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## **Newsletter May 2009**

Another three months down the gurgler since our last newsletter. The busier life gets, the quicker it passes – but most of you will know that!

### **Board Activities**

The NZGA Board continues to be busy in many areas, and has been asked to comment on a range of material in recent months. Our most recent meeting was late in April at the PB offices in Auckland.

### **Nominations for New Board Members**

As part of our 3 yearly rotation policy, 5 of our current Board members (Colin Harvey, Pat Brown, Judith Magyari, Murray Stanley<sup>1</sup> and Greg Raasch) will retire at the end of this year. We look forward to a strong response for new board members, and new Executive members within the Board.

A call for nominations was sent out to members on 4 May 2009. These are to be received by Brian White (NZGA Secretary, Judith Magyari is currently away) by the 19<sup>th</sup> June 2009. Nominations will be considered by a Nominations Subcommittee. If more than 5 nominations proceed then elections will be organised.

There also will be a complete change in key leadership positions. We will be looking for a new president (Colin), treasurer (Pat) and secretary (Judith).

### **Membership**

Our numbers continue to climb but we are aware that although several companies are growing in staff numbers this may not be translating into NZGA membership. Are you making all your staff and associates aware of the benefits of joining the NZGA? For \$50 per year the discounts available for the seminars and workshop allow quick recovery of this sum, plus the IGA newsletters keep you up to date with international activities. Can you please circulate this newsletter to any non-members you feel would benefit by joining us. Adding a further \$7.50 for the Western Pacific Branch membership is also to be strongly encouraged.

Currently the NZGA has 221 members compared with 170 at this time last year. Members were invoiced for subs at the beginning of the year and we are only waiting on the last 15% of payments. Note that the bylaws call for disqualification if subs are not paid by 30<sup>th</sup> July.

### **Bill McCabe**

Some of you knew Bill McCabe, particularly through his pioneering work with radioactive tracer testing at Wairakei and his presence around the Gracefield DSIR offices. We have only just learnt that he passed away recently and offer our condolences to his family and friends.

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<sup>1</sup> Murray Stanley resigned at the beginning of this year due to work pressures and the Board has co-opted Mark Trigg in his place in the intervening months. Murray's position still becomes vacant.

## **Future Corporate Membership Levels and Industry Support**

The Executive Officer will soon be approaching companies again for Industry Support. Please consider the work that the Association is trying to do on behalf of the wider industry and the role that your organisation can play in supporting this.

The Association has noted that companies have provided support in some tightly defined values. To facilitate payments, the NZGA is proposing to establish several categories of Corporate Membership (Platinum, Gold, Silver, Bronze) for next year in the range (\$10,000 to \$1,000 + GST). A committee is working on that now.

The goal is to make the process of raising the key funds to operate the NZGA less time-consuming so that the Executive Officer's time can be focussed in more productive areas.

## **Meeting with Minister of Energy**

Brian and Colin met the Minister of Energy and Resources, Hon Gerry Brownlee in early April and had a very good reception. This type of meeting helps to raise the profile of geothermal energy at Ministerial level and opens up communications channels between the Minister and his staff and the Association. As a result, Colin has already been able to provide supplementary information to the Minister's office in response to a request.

The Minister has been coming up to speed with his new portfolio. He has been focused on reviews of the electricity industry which is now underway. Now he is looking more broadly across his portfolio.

## **Government Consultation**

Ministry for the Environment is continuing to work on regulations related to the emissions trading scheme. The NZGA Board had the opportunity to comment on this recently. The initial NZGA submission was followed up by further meetings with government officials and representatives of NZGA, Contact, Mighty River Power and Norske Skog Tasman to clarify issues, particularly around emissions measurements and some proposed default emission levels.

MfE has contracted Ian Thain to investigate a range of related geothermal issues in greater depth.

MfE had been doing some parallel work on guidelines for planning documents related to renewable electricity generation. NZGA provided brief comments on that, but that block of work has been put on hold for now, allowing the National Policy Statement on Renewable Electricity Generation to receive appropriate focus.

