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## **Newsletter October 2008**

This is a celebratory newsletter. As you read on you will see many areas of progress across the industry and we would like to congratulate people for their efforts.

### **Board Activities**

The next NZGA Board meeting will be in early October, this being the last meeting before the retirement of a number of our current Board numbers.

Thanks to all those who made themselves available for Board positions and for all those who took the time to consider candidates and vote. Also thanks to the Nominating Committee and to Mike Glucina as Secretary for the running of a professional election. The ballot closed on 12 September. As a result, the new Board members will be:

- Spence McClintock (MRP)
- Marcel Manders (MB Century)
- Paul Quinlivan (SKM)
- Cito Gazo (Coal Research Ltd/Energy Federation), and
- Claude Bannwarth (PB Power)

Their new duties will start immediately after the Annual General Meeting on 12<sup>th</sup> November 2008. Congratulations to all these people and commiserations to Hamish Brookie (Beca) who missed out this time.

This is another good chance to thank those who will be retiring from the Board, even though they have some work to do before then. Retiring members include:

- Alastair Maxwell (MB Century)
- John Bottomley (PB Power)
- Mike Mongillo (Geo-Imaging)
- Mike Glucina (Glucina and Associates), and
- Kevin Brown (GEOKEM)

### **NZGA Membership**

The NZGA has not had a concerted membership drive, but we do continue to experience strong growth. This is in part due to benefits offered to members who attended the Reservoir Management Seminar, but has drawn in wider numbers as well. Currently there are 206 members.

We suspect the single greatest reason for growth of the Association is because of the growth in numbers across the whole industry. Again we would like to encourage members to ask those they work with to join too. As a further incentive for new members, there are significant discounts for NZGA members for the annual conference coming in November.

Remember to let the Association know if you change jobs as we have had to delete a number of members through lack of contact details.

## Action Plan

Following input at the NZGA Seminar, the Action Plan has been revised for the current year. Progress against the current key actions follows.

Action	Comments	Status
Annual NZGA Seminar and the New Zealand Geothermal Workshop	The common theme last year for the NZGA Seminar and Workshop was Growth. The coming conference will be hosted by Contact and held in conjunction with Wairakei 50 year celebrations. This will be the premier industry event for information dissemination and networking.	Event is progressing with papers being submitted for the Workshop and speaker invitations for the Seminar. Themes of Sustainability and Celebration have been decided.
Geothermal Drilling Review	NZ geothermal drilling should be reviewed. The review should include: the Code of Drilling Practice, certification of drillers, industry resources, drilling training programmes (possibly including NZ and Aus crews)	Hagen Hole has been invited to undertake a scoping study on drilling regulation and legislation as an initial step
Description of Major Geothermal Developments	This information, aimed at the public and those with a general geothermal interest, would replace several more intrusive studies suggested previously, including the station efficiency study. This will effectively be a collection of case studies.	All major developers have now been approached with information requirements. Contact has committed to complete this.
Geothermal Heat Pump Studies	Heat pumps are now entering the New Zealand market. Initial indications are that, for large domestic loads (including water heating) and above, this option is competitive with other common heating options so could be a significant contributor to our national energy future.	Report by Beca to be revisited, with additional input from MWH.
Desperate Generation (Future Must Run Auctions)	Must Run auctions are a feature of the NZ electricity market. Currently on rare occasions generators compete to offer generation that must run into the market at periods of low demand. There is a risk that generation can become demand-limited affecting project economics, and effects should be understood.	Incidental discussions with the Electricity Commission indicate that they are considering a study of this nature. A more localised effect has been noted in the competition to generate between the Kawerau geothermal station and the Aniwhenua hydro station in the Bay of Plenty area
Cost of Geothermal Power Development	This study revisits the costs of geothermal generation accounting for major exchange rate movement, escalating raw material prices and a changed drilling scene. This allows more accurate comparison with alternative generation forms.	Currently being finalised by Peter Barnett and SKM.
Government Lobbying	There is opportunity to shape these key policy documents at the earliest possible stage	Various meetings have been held including with the Minister of Energy
Assessment of Direct Heat Usage	Baseline data is now available. Future requirements are for ongoing monitoring of changes	A baseline report was developed in 2006. Historical use over time was approximated in a 2007 NZGA Seminar paper.
Geothermal Short Courses	Short courses (normally crammed into a day), can give a broad overview of geothermal energy for consenting agencies, developers and other interested parties. This assists development directly.	Auckland University will hold a general short course in conjunction with the Workshop. NZGA and WPRB held a specialist Geothermal Reservoir Management Seminar in Taupo in August 2008.
Maori-Focused Energy Seminars	Future geothermal projects will involve Maori Trusts in lead roles, partnering roles and/or in their kaitiakitanga roles.	Complete for 2008 – A seminar hosted by GNS Science and TPK was held on 24 June 2008 in Rotorua.
Industry Archive	Key people are leaving the industry through retirement, transfer or death. With this loss, comes potential loss of valuable experience and loss of knowledge.	Contact Energy is independently capturing memories of Wairakei pioneers, but the Wairakei celebrations provide a unique opportunity to capture information.
Distributed Energy Opportunities	A review is needed of the contribution that geothermal energy can make to distributed energy supply and how to facilitate this.	Complete. A report by East Harbour has been finalised and has been published on the NZGA website
Training and Education	Training and currency of information is critical in an expanding industry with ongoing development. This applies to electricity generation, heat supply and heat pump applications	A survey form was delivered to all members. A committee is to meet to address issues at all levels.
Skills and Services Register	A skills and services register could be developed to emphasise NZ capabilities. This should be updated on a regular basis.	The HERA register has been added to the website

