

ASX Release

11 November 2009

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AGEA Chairman presentation to 2009 Australian Geothermal Energy Conference

Petratherm's Managing Director, Terry Kallis, will present later today as Chairman of the Australian Geothermal Energy Association to the 2009 Australian Geothermal Energy Conference being held at the Hilton Hotel in Brisbane.

The conference program includes the Federal Minister for Resources, Energy & Tourism, The Hon Martin Ferguson AM, MP and the Queensland Minister for Natural Resources, Mines & Energy and Minister for Trade, The Hon Stephen Robertson MP.

The conference is expected to have over 400 delegates in attendance.

The topic to be covered is "Outlook for 2010 and Beyond" and will outline expectations for the Australian geothermal energy industry in the coming year and over the next decade.

The presentation is attached.

Yours faithfully

Terry Kallis
Managing Director

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“Outlook for 2010 and beyond”

11 November 2009

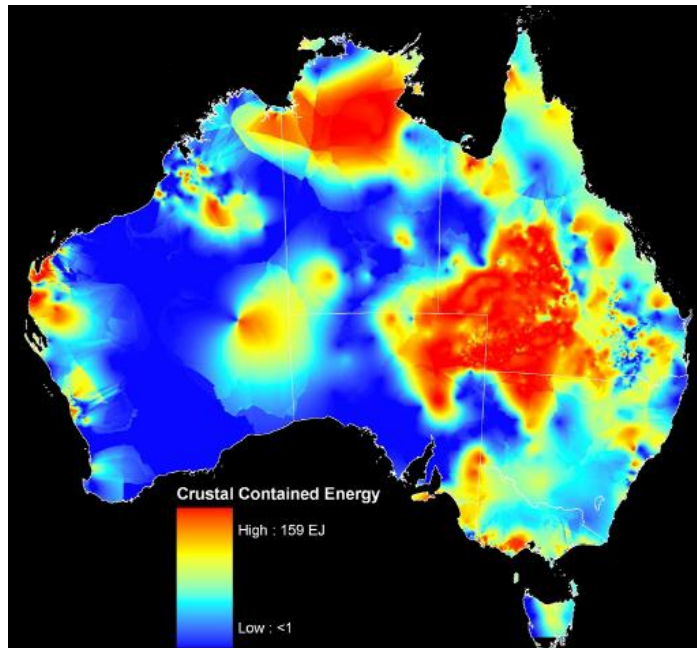
Terry Kallis Chairman, Australian Geothermal Energy Association

- Activity will accelerate through 2010
- Funding is critical – equity, JV and grants
- Regulatory environment will be in place
 - Legislation
 - RET and CPRS
 - NEM changes
 - Geothermal reporting – resources & economics
- Beyond 2010
 - Potential is enormous, profound effect on NEM
 - Industry consolidation and new entrants

Presentation Outline

- Industry Overview
 - Renewable Energy Policy and Geothermal
 - Landmark reports – MMA
 - Outlook for 2010
 - Beyond 2010
-
- Other matters.....