## **The May 2009 IGA Board meeting and joint workshop with the IEA Geothermal Implementing Agreement**

Jim Lawless and Colin Harvey represented the NZGA at the IGA board meeting and also joined the workshop with the IEA GIA in Madrid. In case many of you were not aware, the International Energy Agency (IEA) fosters a series of specific technological agreements whose role is to keep the IEA informed of generation and developments in a wide range of fossil, fission, fusion and renewable energy development. The following section is contributed by Mike Mongillo to inform you of IEA GIA activities.

## **The IEA Geothermal Implementing Agreement (GIA)**

The International Energy Agency (IEA) was created in 1974 in response to the 1973-74 oil crisis. It is based in Paris, France, and consists of a cooperative group of 28 Member countries of the Organization for Economic Cooperation and Development (OECD). The Commission of the European Communities also participates.

The IEA encourages international collaboration in energy technology through a network of 41 active Implementing Agreements (IAs), which provide the management structure and legal mechanism for guiding the activities of the IEA's collaborative programmes. Participants include research institutions, utilities, industries and organizations. Ten of the IAs cover renewable energy topics, including Geothermal, Hydro, Wind, BioEnergy, Solar, Ocean, etc. (see [www.iea.org](http://www.iea.org) for more information).

The Geothermal Implementing Agreement was established in 1997, and is currently its 3<sup>rd</sup> 5-year term of operation, which takes its activities to 2012. It provides a flexible framework for wide-ranging international cooperation in geothermal R&D by bringing together national, industry and organization programmes for exploration, development and utilization of geothermal resources. An Executive Committee (ExCo) coordinates and manages the activities of the IA. New Zealand has played a leading role in this IA since its founding, formerly through Trevor Hunt, and currently with Chris Bromley (ExCo Member, Chair and Leader of the Environmental Impacts Annex), Colin Harvey (Alternate ExCo Member) and Mike Mongillo (Secretary). Funding to support New Zealand's membership of the organisation comes from MED, GNS and MBCentury.

GIA collaboration provides researchers with opportunities for information exchange via meetings, workshops and networking. Members can also participate in R&D projects and develop databases, models and handbooks (see [www.iea-gia.org](http://www.iea-gia.org) for more information).

GIA's membership continues to grow, having nearly doubled to 19 Members in the past 3 years, and now includes 12 countries (Australia, France, Germany, Iceland, Italy, Japan, Mexico, New Zealand, Republic of Korea, Spain, Switzerland and the United States), 4 companies (Geodynamics, Green Rock Energy, ORME Jeotermal and Ormat Technologies), 2 organizations (CanGEA and Geothermal Group of APPA), and the EC.

The GIA's current Mission is: *To promote the sustainable utilization of geothermal energy throughout the world by improving existing and developing new technologies to render exploitable the vast and widespread global geothermal resources, by facilitating the transfer of know-how, by providing high quality information and by widely communicating geothermal energy's strategic, economic and environmental benefits.*

To realize this mission, GIA participants take part in one or more tasks of the current four major research areas (Annexes):

**Annex I: Environmental Impacts of Geothermal Energy Development-** to identify environmental effects of geothermal development and develop and adopt methods to avoid or minimize their impacts. Two of the tasks involve investigations of seismic risk from EGS fluid injection and development of sustainable utilization strategies.

**Annex III: Enhanced Geothermal Systems (EGS)-** to investigate new and improved technologies that can be used to artificially stimulate a geothermal resource to allow commercial heat extraction.

**Annex VII: Advanced Geothermal Drilling Techniques-** to pursue advanced geothermal drilling research and investigate all aspects of well construction with the aim of reducing costs. One task is aimed at the production of a geothermal drilling "best practices" handbook.

**Annex VIII: Direct Use of Geothermal Energy-** to address all aspects of direct use technology with emphasis on improving implementation, reducing costs and enhancing use. One of the activities is directed at developing methods for presenting geothermal data on the internet using Google Earth.

