

# ASX Release

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**PETRATHERM LIMITED**  
**ABN 17 106 806 884**

## **Company Update – “Petratherm is uniquely positioned for success in the Australian and Spanish geothermal energy sectors”**

Petratherm Managing Director, Mr Terry Kallis, will later this morning present an update on the Company's activities to the first day of Paydirt's 2009 South Australian Resources & Energy Investment Conference in Adelaide.

The overall message of the presentation is that the ***Company is uniquely positioned for success in the geothermal energy sector in Australia and Spain.***

The address to the Investment Conference, entitled '***Building a Portfolio of Quality Geothermal Energy Projects – Australia and Overseas***' (refer attached and PTR website), outlines Petratherm's leadership in the geothermal energy sector.

The presentation will include the showing of a corporate DVD (available to be viewed on the newly upgraded PTR website).

The key points from the presentation are;

- The Paralana Geothermal Energy Project is on schedule to spud-in the Paralana 2, 4 kilometre deep well in six weeks – mid June 2009.
- The Paralana Project has received further endorsement and recognition, with its success in gaining a \$7M Geothermal Drilling Program (GDP) funding offer, with funds expected prior to the spud-in of Paralana 2.
- HEWI “Proof of Concept” for Paralana is planned to be achieved during first half of 2010 & first power in late 2010.
- Paralana JV has applied under the \$435 M Renewable energy demonstration program (REDP) for one-third funding for a \$200M, 30 MW demonstration project.
- Geo-Madrid 8 MW district heating project is in the advanced stages of its feasibility assessment - has attracted JV interest from large European energy utility – Dalkia.
- Strong government support for renewable energy and the geothermal sector continues – with last week's COAG plans to increase to the renewable energy certificate (post-tax) penalty from \$40/MWh to \$65/MWh and extending the period to 2030 – enabling greater certainty and improved NPV for geothermal project investment.



The Weatherford Rig # 828 is a “Lightning” Rig manufactured by Le Tourneau Technologies Inc., from the USA. The 2000 HP Rig # 828 is capable of drilling very deep wells and will be available to other Australian geothermal energy developers thus enabling an acceleration of development across the geothermal energy sector.

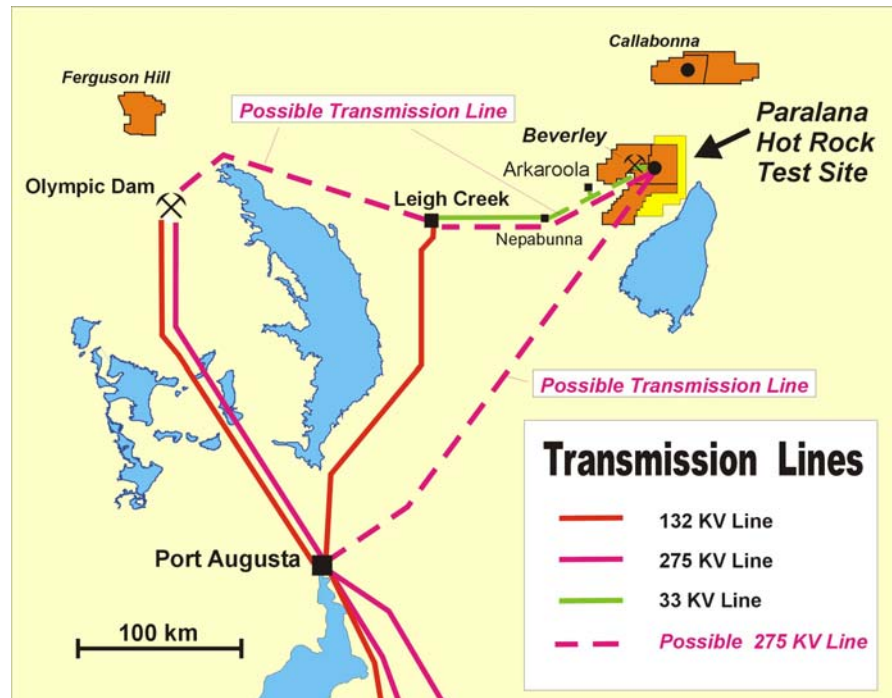
The detailed information provided in the presentation (attached) and DVD is outlined as follows;

- ***Petratherm’s mission is “to explore for and develop, emission free, geothermal energy projects that are commercially sustainable”.***
- ***Petratherm’s business model is “to develop a portfolio of quality geothermal energy projects conventional and EGS – for power and/or heat – where there is a favourable combination of geology and market conditions – and introduce joint venture partners with skills, risk appetite and funding ability to further develop projects through to production”.***
- ***Petratherm’s innovative exploration model*** and process developed in collaboration with the University of Adelaide has positioned the Company to be able ***to “explore for heat” and to quickly assess the viability of geothermal projects*** (engineered geothermal systems (EGS), conventional & district heating) – across a variety of geological settings, end use markets and regulatory regimes in various countries.
- The Company’s ***strength in geothermal energy exploration has enabled it to create a portfolio of quality geothermal energy projects in Australia and Spain, and soon in China*** – where Petratherm has an exclusive Agreement with four Chinese Government Institutions to identify new projects. Of particular importance has been Petratherm’s strategic move into Spain where it has secured ‘first mover’ advantage with seven projects, including near the large electricity consumption markets of Madrid and Barcelona.

- ***Petratherm's unique Heat Exchanger Within Insulator (HEWI) Exploration Model has the potential to considerably reduce cost and risk***, and thus bring forward the viability of large-scale geothermal projects in Australia and indeed overseas - a key point acknowledged by the Federal Government in awarding Petratherm a \$5M REDI Grant towards developing the HEWI Model at the Company's flagship Paralana Geothermal Project site near the Beverley Uranium Mine in South Australia.
- ***\$7M drilling program fund offer awarded to the Paralana JV by the Federal Government*** – under the \$50M geothermal drilling program (GDP) where 60% of funds (\$4.2 M) will be provided up-front to the JV partners, of which 69% (\$2,898,000) will be attributed to Petratherm's contribution under the Paralana JV. Funds from the GDP are expected to be available prior to the spud-in of the Paralana 2 deep well in mid June 2009.
- ***Paralana JV has applied under the \$435 M Renewable energy demonstration program (REDP)*** for one-third funding for a \$200M, 30 MW demonstration project at Paralana. The Paralana JV partners consider the project as having the best potential of all geothermal energy projects in Australia and believe they have submitted a highly competitive and compelling case for funding. An amount of \$62.8 million, representing one-third of eligible project expenditures, is being sought on a 2 for 1 funding basis.
- ***There is strong government support for geothermal and renewable energy through capital funding programs and the CPRS and RET of 20% renewable energy by 2020.*** Federal Government initiatives include;
  - \$50M geothermal drilling program (GDP) funding for "proof of concept" drilling for two wells
  - \$435M renewable energy demonstration program (REDP) funding for demonstration projects for eligible renewable technologies – including geothermal
  - Australian Energy Market Commission's Review (AEMC) of electricity and gas market frameworks in light of climate change policies – focused on encouraging increased renewable energy capacity
  - Carbon Pollution Reduction Scheme (CPRS) that includes an Emissions Trading Scheme (ETS) that aims to put a long term price on carbon
  - Renewable Energy Target by 2020 of 20% or 45,000 GWh – COAG decision to increase REC penalty price from \$40/MWh to \$65/MWh and extend the RET scheme period to 2030. ***This provides greater certainty and improved economics for geothermal project investment.***
- ***The prospects for the Company's Spanish projects are very encouraging.*** This assessment was made following visits to the sites by Petratherm's Australian and Spanish representatives and the completion of a pre-feasibility assessment of the Geo-Madrid project. ***The Madrid licence area has potential for both District heating and EGS developments.*** The Madrid licence area has five wells drilled to depths of between 1.5 to 3.4 kilometres – providing critical temperature, hot water flow rate and geological data. This provides the opportunity for significant and low cost, project advancement and is being utilized in ***current Feasibility of the Madrid Geothermal District Heating (GDH) Project (to be finalized in late May/early June 2009).***

- **The Madrid GDH project exhibits similar temperatures and flows at similar depths to those of the Paris basin** where district heating has been operating for over 20 years and around 260 MW of thermal capacity is installed in 34 doublets. The Geo-Madrid existing doublet shows temperatures of 75°C, flow rate of 200m<sup>3</sup>/hour at 1500 metres.
- **Dalkia – a leading European energy company – formed by Veolia (Europe largest water utility) and Electricite de France (the world’s largest electricity utility)** – is currently undertaking an exclusive due diligence assessment of the Geo-Madrid project with the intention of establishing a joint venture to develop the project.. Dalkia has annual revenues that exceed € 8 billion and it operates over ten geothermal district heating projects in Paris basin in France.
- **The Madrid EGS project will focus on the northern part of the license area where the existing Pradillo deep well (3,400 metres) shows a temperature of 156 °C.**
- The Paralana Geothermal Energy JV Project has now assembled all the key ‘ingredients for success’ including:
  - **An excellent thermal resource** at shallow depth – predicted to be **200°C at 3.6 kilometres** based on exploratory drilling to 1.8 kilometres.
  - **The highest recorded heat flow on mainland Australia of 128 mW/m<sup>2</sup>**
  - **A stable geological formation with expected good drilling conditions and no over-pressures** – exploratory drilling to a depth of 1.8 kilometres and evidence from offset wells in the Arrowie basin suggests that the geological formation is not expected to be over-pressured, enabling lower cost and time for drilling and an expectation of comparatively low parasitic losses from re-injection of geothermal fluids
  - **Close proximity to a willing potential customer, Heathgate Resources** – Beverley Uranium Mine, that currently pays ‘off-grid’ prices.
  - **Joint venture with a leading oil and gas explorer and producer, Beach Petroleum Limited, for up to \$30 million (plus their equity share of project costs)** in which Beach will take the lead role in the drilling operations required to create the underground heat exchanger.
  - **Joint venture with a leading electricity generator and retailer TRUenergy, for up to \$57 million (plus their equity share of project costs)**
  - **\$5 million Renewable Energy Development Initiative (REDI) Grant** from the Federal Government to assist in the creation of the underground heat exchanger.
  - **\$7 million Geothermal Drilling Grant (GDP) Offer** from the Federal Government to assist in drilling of the HEWI “proof of concept” stage of the Paralana project.
  - **Securing, on an exclusive basis specialist Swiss-based EGS consultants – Geothermal Explorers**, to assist the development of the HEWI model
  - **A unique and realistic long-term commercialization path** that provides the potential for commercial viability at all stages including small scale (i.e. 7.5MW), local market (up to 30MW) and into the National Electricity Market (NEM) (between 260 and 520MW).

