rollout of the Natural Gas pipeline system and the accessibility of Natural Gas in India, limitations in the available quantities of Natural Gas, increases in the price of Natural Gas, reduction in the price of alternate fuels such as diesel, changes in Indian Government or Indian Supreme Court policies and rulings, market competition, shortages in raw materials and labour, increases in cost of labour and materials, national or international political or economic instability, problems with reliability of equipment produced and sold, warranty claims, currency fluctuations, restrictions on foreign investment, disputes with potential joint venturers, market resistance to the products or services offered, lack of available capital or finance, restrictions on international travel and similar factors beyond the control of the company. For these reasons, all potential investors and others must satisfy themselves on the reliability of these forward looking projections before acting upon any information provided to them in relation to forward looking projections, and neither the company nor any of its officers make any representations, warranties or commitments that these or any other forward projections will necessarily be achieved.

# Hydrogen & Hythane<sup>®</sup>



## Hythane® - the transition fuel

### *Hydrocarbons to Hydrogen*

- Low-cost premium blend of Natural Gas (5-7% H<sub>2</sub>)
  - ultra-low emissions (50% NO<sub>x</sub>)
  - high efficiency
- Uses existing Natural Gas infrastructure
- Achieves new low emission standards
- Suitable for use with CNG / LNG / Dual fuel
- Proven by over 15 years real world testing
- Everything in place for rollout in India

## **Eden Group Companies**

### **WORLD CLASS HYDROGEN TECHNOLOGY**

- **Hythane Company LLC** (Denver, Colorado)
  - Hythane® production and use
- **HyRadix Inc** (Chicago, Illinois)
  - On site hydrogen production systems for both Hythane® and hydrogen applications