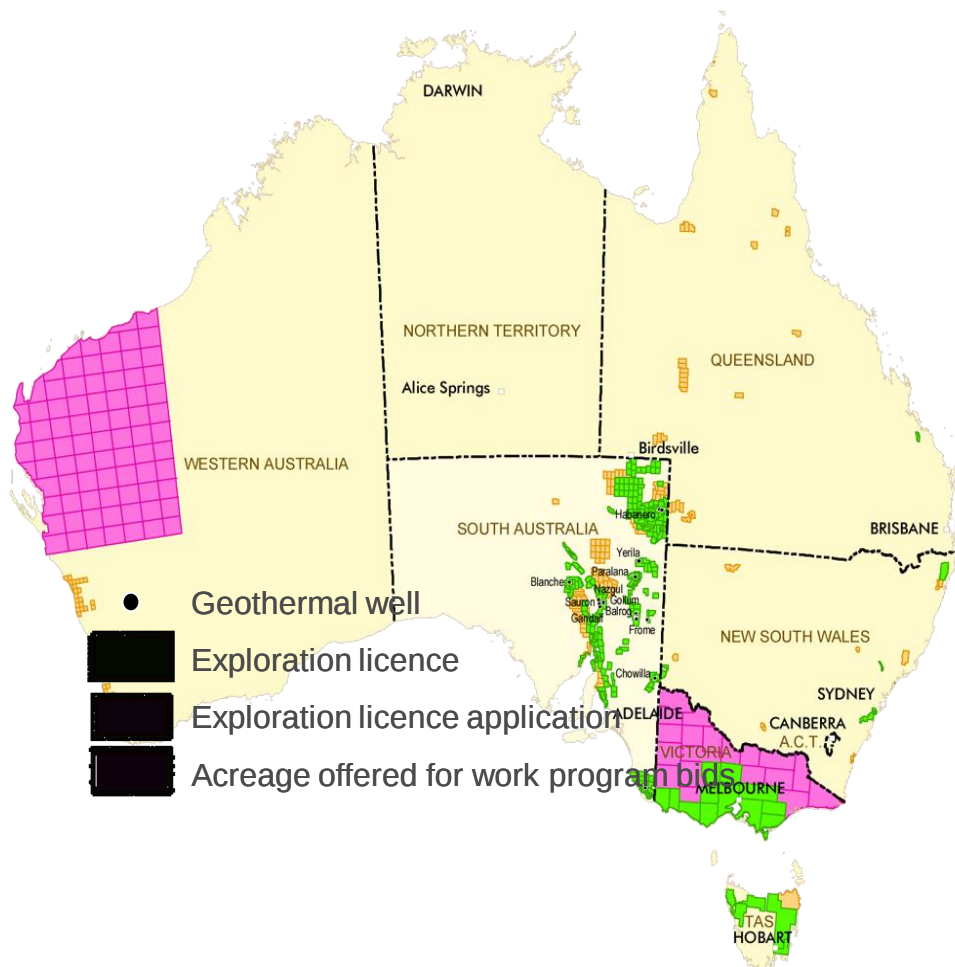
Geothermal resource in Australia



Indicative Resource

- Australia's hot rock energy is estimated to be 150°C to 5km, or about 1.2 billion PJ
- This is equivalent to about 26,000 times the annual primary energy use in Australia

Geothermal energy projects



Industry Snapshot

- GELS/GELAS
- Australia 383
- Expenditure more than \$1,500 million
- 48 companies in total
- 10 ASX listed geothermal
- 7 ASX listed energy