- The next steps in the development of the Paralana Project include:
  - **Arrival of the Weatherford 2000 HP drilling rig in Australia** – due to arrive in Port Pirie next week on 10 May 2009
  - **Spud-in of the first deep well** (up to 4 kilometres) in the next six weeks - mid June 2009
  - **Fracture stimulation of Paralana 2 following completion of the well**
  - **Drilling of second deep well Paralana 3** – up to 6 months after the first well
  - **Outcome of recent application for Federal Government “Renewable Energy Demonstration Fund”** – for a 30 MW demonstration plant – in mid/late 2009
  - **Long term circulation test** in first half of 2010
  - **Production of first power to Beverley Uranium Mine** – late 2010.
- The Paralana Project is considered **uniquely positioned to enable commercial viability at small scale (7.5MW building over time to 30MW)**, an important factor in the development and “bedding down process” of any new technology. This is a direct result of the close proximity of the Beverly Uranium Mine and the current ‘off-grid’ prices.
- Large-scale development of the Paralana site – following the development and “bedding down process” - also provides a unique opportunity for Petratherm’s Paralana Project with flexibility and significant cost benefits associated with **potential large-scale transmission network solutions to competitively access the NEM at Port Augusta and/or Olympic Dam** (refer below)



- The planned delivery of large-scale power (up to 520MW) has taken into account the capacity of the market to digest large increments of generation competition from other geothermal and indeed traditional sources of power generation and the cost of delivery (transmission network) of electricity to the ‘on-grid’ market (NEM).

- Petratherm's two basic network solutions include:
  - ***A double circuit 275kV transmission line from Paralana to Port Augusta capable of delivering 520MW into the NEM at Port Augusta.*** (“Radial network solution”).
  - ***A single circuit 275kV transmission line from Paralana to Port Augusta and a single circuit 275kV transmission line from Paralana to Olympic Dam, each capable of delivering 260MW to those entry points.*** (“Meshed network solution”).
- The latter network arrangement would create a “meshed” transmission network in the north of the State and provide a backbone of electricity infrastructure for the remote community, but in particular the State’s growing resources sector. Importantly, the “meshed” network solution has the potential to provide substantial broader community benefits and hence has the potential for the inclusion of a proportion of assets (and costs) into the regulated asset base of a registered transmission owner under the Australian National Electricity Rules (NER). ***Accordingly, there is unique opportunity for substantially reducing the overall project network connection costs.***
- ***Petratherm’s network solution has led to an industry network solution for the northern part of SA*** – the Industry adopted network solution has been proposed by AGEA under the Australian Energy Market Commission’s (AEMC’s) Review of national electricity and gas frameworks in light of climate change policies. The review is aiming to determine the changes needed to support the Federal Government’s target for increased capacity of renewable energy in a least way to the economy. This will involve a Review of current frameworks and the rules governing electricity and gas markets. AGEA is represented on the AEMC Stakeholder Committee and has proposed to the Review an Industry solution for the northern part of SA.
- Petratherm aims to continually increase shareholder value through:
  - **Cost Reduction**
    - HEWI Model – shallower wells reducing drilling costs.
    - Competitive sourcing of plant and equipment – “no ties” to a plant manufacturer – “fit for purpose” – conventional, lower cost plant.
  - **Risk Reduction**
    - Initial project selection – targeting lowest cost to relevant market.
    - HEWI Model – shallower wells, less drilling, greater permeability.
    - Several quality projects and a continuous pipeline of projects.
    - Project portfolio spread across jurisdictions – local and overseas.
    - Partner selection – key skills and capabilities – Beach Petroleum.
    - EGS and lower risk conventional geothermal projects.
  - **Revenue Optimization**
    - Target local “off grid” opportunities – nearby mines.
    - Exploit multiple products – electricity and direct use heat.
    - Focus on attractive jurisdictions price and growth – Spain/China.

Yours faithfully



**Terry Kallis**  
Managing Director



**ABOUT THE PARALANA PROJECT JOINT VENTURE PARTNERS:**

Beach Petroleum (ASX: BPT) is an oil & gas company headquartered in Adelaide that farmed-in to the Paralana Project in January 2007. Beach can earn up to 36% of the project for \$30 million plus their equity share of project costs. ([www.beachpetroleum.com.au](http://www.beachpetroleum.com.au)).

TRUenergy is a wholly owned subsidiary of the CLP group, one of the largest, publicly listed power businesses in Asia Pacific ([www.truenergy.com.au](http://www.truenergy.com.au) and [www.clpgroup.com](http://www.clpgroup.com)). TRUenergy Geothermal farmed-in to the Paralana Project in August 2008. TRUenergy Geothermal can earn up to 30% of the project for \$57 million plus their equity share of project costs.

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## **SA Resources and Energy Investment Conference**

### **Company Update**

**“Building a portfolio of quality geothermal  
energy projects - Australia and Overseas”**

**4 May 2009**

**Presented by  
Terry Kallis (Managing Director)**

**Explorer and Developer of Geothermal Energy**

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All amounts in Australian dollars (AUD) unless stated otherwise.

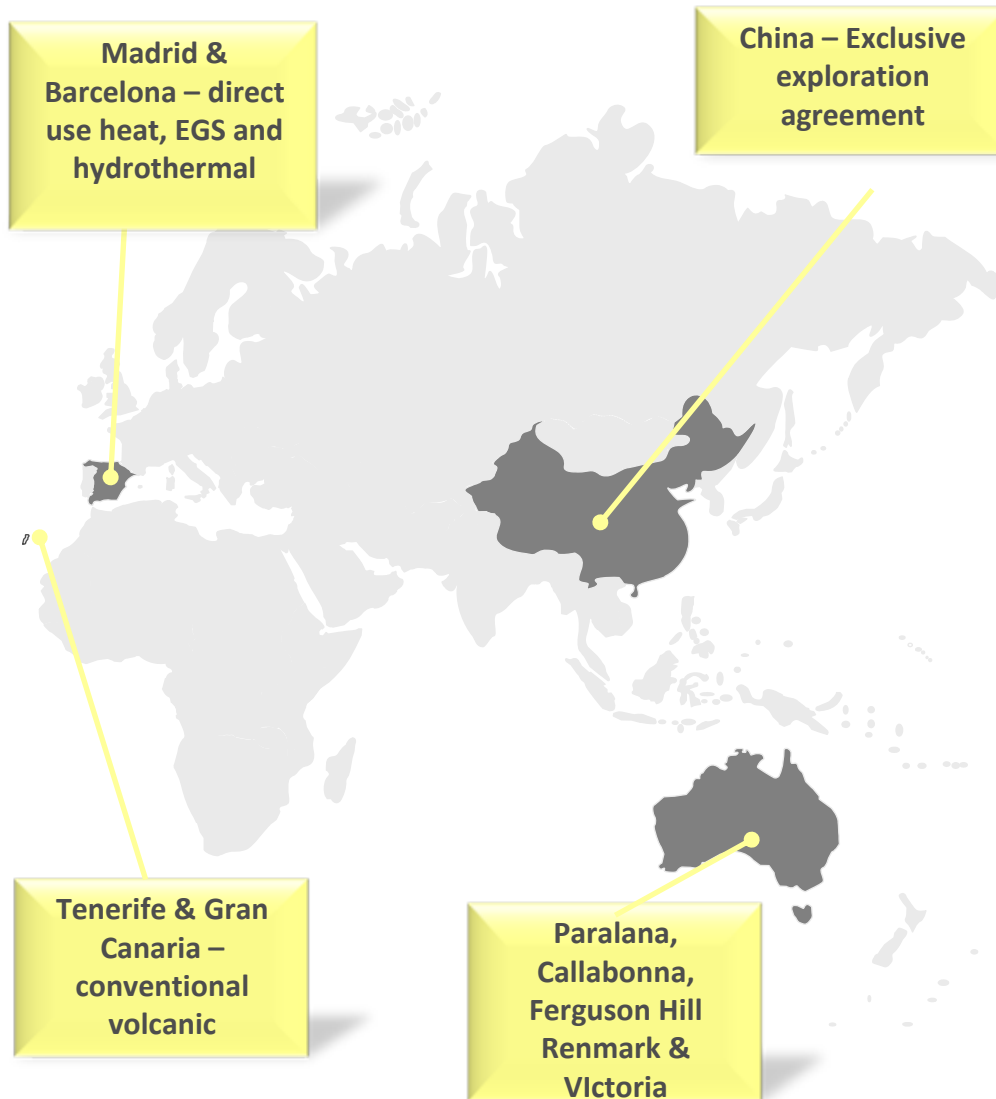
# ***Presentation Outline***

- Key Messages
- Corporate Overview
- Renewable energy policy and geothermal
- Paralana Overview and Joint Venturers
- Project Portfolio
  - Paralana
  - Spain – Madrid / Tenerife
  - China
  - Victoria “Hot Sedimentary Aquifer”
- Outlook for Calendar 2009