# Hythane Company LLC

A wholly owned subsidiary of Eden Energy

- **Products/ Patents**

  - US/ Canadian Patent on fuel blend

  - Patent on CryoHythane®

  - Patented Hythane® blending equipment

  - Patented Hythane® production equipment

  - Engine conversion technology

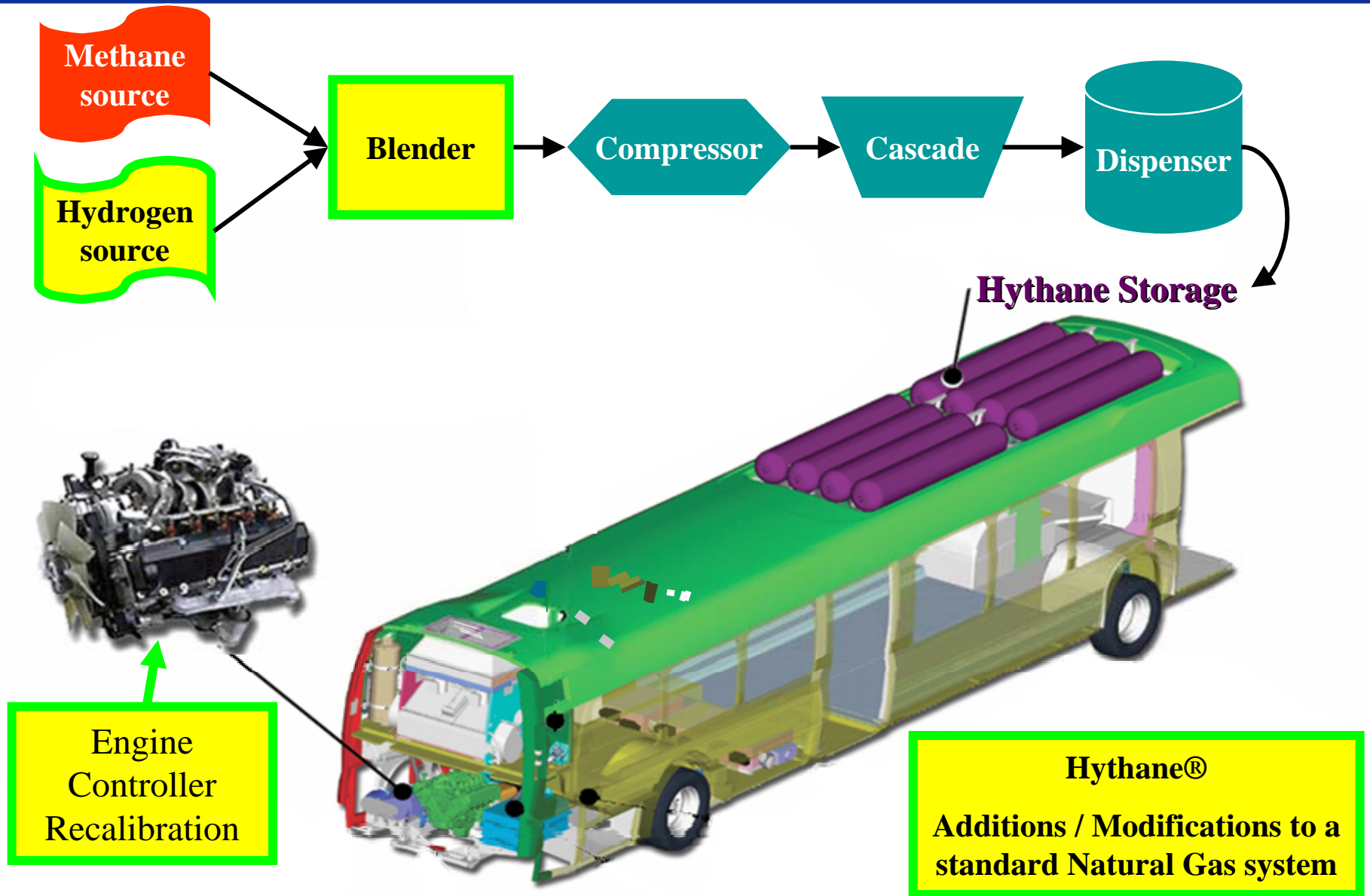
  - Hythane® Trademark

- **Major Markets** → India, USA, China, Europe

- **World class team** of employees and consultants



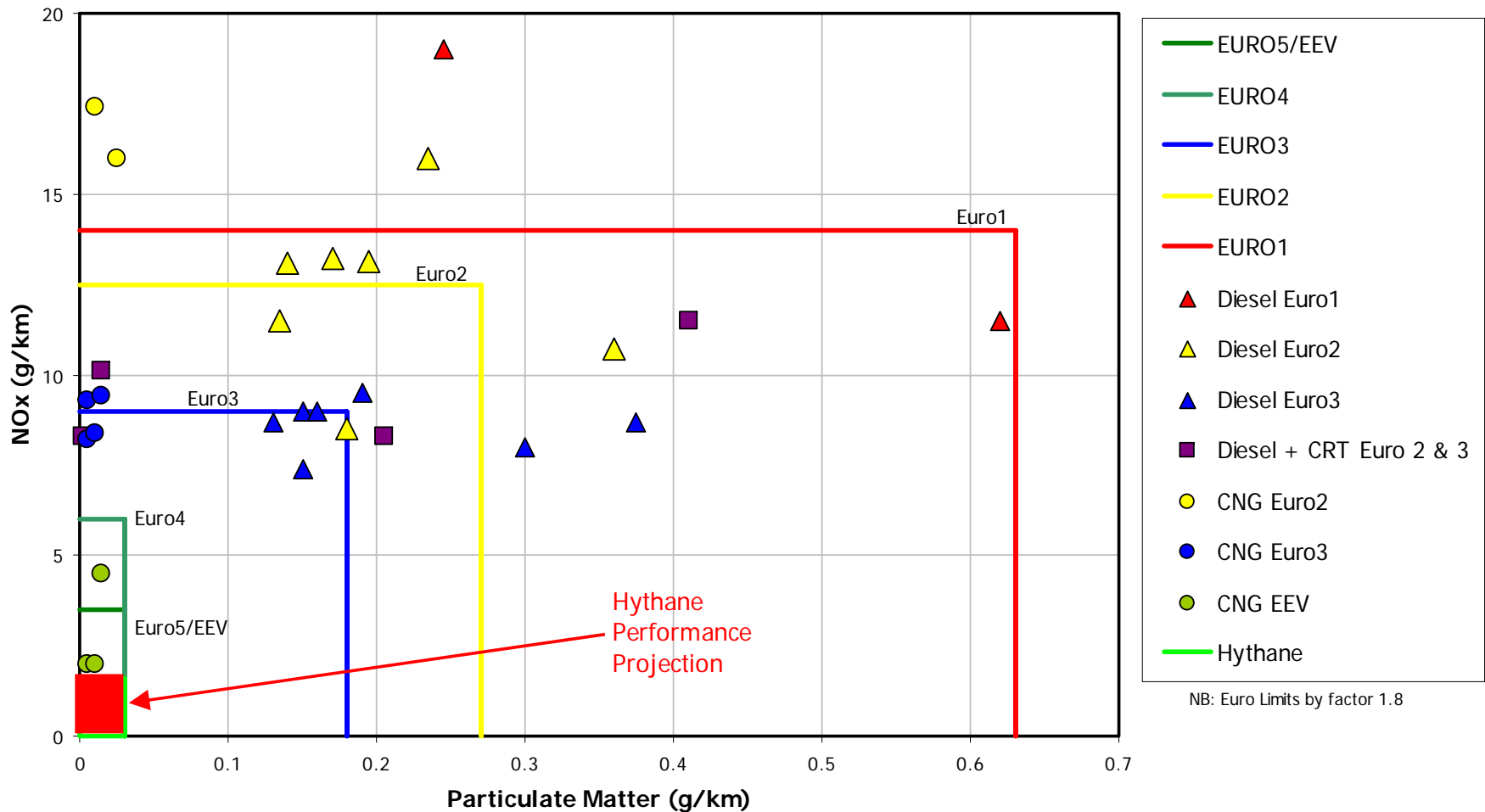
# Hythane Operating System





# Hythane® Meets Euro I to V

NO<sub>x</sub> & PM emissions over the Braunschweig city bus cycle





# Denver Hythane® Project 1993



5% energy H<sub>2</sub> in CNG



# Hythane® Bus Projects

Montreal 1993-1995



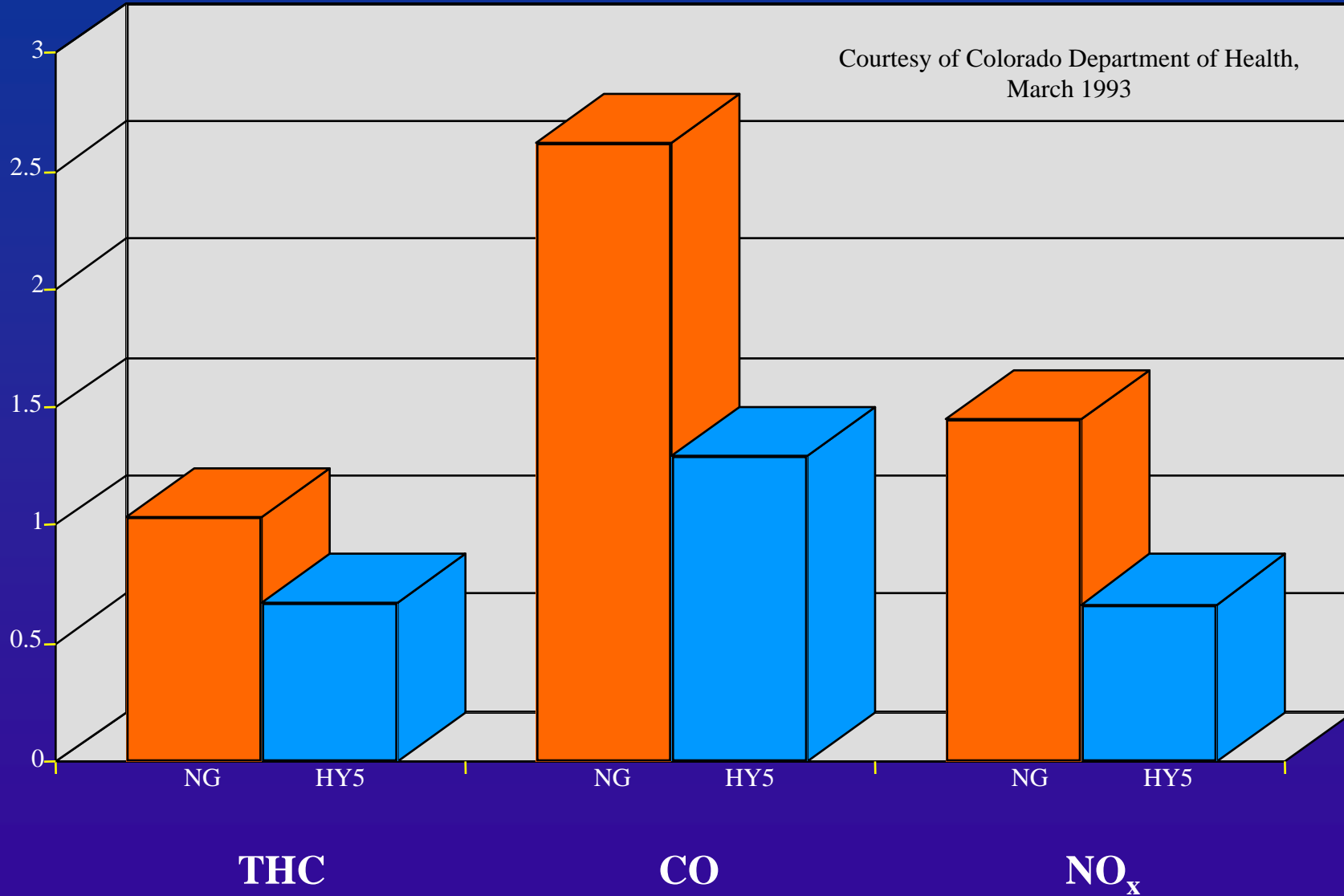
California 2002-2004



# Denver Hythane® Project Results

HOT 505 EMISSIONS, GRAMS/ML.

Courtesy of Colorado Department of Health,  
March 1993



50% Reductions in CO and NO<sub>x</sub>, 5% H<sub>2</sub>: Leverage Factor = 10!



## **Driving Factors Hythane® in India**

- Significant supply of domestic / imported Natural Gas
- Natural Gas supply -5M tpa to 25M tpa in 5 years
- Pipelines to 50% of 1.1 billion population in 5 years
- Low cost of Natural Gas- 40% less than diesel
- Extreme air pollution (photochemical smog)
- 2001 -Supreme Court - Delhi public transport to NG
- Plans to extend to more than 20 cities



# Indian Hythane® Market

- Markets for Hythane® (CNG / Dual Fuel/ LNG)
  - buses / taxis/ trucks / autorickshaws
  - generators
  - locomotives
- Products
  - Hythane® fuel
  - H2 reformers
  - Blenders
  - Engine conversions