Strong Federal and State Government support

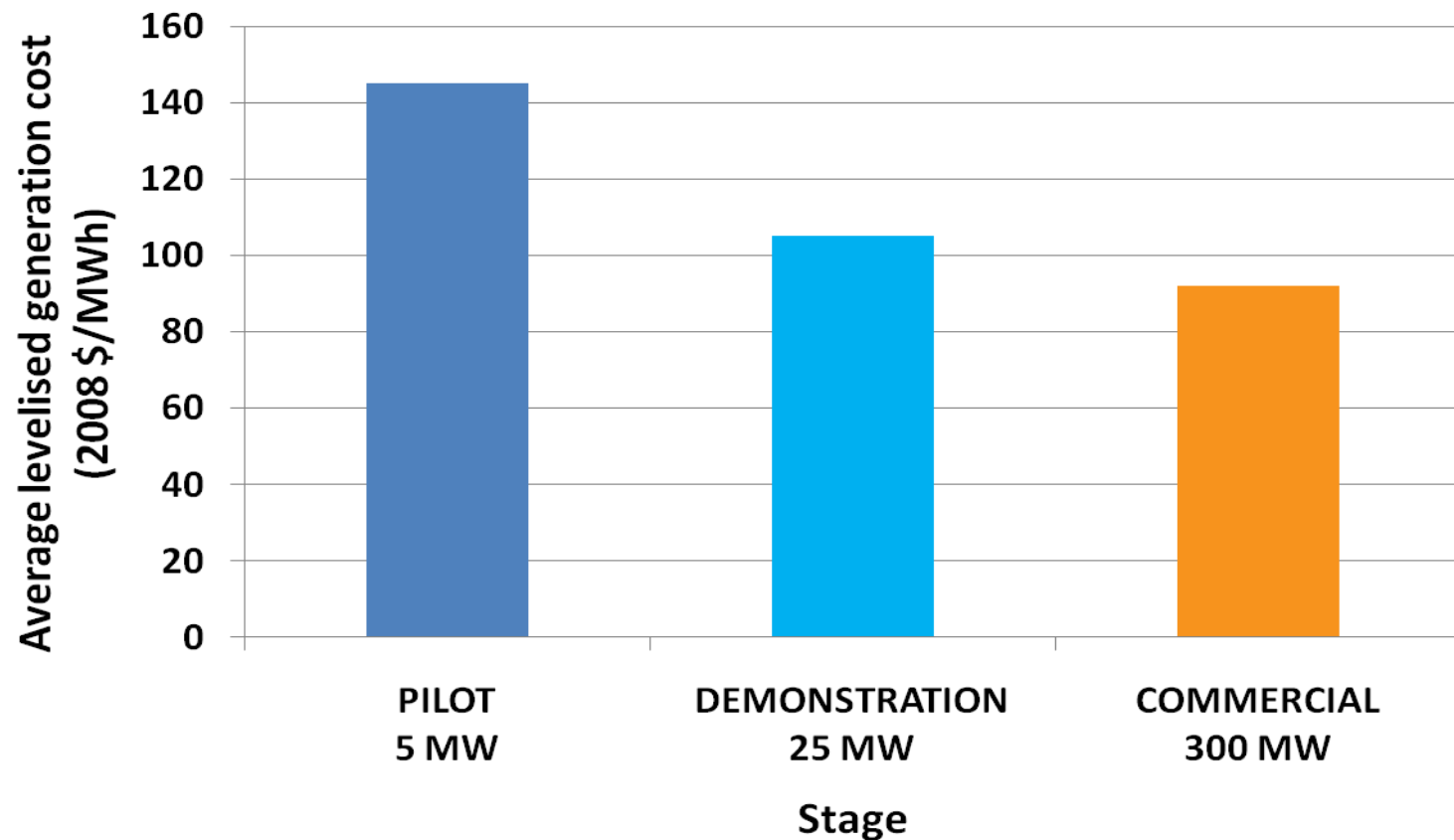
- \$50 million geothermal drilling program with a maximum \$7 million/project (**\$14m awarded**)
- \$300 million Renewable Energy Demonstration Program (**\$153m awarded**)
- Review of electricity and gas networks by the Australian Energy Market Commission (AEMC) - **changes to assist renewables**
- Emissions Trading Scheme (CPRS)
- Renewable Energy Target of 45,000 GWh by 2020
- An increase in the REC penalty price from \$40/MWh to \$65/MWh and extending to 2030

Strong industry networks

- Geothermal energy industry development framework (DRET)
- Australian Geothermal Energy Association (AGEA)
- Australian Geothermal Energy Group (AGEG)



