WILDHORSE ENERGY

Underground Coal Gasification (UCG)

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Member of the UCG Association

June 2012

Wildhorse Energy Limited

- Wildhorse Energy Ltd ('Wildhorse') is an AIM (London) and ASX (Sydney) listed company and is at the forefront of this UCG revolution in Central Europe.

- Transforming the face of energy production in Europe

- Energy security utilizing domestic coal as gas

- UCG is an unconventional gas

  Not to be confused with shale gas or Coal Bed Methane "CBM".

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Coal gasification is an old concept

UCG has a long history…

- Coal gasification was used more than **150 years ago** to produce "**town-gas**" for lighting streets in the UK and the US
- Sasol (South Africa) has been gasifying coal for over **50 years** and currently produces about 40% of the nation's current liquid fuel requirements (160,000 bbl/day)
- Commercial UCG has been successfully operated for **more than 50 years in Angren, Uzbekistan** – supplying UCG syngas for power generation

Most notable historical developments

UK

1860

First UCG test

1930

South Africa, Sasol

1960

South Africa, Eskom

1999

2007

Hungary, Wildhorse

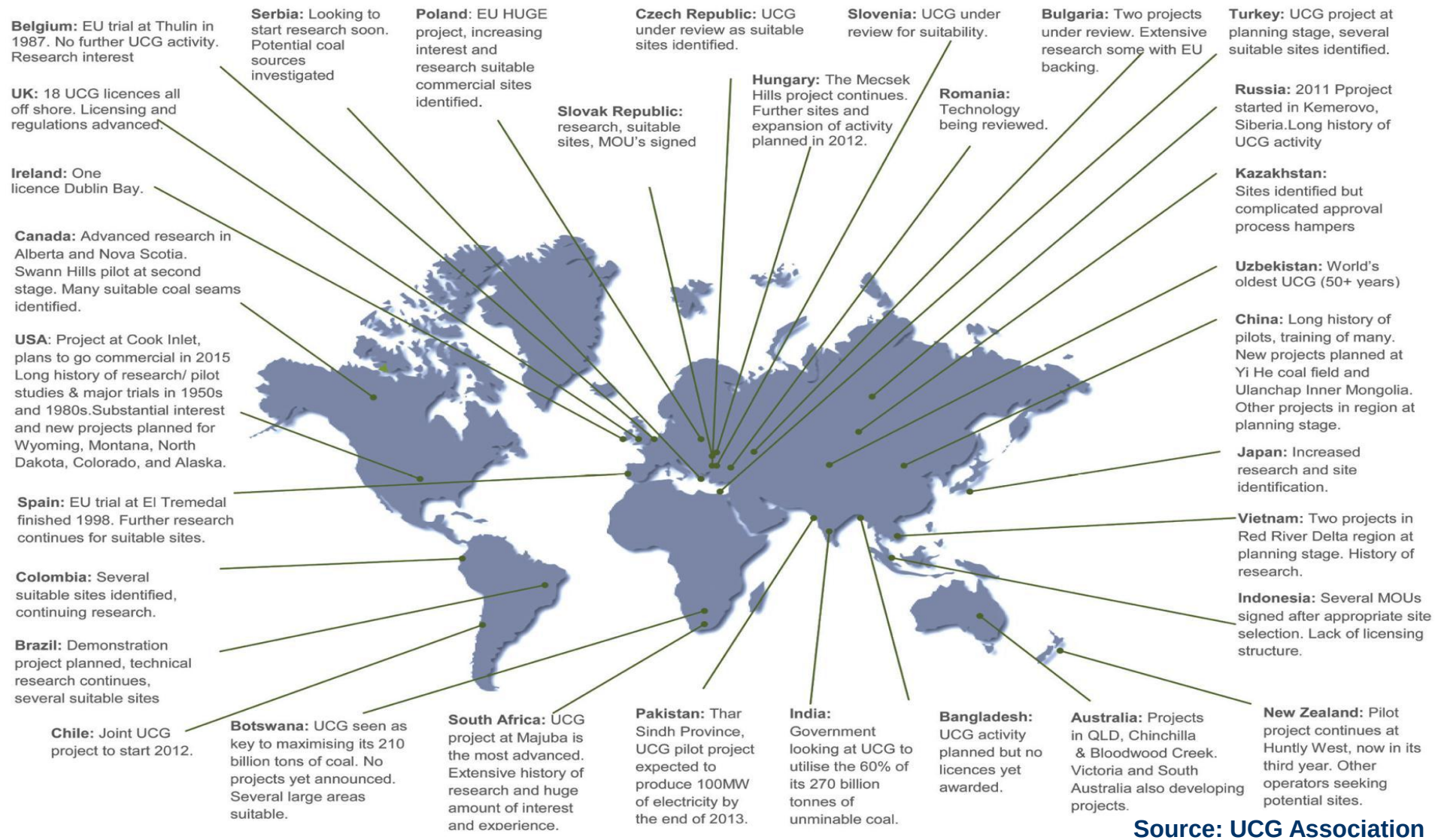
2011

Uzbekistan, Angren

Australia, Linc Energy

Australia, Carbon Energy

More than 30 countries in the World are currently undertaking UCG activities



Source: UCG Association

What is UCG?

Replace Mechanical mining (with people and machines underground) with boreholes

Changes a coal field into a gas field

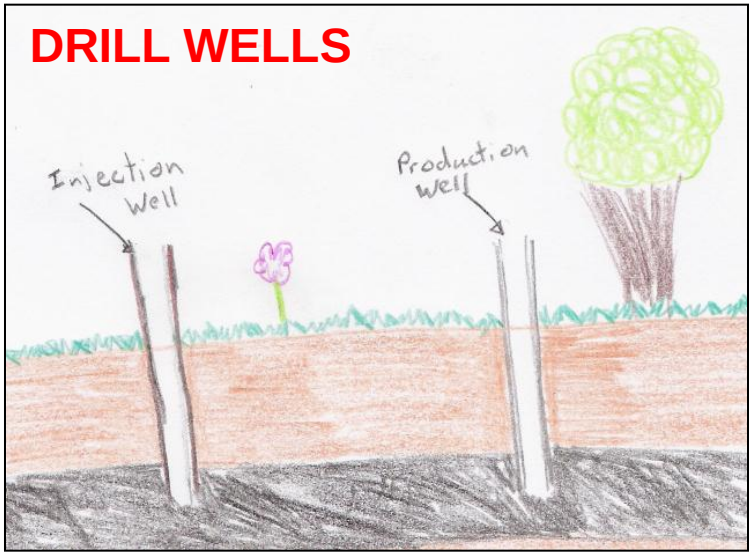
Highly efficient 80% of energy in coal is available as gas

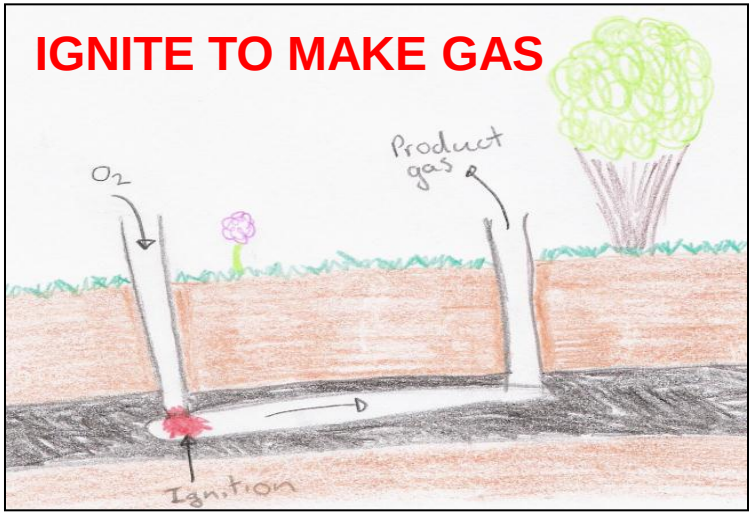
Essentially, UCG is a process which unlocks the energy potential of stranded deep coal reserves

- **through the injection of oxidants delivered via an injection well**
- **in-situ coal conversion to Synthesis Gas, or 'syngas',**
- **which is a fuel feedstock for power generation**

- **This method utilises directional drilling techniques proven in the oil and gas industry**
- **has numerous environmental, safety and financial benefits**

How does UCG work?





