

Guilt Free Energy

Green Rock Energy Ltd 2008 Annual General Meeting

Managing Director's Presentation
Adrian Larking

19 November 2008



Highlights



Olympic Dam

- Large inferred resource of heat in ground
- Expression of interest submitted to Federal Government for grant of funds for proof-of-concept drilling
- Design commenced for proof-of-concept drilling

Perth Basin

- Preferred applicant for permits as notified by WA Government
- Awaiting grant of permits by WA Government
- Submitted application for WA LEED Grant

Hungary

- New company formed to explore Carpathian Basin
- Locating drill targets in two promising project areas

Green Rock Energy Limited

Guilt Free Energy

Aim

3 year plan

People

Capital Structure



Green Rock Energy:

Our aim



- To be a major developer of geothermal energy properties
- Create shareholder value from:
 - identifying and securing the right geothermal ground; and
 - developing that ground into a major geothermal energy producer.

Green Rock Energy: Our 3 Year Plan



- Evaluate and develop three major projects:
 - Olympic Dam
 - Perth Basin
 - Hungary
- Build a geothermal technical and project development team
- Identify future projects

Green Rock Energy:

Our capital structure



Market Capitalisation

A\$7.2 million

Shares on Issue

180 million

Options on Issue

18 million

Shareholders

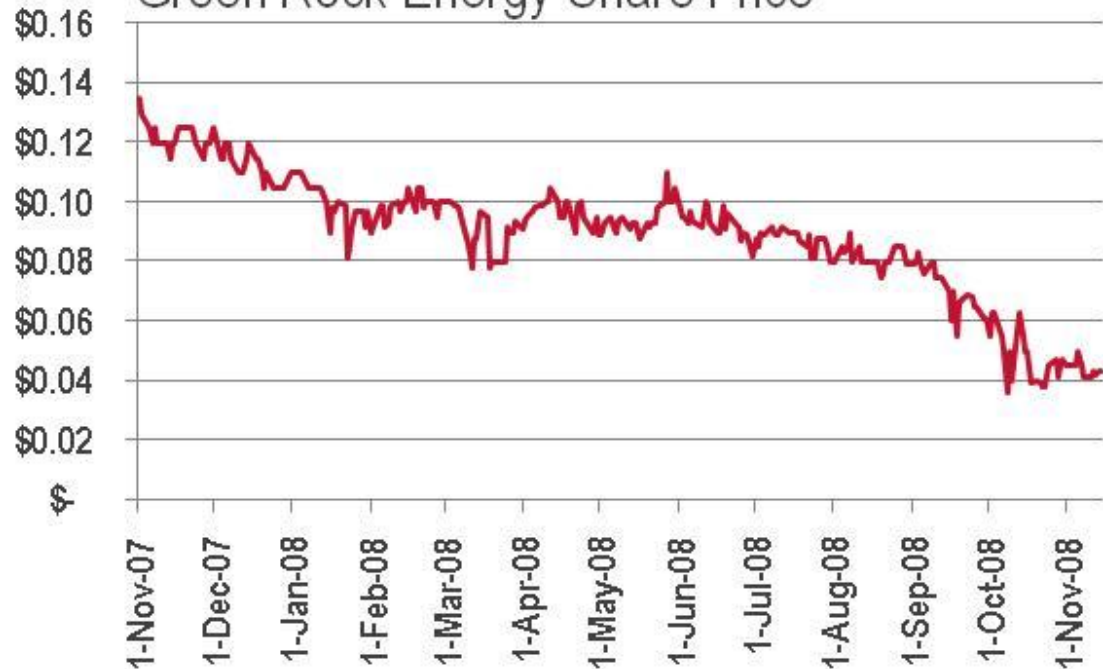
2,300

Top 20 (40%)

Directors (8%)