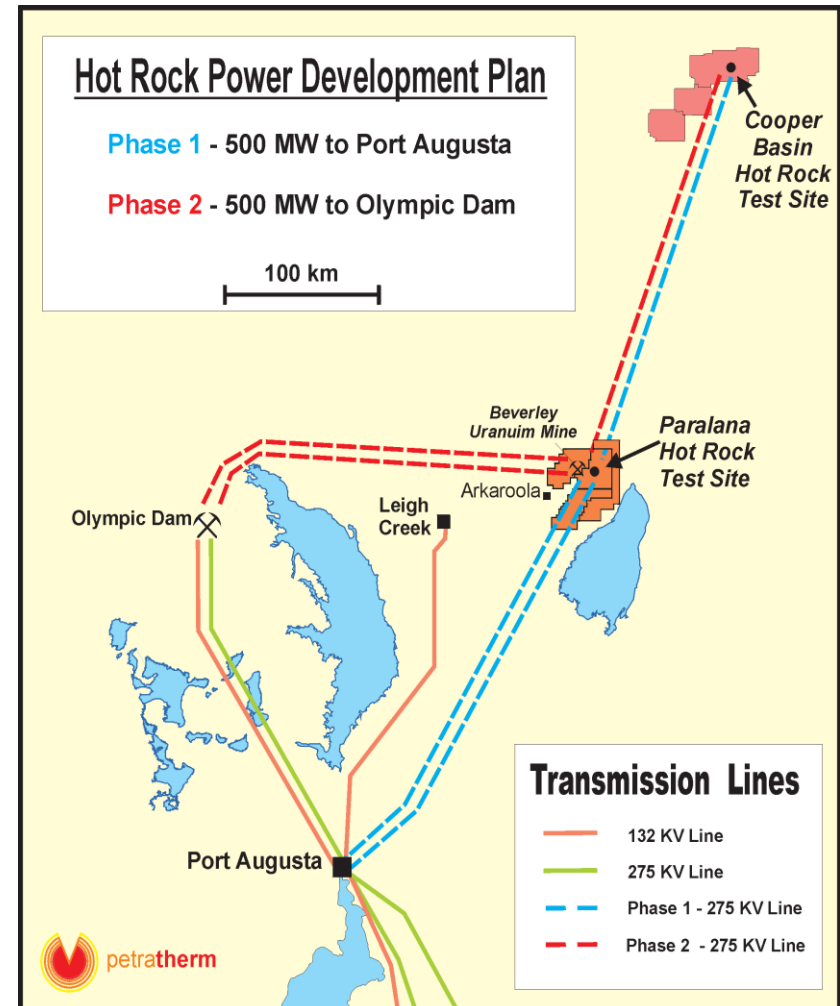
- Independent reports by McLennan Magasanik Associates – 2007 & 2008
- Geothermal energy is expected to be the lowest cost from renewable energy by 2030 and directly competitive with coal by 2050
- Geothermal energy is expected to build up to 2,200 MWs of base-load capacity by 2020
- An estimated \$12 billion investment to develop capacity
- This represents up to 40% of the Federal Government's 2020 Renewable Energy Target of 45,000 GWh - the equivalent of the output of around 6,000 MW of wind farms
- Generation costs \$120/MWh at small scale (10 MW to 50 MW) and decreasing to around \$80/MWh at large scale (300 MW or greater) by 2020



Landmark independent industry reports



- 2009 independent report by McLennan Magasanik & Associates (MMA) shows savings in linking geothermal projects in the northern part of South Australia early to the National Electricity Market (NEM)
- MMA estimates benefits of \$860 million for South Australian customers and \$2.8 billion for customers across the Australian market
- Geothermal energy to displace higher cost forms of renewable energy
- Potentially the first 'SENE' – *scale efficient network extension* - efficient connection of clusters of generation to be proposed by AEMC



Industry Outlook for 2010



- 2010 a “watershed” year for the industry where activity will be accelerated across the board
- Proof of concept (POC) drilling underway in at least 7 projects (GDP), only limited by availability of drilling rigs
- Expect there to be successes and failures, and everything in between – nature of exploration and development
- Geodynamics – plan to proceed with Jolokia drilling, new doublet and 1MW power plant (REDP grant \$90.0 m for 25MW)
- Petratherm – plan to complete HEWI model (POC) during 2010 (REDP grant \$62.8 m for 30 MW)

Industry Outlook for 2010



- Others planning to drill deep (POC) wells in 2010 – Greenearth, Torrens, Green Rock, Hot Rockothers?
- Additional drilling rigs to be available to enter the market – existing and new imports
- At least three new players entering into joint ventures with existing projects – resources, utilities and other (Origin, Beach, TRUenergy, AGL have already taken positionsothers?)
- At least three new listed explorer/developers (New World Energy, Granite Power.....others?)