A joint GIA-IGA Workshop on the global potential of geothermal energy and its contribution to the mitigation of climate change was held 5-6 May 2009, in Madrid, Spain, in association with the 21<sup>st</sup> GIA ExCo Meeting; with the objective of providing geothermal input for a new IPCC Report. There were over 60 international participants from the GIA and IGA, including Chris Bromley, Colin Harvey, Jim Lawless and Mike Mongillo from New Zealand. Chris is one of

the Lead Authors of the geothermal chapter of the IPCC report to be published in 2010, and recently attended an IPCC workshop in Brazil as part of the report planning.

## **World Geothermal Congress (WGC) 2015 Bid**

Brian White, Colin Harvey, Jim Lawless and Phil Hutchings have been part of lengthy discussions with the Australian geothermal associations, the Melbourne Convention Centre and underwriters The Meeting Planners to prepare a bid to the IGA for hosting the WGC 2015 in Australia and New Zealand. A bid was formally submitted on time on 31 March 2009 (see the following link <http://www.mcvb.com.au/bids/WGCEBID.pdf> ).

World Geothermal Congresses have been held every 5 years with the next one being in Bali in 2010. These are the premium geothermal conference events on the international scene. The broad concept of the Aus/NZ bid is for field trips to be held in New Zealand before the conference, which will be held in Melbourne along with any short courses, and followed by other field trips in Australia. MOUs between various groups arrange for cooperation and profit sharing and for the underwriting of the event. Timing is not fixed but appropriately it looks like it will span ANZAC day.

At the beginning of May, both Colin and Jim were in Madrid, partly on IGA business so were able to join in with Australian counterparts in the formal oral presentation of the Aus/NZ bid. Originally there were 4 bids but Slovakia dropped out leaving Iceland and Germany as strong competitors. By all reports, the Madrid presentation went very well, and there is a real possibility that we might win this.

## **WGC 2010**

Do you think your company will be represented at the World Geothermal Congress 2010 (see <http://wgc2010.org/>) in Bali? We are wondering if there is interest in a NZ Inc booth. If you are interested in a combined booth, please let Colin Harvey or Brian White know. Several companies will have stand-alone booths.

There has been strong support for a combined New Zealand function like the wine and cheese function held in Turkey in 2000. The NZGA will keep attendees informed about this.

Jim Lawless has reminded us about the need for fellowships aimed at assisting delegates from developing countries. For more information about these fellowships see <http://iga.igg.cnr.it/WGCBali2010/> or contact Jim Lawless at SKM directly.

## **The NZGA Seminar August**

The NZGA will be holding a Seminar currently scheduled for 19 August at the Bayview, Wairakei on reservoir monitoring and data management. This will be led by Paul Bixley who will be finalising the programme in coming weeks. While the initial suggestions had been focused on downhole measurement this has been broadened to cover a wider range of monitoring requirements associated with appropriate management of geothermal reservoirs. We will advise of final costs and programme by email and include this on the website.

A suggestion has been made that a dinner should follow the Seminar. This will mean people staying overnight, so could be followed by a field trip the following day. Please let Brian White or Colin Harvey know if a dinner and field trip on the following day would be of interest.

## **The 31<sup>st</sup> New Zealand Geothermal Workshop & NZGA Annual General Meeting (16<sup>th</sup> – 18<sup>th</sup> Nov 2009)**

Please make a diary note to attend this event scheduled for 16<sup>th</sup> to 18<sup>th</sup> of November which should be very successful and worthwhile. The University of Auckland will be considering holding short courses again in conjunction with the Workshop.

## Geothermal Courses

The Institute for Earth Sciences and Engineering at the University of Auckland continues to offer geothermal-related courses. There are currently about 25 in the enrolment process for the certificate course. This now includes 6 New Zealanders. These courses are of relatively short duration and it is possible to do a limited range of papers.

