Contact, Geo40 partner with Maori on world-leading energy project

(19 July 2018) - Geo40, in cooperation with Contact Energy and the Ngati Tahu Tribal Lands Trust, is this month set to start commercially extracting silica from geothermal fluid as part of a world-leading sustainable energy partnership.

The operation will see Geo40 use its technology to extract silica from geothermal fluid used at Contact's Ohaaki power station.

Once extracted, the silica will be sold to manufacturers for use in everyday consumer goods, such as paint, providing an environmentally-sound source of silica that would otherwise require amounts of carbon-intensive energy to make. The potential volume of high grade silica that will be sourced from Ohaaki is up to 10,500 tonnes a year, most of which will be exported overseas.

"Geothermal energy is a proven source of renewable energy and this partnership builds on geothermal's already impressive environmental credentials," said James Kilty, Chief Generation Officer at Contact Energy.

"It's part of our de-carbonisation strategy. Our focus is on using innovative ways to support customers to shift off carbon-intensive inputs by maximising the benefits of the abundant renewable resources in New Zealand."

The partnership offers clear benefits to all parties.

For Contact, the operational benefits are significant. Silica builds up in the geothermal pipes over time, and removing the silica significantly reduces equipment maintenance costs and increases the overall life-span of the plant. Removing silica also allows the plant to extract more heat from the geothermal fluid, making it more efficient to run.

The deal provides financial and social benefits to Ngati Tahu Tribal Lands Trust. The partnership will provide an ongoing revenue stream to the Trust, and the processed fluid will restore clarity to the Ohaki Ngawha, a sacred natural hot spring. This will be the Trust's first commercial venture of this nature, with the proceeds going towards restoring the Ohaki Community.

"Our initial aim has been to support the Ohaki Marae Reservation Trust to improve the clarity of fluid supplied to the Ngawha, Marae protection from the Waikato River and re-establish the road from the Marae to the Ohaki Bridge, thereby connecting the Whanau that live along the Te Toke road," said Aroha Campbell, a spokesperson for the Trust.

"We have strengthened our relationship with Contact Energy as an enabler to form new relationships, and we have already seen the benefit of Whanau being employed by Geo40. We will see positive changes to our landscape over time while being fully in control of that destiny."

The benefit for Geo40 is the ability to access a source of silica that does not require the same level of heat processing as silica sourced through traditional means.

“Ohaaki’s geothermal fluid enables us access to a valuable mineral without harming the environment,” said Geo40 Chief Executive John Lea. “The beauty of our technology is that nature – the geothermal reservoir – has already done most of the work for us, by dissolving the naturally occurring silica. Our process extracts the silica and turns it into silica products that will be exported around the world”

There are also positive economic benefits for the Waikato and Bay of Plenty regions, since Geo40’s extraction and processing plants will need to be situated close to geothermal fields, creating additional jobs in provincial New Zealand.

Plans are already progressing on expanding the partnership, with the parties investigating the possibility of processing up to 10 times as much fluid per day.

Notes to editor

- Silica is a naturally occurring and very common mineral (SiO2).
- Various forms of silica are used in everyday materials and products, such as windows, paints, plastics and rubber.
- Specialty silicas are otherwise produced by an environmentally unfriendly industrial process using strong chemicals and a large amount of heat to dissolve and purify the silica.
- Silica is a natural by-product of geothermal energy generation – where nature’s heat dissolves the silica deep under the ground in geothermal fluids.
- Contact and Geo40 have been running a pilot project to test the silica extraction technology with Contact Ohaaki Plant’s equipment since October 2017.
- This commercial demonstration plant follows the pilot project’s success and will see Geo40 technology process approximately 850 tonnes of Contact’s Ohaaki Plant geothermal fluid per day, to produce 460 tonnes of liquid colloidal silica per annum.
- The next stage includes plans to process 6,000 tonnes of fluid per day and stage three will aim for 7,000 tonnes.
- The silica extracted will be supplied around the world to manufacturers of consumer goods, such as paint and golf clubs.
- This is the first commercial demonstration plant of its kind in the world.

About Contact

Contact is one of New Zealand's largest listed companies. We keep the lights burning, the hot water flowing, and the BBQ fired up for over half a million homes and businesses across New Zealand.

We’re committed to a sustainable, low carbon energy future for New Zealand. To us, this means balancing our commitment to lower carbon, renewable energy, while maintaining reliable economic access to energy for our customers. We generate electricity from hydro, geothermal and gas and have one of the most flexible generation portfolios in the country.

About Geo40

Geo40 was established in NZ in 2010 to extract minerals from geothermal fluid that has been used by geothermal power stations. The company has filed three global patents to protect its technology.

The company has been privately funded and raised over $23m from private investors, Board and management and the NZ government Callaghan Fund.

Geo40 is also being funded through the Japanese government's New Energy Development Organisation, to showcase its technology in Japan and work with the Japanese geothermal industry as part of an initiative to double geothermal power generation following the Fukushima disaster

Geo40 is also targeting the extraction of lithium for use in the fast growing EV market.

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