## Indian Hythane® Marketing Progress

- 10 year agreement with Ashok Leyland
  - 80% of Indian Government bus fleets
  - engine conversion in progress
- Agreement with GSPC- Sole NG supplier to Gujarat
- Agreement with Larsen& Toubro- largest Indian engineering group- \$15bn market capitalisation
- Prelim agreement with Cummins - NG and dual fuel generators
- Bus and generator demonstration projects for 2007



# Indian Hythane® Revenue Targets

Buses ( Potential market 500,000 +) (CNG /LNG)

Generators ( Potential market 20,000 +) (CNG / Dual Fuel)

Carbon Credits ( Buses) (<15 tonnes CO<sup>2</sup>/ bus / year )

Carbon Credits ( Gensets) ( >530 tonnes CO<sup>2</sup>/ dual fuel genset / yr)

Targeted Margin on Fuel - Rs 0.5-1.5 (US 1.25-3.75c) / NM<sup>3</sup>

## Targeted Market Penetration

	Buses	Gensets
2008	240	400
2009	3,400	1,500
2010	7,500	4,000
2011	11,600	8,000

Eden's share - 50% of Joint Venture revenue

- 100% of engine royalties



## USA Hythane® Marketing Progress

- First DoE contract for Hythane®/ hydrogen engines
- MOUs for several demonstration projects signed/ under negotiation in California /northeast USA
- New tough 2012 Californian emission standards
- High Petrol / Diesel prices v low Natural Gas prices



## **Chinese Hythane® Marketing Progress**

- Market for transport and generators
- Preliminary Approval for 16 City Clean Air Program
- Six MOUs signed in 2005
- Yuchai engine conversion - Euro IV equivalent emission levels on Hythane®
- Government and Academic Support
- Large / cheap Natural Gas supply
- Further marketing proposed after Indian startup