Cash (at 30 Sep 08) = \$2.3m

Green Rock Energy Share Price



Geothermal Energy

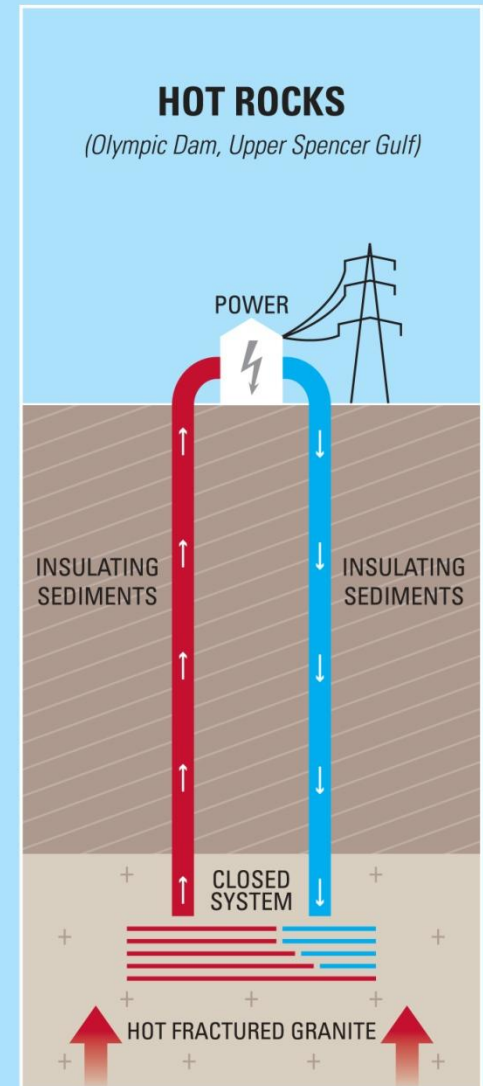
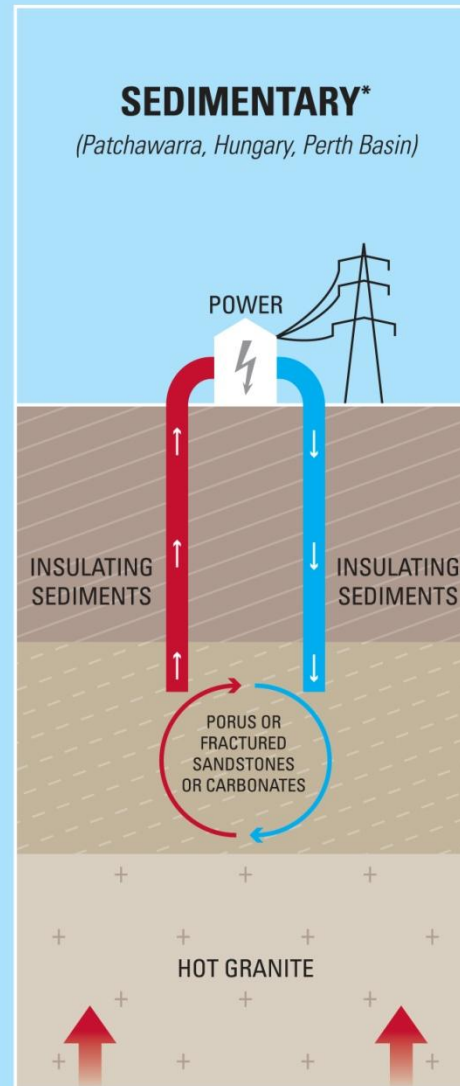
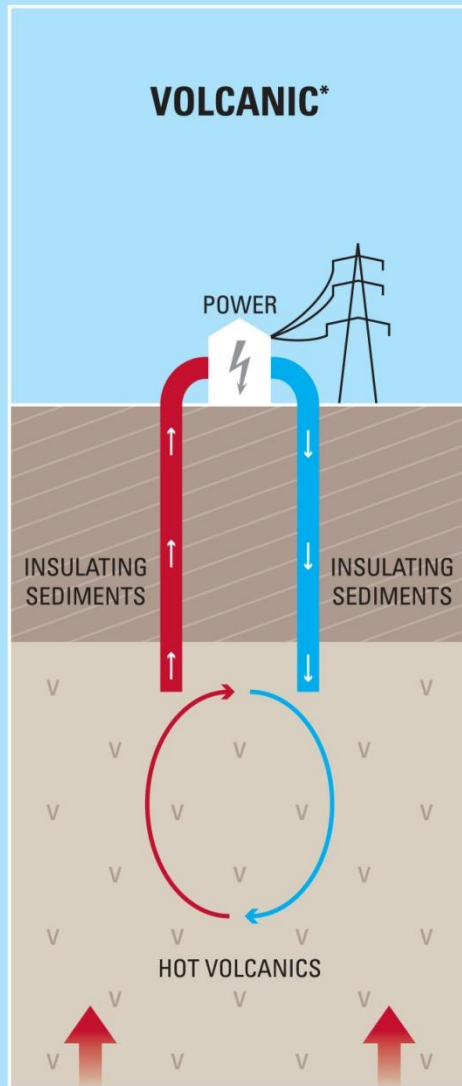
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- Sources
- Binary power plants
- Guilt Free Energy
- Project Support



Geothermal:

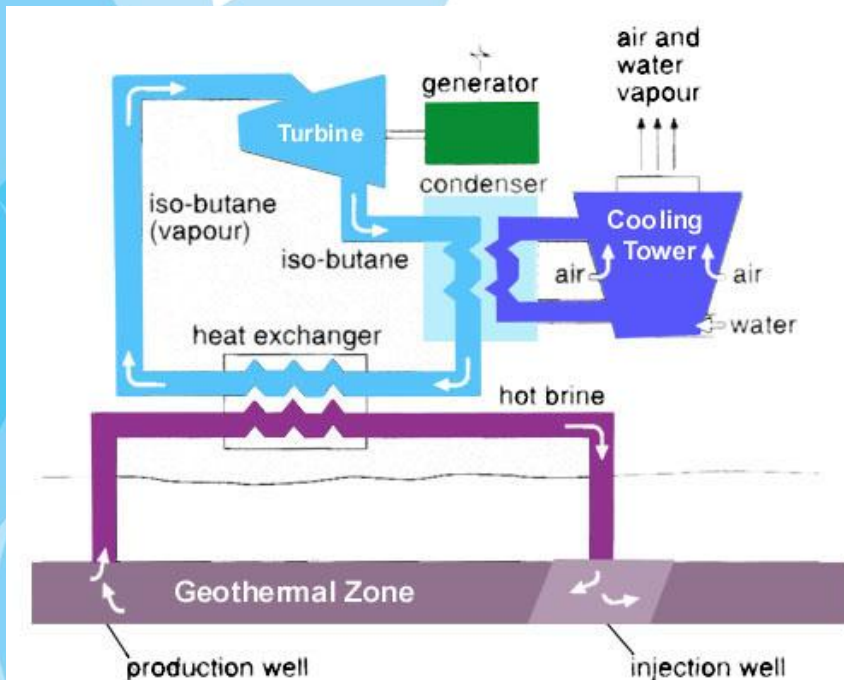
Sources of geothermal energy



*HYDROTHERMAL

Geothermal: Binary power plants

Binary power plants have a high production “up time”, typically around 95%



..... conventional above ground power plant technology

Geothermal: Guilt free energy



- Zero emissions
- Minimal noise
- Minimal physical footprint
- Minimal visual impact
- By law is renewable
- Benefits from RECs and carbon credits
- Will assist Australia meet Kyoto protocol obligations

Project Portfolio

Guilt Free Energy

- The Projects
- Olympic Dam
- Perth Basin
- Hungary



Green Rock Energy:

The projects



Location	The project - the potential
Olympic Dam - South Australia	Immediate proximity to major customer and Eastern Australia electricity grid, massive heat resource, EGS Project, target 400 MWe+ capacity
Perth Basin - Western Australia	Direct Heat (Air-conditioning / Heating commercial buildings), through Perth metropolitan area, target 400 MWt + capacity
	Hydrothermal/sedimentary project. Joint Venture with Resource companies, target 100 MWe+ capacity
Hungary	Hydrothermal/sedimentary project, immediate proximity to electricity grid, high feed-in tariff, strong joint venturers, target 100 MWe + capacity
Patchawarra - South Australia	Sedimentary project – currently rated lower priority
Upper Spencer Gulf - South Australia	EGS project - currently rated lower priority