# Key Messages

- Paralana 2 deep (4 kilometre) well to spud in mid June 2009 – Weatherford Drilling International – 2000 HP “Lightning Rig”
- Paralana JV Project received further endorsement and recognition with \$7M geothermal drilling program (GDP) grant offer – 60% of funds (\$4.2M) expected prior to spud-in
- Paralana JV has applied for one-third funding for a \$200M, 30MW demonstration project under the \$435M Renewable Energy Demonstration Program (REDP)
- Paralana Project aims to achieve proof of concept in first half of 2010 and “first power” in late 2010
- Spanish Projects show very encouraging expected returns with potential for early revenues – advanced Madrid District Heating Project – attracted JV interest from Dalkia, large European utility
- Strong Government Support for Renewable and Geothermal Energy – GDP, REDP, AEMC review, CPRS and RET, recent COAG decision to increase shortfall penalty from \$40/MWh to \$65/MWh

# Corporate Overview



## Key Statistics

- Current shares on issue – 65.6m (plus 7.77 m options)
- Market capitalization - \$20.3m (at share price of \$0.31)
- Cash - \$4.2 m (end of third quarter)
- Grants - REDI \$5.0 M & GDP \$7.0 M
- 2995 Shareholders with major shareholder - Minotaur Exploration (31%)

## Projects

- Projects spanning **Australia, Spain and China** – EGS, conventional volcanic, hot sedimentary aquifer & direct use heat
- **Flagship project** – Paralana
- **Exciting growth projects:**
  - Direct heat, conventional and EGS geothermal projects covering Madrid, Barcelona, Canary Islands and Victoria's Gippsland Basin
  - Exclusive government supported exploration agreement in China

## Joint Venture Partners

- Beach Petroleum (up to 36% for \$30m)
- TRUenergy (up to 30% for \$57m)

# ***Corporate Mission & Business Model***

**Mission**      *“to explore for and develop, emission free, geothermal energy projects that are commercially sustainable”*

## **Business Model**

*“to develop a portfolio of quality geothermal energy projects conventional and EGS – for power and/or heat – where there is a favourable combination of geology and market conditions - and introduce joint venture partners with skills, risk appetite and funding ability to further develop projects through to production”*

# ***Petratherm Board***



Derek Carter  
Chairman



Simon O'Loughlin  
Director



Richard Hillis  
Director



Richard Bonython  
Director



Terry Kallis  
Managing Director



Donald Stephens  
Company Secretary

Highly experienced Board with combination of commercial and technical skills including:

- Corporate governance
- Financial management
- Legal
- Marketing
- Project Management
- Exploration and development
- Geology/Geophysics
- Resources and energy
- Government and stakeholder relations

# *Corporate Overview – Skills & Capabilities*

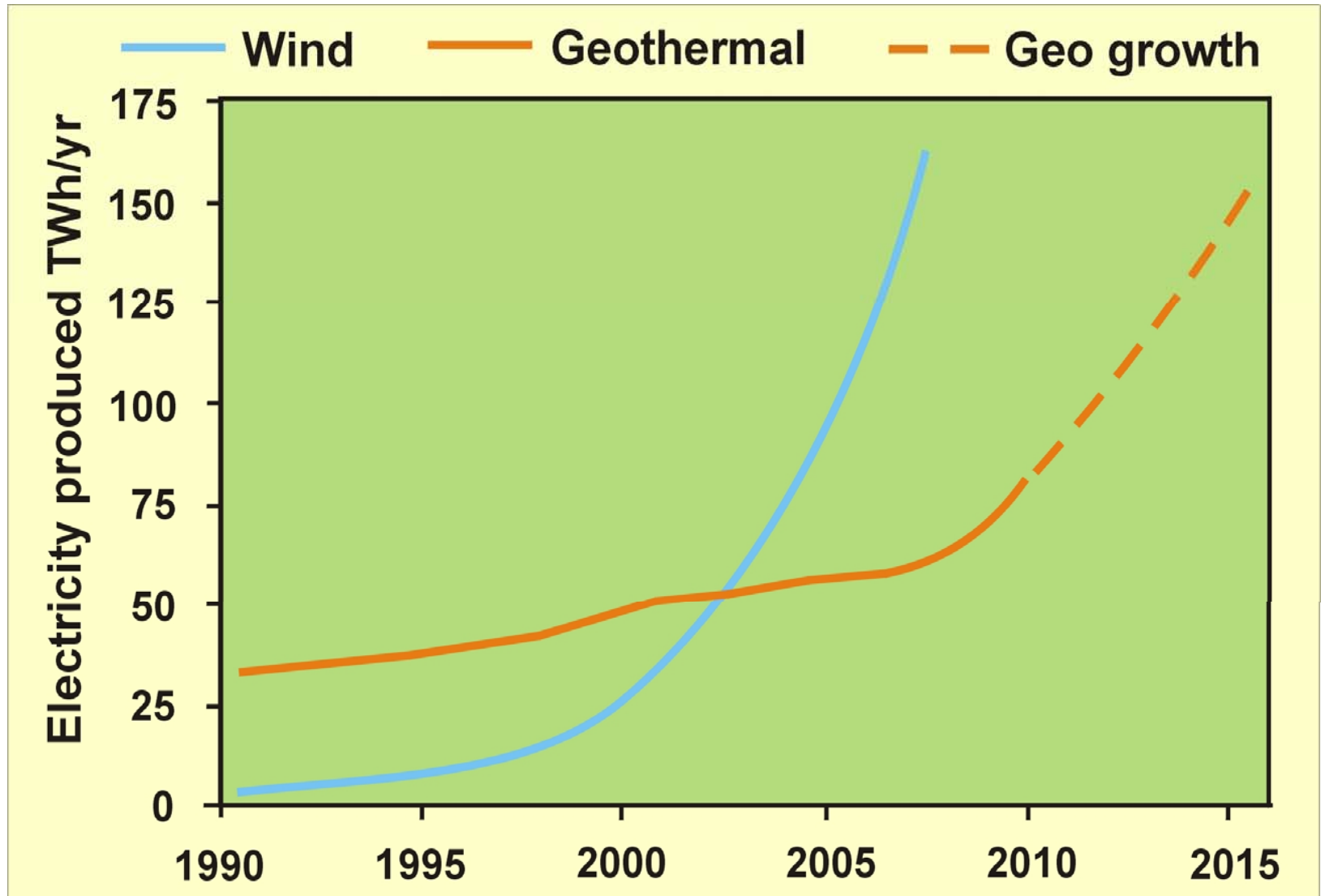
Combined skills and experience of the Board Management, Partners and Consultants capable of delivering successful geothermal energy projects – from underground resource through to market

- |                      |   |                                                 |
|----------------------|---|-------------------------------------------------|
| Beach Petroleum      | - | Subsurface – well design, drilling and fracking |
| TRUenergy            | - | Power generation, transmission and sales        |
| Geothermal Explorers | - | EGS reservoir/project development               |
| Expert Consultants   | - | Prof. Richard Hillis and Dr Martin Hand         |

# Petratherm Key Points of Differentiation

- Unique approach to “exploration for heat” and its commercial assessment of projects - “location, location, location” – resource, market, permits/stakeholders
- HEWI model approach to resource exploitation process for EGS/hot rock that aims reduce costs and risks – also reducing the time for delivery
- Flagship Paralana Project, clear commercial and competitive advantages with a willing potential customer at “off grid” prices and a realistic, long term and unique path to commercialization and two quality, complementary JV partners
- Quality portfolio of projects across geothermal technologies – EGS, District Heating and Volcanic sources – electricity and heat – Australia and Overseas (Spain & China)
- Clear business model – aimed at introducing quality JV partners coupled with a strongly skilled Board, Management team and consultants - track record of successfully delivering projects