## Suitable Hydrogen Sources

- Reforming of Natural Gas ( produces  $H_2 + CO_2$ )
- Pyrolysis of Natural Gas (produces  $H_2$  & C)
- Electrolysis of water (produces  $H_2$  &  $O_2$ )
- By-product  $H_2$  from industrial waste streams
  - Low purity  $H_2$  (90% +) suitable for Hythane®



## **HyRadix Inc**

*A wholly owned subsidiary of Eden Energy*

- World leading on-site hydrogen production
  - industrial applications, fuel cells, transportation
- Operating systems in USA, China and Malaysia
- Over US \$40 million spent on product development
- Chicago based world class team of employees
- Significant Patents and Trademark






Proven, economic on-site hydrogen generation systems

→ Today for merchant industrial hydrogen and transportation fuel

→ Tomorrow for the entire hydrogen economy

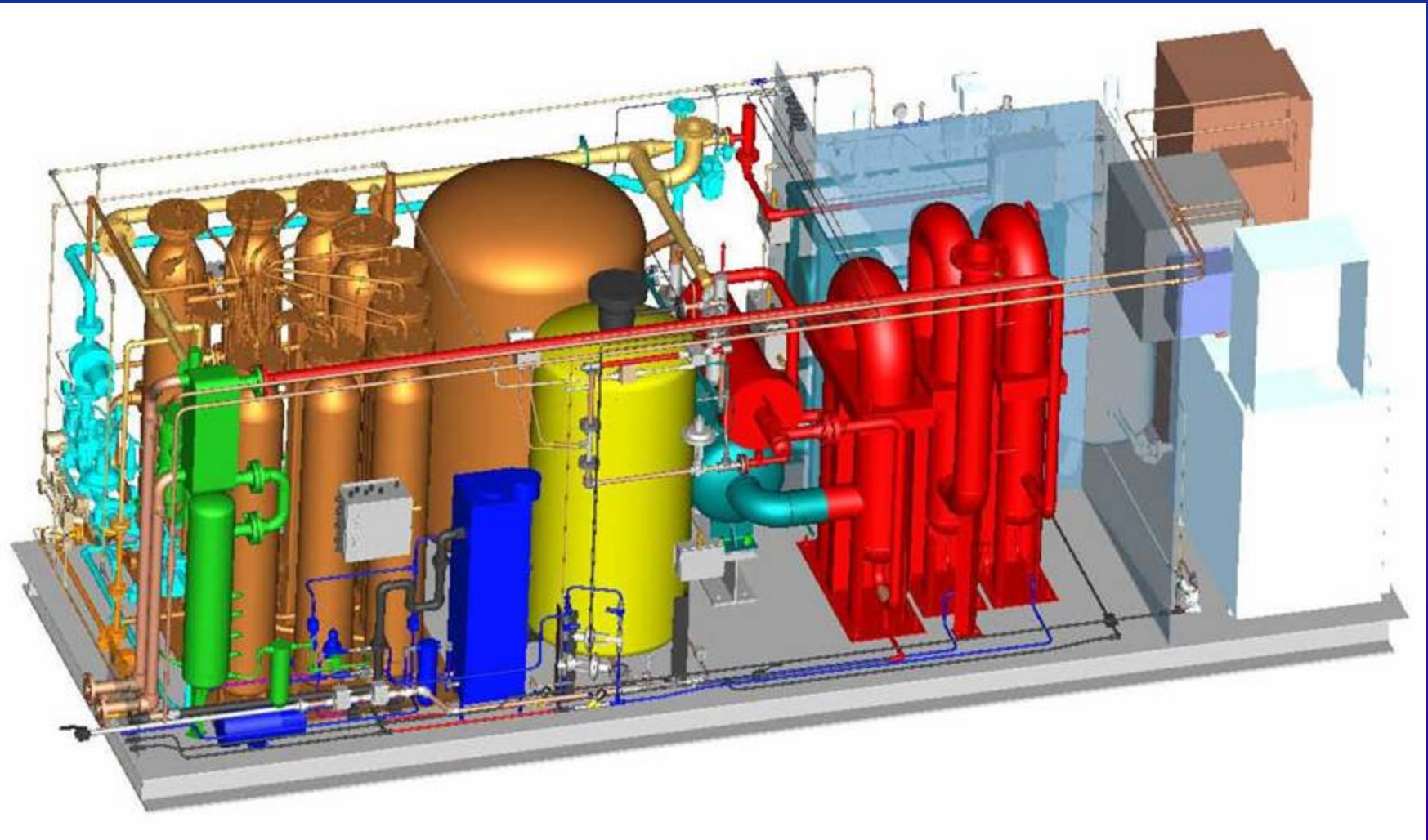


# HyRadix Product Offering

<u>Fuel</u>	<u>Product</u>	<u>Hydrogen Purity</u>	<u>Application</u>
<ul style="list-style-type: none"><li>■ Natural Gas</li><li>■ LPG</li><li>■ Ethanol</li><li>■ Other Feedstocks</li></ul>	<u>Aptus</u> 	→ >99.95% H <sub>2</sub> Stream	<u>Industrial Gas</u> <ul style="list-style-type: none"><li>■ Electronics</li><li>■ Glass</li><li>■ Chemical</li><li>■ Food</li><li>■ Metals</li></ul>
	<u>Adéo</u> 	→ >99.95% H <sub>2</sub> Stream	<u>Hydrogen Fuel</u> <ul style="list-style-type: none"><li>■ Fuel Cell Vehicles</li><li>■ Hythane Vehicles</li></ul>
	<u>Agilon</u> 	→ 45.00% H <sub>2</sub> Stream	<u>Hydrogen Fuel</u> <ul style="list-style-type: none"><li>■ Residential Fuel Cells</li><li>■ Combined Heat and Power Units</li></ul>



