

## NZGA Newsletter November 2007

The NZGA has now started a new financial year (31 October). As the rest of the calendar year runs out, Auckland will be the place to be in the third week of November when the geothermal community gets together for the Geothermal Workshop and NZGA Seminar, a short course and our AGM. The AGM will mark the end of term for several of our current Board members and the commencement of service for several others.

### Geothermal Institute

While students have proceeded with post-graduate degrees throughout its history, the Geothermal Institute is once again providing a broad course in this latter half of 2007. This is a half year certificate course, and perhaps all the more challenging for the post-graduate students involved. Several of us have provided casual lectures and met this internationally diverse and interactive group of students. Students and their work will be visible through the Workshop.

We are grateful that the University and its staff have had the courage to recommence broad courses and revitalise study in geothermal aspects. There is a massive amount of work coming in New Zealand (as well as the many other markets that our members serve), so it is timely that the broad training provided through the Institute is made available for new blood and the upcoming leaders of the industry.

### NZGA Board Membership

Thanks to all those who made themselves available for NZGA Board membership and for the spirit of cooperation that was shown by all. This has achieved diverse representation and a seamless fit in to the new rotation schedule that will see a third of the 15 members standing for election each year from now on. Elections were not required as candidates matched total vacancies.

From the date of the AGM new members on the Board will include Juliet Newson (Geothermal Institute), Paul Bixley (private consultant), Peter Barnett (SKM) and Phil Hutchings (Exorka).

Retirements from the Board include Bruce Carswell (our Treasurer – ably “assisted” by Katrina Carswell), Stuart Simmons (Geothermal Institute), and Jim Lawless (SKM – but he stays in an ex-officio liaison role between NZGA, IGA and the Western Pacific Regional Branch of the IGA). Thank you all for years of service to this industry. The Association has now sent formal letters of thanks in recognition of this service.

We note that Dennis Crequer has already passed on the EW observer role to Katherine Luketina. Thank you both for your involvement.

### IGA Board Membership

Jim Lawless and Colin Harvey have been duly elected onto the Board of the IGA representing New Zealand interests. Kevin Brown has retired from the IGA board and Colin Harvey has taken over the Treasurer role that Kevin has vacated.

### Membership and Subscriptions

Our membership is now standing at just under 160 members. For those who still have not made arrangements to pay subscriptions, please do so.

## **Industry Support**

Industry support letters went out to a much wider base of companies over the last few months following approval of an NZGA Sponsorship Plan. We note the faithful support of an existing core of companies, and the support of several more companies. The end result is a slight increase in direct sponsorship of the NZGA compared with last year, and this despite the late notice.

Thanks go to the following supporters of the NZGA: Contact Energy, Tuaropaki Power Company, Century Resources, Sinclair Knight Merz, Parsons Brinckerhoff, Exorka International, Mighty River Power, GNS Science, Meridian Energy, Air Drilling Associates, Parker Drilling, Bay of Plenty Electricity, Weatherford, Halliburton NZ and Geothermal Development Associates.

## **Bylaw Changes**

While this could be relegated to the "routine" category, members have been asked to ratify bylaw changes suggested by Inland Revenue to retain tax exemption status from IR's perspective. Please turn this round quickly thanks. Thanks to Mike Glucina who has progressed this for us.

## **"Character of NZGA" Survey**

We recently circulated a survey form then the resulting report looking at the future character of the NZGA. It was really looking at where the NZGA should lie in the spectrum from advocate to information provider, given that in some countries these functions may be split across different organisations. There was a clear view that we need to be involved both in making accurate information available, and actively putting it and a geothermal position in front of policy makers and other key people. Interestingly the dominant view was a slight leaning towards this active presentation.

## **Industry Announcements and Progress**

There have been no particular announcements or obvious progress on new direct heat supplies or geothermal heat pumps.

However, did you know that the equivalent to a 30MW power station is currently coming on stream. Contact's steam winning at Ohaaki has resulted in generation picking up from 25MW in September to around 50MW currently, with more generation to come.

And Poihipi (which now has consents allowing full output) should have additional separator capacity in place next year, allowing that station to generate consistently at full load for the first time, effectively doubling its capacity (say another 20-25MW).

While some industry members have been involved for a long time, Contact Energy has recently started formal consultation on the Te Mihi power station. This will eventually largely replace the old Wairakei station (and exceed its capacity due to higher efficiency), which will celebrate 50 years since the commissioning of the first units next year.

