



East Harbour Energy Ltd
PO Box 11-595, Wellington, New Zealand
Tel: 64-4-385-3581
E-mail: brian.white@eastharb.co.nz
www.nzgeothermal.org.nz

Submission on EECA Work Programme 2016/17

To Energy Efficiency and Conservation Authority

On behalf of the New Zealand Geothermal Association

24 November 2015

Introduction

The New Zealand Geothermal Association (NZGA) would like to thank the Energy Efficiency and Conservation Authority (EECA) for the opportunity for discussion around the "2016/17 Appropriations, Authority Work Programme and EECA Work Programme". Our comments here are restricted to the EECA work programme.

The New Zealand Geothermal Association (NZGA) is an independent, non-profit association that provides information on geothermal phenomena and utilisation for industry, government and educational organisations. In addition, the NZGA, as a member of the International Geothermal Association, contributes to the international exchange of information within the geothermal development industry. NZGA membership comprises participants, regulators, and interested parties within the geothermal community. It totals 350 members currently.

This submission will be published on the NZGA website, and we have no objection to it being published in any other setting.

This submission relates to documents located here: <http://www.ea.govt.nz/about-us/corporate-projects/201617-planning-and-reporting/consultation/#c15604>.

Comment

NZGA members have wide-ranging interests across geothermal matters, commonly focused on energy applications.

We note the repetition of the theme in the consultation paper of EECA working in partnership with industry organisations that was previously outlined in EECA's annual report. We support this concept, and once again offer NZGA along with the Geothermal Heat-pump Association of New Zealand, as partnering organisations. We would welcome discussions and opportunity for engagement and development of strategies.

We see geothermal energy as being able to assist energy efficiency measures in a number of ways. Firstly in more novel ways (for New Zealand):

- Availability of highly efficient technology – Geothermal heat pumps (which extract ambient heat from ground or water) have unparalleled electrical efficiency for purposes of water and space heating. The technology can be applied at domestic and commercial scale, though is more economic at the larger scale. We have a growing centre of technical excellence in Christchurch where installations are taking place without subsidy, representing the best possible energy investment. EECA is aware that several decades ago there was a Christchurch City Council-led initiative to use this

technology, which remained largely focussed in Christchurch. The technology is nationally applicable and more can be done to disseminate geothermal heat pump technology around New Zealand.

- Related to this, there are a number of European nations who are pursuing ambitious goals of 100% renewable heat energy for their cities. Munich is one of these which is targeting this by 2040. New Zealand cities in general lack a renewable energy vision which is clearly emerging in other parts of the world. There are fascinating earth energy storage and retrieval systems being established. New Zealand needs to start to develop city energy positions rather than our building-by-building approach which is the norm. Ground energy storage then comes to the forefront with attendant energy efficiency benefits.

Thinking in the more conventional thermal space:

- Ability to generate clean renewable energy – We do not advocate small-scale generation at the home- or office-level, but our geothermal resources still lie at or near the front of the queue in terms of lowest unit cost generation options for grid-connected electricity generation. New Zealand has a globally recognised centre of excellence in development of these resources, and this expertise can be utilised to address the challenges that EECA is seeking to address. Consenting regimes have been established that balance the competing interests of development with the need to protect rare environments for future generations.
- Ability to substitute electricity for water and space heating – There are limited places in New Zealand where hot reservoirs can be tapped to substitute for electricity use for water and space heating. From this perspective, these heating options are highly efficient. We recognise that the opportunity is limited, but it is present, particularly in central North Island areas. The expertise available for generation can be used for these direct heat applications.

In addition, NZGA is currently in the process of developing the New Zealand Geoheat Strategy which is seeking to drive the increased utilisation of direct use (i.e. uses other than electricity generation) geothermal energy in New Zealand. New Zealand has large untapped potential in this area, which can offset fossil fuel use and reduce electricity usage in a large number of industries and applications. This is an industry-led strategy, but requires close cooperation with Government and ultimately resourcing to implement. We have had some preliminary meetings with EECA on this topic and would value further involvement and support.

It appears that geothermal energy has been under-represented in EECA's portfolio, and we would encourage greater consideration and involvement by EECA.

We trust these comments are helpful, and would be happy to be involved in further discussion.

Yours faithfully



Brian White
Executive Officer
New Zealand Geothermal Association
Ph 0274 771 009
Email brian.white@eastharb.co.nz