# HyRadix Aptus<sup>®</sup> H<sub>2</sub> Generator





## Customer Case Study

- SunLine Transit Agency –California
  - Primary H<sub>2</sub> Supply
  - H<sub>2</sub> vehicles in daily operation
- Demonstration Unit Performance
  - In operation since April 2004
  - 10,000+ hours of operation
  - 120,000 miles driven since 2004
  - 50% hydrogen cost savings
  - 50% NO<sub>x</sub> reduction
- Commercial Unit Installed August 2006
  - First large-scale commercial H<sub>2</sub> filling station in USA



# Aptus / Adéo Performance

## Product Specifications

- Natural Gas or LPG Feed
- Hydrogen Capacity
  - 50 Nm<sup>3</sup>/h and 100 Nm<sup>3</sup>/h
- Product Purity: 99.95% - 99.999%
- Operation
  - Fast start-up times
  - Operates at 25-100% of capacity
- Packaging
  - Skid mounted
  - Easy installation – 2 week start-up
  - Footprint: 7 ft x 20 ft





# Stationary Fuel Processor

## Performance Demonstrated For PEM Fuel Cells

- Agilon produces hydrogen for 5 kW PEM fuel cell
- Compact design  
1.3m x 0.5m x 1.2m  
Includes balance of plant for stand alone operation  
Follows electric load
- Proven with fuel cell in demonstration with Texas Dept of Transportation
- First propane reformer demonstration in Texas



Texas DOT  
Demonstration



# Hydrogen & Hythane® Market Targets

- Markets - India, China, US, Europe, Asia, Australia, S. America  
Indian Hythane® Target Market Size (over 10 years)
  - 500,000 buses
  - 20,000 gensets- NG and dual fuel (< 500kw)
- Products- Hythane® Fuel & Blenders/ Carbon credits/ Hydrogen Reformers  
Sales - H2 reformers-( current)
  - Food Oil/ Glass/ Metal Annealing/ Semi-conductorsBOM - Hythane®- margin on Hythane® fuel
  - Transport - buses/ trucks/ cars/ locomotives
  - Generators / power generation