The Te Mihi consultation announcement also included the floating of a Tauhara station concept, potentially up to 200MW. The Tauhara announcement follows successful drilling for the Tenon direct heat supply which included surprisingly hot and permeable wells leading to a rethink of the field's capacity.

Separately on Contact's website, they also identify their part-interest in the Mokai field for which they have a role on the steamfield management committee, and may eventually look at a further 40MW.

Mighty River Power continues with the construction of the 90MW Kawerau station, which should be fully on stream by the end of next year. MRP has lodged a consent application with Environment Waikato for the next 100MW stage for the Rotokawa development. It is worth pointing out that their interim report for December 2006 published earlier this year spoke of a 400MW geothermal programme over a 10 year period, clearly including Kawerau, Rotokawa and Ngatamariki.

Top Energy has started drilling for the Ngawha extension, civil works are about to start and all of the Ormat equipment will be on site by the end of January 2008.

Quite simply, growth is happening now.

## **New Zealand Energy Strategies**

Early in the year, the NZGA commented on the draft New Zealand Energy Strategy and draft New Zealand Energy Efficiency and Conservation Strategy. The final strategies were released in October and show a very significant role for geothermal energy as a reliable baseload renewable low-emission generation source at competitive prices and of significant magnitude, and a further role in the direct supply of heat. While the Government has still picked some winners aside from geothermal for special treatment, earlier dismissive treatment especially in the draft NZEECS has now been redressed.

## **NZGA Seminar and Workshop**

The 2007 Geothermal Workshop will be held at the University of Auckland (19-20<sup>th</sup> Nov) and NZGA Seminar (21<sup>st</sup> Nov). In the middle of this is the NZGA AGM. Also being run in parallel with the Workshop is a one day short course giving a brief overview of geothermal matters at a basic level, while still allowing interaction with Workshop participants during the breaks. Please make notes in your diaries to attend these events. It is not too late to register. For details see [http://www.cce.auckland.ac.nz/conferences/index.cfm?S=CCE\\_GEOTHERM2007](http://www.cce.auckland.ac.nz/conferences/index.cfm?S=CCE_GEOTHERM2007).

We have made the choice to make the themes of both the Workshop and the Seminar growth-centred. Current and upcoming levels of growth in the short-term, mid-term and long-term are unprecedented and demand both our attention and response. The two parallel events with their different emphases allow the growth issue to be hit from all sides. Stuart Simmons is pleased with the diverse papers for the Workshop and we are pleased with the way the Seminar is developing. A programme for the seminar is attached – a packed day, so plan to attend the whole event.

I note that the steam supply to the Kawerau mills started 50 years ago this year, one year ahead of Wairakei, but this milestone will largely go unmarked. While a session at the Workshop was to be dedicated to this, there were insufficient papers on Kawerau to allow this.

In addition, there is a National Energy research Institute conference on 22<sup>nd</sup> and 23<sup>rd</sup> in Auckland, plus a geomicrobiology conference in Taupo (which will include the GNS extremophiles team) from Nov 11<sup>th</sup>-16<sup>th</sup> so – November will be a crazily busy month for those involved.

## **World Future Energy Summit**

Brian White has received an invitation to attend the World Future Energy Summit in Abu Dhabi between 21<sup>st</sup> and 23<sup>rd</sup> of January 2008. Given that a number of our companies have global geothermal interests, this broad energy conference may be of interest to a number of these companies. For details on the conference see [www.wfes08.com](http://www.wfes08.com) and for discounted registration see <https://www.infosalons.com.au/wfes08/assoc.asp>.

## **NZGA Website**

The NZGA website ([www.nzgeothermal.org.nz](http://www.nzgeothermal.org.nz)) has been regularly updated. Website visits average around 180 visits per day in any month, being a great way to disseminate information.

The site will be further developed. A task that we currently have underway is to collect more information on the existing generation and major use projects.

Brian White and Colin Harvey

New Zealand Geothermal Association  
November 2007

## Action Plan Items

(Come to the NZGA Seminar ready to discuss new action items you think we can achieve)