For more information on the following short courses or to register interest, please contact Olwen Morgan ([o.morgan@esc.auckland.ac.nz](mailto:o.morgan@esc.auckland.ac.nz)):

| Dates                       | Course   |
|-----------------------------|--|
| July 20 – November 13       | Post Graduate Certificate in Geothermal Technology |
| July 20 – August 21         | Introduction to Geothermal Science and Technology  |
| October 5 – October 30      | Reservoir Modelling                                |
| August 2 – August 7         | Field Studies 1                                    |
| September 14 – September 18 | Field Studies 2                                    |

## 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  |
|---|---|---|
| <b>HIGH PRIORITY</b>  |   |   |
| Government Lobbying and Raised Public Awareness             | There is now a new Government. NZGA should meet with the new Minister of Energy to generally present a case (and allow a briefing by his officials specifically on geothermal energy)   | Meetings held with Minister and various officials subsequently  |
| Submissions on Policy                                       | NZGA will make relevant submissions in response to government consultation documents e.g. NPS on renewable electricity, climate change regulations, etc   | Continued discussions on ETS regulations, input to Transpower report, comments on planning guidelines for renewable electricity generation, earlier comments on NPS   |
| Review of Training Requirements                             | Information and Education Subcommittee should meet to set its own terms with a view to high level direction for NZGA, and to develop broad industry training strategies. 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. It covers tertiary and trades development. | Subcommittee has met, Skills Action Plan contract is being implemented (subcontracted to Jane Brotheridge)  |
| <b>INTERMEDIATE PRIORITY</b>                                |   |   |
| Website Update  | The website will be transferred to the Royal Society website will be continually updated to include latest studies and information. Some of the tasks below reflect current weaknesses in the website and NZGA's knowledge base. This is one of the principal means by which we educate the public and inform our own members.  | Continuing action, website has had a facelift and has been transferred to the Royal Society for hosting purposes.   |
| Annual NZGA Seminar and the New Zealand Geothermal Workshop | These will be the premier industry events for information dissemination and networking.   | Preliminary plans are being developed for an August Seminar focused on reservoir monitoring, downhole measurements, data acquisition, interpretation and data management. This will be a Wairakei event. A committee under Paul Bixley is progressing this. |
| Skills and Services Register                                | A skills and services register has been developed by HERA to emphasise NZ capabilities and has been added to the NZGA website. This should be updated on a regular basis. It needs to be broadened to include more than manufacturing and engineering skills  | Underway by HERA  |

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|--|---|--|
|  | Members of the Industry Capability Network NZ have a role in linking EPC contractors with local support services.   |  |
| Personnel Capability Report                  | This is intended as an update on an industry report prepared in 2005.   | This update is now being included in the skills action plan being prepared as outlined above.  |
| 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   |
| Incentives for Geothermal                    | In terms of policies to incentivise development, there is a need to consider the specific New Zealand context to help shape government policy in this area, including a look behind the reasons for types of policies. Additional incentives may be required to meet renewables targets. Barriers to development should also be reviewed. | Eric Martinot has provided recent papers on international policies to encourage investment in renewables and a New Zealand Seminar has been advertised around Wellington members.<br><a href="http://www.martinot.info/re2005.htm">http://www.martinot.info/re2005.htm</a> |
| Small Generator Issues                       | While large generators can handle their issues, there may be a large number of issues faced by small generators. The various hurdles should be reviewed to outline solutions or to identify barriers to officials with a view to regulatory changes.  |  |
| Description of Major Geothermal Developments | This information, aimed at the public and those with a general geothermal interest, is of general interest  | All major developers have now been approached with information requirements. Contact and MRP have 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 is being revised, with additional input from MWH, with EECA funding   |
| Assessment of Direct Heat Usage              | Baseline data is now available. Future requirements are for ongoing monitoring of changes. This should be updated before the 2010 WGC conference and associated country update  | An updated direct use report is being prepared with EECA funding – undertaken by East Harbour.   |

## NZGA Website Changes

The NZGA website (see <http://www.nzgeothermal.org.nz/index.html> ) has had a facelift while preparations were made to transfer it to the Royal Society of New Zealand for hosting (the NZGA has been affiliated to the RSNZ for the last two years). The transfer is complete now and should result in lower costs for NZGA.