# ***Global Wind & Geothermal Power Growth***

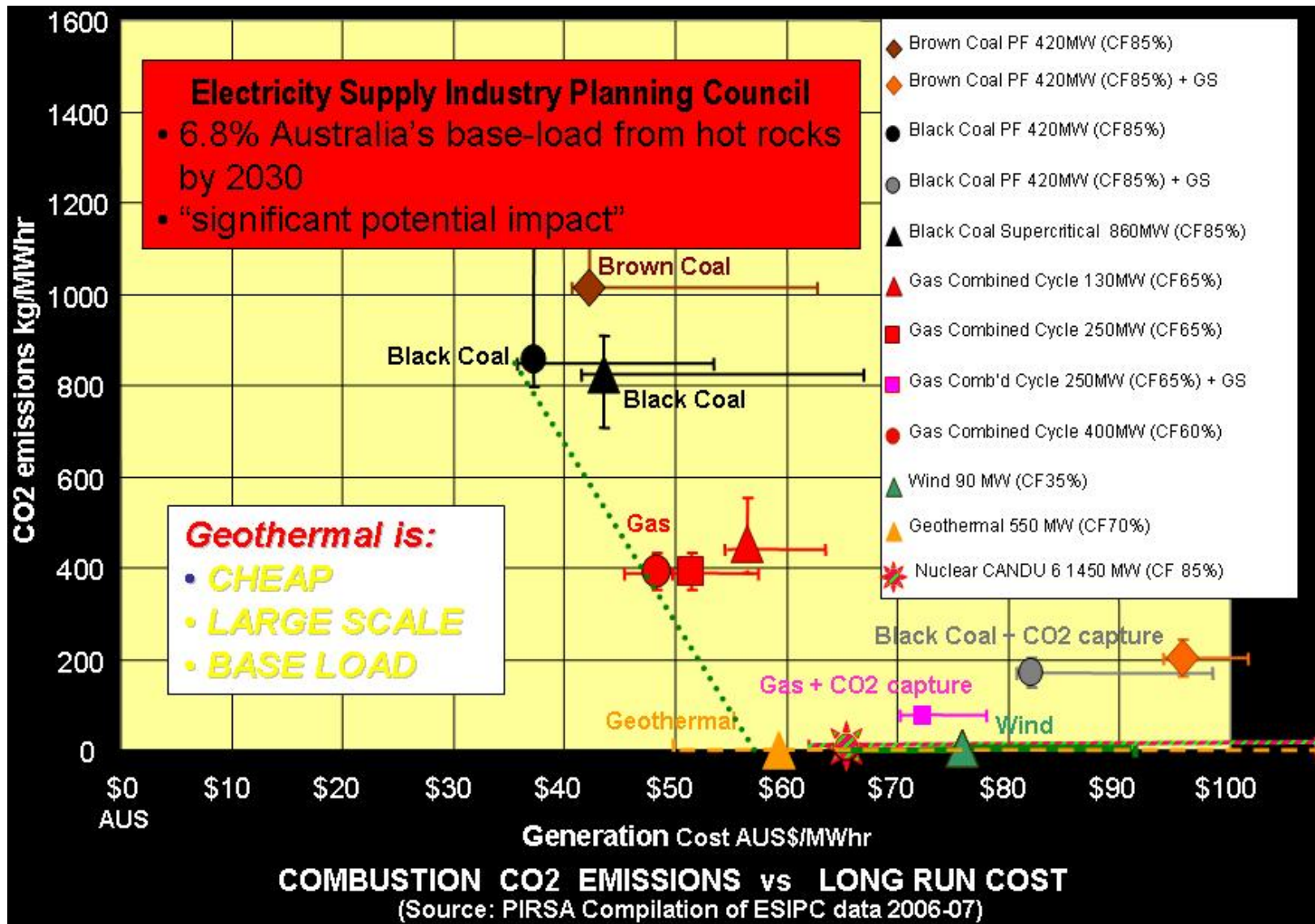


**Wind growth >20% P.A. - Geothermal ~ 9% in last 3 years.**

# ***Renewable Energy Policy & Geothermal***

- Federal Government - strong support
  - Carbon Pollution Reduction Scheme (CPRS) leading to Emissions Trading in 2010/11
  - established the 20% Renewable Energy Target (RET) by 2020
  - Increased REC shortfall penalty from \$40/MWh to \$65/MWh and extended period to 2030
  - \$435 M Renewable Energy Demonstration Program – REDP
  - \$50 M Geothermal Drilling Program - GDP
  - Geothermal Industry Development Framework
- Paralana JV successful with \$7M grant in Round One of GDP – monies available upfront prior to drilling in mid June 2009
- Paralana JV applied for \$62.8 M grant under REDP – successful applicants to be notified in August/September 2009
- Ministerial Council of Energy review by the Australian Energy Market Commission (AEMC) of Australian electricity and gas frameworks in light of CPRS and RET – recommend changes to rules
- Australian Geothermal Energy Association (AGEA) active in all policy areas and represented on AEMC Stakeholder Advisory Committee

# Geothermal Energy Cost Comparison



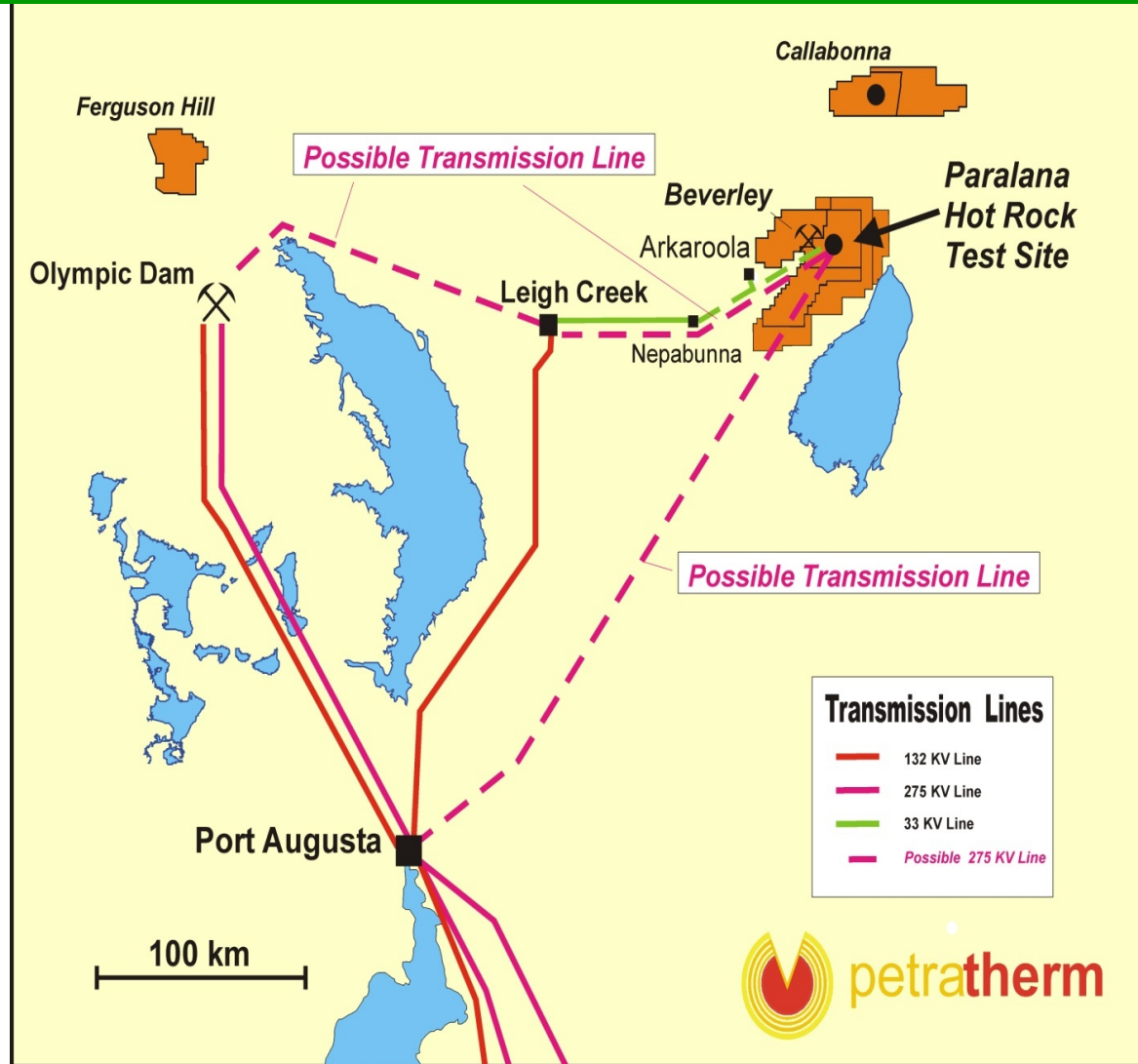
# ***AGEA Report conducted by McLennan Magasanik & Associates - findings***

- Australian Geothermal Energy Industry can be expected to provide up to 2,200 MWs of base-load capacity by 2020 into National Electricity Market;
- 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;
- An estimated \$12 billion would be invested to develop 2,200 MW of installed capacity;
- The cost of generating electricity from geothermal resources is expected to move rapidly down the cost curve through to 2020 commencing from around \$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; and
- Most of the capacity is expected to come from developments in SA - other states increasing their contribution toward by 2020

# Paralana Project - Overview

*Uniquely positioned to be commercially viable at all Stages!*

- ✓ **High heat flow rate** ( $128\text{mW/m}^2$ ) and predicted **Temperature** of  $200^\circ\text{C}$  at a depth of 3600 metres
- ✓ **Stable geological formation and expect no overpressures** – suggests good drilling conditions
- ✓ **Very close to market** for initial plant (up to 7.5MW).
  - Off grid market ~ Heathgate Resources' Beverley Uranium Mine (11km) and Four Mile.
- ✓ Sub-surface and above surface **expertise**.
- ✓ **After HEWI, potentially fully funded** to initial commercial, demonstration scale 30 MW plant.
- ✓ **Endorsement** from major industry participants – JV with Beach and TRUenergy (refer later)
- ✓ \$5M Federal REDI & \$7M GDP Grants
- ✓ Ability to scale-up in commercially viable increments (7.5, 30, 260 and 520 MW) **reduces risk**
- ✓ **Next step is drilling 4 km HEWI wells**.