Joint European Trail, Spain

THE CHINCHILLA PROJECT

Queensland, Australia

- pilot scale
- operating Nov 1999 – Apr 2003 (in conservation mode at present)
- conversion to CTL proposed
- little visible infrastructure
- no groundwater /surface contamination *
- no surface subsidence
- 1 week shutdown possible i.e. peaking capability with CCGT
- 100% availability
- 95% coal usage
- 75% energy recovery

* By independent audit by Golder Associates, for Australian EPA

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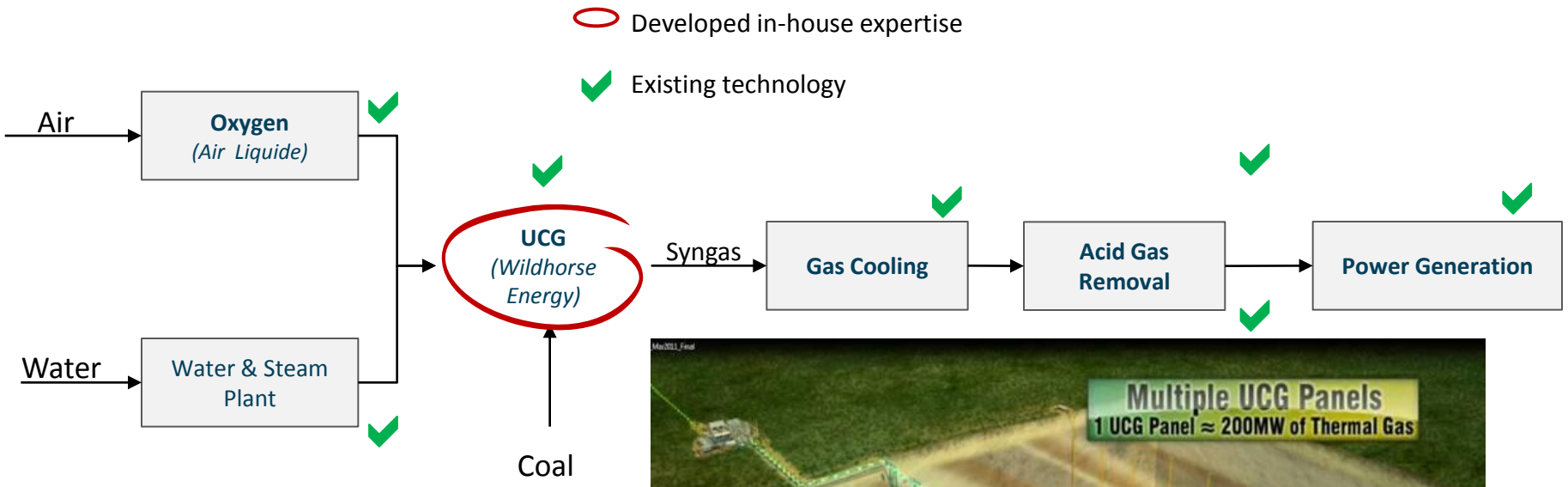
Eskom South Africa (2007 to date)

UCG Process

The overall flow scheme and technologies are well developed and commercialised and available from reputable companies



Next Generation coal mining

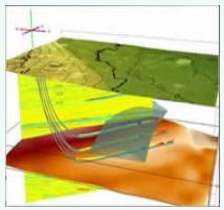
Directional drilling has unlocked the potential of UCG to become the best technology in the unconventional gas market