..... a broad geothermal portfolio

Australian projects



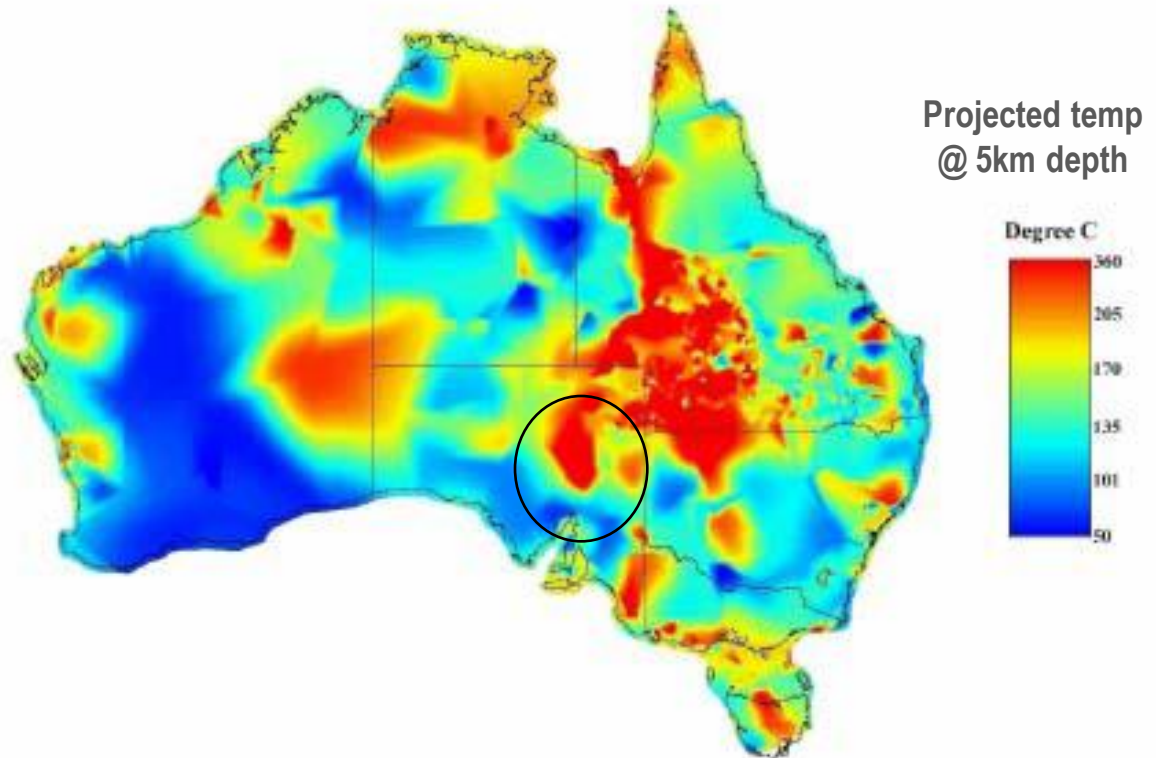
Olympic Dam

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- Heat resource
- Location
- Objective
- Progress
- Next steps
- Proof-of-concept



Olympic Dam : The heat resource



..... situated on a major heat anomaly

Olympic Dam: The location



100% owned by GRK

- 2,899 sq kms licence area
- enormous energy potential

Proximity to national grid & major customer

- minimal transmission costs
 - 15km to power grid
 - 20km to mine site

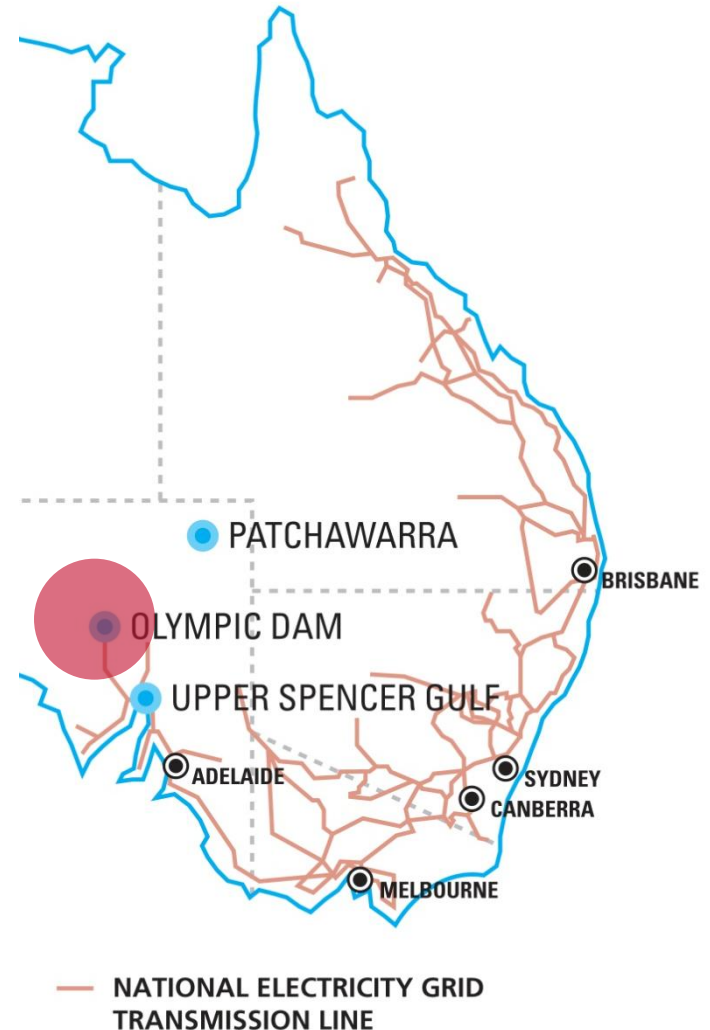
Access to infrastructure

- airport, roads, engineering, labour force, medical, town services

Access to water supply

- local groundwater aquifers

Enables staged development



..... the optimum location

Olympic Dam: The objective



- Installed Capacity - 400 MWe +
 - Incremental development
 - First electricity production by 2012
- Levelised Cost - \$70/MWh
- Electricity Price (including RECs) - \$110+/MWh
- 20%+ Return on Equity