# ***Paralana 2 Well Drilling***



- Contract 2000 HP Drilling Rig # 828 from Weatherford International Drilling to arrive in Port Pirie in May 2009 - Le Tourneau – “ Lightning Rig” built in Dubai
- Paralana 2 well to spud in mid June 2009 – all preparatory work near completion
- Well Testing and Stimulation Program to follow after well completion
- Drilling of Paralana 3 – six months after completion of Paralana 2 - first half 2010
- First power to Heathgate Resources’ Beverley Uranium Mine – late 2010

# ***Paralana Project Joint Venture***

## **➤ Beach Petroleum Farmin (Jan 2007) for up to \$30M for 36%**

- \$5M first well and stimulation
- \$5M second well and stimulation – earns 21%
- After HEWI - Option to earn a further 15% for \$20M
- Plus equity share of project costs at every stage

## **➤ TRUenergy Farmin (Aug 2008) for up to \$57M for 30%**

- \$3M first well and stimulation
- \$3M second well and stimulation – earns 10%
- After HEWI, have an Option to earn a further 5% for \$7M
- After 7.5 MW pilot plant - Option to earn a further 15% for \$44M
- Plus equity share of project costs at every stage

***Beach Petroleum, TRUenergy and Petratherm have complementary sets of skills and represent a formidable collaboration for the Paralana Project***

***Under the Paralana JV - prior to the use of grant funds - the first \$8.0 M for each well is sourced from Beach \$5.0 M, TRUenergy \$3.0 M***

***GDP and REDI grants further support the funding of the Paralana JV***

# ***Project Costs and Wind Comparison***

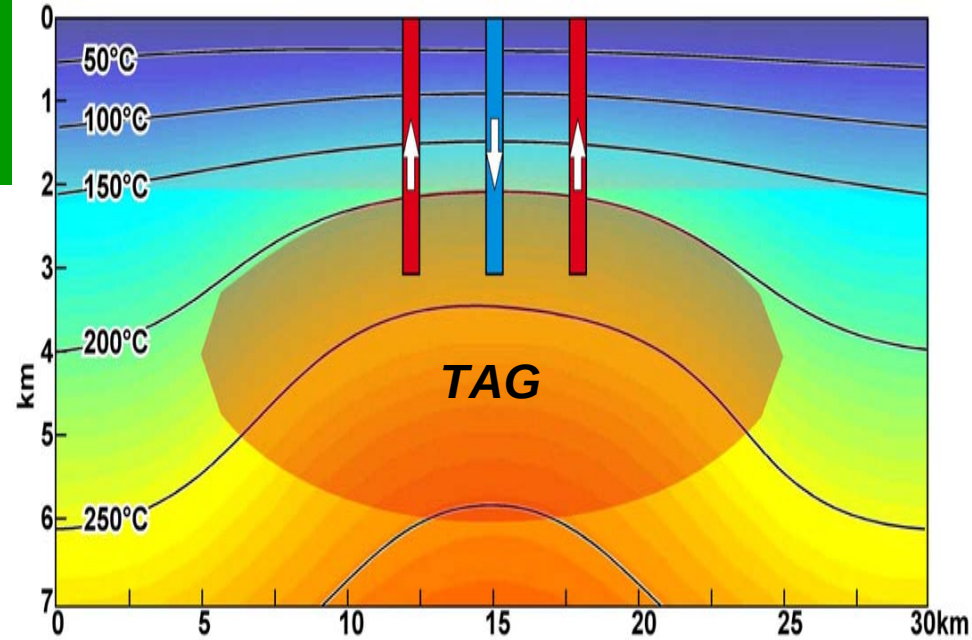
- Stage 1 - HEWI model \$30M to \$35M
- Stage 2 - 7.5 MW pilot plant – add’nl \$45M to \$50M
- Stage 3 - 30 MW demo. plant –add’nl \$125M to \$150M
- Total 30 MW Project estimate\* around \$170M to \$200M

(\*total current cost estimates and includes all transmission/substation costs – excluding HEWI)

- Paralana Project cost per MW of installed capacity is around \$6.2M for a 30 MW base-load project operating 24/7 – capacity factor of around 95% would produce about 250 GWh annually
- Wind Project cost per MW of installed capacity is around \$2.2M for a project size of greater than 30 MW and typically only operates for 1/3<sup>rd</sup> of the time – capacity factor of 33% and producing around 87 GWh annually
- For a comparable annual output of 250 GWh the wind farm would need to be almost 90 MW (3 times larger than Paralana 30 MW) and hence overall capital costs to produce would be very similar at around \$198M
- Off grid pricing for Paralana enhances the overall project economics.

# Project Portfolio

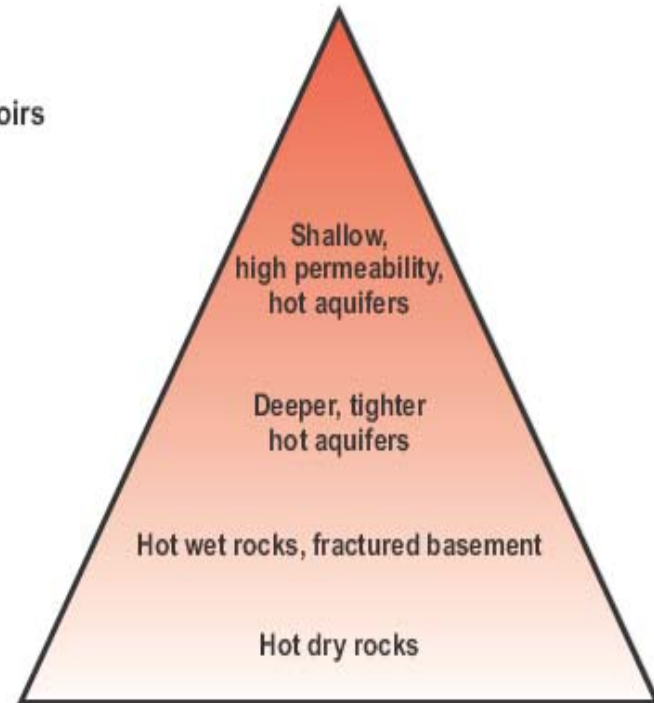
- *International Geothermal Explorer and Developer*
- *Specialist Heat Explorer*
- *EGS, Conventional and Direct Heat*
- *Strategy – shallow hot rocks close to market & chance of flow!*



