

NEWSLETTER



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WELCOME

Welcome to the January 2017, Issue 12 Newsletter from the Geothermal Heat Pump Association of New Zealand.

2016 passed quite quickly and we trust you have experienced a very happy Christmas, are looking forward to a prosperous 2017 along with enjoying some sunny holiday days in the next little while.

I'd like to start off by thanking Brian Carey again for his time and enthusiasm to steer GHANZ to the association we have today. Given the size of the industry, I believe we are an active association that I hope we can continue to grow.

Whilst installation numbers continue to grow, we have to be mindful of the pitfalls. Recently I note the District Energy System for Christchurch has been scrapped. Given the number and locations of open loop bores now in the CBD, I think this is a missed opportunity.

On a more troubling note, a series of emails came to me regarding a poorly performing residential closed loop system. There may have been a number of reasons the system was failing, but it

seems that poor installation is to blame. I would like to highlight again that there are published guidelines and standards out there (referred to later in this newsletter), and proper training and accreditation should be a core interest to this group, in order to allow us to have a sustainable and well-regarded industry.

On a brighter note, I have been busy behind the scenes in a number of areas; helping build potential links with the Californian Geothermal Heat Pump Association. I met with Bill Martin on a recent trip to California and invited him to speak at a small conference ENGEO hosted. We also invited Ed Lohrenz to speak about his experience in GSHP optimization and we hope to have Ed visit NZ in the next few years – watch this space! (Ed has written the IGSHPA designer's course and we hope Ed can give his accreditation course if we have enough interest to run this).



L to R: Bill Martin (president of California Geo www.californiageo.org) Huw Williams (chair of GHANZ) and Ed Lohrenz (founder of GEOptimize <http://www.geoptimize.ca/>)

We have been talking to MFAT regarding bringing energy efficiency into the interest of foreign aid, rather than concentrating on energy production.

I believe we have a good 2017 ahead of us and hope to be reporting within these pages more and more interesting GSHP case studies and applications both residential, commercial and industrial.

Enjoy the read and please feel free to pass onto colleagues or contacts who might be interested

Huw Williams - Chair

EECA – REVISED DIRECT HEAT TARGETS

EECA has advised that the revised Draft Energy Efficiency and Conservation Strategy is available for comment. You can find the newsletter at this web address:

<http://createsend.com/t/i-53658AFC159B3D5A>

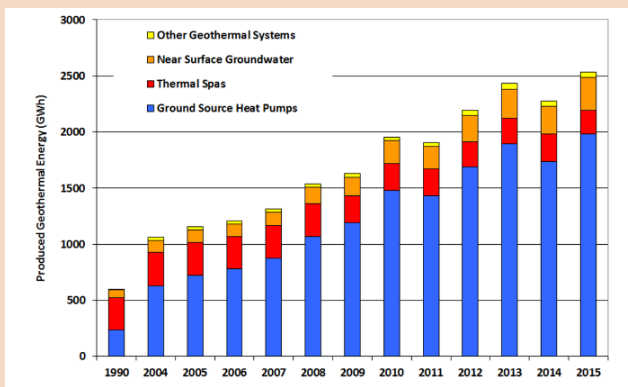
There are new direct heat targets being proposed. Geothermal heat pumps will make a contribution to these albeit the biggest contributions will be from the commercial sector. Take some time to read and contribute.

THE GLOBAL SCENE

Brian Carey – GNS Science

As part of the work I undertake for the International Energy Agency - Geothermal Implementing Agreement I am privileged to be able to gain insight into the geothermal heat pump sector in a number of nations. At the September 2016 meetings that were held in Munich the following nations presented material on the growth going on.

Switzerland

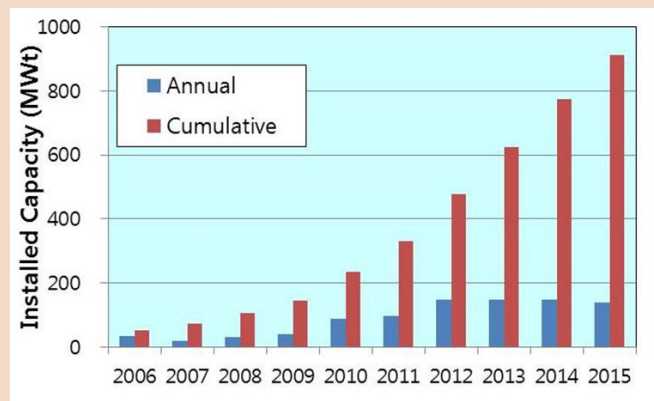


Maintains good records on energy use of near surface geothermal installations. The graph below shows the growth occurring in geothermal (ground source) heat pumps with an increase of some 1700 GWh over the last 15 years.