# **Hydrogen Production using Low Temperature Pyrolysis**

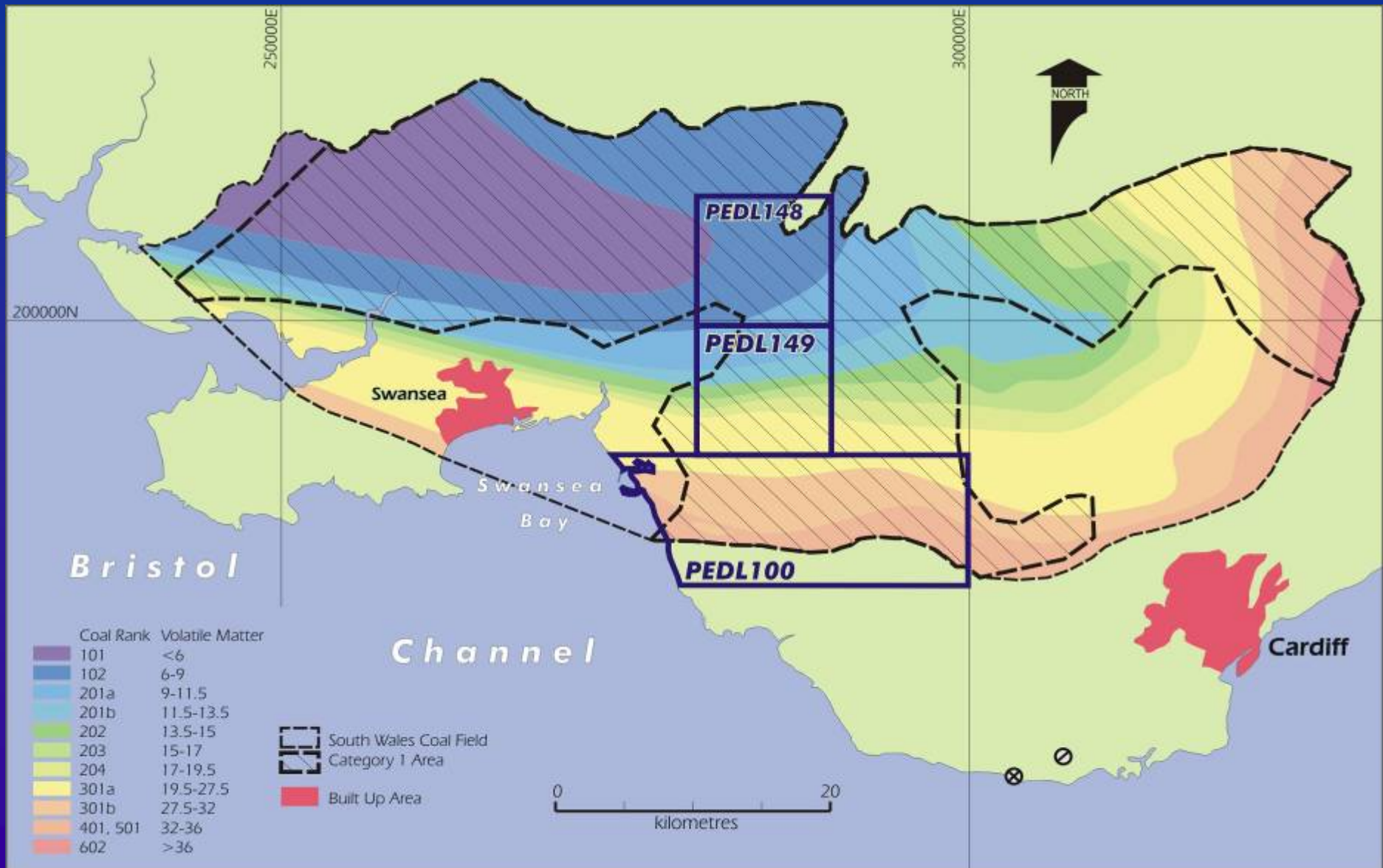


## Pyrolysis - 50% JV with UQ

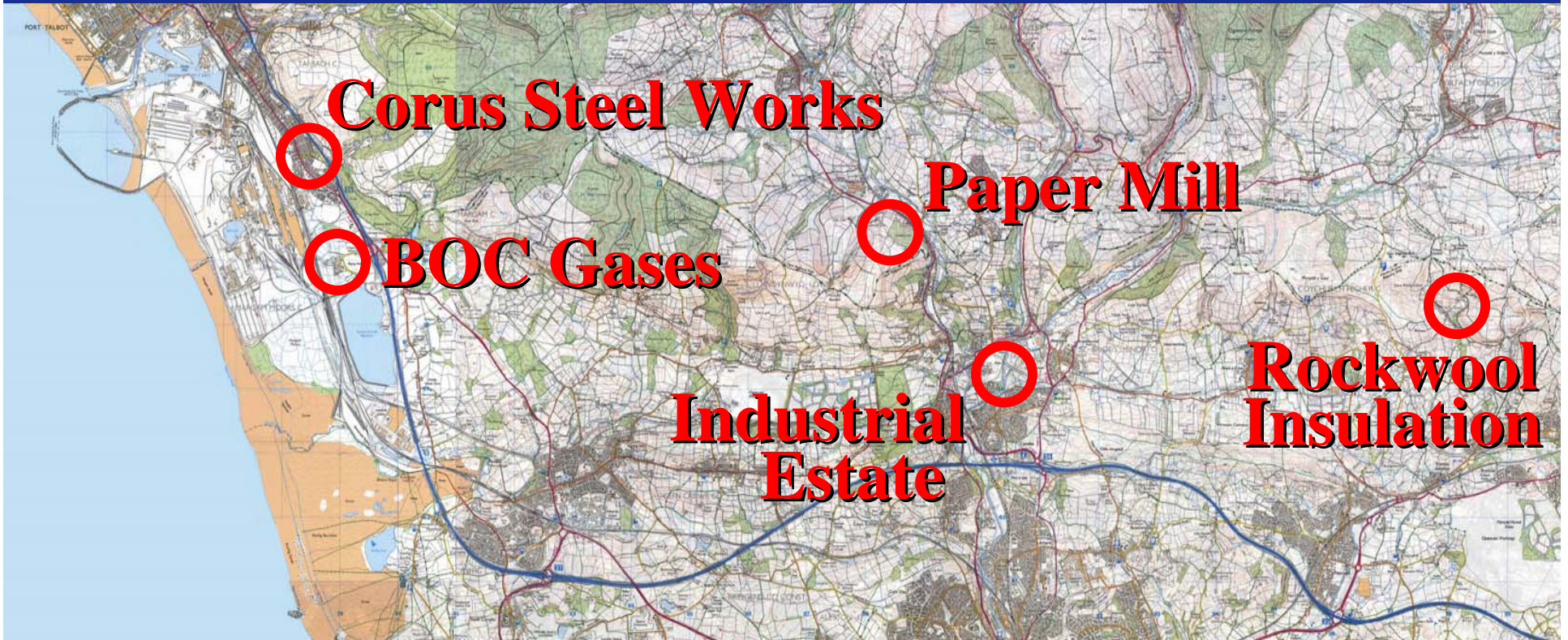
- Produces  $H_2$  & solid Carbon from  $CH_4$  (no  $CO_2$ )
- Low temperature, Low energy, Low cost
- Carbon Credits / Huge potential - No  $CO_2$
- High value solid carbon production
- Patents lodged
- Scale-up/commercialisation work underway