Conventional reservoirs

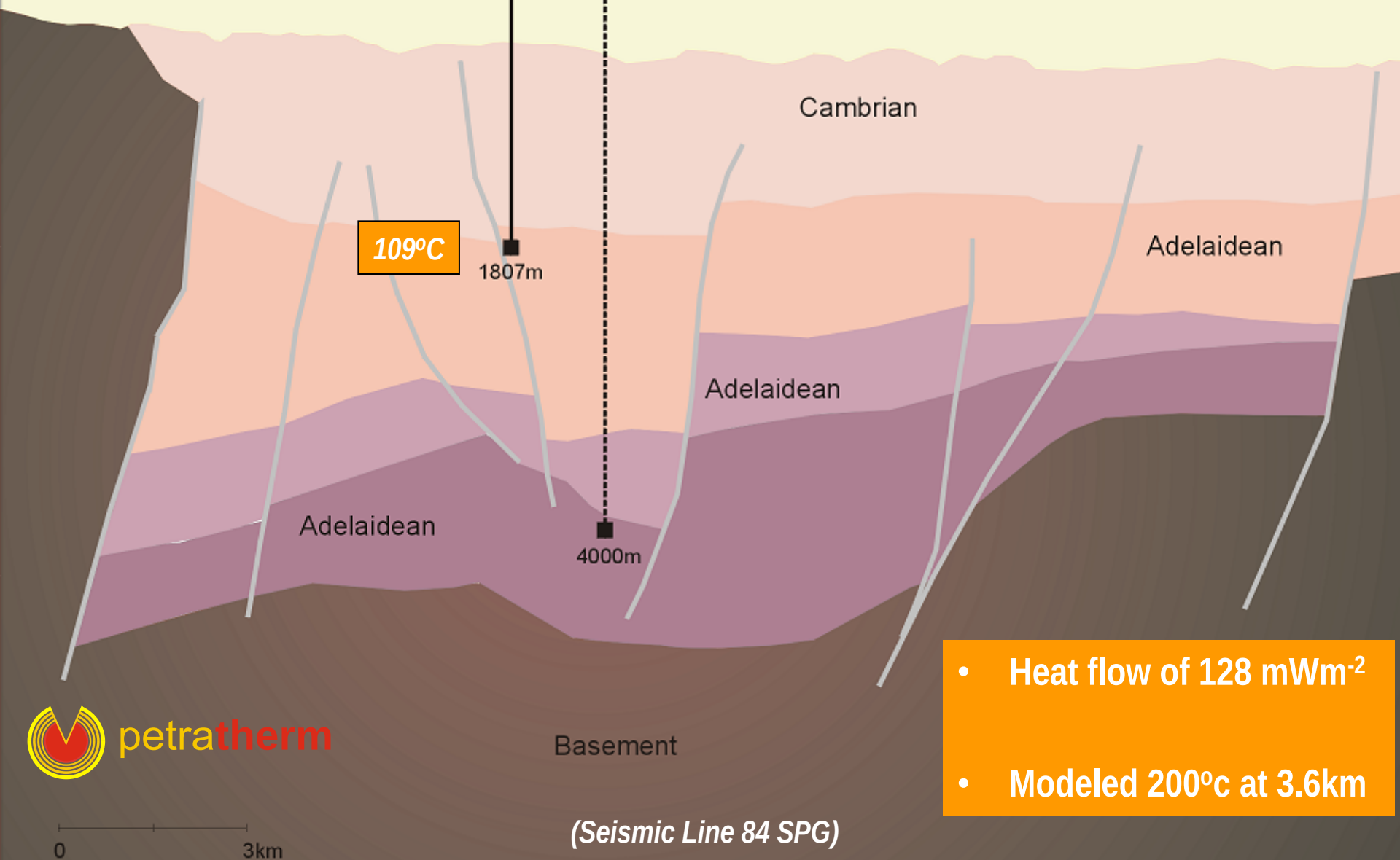
Improved technology  
↓

Unconventional



*Engineered Geothermal Systems (EGS)*

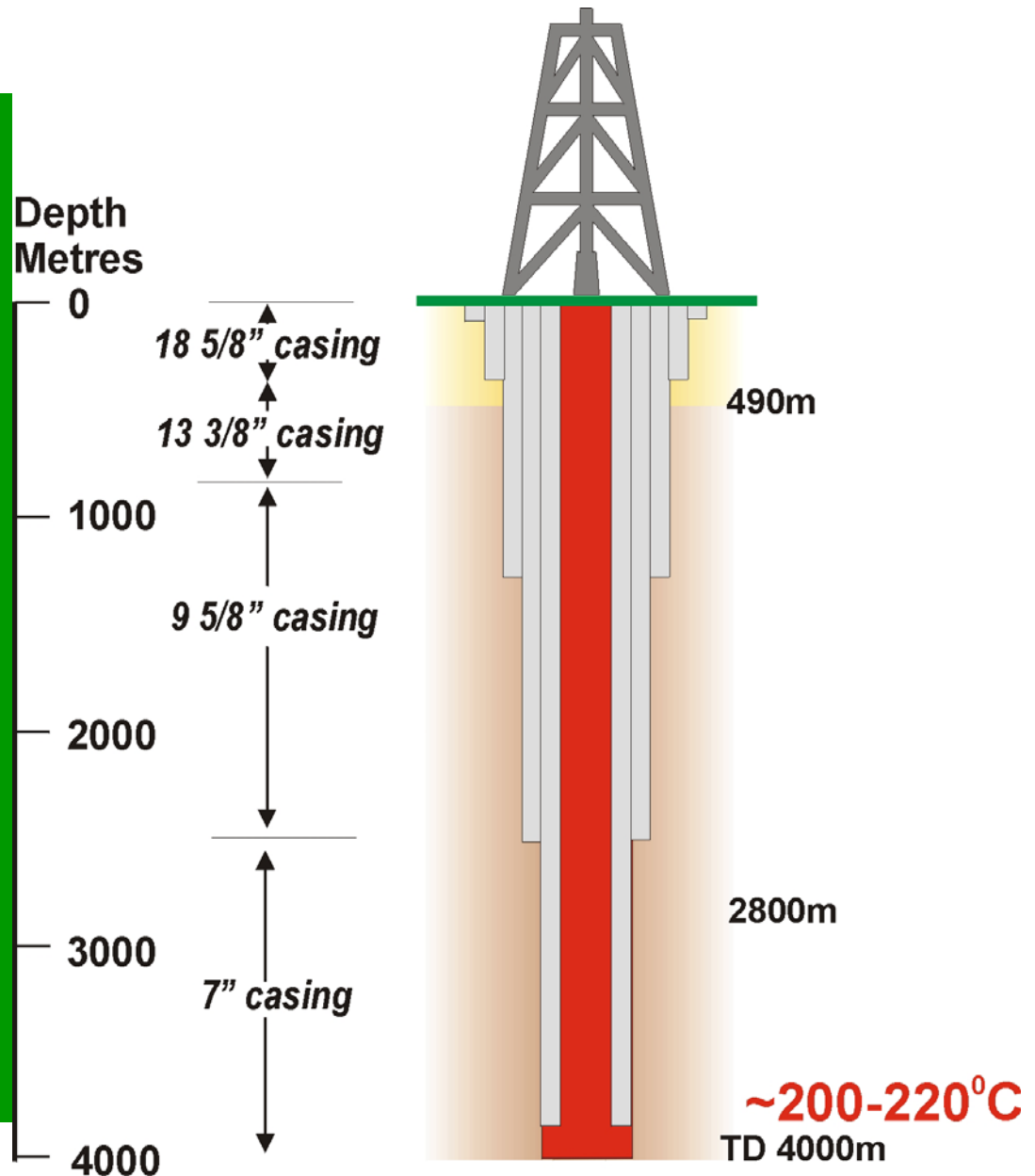
# Paralana Project



- Heat flow of 128 mWm<sup>-2</sup>
- Modeled 200°C at 3.6km

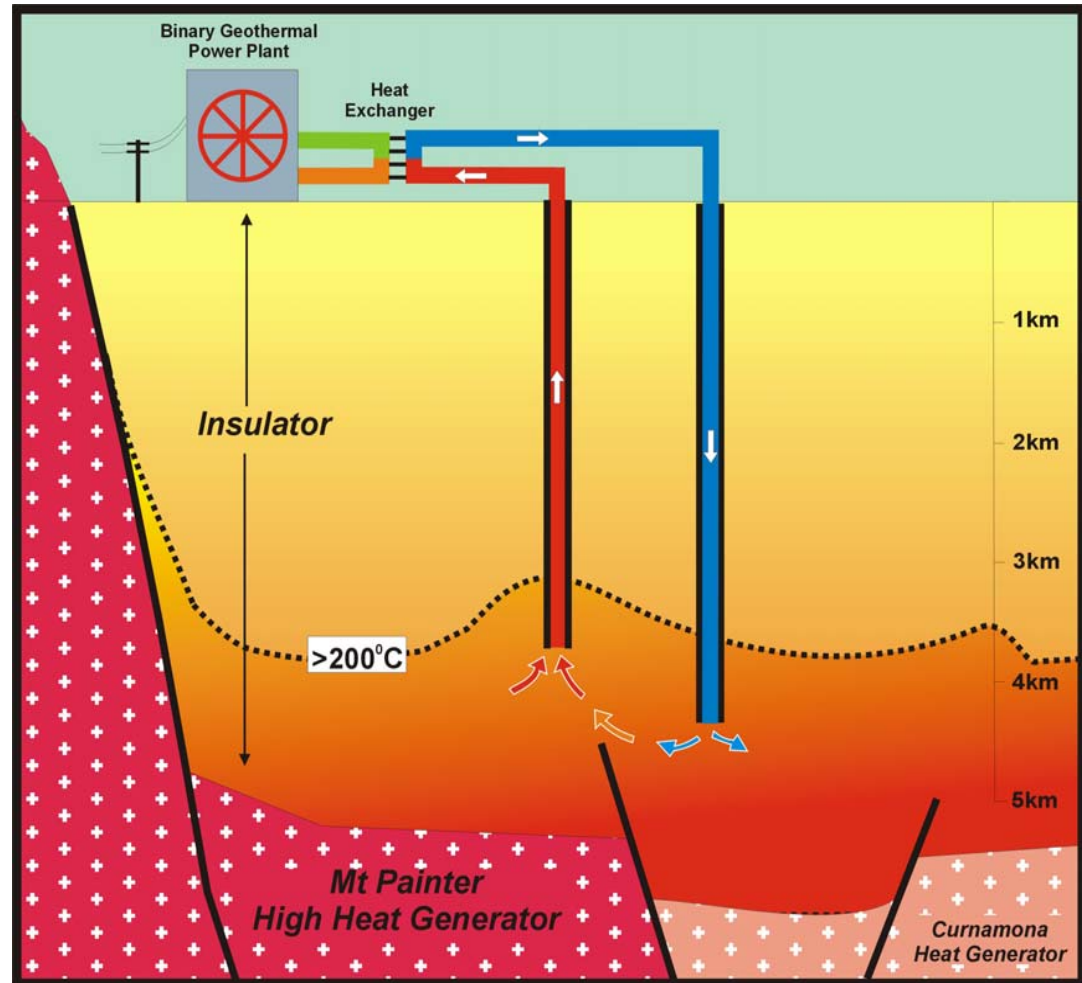
# Paralana 2008 - Development Path

- 2D Reflection Seismic and MT Surveys
- Installed Passive Seismic Array (IESE)
- Cleared 1kmX 2km development site
- Casing and well head ordered
- **Drilling rig arriving soon**