Olympic Dam: The progress



- Blanche No 1. well drilled, cored & logged to 1,935 m into hot granite

- In-situ stress analysis (CSIRO)

- Confirmed horizontal compressional stress

- Hydro-fracture testing (GEO-Meß-Systeme GmbH)

- Successfully opened fractures at expected operating pressures

- Well productivity capability (GeothermEx)

- Potential of up to 7 MWe/well

- Inferred Resource (SKM)

- 120,000 PJ of heat in place in 460 square kilometre area

- Just 3% of a 460 km² target area has enough heat to deliver 400 MWe for 30 years *(this is just a portion of the 2,899 km² of geothermal exploration licence area)*

Olympic Dam: The next steps



2008	2009	2010	2012	2014	2015	2016	2020
Compile Proof-of-Concept work program	Joint venturer	Hydro-fracture & water circulation testing	Commission 3-5 MWe power plant	Commission 20 MWe power plant (cumulative 25 MWe)	Commission 25 MWe power plant (cumulative 50 MWe)	Commission 50 MWe power plant (cumulative 100 MWe)	Cumulative 400 MWe
	Contract Drill Rig	Order power plant (3-5 MWe)					
	Drill 1 st & 2 nd evaluation wells	Commence production drilling program					

Olympic Dam Project: Proof of Concept



- Expression of interest lodged for \$7 million grant from Federal Government's Geothermal Drilling Fund for two deep proof-of- concept wells
- Well design has commenced
- Discussions underway with drilling companies for drilling rigs & sharing of rig mobilisation costs
- Timing of drilling subject to farm-out

Perth Basin

- Geology
- Heat flow
- Permit application areas

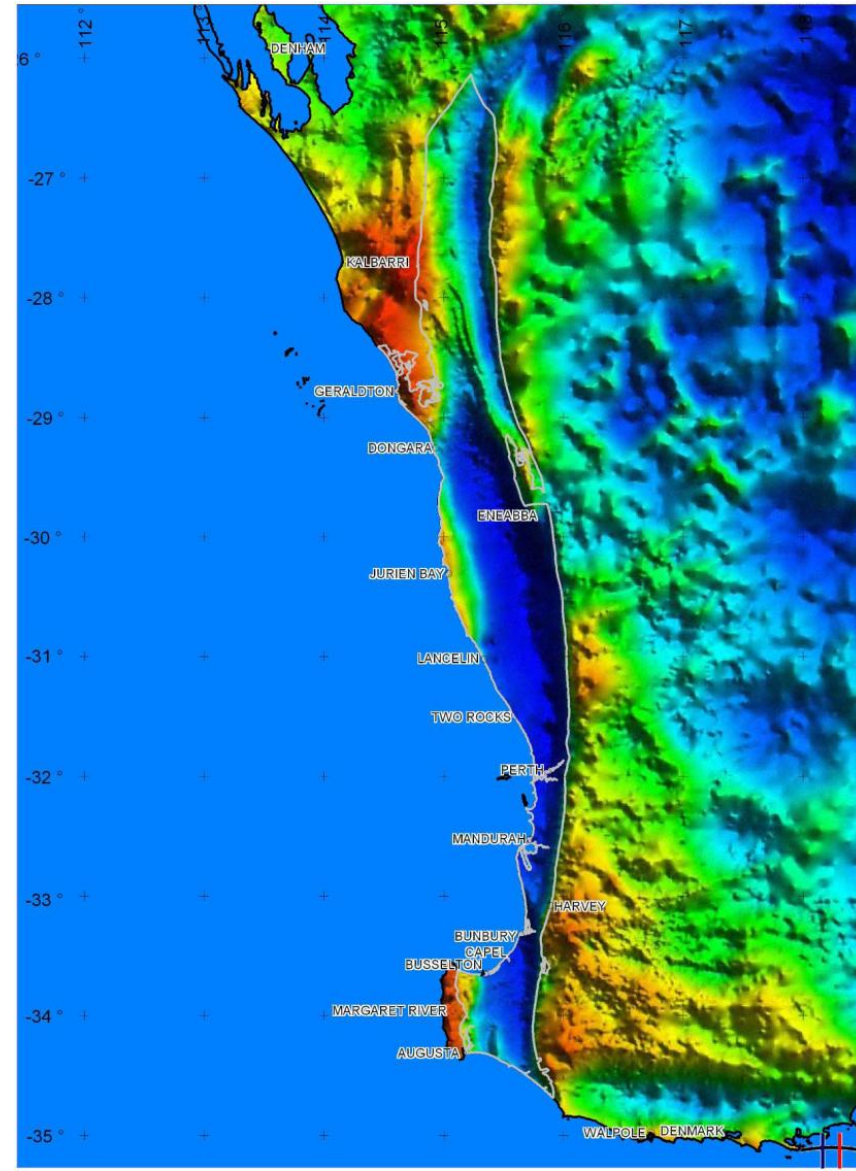
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Perth Basin: Geology