# **South Wales Coal Bed Methane & Petroleum**

# South Wales Coal Rank and Volatile Matter



# South Wales Coalfield & Potential Markets

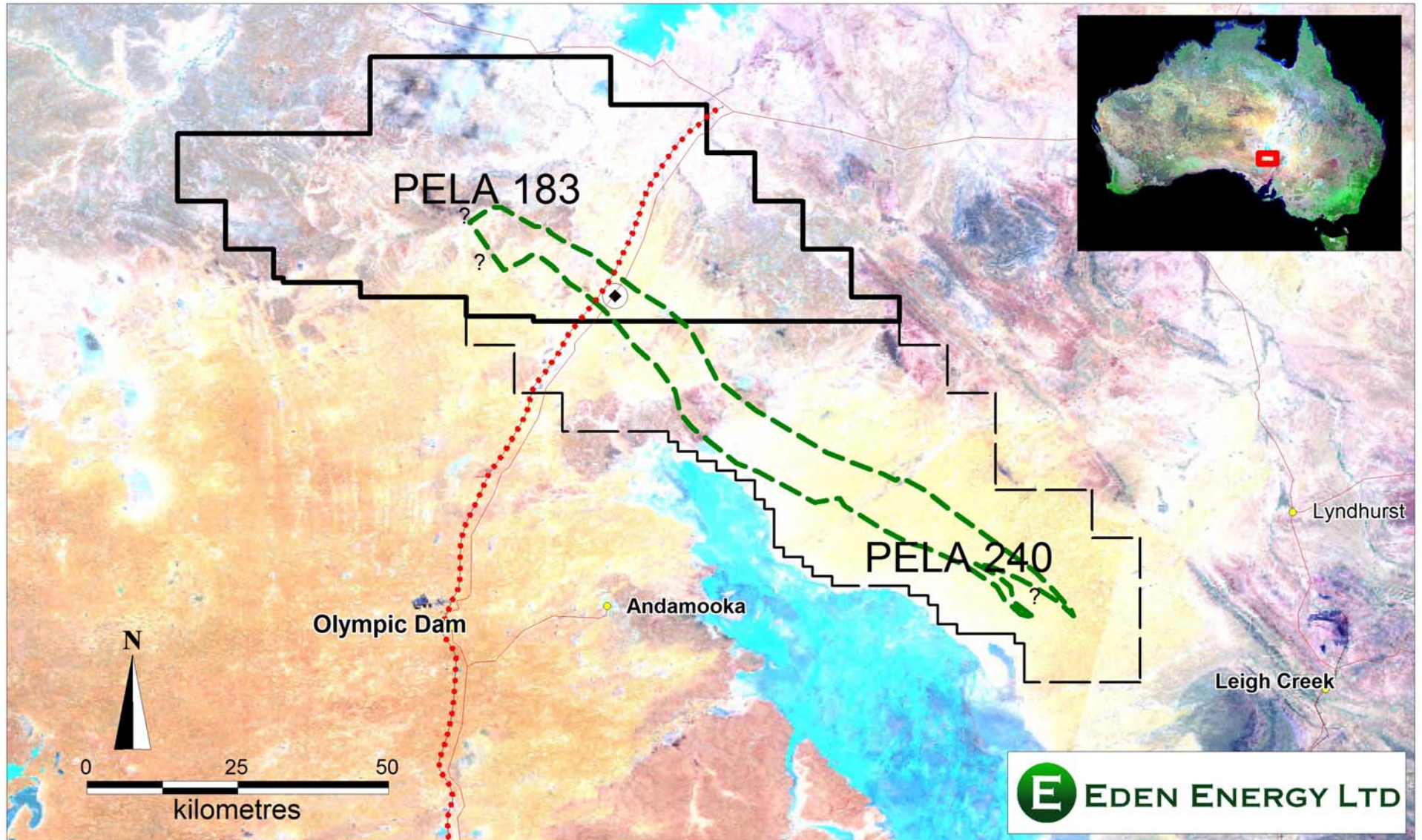


## **South Wales Strategy**

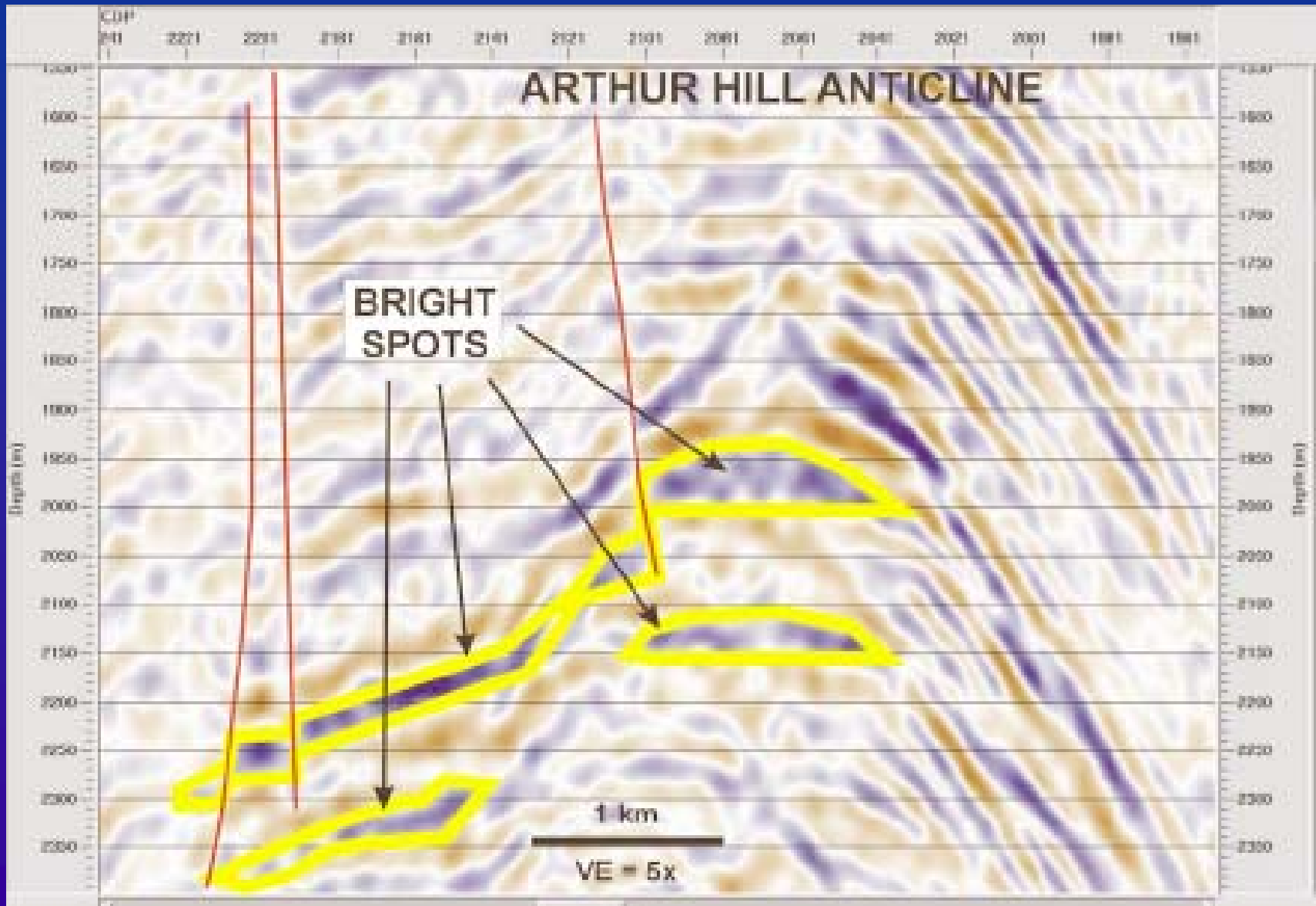
- Produce methane for use as Hythane<sup>®</sup>, gas or electricity
- Drilling and testing of CSM – Q2 2007
- Drilling AMM – Q2 2007
- Seismic survey - Conventional – Q3 2007
- Drilling Conventional petroleum targets late 2007 or 2008
- Large accessible market/ high prices