- New techniques in directional drilling developed in the oil & gas industry have unlocked the potential for UCG – without hydraulic fracturing
- Experiences of Linc Energy (ASX: LNC), Eskom (South Africa) and Carbon Energy (ASX: CNX) provide further market transparency
- The UCG Association was formed as a representative body for the global industry providing impartial, unbiased information and training on all major aspects of UCG technology www.ucgassociation.org
- Provides environmental benefits compared to traditional fossil fuel energy generation, coal mining activities and Coal Bed Methane

Directional drilling

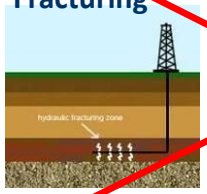
- Reaches reservoirs not located directly beneath the drilling rig
- Allows for greatly increased gas deliverability

3D Seismic



- Accurate target identification
- Efficient drilling

Hydraulic Fracturing



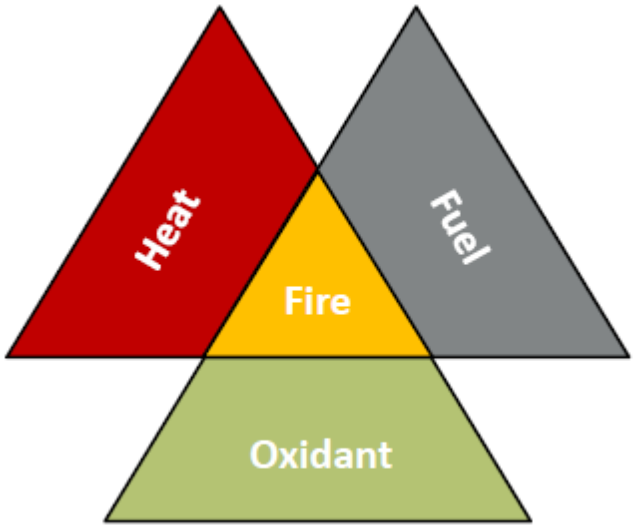
- Creates fractures in the shale formation which greatly increases gas flow rate

Advantages of UCG

- A Wildhorse 50 MWe UCG plant requires 5Mt of coal **for 25 years**
- This is roughly **2-3 Hectare** (200mx150m)
- UCG has a very small footprint on the surface and the Directional Drilling allows for efficient use of surface area with minimal disturbance.
- UCG mining does **not** require :
  - large open cut mining access or shafts
  - coal transportation facilities on surface (like conveyors or truck loading stations)
  - stockpiles
  - ash heaps
  - large water dams
  - removal of groundwater
  - fraccing

How do I make fire underground ?

You need fuel, heat and oxygen at the same time in one place to keep gasification process going



- Stories of uncontrolled fire relate to the coal burning in old shallow mines that have access to air
- This is in NOT something that can happen with UCG as it takes place at depth, only connected to the surface by small boreholes with no free flow of oxygen
- Access of air (oxygen+heat) to the deep coal is fully controlled by the operator
- Should you remove oxygen (block the flow in the pipe) the process immediately stops
- It is actually a challenge to keep the process going

The Wildhorse Opportunity
Focused on Hungary

Wildhorse is focussing on this very region of Central/Eastern Europe, which benefits from significant stranded coal

Hungary currently imports 78% of its domestic gas requirements

The Hungarian government focused on developing domestic energy sources and has great interest in UCG

In Central Europe the case for UCG is increasingly being understood at senior and ministerial levels.

Wildhorse Energy UCG Video

Visit our website: www.wildhorse.com.au to see the video…

Key Message on UCG

Is proven world-wide, and now at our doorstep

- **USA**
- **Canada**
- **Australia**
- **Former Soviet Union**
- **China**
- **South Africa**
- **New Zealand**

Can be done safely and in an environmentally acceptable way

- **Many successful trials in many countries**
- **Mistakes well studied and understood**
- **European project well underway by Wildhorse Energy to demonstrate commercial ability**

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