- 1000 km long half-graben
- Up to 15 km deep sediment fill
- Substantial deep aquifers
- Similarities to Rhine graben
- Expect convective heat flows in thick aquifers
- Close to markets & infrastructure

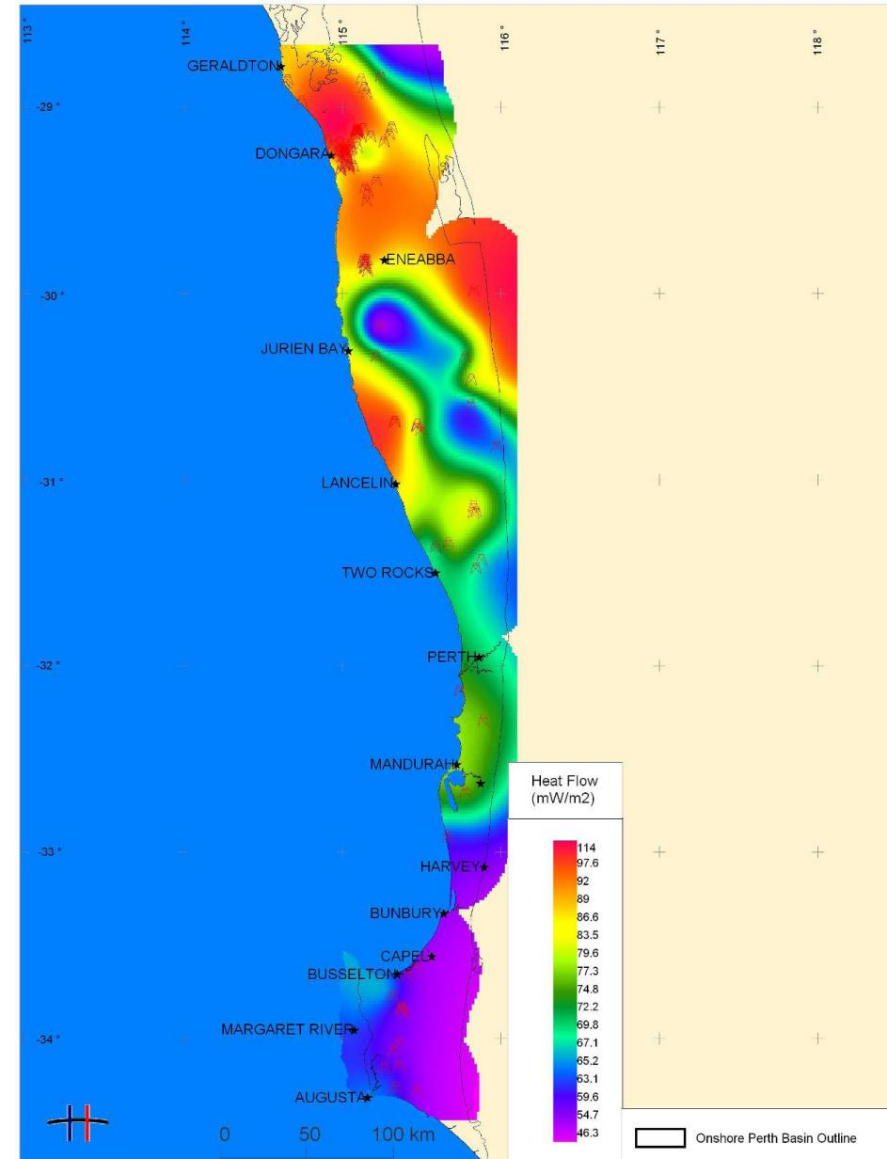
Source: Hot Dry Rocks Pty Ltd



Perth Basin: Heat flow

- Locating hot spots by measuring heat flow
- Heat flow measurements calculated from petroleum & water wells
- Expect conductive & convective heat flows