## EECA Projects

The Energy Efficiency and Conservation Authority has previously sponsored a number of NZGA projects from our Action Plan and continues to do so.

- Peter Barnett and SKM will finalise the project related to major generation costs.

- Beca's has drafted a report on geothermal heat pumps (including comparative costs with other heating options). This will be finalised shortly with additional input from MWH.
- East Harbour has completed a contract looking at distributed energy opportunities for geothermal energy.

## **Geothermal Capability**

In the Action Plan above, you will see reference to a skills and services register that has been developed by HERA and included on the NZGA website under the title "Geothermal Capability Register". This is intended as a living document. All people/companies active in providing engineering services to the geothermal industry are encouraged to provide information or updates in the required format through to Bill Lovell at HERA (bill.lovell@hera.org.nz).

(see <http://www.nzgeothermal.org.nz/publications/Reports/HERAReportR5-35.pdf> )

## **The NZGA/WPRB Reservoir Management Seminar August 25th**

The scheduled Reservoir Management Seminar by Dr. Cedric Malate of PNOC-EDC was given to a large audience, mostly from New Zealand but including one representative from Lihir Gold, PNG. This was co-hosted by NZGA and the Western Pacific Regional Branch of IGA. The number of attendees forced a relocation from the GNS offices to the larger Bayview Wairakei Resort conference facilities. However, Kay Elliston of GNS kept a guiding hand on the event through to the day.

Everyone would have gained from the experience, especially as Cedric outlined a favourite subject of well acidising to stimulate production. The whole presentation had a practical orientation. The audience was mixed, but with a good representation from the developers themselves as well as consultants. The end result will be a large number of people considering how they can further improve their own reservoir management systems.

The NZGA has noted that there was strong demand from industry for the right focussed seminars such as this, and will consider what else may be of use for a similar format. If you have recommendations let us know.

Cedric also gave a lunchtime presentation for the Energy Federation in Wellington on the 26<sup>th</sup> and spoke with geothermal students at Auckland University before he returned to the Philippines.

Thanks to Cedric for being available, to PNOC-EDC for making him available, to Kay for all her assistance and to the many attendees who made this a success by coming along.

## **Sponsorship**

At this time we would like to thank the NZGA sponsors (including Corporate members) for the 2007/8 financial year again. These include: Contact Energy, Tuaropaki Power Company, Sinclair Knight Merz, Parsons Brinckerhoff, MB Century, GNS Science, Mighty River Power, Meridian Energy, Parker Drilling Company, Bay of Plenty Electricity, Geotherm Group, Hot Rock Ltd, Geothermal Development Associates, Genesis Energy and Maunsells. Other parties are still considering sponsorship and Brian White is still approaching companies.

