

NEWSLETTER



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WELCOME

Welcome to the May 2016 Issue 11 Newsletter from the Geothermal Heat Pump Association of New Zealand.

Many farms and horticultural ventures in New Zealand use irrigation water, much less known is that this water is a great source of energy. In this newsletter a water to water heat pump installation by Central Heating NZ uses irrigation water as a great source of energy. This is a wide open opportunity for the irrigation sector in New Zealand to improve its energy efficiency.

There is lots going on in Europe and we have featured some of this in this newsletter as well as an amazing installation in Sejong City in South Korea.

Thanks to article contributors and Anya Seward for preparing this newsletter – appreciated.

Enjoy the read – Brian Carey

IRRIGATION PLUS ON AN ASHBURTON FARM

John Walker - Central Heating NZ



A new geothermal heat pump system has been installed at the Leadley farm near Ashburton. It uses the irrigation system that is used primarily for crop irrigation and stock watering. The system includes around 8km of 200mm pipe, largely underground, providing a large volume of water for irrigation that is now also used as a heat source for a 30kW DeLonghi heat pump.



Heat is extracted from the irrigation water flow, with the heat pump producing hot water which is used in the 150m² of under floor heating and to heat the indoor swimming pool all year round.

The design and equipment was supplied by Central Heating New Zealand and the installation managed by builder Peter Taylor.

ENVIRONMENT CANTERBURY TAKES A LEAD - CHRISTCHURCH

Zeb Etheridge - ECAN

450 Environment Canterbury staff moved into their new building in central Christchurch in April. The facility is heated and cooled by a high efficiency open loop geothermal heat pump system. Investment in this technology minimises the energy use impact on the environment of the building as well as providing long term operating cost savings.

May 2016 marks the one year anniversary of the Christchurch city centre Bus Exchange opening, where 2 million passengers per year can shelter from the elements in comfort thanks to an open loop geothermal heat pump system.

Further geothermal heat pump systems are under construction at the Justice Precinct and King Edwards Barracks, and Environment Canterbury is currently processing a consent application for an open loop scheme in the central city area.

THE EUROPEAN RENEWABLE HEATING AND COOLING PLATFORM

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. Today the social, environmental and economic costs of climate change highlight the urgency of moving towards much more sustainable energy use.

Combating climate change and ensuring the security of energy supply represent profound challenges for Europe. Adapting the current 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 seeking to define a common strategy for increasing the use of renewable energy technologies for heating and cooling.

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

The main objectives of the RHC-Platform are:

1. Defining the overall **Vision** for the evolution of renewable energy systems for heating and cooling in Europe.
2. Setting up the shared **Strategic Research Agenda** which analyses technological research and strategic priorities.
3. Establish and implement a **roadmap** for the large scale **development and deployment of renewable heating and cooling systems**, including actions to harmonise training and education in Europe.

The RHC-Platform seeks to be a catalyst for establishing effective public-private partnerships and provides an interface between the EU and Member States for coherent research, policy development and consistent programme planning and implementation.

Web site : RHC-platform.org

GHANZ MEETING SUMMARY FRIDAY 4 MARCH 2016

- GHANZ membership stands at 45 members as of May 2016.
- Following-on from a very successful seminar program and attendance in Christchurch last year, we plan hosting events in both Auckland and Christchurch later this year.

- We are looking for volunteers to update GHANZ on the greater network happenings in and around New Zealand in the geothermal heat pump sector.
- Work continues on the Strategic Plan. One aspect is in possible long term projects that gather data and reviews performance of GHP systems and buildings.
- The next GHANZ teleconference meeting is set for 15 June at 9 am. Phone in details are 083033 pin 369480#

GOVERNMENT FACILITY - SEJONG CITY SOUTH KOREA



Zone 1 and 2 of the government building complex in Sejong City.

The installation of geothermal heat pumps in the new government office building complex in Sejong City have been completed and became operational at the end of 2014.



The total installed geothermal heat pump capacity over three zones is over 16 MWt (total capacity is greater than 20 MWt). This is the largest installation in one location in Korea and one of the largest in the world. The total area of the government buildings is 607,555 m² with the GHP component covering over 38% of the

heating and cooling loads. In the installation borehole heat exchangers (BHE) have a total length of about 200 km.



Photos of the installation of the header pipes and heat pumps in zone 1 + 2 of the buildings.

How is your Korean ? – Visit this web site :
www.chungsa.go.kr

2016 SUSTAINABLE HOUSING SUMMIT

The New Zealand Green Building Council (NZGBC) with their vision that New Zealanders live, work and play in healthy, efficient and productive buildings in a sustainable built environment are hosting a **2016 Sustainable Housing Summit** on 15 June in Auckland, and on 17 June in Christchurch.

To register or find out more go to:
<https://www.nzgbc.org.nz/shsummit16>

The 2016 Sustainable Housing Summit investigates the issues and ideas in housing from international and local projects, innovative solutions and models.

This event is for business owners, consultants, architects, engineers, designers, surveyors, planners, project managers, home builders, residential developers and decision-makers from organisations who work in the residential sector nationally.

PREVIOUS NEWSLETTERS

There is interesting information in earlier issues of the GHANZ newsletters. Why not reread a few of the earlier issues. You can find them all here [Newsletters](#)

OTHER NEWS

EECA feasibility study assistance

EECA offers funding to help businesses develop costings and technical aspects of energy efficiency or renewable energy projects. EECA may fund up to 40% of the costs for a feasibility study, up to \$50,000. Find out more by following the link below.

<https://www.eecabusiness.govt.nz/funding-and-support/feasibility-studies-and-business-cases>

Geothermal Use Database

The New Zealand installation database continues to be updated. The goal is to capture as many installations as possible for furthering our knowledge of the New Zealand sector and to measure and report on growth.

To update the GNS Science Installation dataset please email Anya Seward a.seward@gns.cri.nz.

This is a resource for the sector.

Articles for the Next GHANZ Newsletter

Please send in more articles and then we will write the next newsletter.

Please send them to info@ghanz.org.nz

Trust you have enjoyed reading Newsletter 11

Anya Seward and Brian Carey