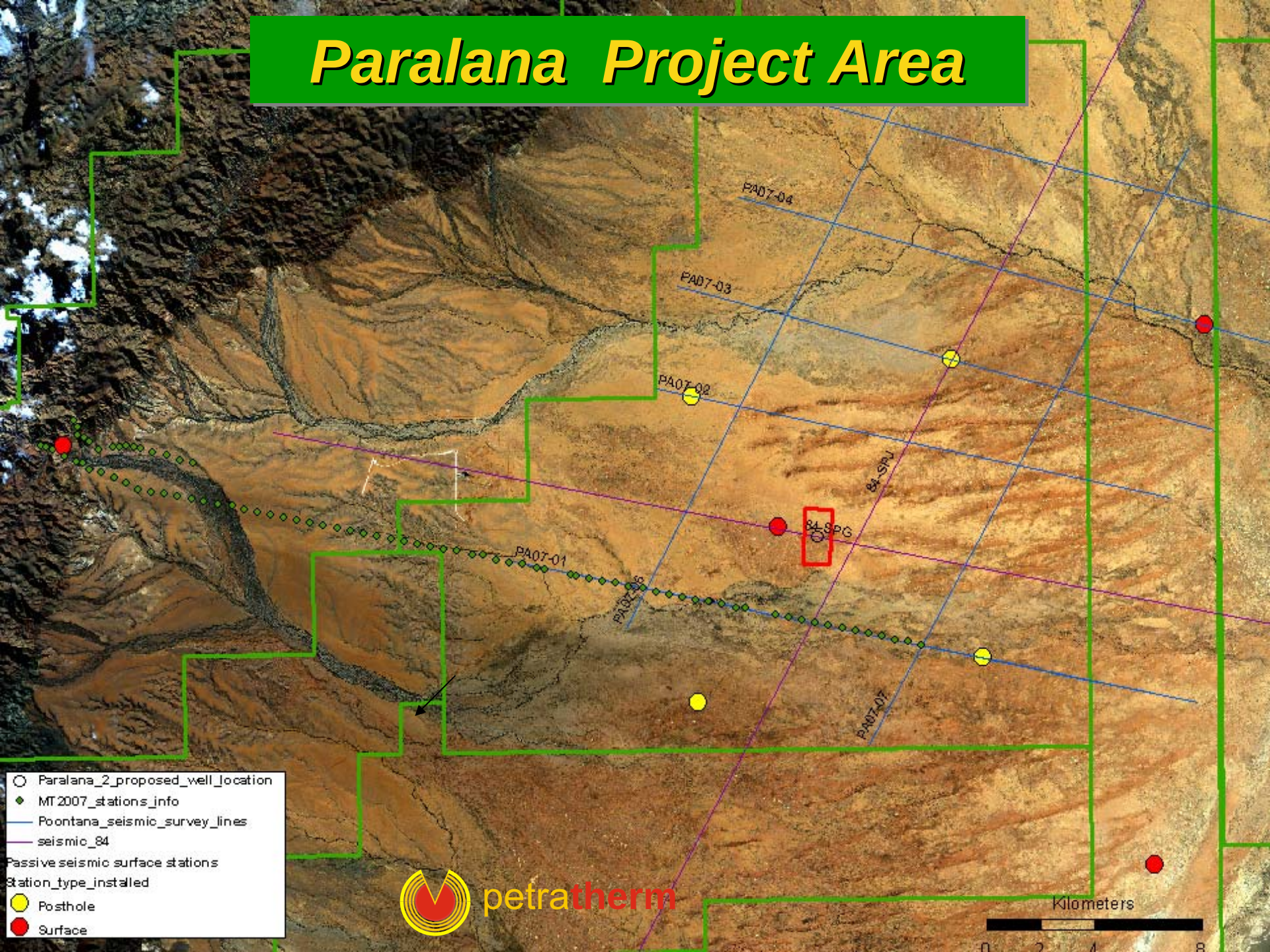
# Paralana 2009 Development Plan

- Second Quarter 09  
First Deep Well to ~ 4 Kms
- Well testing and stimulation program
- First Quarter 2010  
Second Deep Well



**Heat Exchanger Within Insulator (HEWI) Model**

# Paralana Project Area

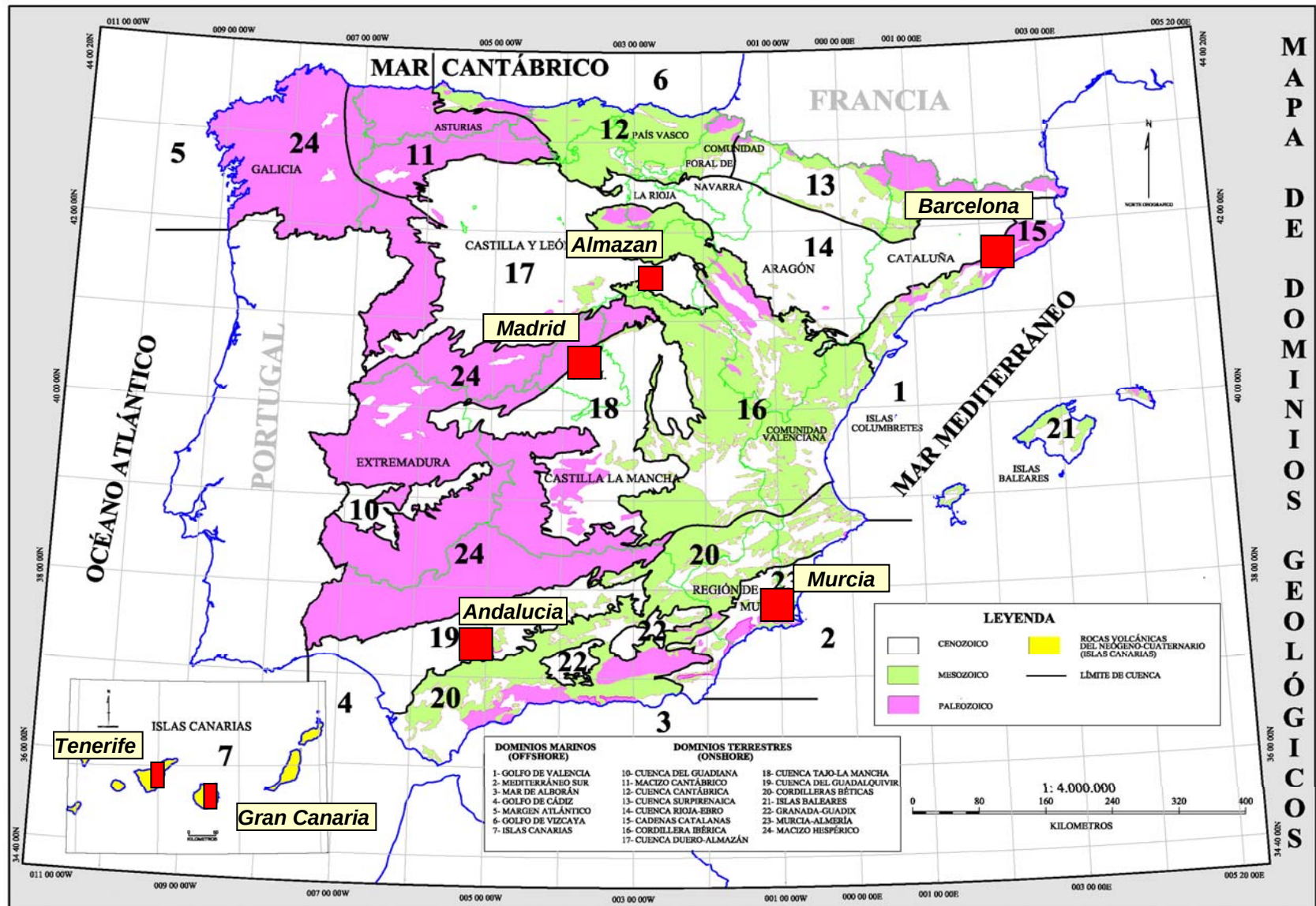


# ***Petratherm Espana***

- Geology is conducive to EGS
- Expanding Project Portfolio
- Strong Corporate Interest
- High Electricity Prices
- Leading Policy Development
- Conventional geothermal and direct use options
- ***Lower Cost and Risk!***



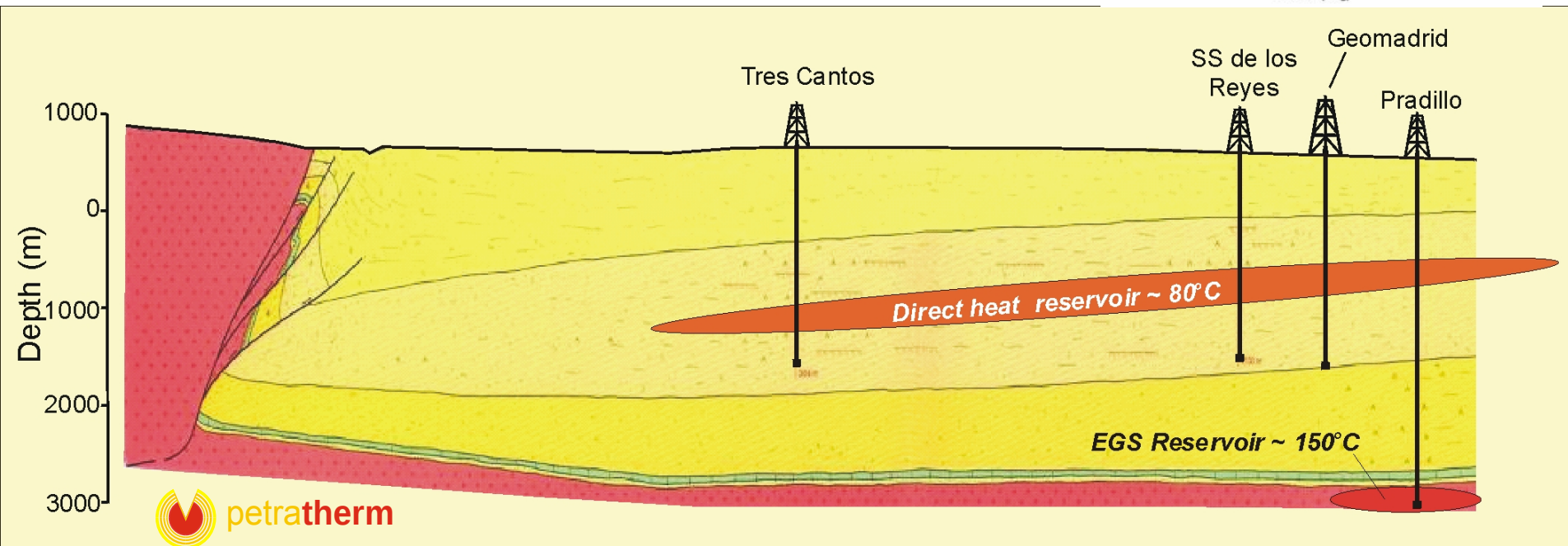
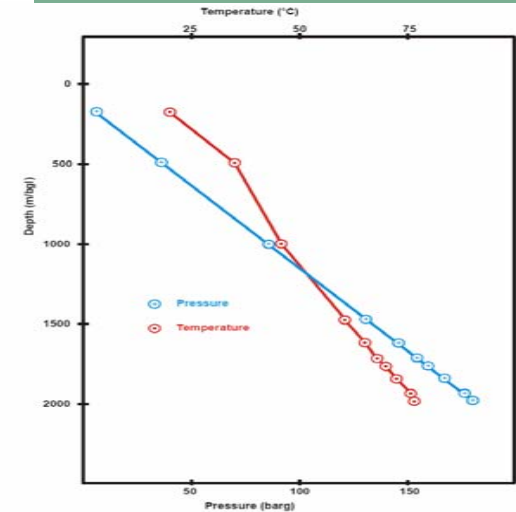
# Petratherm Spanish Projects