## **News from the Auckland University Geothermal Course**

Juliet Newson at Auckland University has written the following notes on the Geothermal course:

"We are in the last week of lectures for Geothermal courses, to be followed by the students working on a four week research project. In 2008 we have had a total of 25 students, from nine different countries, including five from New Zealand. Other nations represented on the Geothermal course have been France, Germany, Iceland,

Indonesia, Kenya, Mexico, Philippines, and the USA. Eight of these students are attending the full five months of lectures; the others have attended short sections of the course.

The question now is the 2009 courses. As a result of the success of the 2008 field trips, we plan to offer an extended field course in 2009, with increased earth science and resource assessment components. There will still be lecture courses in Introductory Geoscience and Geothermal Engineering, and in advanced geothermal topics. Enquiries to Olwen Morgan.

We would like to thank all the people and organisations below who contribute to the course, both for lecturing, and in the field: Contact Energy, Century Resources, SKM, Geokem, GNS, Tuaropaki Trust, Boart Longyear, Lakes District Health Board, Polynesian Spa, Rotorua District Council, Solid Energy Ltd, Tenon Manufacturing Ltd, Department of Engineering Science/University of Auckland, IESE, NERI, and Chevron Indonesia”



Postgraduate Geothermal students at Waimangu on the 2<sup>nd</sup> Field trip 2008

### **The Wairakei 50<sup>th</sup> Celebration, Geothermal Workshop and NZGA Seminar (10<sup>th</sup> – 16<sup>th</sup> November)**

Please make a diary note to attend this November combined event which should be very successful and worthwhile. Why not register now? Combined Wairakei 50<sup>th</sup> Anniversary celebrations hosted by Contact Energy in the Taupo Great Lake Centre, include an IEA geothermal sustainability modelling workshop, the Geothermal Workshop (with a research focus, and with some Wairakei papers), the NZGA AGM, the NZGA Seminar (with a sustainability focus) and site visits.

Many parties have agreed to offer specific financial support for the Workshop and Seminar this year, and this is appreciated. Sponsors will all be acknowledged at the event and on the website (see <http://www.nzgeothermal08.com/nzgeothermal/> for more details).

Auckland University will hold short courses again in conjunction with the Workshop.

### **An Award for Environment Waikato**

It is noted that Environment Waikato (an Institutional member of NZGA) has recently won the national prize in the Energy Globe Awards for the work involved in the development of their Geothermal Regional Plan and Regional Policy Statement. The Energy Globe Awards prize

is said to be the most prominent and prestigious international environmental prize. Blair Dickie (Environment Waikato's Policy Programme Manager) was presented with the certificate at a ceremony at the European Parliament in Brussels in May.

Blair Dickie said "The team that worked on this policy was small and extremely focused on getting the right outcome for the region. It was a long process that required commitment from elected representatives and staff with the final outcome benefiting from the quality of inputs from a wide range of stakeholders participating in the process. I'm glad to see their dedication recognised in such a big way."

Obviously Blair's thanks are directed at all who have helped to develop this planning framework, under which progress can be made with adequate protections.



Blair Dickie with an Energy Globe Award certificate in Brussels.

### **Power Station Commissioning**

Since the last newsletter in July, three new geothermal power stations have been (or are being) commissioned in New Zealand. These include the 90-100 MW Kawerau plant (a double flash design), the 15 MW Ngawha extension (Ormat binary cycle plant) and the very low key 8.3 MW KA 24 Kawerau binary plant (also an Ormat plant). Clearly this has involved some very intense work by a number of parties. At this time it is unknown whether a triple geothermal plant commissioning will ever be repeated in such a short timeframe. It is further evidence of the level of development effort that is currently going on, some like the Ngati Tuwharetoa project being almost below the radar.

Congratulations to all these developers and to the teams who have worked successfully to provide planning frameworks, environmental services, geoscience services, drilling services and to complete the design, manufacture, construction and commissioning of these projects.

Brian White and Colin Harvey  
New Zealand Geothermal Association  
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