Figure source: Hot Dry Rocks Pty Ltd

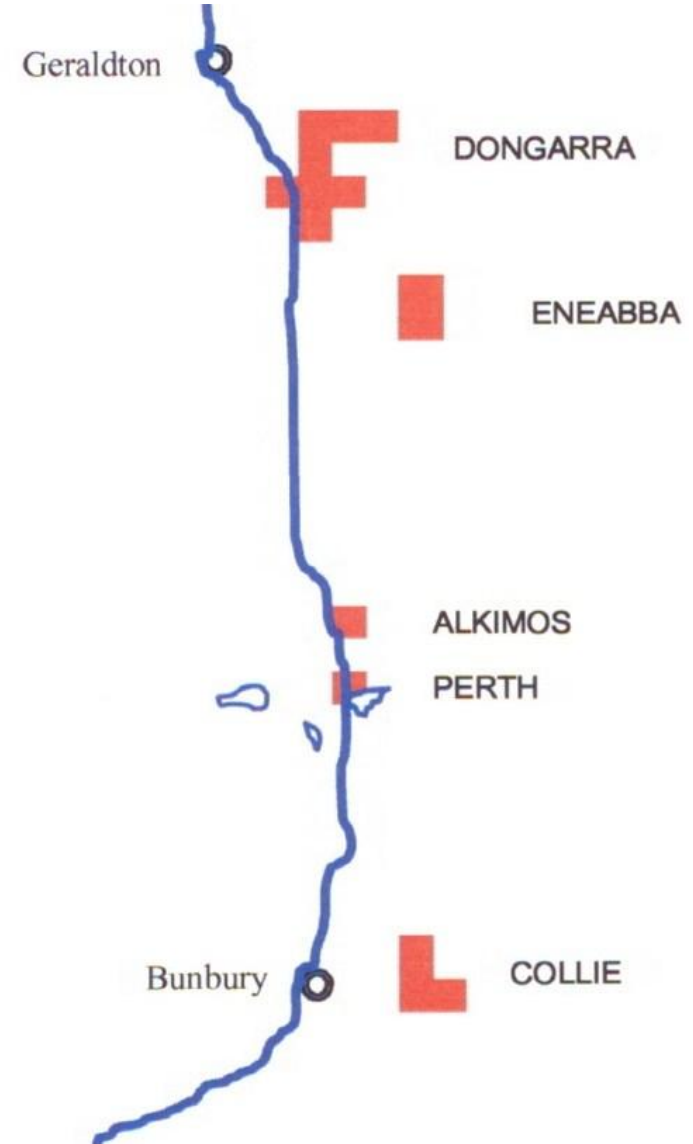


Perth Basin:

5 geothermal permit application areas



- **Perth**
 - Perth metropolitan area
 - 250 km² of geothermal permits
 - Low temperature geothermal
- **Alkimos**
 - Desalination potential
 - 250 km² of geothermal permits
- **Dongara**
 - J.V. with petroleum producer
 - 2,200 km² of geothermal permits
 - Higher temperature potential
- **Collie**
 - J.V. with major mining company
 - 750 km² of geothermal permits
- **Eneabba/Urella**
 - Electricity generation potential
 - 500 km² of geothermal permit



Perth Project

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■ Perth Geothermal Project

- Technology
- Participants
- CO_{2e} abatement
- Progress
- Timetable



Perth Geothermal Project:

The technology



■ Geothermal heat powering chillers for air-conditioners

- Geothermal water around 75°C to 100°C
- Environmentally benign (water is the refrigerant)
- Replaces electricity as energy source for air-conditioner & heater
- Provides base load in large commercial / industrial buildings

■ Geothermal heat source

- The heat contained in major aquifer 2km to 3 km below Perth
- The heat is extracted from the water which is then re-injected into the aquifer

No loss of water from the aquifer – simply extraction of heat

Perth Geothermal Project:

The participants



Joint Venturers

- Green Rock Energy Ltd

- University of Western Australia

Users

- Organisations seeking initial project

- University of Western Australia

- Curtin University

- Australian Resources Research Centre

- Potentially 100+ commercial sites in metropolitan Perth

Contributors

- Joint Venturers

- W.A. Geothermal Centre of Excellence

Perth Geothermal Project: The CO_{2e} abatement



■ The commercial demonstration plant

- replaces 5 MWth or 1.5 MWe

- equates to 12,240 MWh p.a.