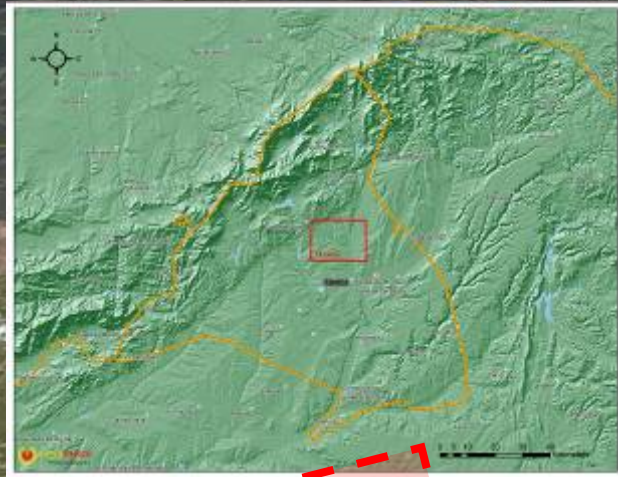
# Madrid – District Heating Resource

- Three 2000m wells have been drilled, defining an area of at least 50km<sup>2</sup>, around 80°C fluid at 200 m<sup>3</sup>/hr at ~ 1500-2000m depth.
- Geomadrid Pre-feasibility Study indicates – doublets Producing 8MWt with an annual production in excess of 45,000MWh (thermal). **Full feasibility underway**
- Strong government support for renewables and energy efficiency (particularly buildings) at all levels of government.
- **Dalkia undertaking due diligence for potential JV for Geo-Madrid project**
- Potential for multiple projects from the geothermal resource.
  - Geomadrid is only the first application.
  - Expected to be an economic project with attractive returns!

Recent Well Assessment



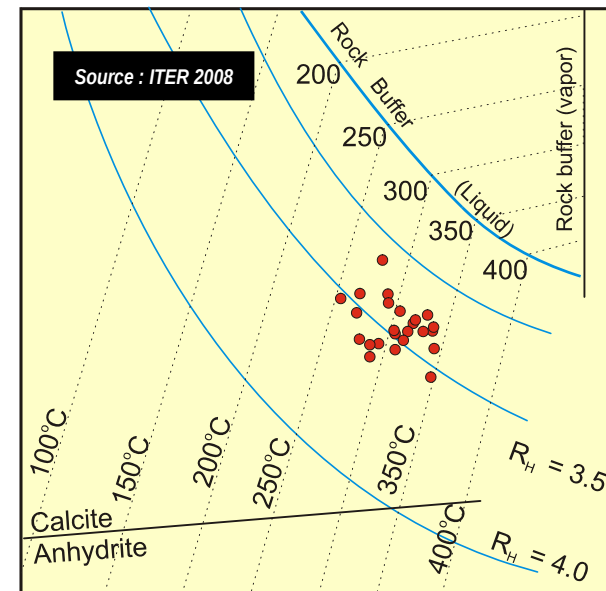
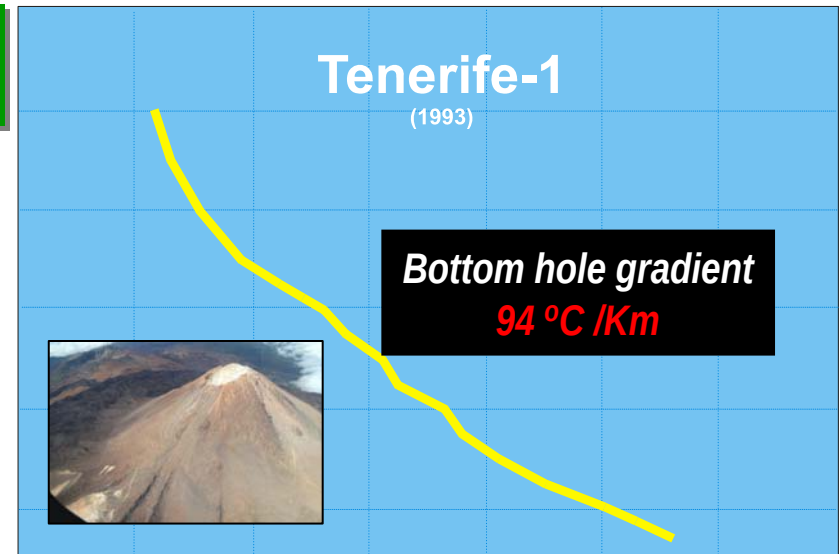
# Madrid District Heating – Low Enthalpy Reservoir



Four existing wells ~ flows 200m<sup>3</sup>/h, temperatures of 80°C enable to estimate a sustainable heat production of 30TWth over the next 75 years

# Tenerife Project

- Active Volcanic Island, MT indicates magma chamber 3-4 km below surface
- Tenerife Population ~ 1 Million; load > 800 MW; (Diesel & Wind)
- Geochemistry indicates presence of a hydrothermal system with 250-350 °C and 30-40 bars pressure.
- 50 MWe development targeted



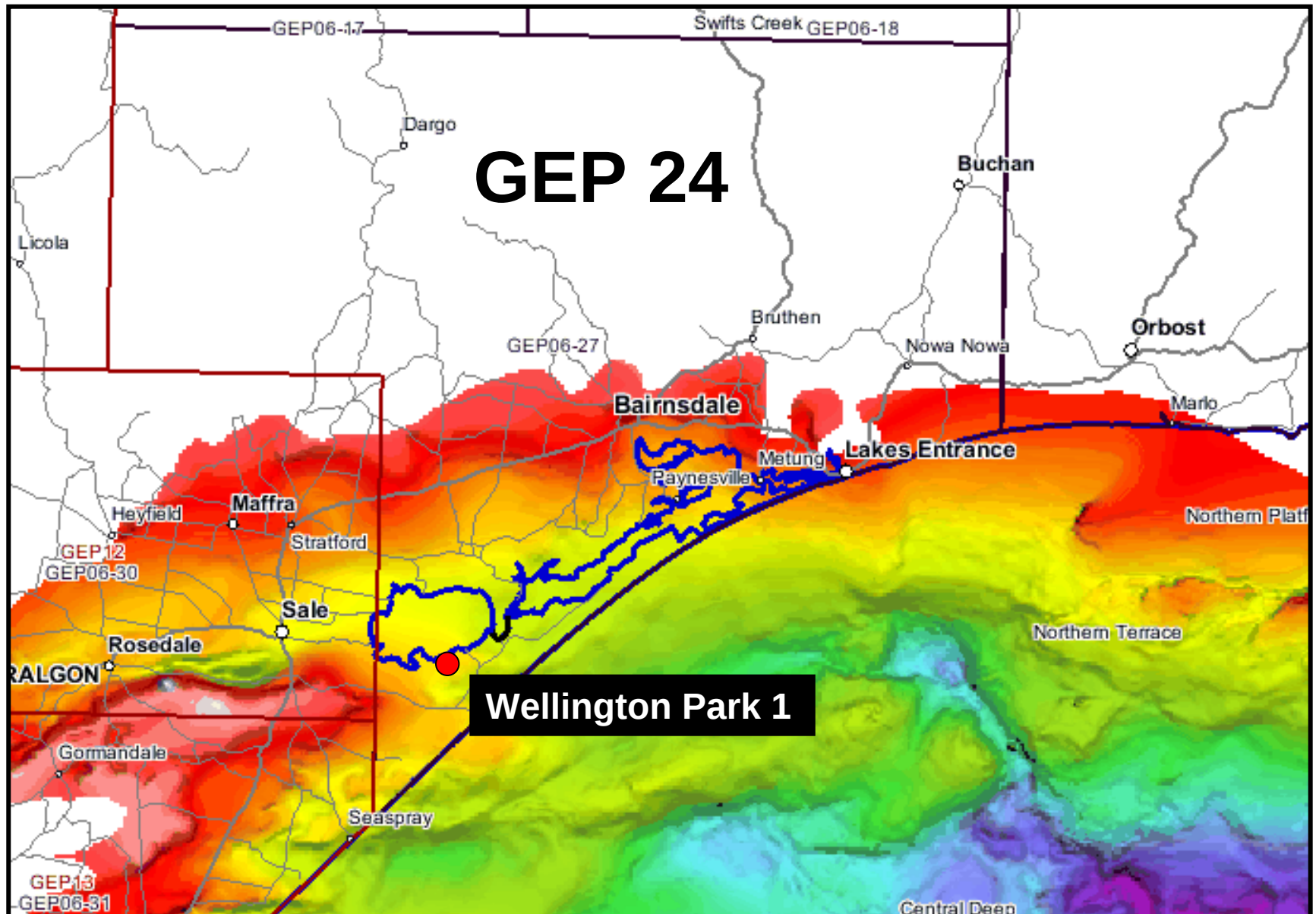
# ***Exclusive Cooperative Agreement to identify high prospect geothermal energy projects in China with four Chinese Government Institutions***

- **Chinese Geothermal Energy Society**
- **Geological Survey of China**
- **Chinese Academy of Sciences**
- **China Institute of Geo-Environment Monitoring**

***Boiling Springs – Yunnan Province, China***



# *East Gippsland Licence Area*



# *Outlook for Calendar 2009*

- Finalize the \$57M TRUenergy Farm-in ✓
- Secure \$7M GDP funding for drilling ✓
- Spud Paralana 2 deep well (4kms) in mid June 2009, drill/complete well (around 2 to 3 months) followed by , testing logging, fracturing and stimulation program in second half of 2009 (on schedule)
- Secure \$62.8M of REDP funding for 30 MW demonstration project (application lodged)
- Complete Madrid GDH feasibility assessment and concurrently progress potential JV with Dalkia (underway)
- Complete assessment of East Gippsland Project and JV project – late 2009
- Complete China generative program, establish JV in Q3 2009
- Continue to assess and review current and new project opportunities – including new JVs

# Thank You



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