# South Australian Hydrocarbons

# South Australian Hydrocarbons

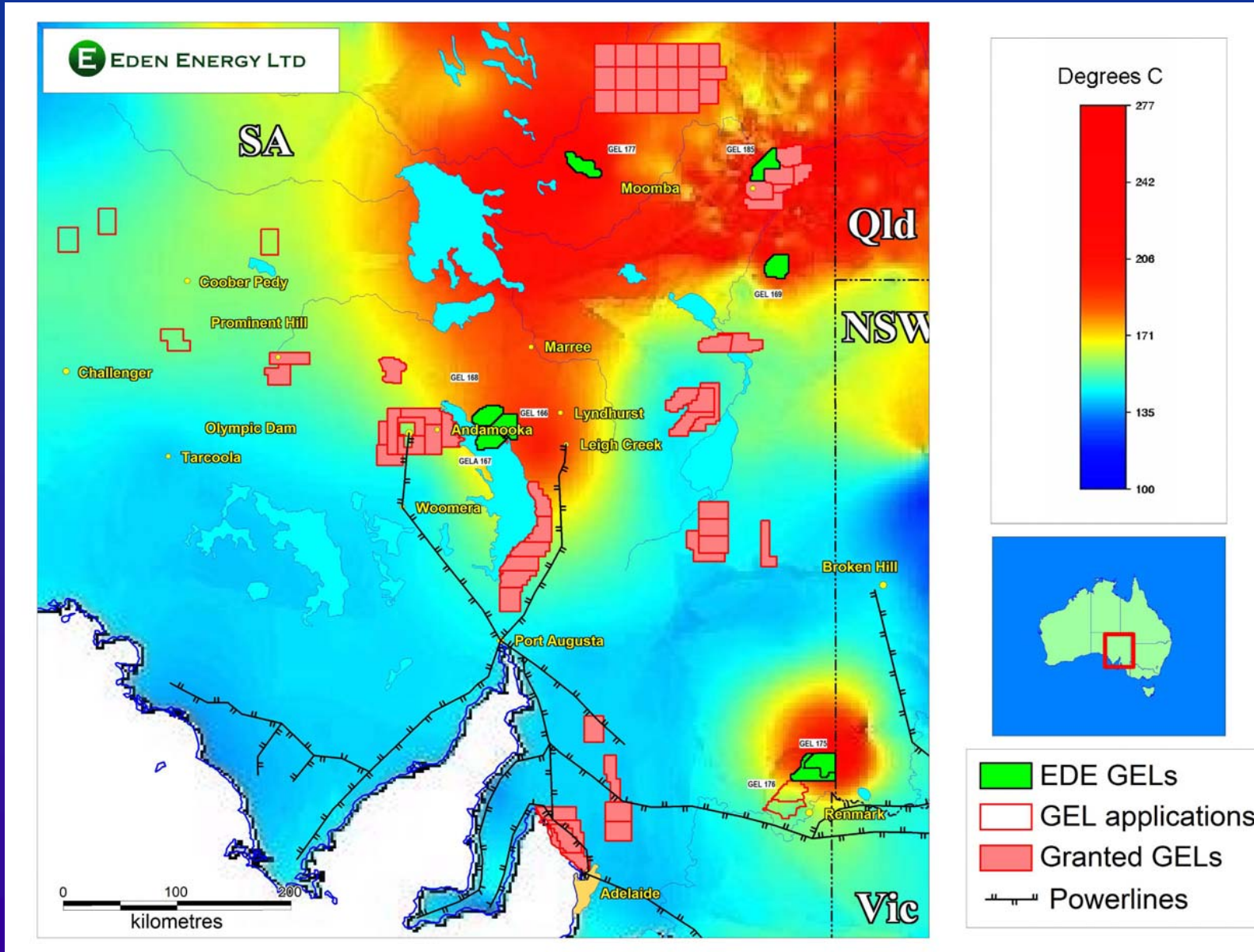


# Interpreted Gas Pockets



# Geothermal Exploration

# SA Geothermal Exploration Targets



## Projected Revenue Sources

- HyRadix - Global sales ( current)
- Cryogenic division ( current)
- Hythane® - ( 2008/9 ) - India
  - Margin on Hythane® fuel
  - Engine conversions/royalties
  - Sales commission - controllers, engines and vehicles
- Carbon Credits ( 2008/9)
- South Wales gas & AMM electricity sales ( 2008/9)

## Capital Structure at 17 May 2007

ASX Code (Ticker)	EDE/EDEO
Capital raised	\$12.4M
Total Shares (EDE)	134M
Total Options (EDEO)	87M
Share Price (EDE)	76 cents
Option Price (EDE)	55 cents
Market Capitalisation	\$150 M

# Eden Energy Corporate Overview