- Legislative and regulatory changes to increase exploration licenses and permits across Australia
- Beginnings of consolidation in the industry – driven primarily by funding needs (JV, grants & equity) but also by needs for skills and critical mass
- Increased transparency by industry of resources (GR Code) and economics (AGEA Committee), comes with the increased maturity of the industry
- Policy changes for GDP and REDP to be debated and lobbied by AGEA – currently no future grant mechanisms

- The potential of the industry is enormous by 2020 and out to 2030
- Lowest cost source of renewable energy – bar none before 2020
- Longer term (30 years) to be directly competitive with coal – without subsidy
- “Coal seam gas in the making” - many similarities
- Profound impact on the NEM – changing traditional power sources and corridors

- Forefront of EGS technology development in Australia – leverage into much larger markets - USA, Europe, China, India
- Increased attention on geothermal energy generally across the world – US DoE, Australia, Europe
- Large new entrants will appear in the market as risks reduce and funding needs increase – significant consolidation of the sector
- Continued and increased strong commitment from Federal and State governments

Industry Outlook beyond 2010



- Activity will accelerate through 2010
- Funding is critical – equity, JV and grants
- Regulatory environment will be in place
 - Legislation
 - RET and CPRS
 - NEM changes
 - Geothermal reporting – resources & economics
- Beyond 2010
 - Potential is enormous, profound effect on NEM
 - Industry consolidation and new entrants

- Predict a very bright outlook for the Industry
- Contingent on success and significant progress by the industry over the next few years

“ The ball is in our court ”

AGEA/AGEG Thank You's



- AGEA Executive
 - Adrian Williams (Deputy Chairman)
 - Chris Matthews (Treasurer)
 - Alan Knights (Secretary)
 - John Libby (Committee)
 - Kerry Parker (Committee)
- AGEA staff Susan Jeanes and Vicki Cleveland
- AGEA Committee – Tony Hill (Chair)
- State Conveners and AGEA Committee members
- AGEA – Barry Goldstein (Chair)
- Conferences



Bali, Indonesia
25-30 April 2010

Co-Convened by:



International Geothermal
Association (IGA)



Indonesian Geothermal
Association (MAGA)

WGC2010 World Geothermal Congress

25 – 30 April 2010

**Bali International Convention Centre, Nusa Dua
Bali - Indonesia**

Geothermal: The Energy to Change the World

Conference Venue Bali...





WORLD GEOTHERMAL CONGRESS 2010

- Short Courses - Wednesday, 21-25 April 2010
- Pre Congress events, Trips & Cocktail Parties - Sunday, 25 April 2010
- Congress Events - Monday, 26-30 April 2010
- Post Congress events and Field Trips/Tour - Saturday, 1-3 May 2008
- Exhibition - 26-30 April 2010



“Geothermal: The Energy to Change the World”



Important Dates...



IMPORTANT DATES

PAPER SUBMISSION

31 January 2009	Abstract Submission
1 April 2009	Notification
31 May 2009	Draft Technical Paper submission
30 October 2009	Final Technical Paper submission

REGISTRATION

Before 30 November 2009	EARLY
1 December 2009 - 28 February 2010	NORMAL
1 March 2010 onward	LATE

1 March 2010 onward

LATE

207 days to the Congress



Detailed information
available at
www.WGC2010.org

Register now or earlier...
for Early Bird
Discounts...!!



And Breaking News ...



**Australia/New Zealand
Joint bid wins WGC2015**

**See you in Melbourne
In 2015 !!**