- at a conservative 0.85 tonnes CO_{2e}/MWh

- CO_{2e} abatement estimated at 10,400 tonnes p.a.

■ Wider application (and potential) across Perth metropolitan area

- 100 buildings with similar size plant

- CO_{2e} abatement would be approximately 1 million tonnes p.a.

Perth Geothermal Project:

Progress to date



- Geothermal exploration permits
- Support from three commercial building owners for commercial demonstration plant
- Geothermal temperature modelling underway
- Supplier for geothermal air-conditioner identified
- W.A. Low Emission Energy Development Fund
 - Application lodged for \$2.5 million grant

Perth Geothermal Project:

The timetable



2008 December

- Project site selection from UWA, Curtin University and ARRC
- Engineering firm selection

2009 May

- Environmental approval
- Engineering & design of geothermal wells

2009 December

- Drilled production and injection wells

2010 January

- Engineering, design & order sorption chiller and heating unit

2011 February to August

- Installation and commissioning

Hungary

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- Prospectivity
- The location
- Next steps



European Project: Hungary – 33% interest

- Hungary is known hot geothermal region
- Excellent resource potential known from 5,000 MOL wells & seismic surveys
- New company established in August with MOL and Enx
- Aim to develop geothermal projects in Carpathian Basin
- Prospects 140°C to over 200°C



Hungary:

The location

- Member of European Union

- Proximity to international grid

- minimal transmission costs

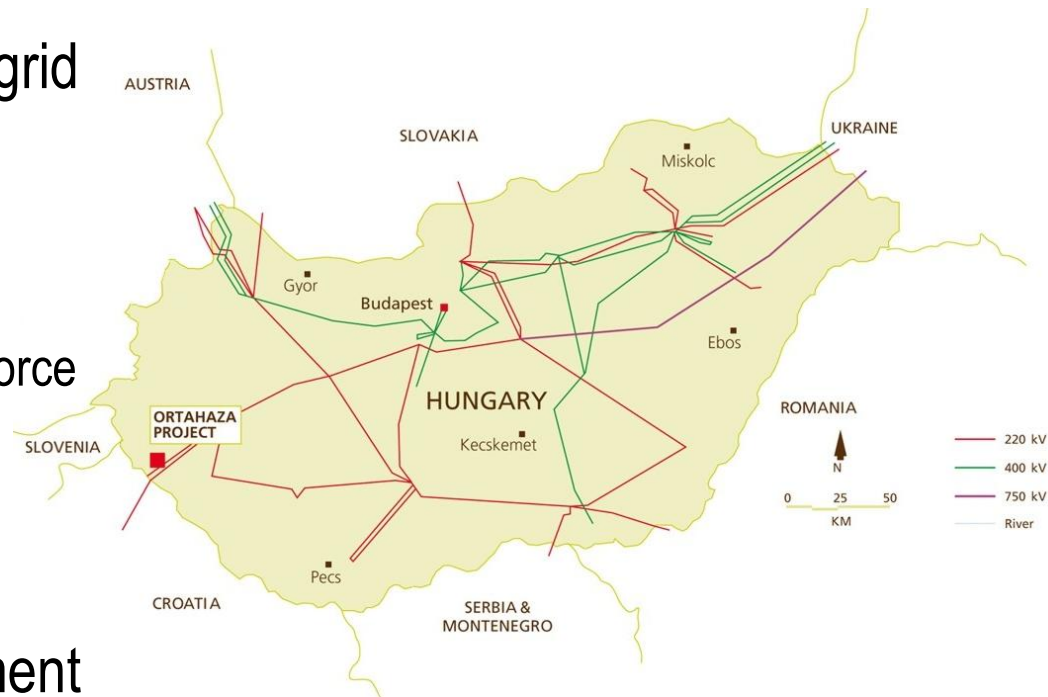
- Access to infrastructure

- roads, engineering, labour force

- Feed-in tariff

- electricity price €110/MWh

- Enables staged development



..... close to market

Hungary:

The next steps



- Detailed modelling (for two target areas):
 - Using extensive 2D, MT and drill log data
- Determine need for addition seismic or MT
- Upon granting of permits
 - Environmental and anthropological approvals
 - Well and engineering design

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Contact us at:

Unit 2, 38 Colin Street,
West Perth, 6005, WA
Australia

T: (+61 8) 9482 0482

F : (+61 8) 9482 0499

W : www.greenrock.com.au

Adrian Larking, Managing Director
alarking@greenrock.com.au

Alan Knights, Executive Director
aknights@greenrock.com.au

Guilt Free Energy

Green Rock Energy Limited powering a cleaner future