Korea

Korea has seen significant growth in shallow geothermal heat pump capacity over the last 8 years. The current capacity is greater than 900 MW

Many European nations have significant investments in Geothermal Heat Pump



technology which is growing steadily. As examples, Norway has greater than 1330 MW, Germany greater than 2500 MW and Switzerland greater than 1900 MW of capacity. In recent years growth rates in some nations have been as great as 10% per annum. French geothermal heat pump capacity data - about 1800 MW at the end of 2015.

Geothermal energy and storage used for heating and cooling is one of the ways to meet building regulations in a number of European countries seeking to promote long term sustainable energy use in residential and commercial environments.

THE EUROPEAN RENEWABLE HEATING AND COOLING PLATFORM

This section is a repeat and update of aspects of Newsletter 11.

Every year, almost 50% of the total energy consumed in Europe is used for the generation of heat for either domestic or industrial purposes. The majority of this energy is produced through the combustion of fossil fuels such as oil, gas and coal – with the associated environmental impact from greenhouse gas emissions.

Combatting climate change and ensuring the security of energy supply represent profound challenges for Europe. Adapting energy use into a

sustainable one requires realisation of the full potential of renewable energy sources to satisfy the heating and cooling demand.

The **European Technology and Innovation Platform on Renewable Heating & Cooling (RHC-Platform)** brings together stakeholders from the biomass, geothermal and solar thermal sectors - including related industries such as District Heating and Cooling, Thermal Energy Storage, Hybrid Energy Systems and Heat Pumps.

The RHC-Platform directs its efforts toward the coordination of European, national, regional and local research, development and deployment programmes with the objectives of:

1. Defining the overall **Vision** for the evolution of renewable energy systems for heating and cooling in Europe.
2. Setting up a shared **Strategic Research Agenda**.
3. Establish and implement a **roadmap** for the large scale **development and deployment of renewable heating and cooling systems** in Europe.

Web site : RHC-platform.org

A NOTE ON STANDARDS AND GUIDELINES

Our industry does not operate in isolation to the rest of the world. We can and should be tapping into the global resources available on design, installation and optimisation of all our GSHP systems.

I recently received a copy for review of the CSA Group's (Canadian Standards Association and CSA America Inc.) ANSI / CSA C448 Series-16:

Design and installation of ground source heat pump systems for commercial and residential buildings. (ISBN 978-1-77139-942-5).

The standard was created by a committee that included leaders from industry trade and professional associations, utilities, drillers, installers, manufacturers, regulators, designers /

engineers and researchers / academia. The committee was endorsed by IGSHPA's Standards Committee.

Best practices and requirements in areas from equipment and material selection to commissioning and decommissioning are now included under one cover.

As well as talking to IGSHPA this year, I hope to establish a working group to review these standards and explore the opportunity to acknowledge these in some form, with the support of GHANZ members.

Other standards and guidelines are available for review, and I can share these within the group – just drop me an email at info@ghanz.org.nz

The following are freely available, or I can send you a copy: The UK's Ground Source Heat Pump Association's (GSHP Association):

1. Closed Loop Vertical GHX Standards (2011);
2. Thermal Pile Standards (2012).

IGSHPA also provides selected standards and guidelines free of charge on their website.

UPCOMING EVENTS

IGSHPA's annual Conference: DIG IN 2017 Conference & Expo will be held in Denver, CO - March 14-16.

There is an IEA Heat Pump Conference <http://hpc2017.org/> 15-18 May Rotterdam.

ARTICLES FOR THE NEXT GHANZ NEWSLETTER

Please send in any interesting articles, case studies of stores and we can include them in the next newsletter. Please send them to info@ghanz.org.nz

Trust you have enjoyed reading Newsletter 12.
Huw Williams - Chair