Action	Comments	Status
Website Update	The 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
Update Field Capacity Tables	Previous draft has been reviewed by Board members.	Complete – now added to website.
Annual NZGA Seminar and the New Zealand Geothermal Workshop	The theme last year for the NZGA Seminar was Generation and linking current developments to resources. The theme for the Workshop was Pacific Rim Geothermal. The two conferences were held in conjunction. This was the premier industry event for information dissemination and networking.	Complete – a successful event
Assessment of Direct Heat Usage	A more careful probe of usage will both provide a reliable estimate from which baseline movement can be measured, and also give greater attention to current usage from which Case Studies can be derived. This is part of a fundamental inventory.	Complete and has been put on the website.
Description of Major Geothermal Developments	This report, aimed at the public and those with a general geothermal interest would replace several more intrusive studies suggested previously, including the station efficiency study. It would include short (1 or 2 page) descriptions of the field and of the station including simple schematics and photos, followed by short descriptions of operational history with graphs of past discharges and generation. Some of this material could feed into sustainability discussions, assisting further development. This will effectively be a collection of case studies.	All major developers have now been approached with information requirements
Manufacturing and Service Capability	This report will look at typical New Zealand components of geothermal developments e.g. drilling rigs, pipe and pressure vessel manufacture, insulation, electrical services, civil contractors. An assessment will be made of their ability to handle an upturn in geothermal work, related issues, and whether there are alternatives to their use.	Wolfgang Scholz (HERA Director) has now agreed to prepare a paper for the Workshop looking at heavy engineering aspects in meeting growth.
Cost of Geothermal Power Development	There are indications that previous estimates of geothermal development costs in New Zealand may be light. Changed factors in recent years include major exchange rate movement, escalating raw material prices and a changed drilling scene. Costs should be revisited so geothermal generation can be more accurately compared with alternative generation forms.	Some preliminary results have been published but the project is over a year overdue
Geothermal Heat Pump Study	An installer of heat pumps has been found along with real New Zealand cases. Initial indications are that, in niche situations, this could compete with solar hot water so could be a significant contributor to our national energy future. A New Zealand report is needed on costs, practice and case studies.	East Harbour and Scion have just completed a report for EECA looking at geothermal direct use targets, including economic assessment of heat pumps (to be published along with the revised NZEECS). Now trying to develop a project involving Landcare and GNS Science to provide a thermal property map for heat pump designers.
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. With forecast increases in wind and geothermal energy, some hydro generation that must run because of consent requirements, inflexible gas contracts and increased call on coal and oil-fired stations whose units should not shut down overnight then daily auctions will be required. Plant that must run will not be able to run and there will be efficiency losses. This study will look at which plants are likely to stay running, whether geothermal plants can respond through load-following or venting, possible changes to consenting regimes to enable more flexible operation and likely impact on load factor. This study may be run in co-operation with NZWEA.	Incidental discussions with the Electricity Commission indicate that they are considering a study of this nature.
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.	A short course will be held in parallel with the Workshop/Seminar this year
Regional Branch of the IGA	A regional branch of IGA will improve international linkages and understanding of wider development issues.	Western Pacific Regional Branch is established and operating.
Position Paper on Overseas Treatment of Renewables	This would collate policy papers on renewable energy sources with a view to identifying further positive action that could be undertaken in New Zealand	Complete. Paper has been prepared independently by Eric Martinot and presented to a range of audiences including MPs and officials (see: <a href="http://www.martinot.info/re2005.htm">http://www.martinot.info/re2005.htm</a> )
Maori-Focused Energy Seminars	Future geothermal projects will involve Maori Trusts in lead roles, partnering roles and/or in their kaitiakitanga roles. Seminars are required to provide information and useful links, and to facilitate discussions internally towards more effective operation	Several seminars have been held over the last year, though not specifically under the NZGA (e.g. in association with GNS Science or TPK).

## **NZGA Seminar Program 21<sup>st</sup> November 2007**

9.00 am Welcome (Brian Jones)

9.10 am Growth in the New Zealand Geothermal Industry (Brian White)

9.35 am Review of the New Zealand Energy Strategy and Outlook (Ralph Samuelson MED)

10.00 am Developments and Economics of Geothermal Drilling (Hagen Hole)

10.25 am Morning Tea

11.00 am Hot Rock Plays in Australia – A National Perspective (Barry Goldstein)

11.25 am Costs of Geothermal Projects (Peter Barnett)

11.50 am Training Professional Geothermalists: an Update on the Geothermal Institute (Juliet Newson)

12.15 pm New Zealand Geothermal Association Action Plan (Brian White)

12.40 pm Lunch

2.00 pm Response of Heavy Industry to Geothermal Growth in New Zealand (Bill Lovell)

2.25 pm Resource and Reserves Issues in Geothermal (Jim Lawless)

2.40 pm Update on Direct Use in New Zealand (Andy Bloomer)

3.00 pm Company Updates (Representatives of NZ Geothermal Industry)

4.00 pm Close