The website is regularly updated. This is a primary means of communication with the public. The site is typically visited over 200 times per day by an international readership.

## Industry Reports in Preparation

The NZGA is progressing a range of reports intended to inform the industry. Some of these have received special funding from EECA. These will eventually be added to the NZGA website, with completion of all likely by the end of June.

Cost of Geothermal Electricity Report. This report covers the cost of geothermal electricity generation in New Zealand looking at a range of technologies, reservoir temperatures and well productivities – rather than a simple one-cost-fits-all approach. This has been in preparation for some years, but SKM, with a focus from Paul Quinlivan is about to finalise this work at their cost. The NZGA Board has expressed its thanks to SKM and all of the people who have worked to make this a useful report.

Geothermal Heat Pump Report (EECA-funded). This report has a focus on commercial-scale geothermal heat pump applications. A draft was completed by Beca last year. However, all parties, including EECA, have agreed that further work was required. Beca is now in the process of revising this report.

Geothermal Direct Use Update Report (EECA-funded). This report updates current information held on geothermal direct use in New Zealand, continues to build a database on

direct use, and will include information on growth of direct use. The report will also feed into the Country Update being prepared for the World Geothermal Congress 2010 in Bali.

Geothermal Skills Report (EECA-funded). Jane Brotheridge is preparing a report that mirrors a set of three "skills" reports prepared for the New Zealand oil and gas industry. The report will also update some of the information in the Personnel Capability report (see [http://www.nzgeothermal.org.nz/publications/Reports/NZGA\\_Geothermal\\_Capability\\_Review.pdf](http://www.nzgeothermal.org.nz/publications/Reports/NZGA_Geothermal_Capability_Review.pdf)) prepared by Peter Barnett 4 years ago.

HERA Industry Skills and Services Register. This is a report of a different nature to the above Skills report. It puts information on consultants, manufacturers and suppliers in front of developers. Have a look at the current Register which Nick Inskip (email [nick.inskip@hera.org.nz](mailto:nick.inskip@hera.org.nz)) who replaced Bill Lovell of HERA is in the process of updating (see <http://www.nzgeothermal.org.nz/publications/Reports/HERAReportR5-35.pdf>) and if your company details are not current or are not there, contact Nick at HERA in Auckland.

## **New Zealand Clean Energy Centre**

The NZGA has been following the progress of the New Zealand Clean Energy Centre. This is intended as a Taupo-based technology incubator with attention paid to geothermal energy, bioenergy and hydro.

It now appears that progress has been made with land and the commissioning of architectural and engineering services for the building. NZCEC is now seeking tenants for this high quality office accommodation. If you are interested in being part of a clean energy cluster then you can contact David Wright (021 776 073) or Rob McEwen (07 376 7107) NZCEC's intention is to begin construction before the end of 2009 with occupation scheduled for late 2010.

The centre will be co-located with the proposed new site for Waiariki Institute of Technology on a high profile site at the intersection of SH 5 (Napier-Taupo highway) and the new rerouted SH 1.

## **Final Words**

We have been preparing country updates for IEA and WGC presentations, and the huge amount of work already done and in process in terms of geothermal development has come into focus. While each project is attributable to a particular developer, there is a sense in which the wider geothermal community has made contributions.

We are aware that global recession is affecting demand growth, which is affecting new builds, thus affecting the work books of our international consultants. Effects are now being seen domestically, with the recent news of delays to Te Mihi, although a range of factors are affecting the timing of decisions on this project.

It is pleasing to see that progress is being made across the many fronts identified in our Action Plan. In this regard we would encourage company representatives to consider how they can contribute to the ongoing work of the Association undertaken on behalf of all members and the wider geothermal community.

Brian White and Colin Harvey  
New Zealand Geothermal Association  
May 2009