

Waste coffee fired boilers win RCR Energy export award

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New Zealand biomass energy plant specialist [RCR Energy New Zealand](#) recently won the Hawkes Bay Export Award for the 'Most Compelling Strategy'. This is in recognition of a strategy that has been over 10yrs in the making enabling RCR to reach the point the business is at today.

It was recognised many years ago that the domestic market in NZ was not large enough to support a company the size RCR Energy was growing to be and the dairy sector boom would not last forever. Therefore other options needed to be explored. A strategy was implemented to take the company's biomass boiler expertise and apply it to the international coffee production industry.

Boilers are a major capital expenditure item, in a very specialised market that is almost entirely client driven. Therefore, the strategy had to be flexible enough to cope with the whims of the international market, while still being tight enough to ensure the survival of the business. Although RCR Energy had a vision of where the business needed to be, the journey it was going to take to get there was unclear.

RCR Energy also recognised it was going to be a long, slow process. Large industrial boiler projects have several stages - tendering, design, manufacture, transportation, installation and commissioning. With international clients, the process from tendering through to handing over a fully commissioned plant can be 2 – 5 years.

RCR Energy was fortunate to have a relationship with a Nestle site in Australia. They trusted the engineering capability of RCR and the Babcock & Wilcox brand that RCR represent, and gave RCR the contract for their new coffee waste fired steam boiler. RCR had previous biomass firing experience, but waste coffee is a very unique fuel that presents a unique set of challenges. In overcoming these challenges, RCR realised that this was a niche market and if conquered, would put RCR on the world stage as a waste to energy boiler combustion specialist.

Nestle Group is a significant global enterprise, with operations in most countries around the world. A key component of the Nestle Group strategic roadmap is operational efficiency that combines sustainable business practices.

The size of the Nestle projects, both physically and financially cannot be underestimated. These are multi-million dollar contracts, for projects that can last several years from conception to completion, for pieces of equipment that will be run almost every day of the year, constantly at high temperatures and pressures, with a client expectation that they will last for decades. Add to this, each site has its own operational idiosyncrasies including weather, location, space availability and altitude.

Following the successful completion of their Australian project, RCR secured further boiler orders with Nestle for sites in Chile, Mexico and England.

The most recent boiler project for Nestle was for the site at Tutbury, United Kingdom and commenced in December 2012. This is a slightly smaller 14 tph coffee-waste fired boiler using a fluidised bed combustion system. The boiler was designed in Hastings, manufactured in Dannevirke and shipped to Tutbury. Its transport dimensions were H 4.6m x W 5.3m x L 15.2m and it weighed 62 tonnes, plus all the ancillary equipment that travelled separately! Unlike smaller items that can be containerised and offloaded at the destination port, boilers need to be specially transported to the port, specially consigned to their destination port, and then specially offloaded and transported to their destination. Attached photos show the journey of a boiler from its fabrication site at RCR Energy's workshop in Dannevirke through to the site in Tutbury, UK.

Site installation was managed by Nestle UK, with the help of a RCR construction manager providing expert knowledge and help. A team of engineers then spent their 2014 / 15 summer in the depths of an English winter commissioning the plant.



Boiler loading at Napier Port



Boiler unloading at Tilbury Port, UK



The boiler being freighted through London



Lifting into position at site, Tutbury UK

RCR Energy is a local success story in itself. In 2014, the company celebrated 60 years of operations. From humble beginnings in a workshop in Dannevirke under the Easton name, many years as Easteel Industries, through to ownership transferring to RCR Tomlinson in Australia in 2006. During this time the company has thrown its hand at numerous industries – bridge building, boat building, aeronautical to name a few.

RCR Energy is now a wholly owned subsidiary of RCR Tomlinson, a publically listed company on the Australian Stock Exchange. Under RCR's ownership, the company has strengthened its position as a leading supplier of industrial boilers and their associated plant in Australasia and worldwide.

In New Zealand, RCR Energy is headquartered in Napier where it employs 55 people dedicated to delivering EPC energy plant projects from FEED study, detail engineering through to project delivery.

A further 64 staff produce the boilers and ancillary boiler equipment from the manufacturing workshop in Dannevirke, NZ. Boiler making is a highly specialised field of expertise subject to many regulatory codes and standards. This workshop is one of the mainstays of the Dannevirke labour market.

RCR Energy Service has a further 40 New Zealand staff based in Auckland, New Plymouth and Dunedin offices, primarily providing servicing and maintenance services in the boiler, energy and oil/gas industries.

RCR Energy prides itself on offering a healthy and safe workplace for employees. It is almost 8 years Lost Time Injury (LTI) free. During the design, manufacture, installation and commissioning of these plants, plus all RCR Energy's other ongoing operations, there have not been any Lost Time Injuries.

Underlying the success of the strategy, there are a number of other areas of positive development for RCR Energy. Each project offers opportunities to learn and become more efficient in our operations, improved tracking of freight between New Zealand and destination countries, better understanding of customs requirements, international design standards, increased understanding of coffee waste as a fuel source (which in turn, increased our knowledge and understanding of unusual fuel sources, and has assisted with the traditional coal and gas fired boilers in New Zealand) with more streamlined manufacturing processes and creating more modular ancillary parts. Our philosophy is that where possible the components are shipped to site in the largest possible pieces which leads to reduced site man-hours and overall project costs.

And finally, the overall success of the strategy can be measured by the new opportunities that are being made available to RCR Energy within Nestle and the international food production industry. RCR Energy are striving to capitalise off the success of this boiler strategy and our relationship with our client, Nestle to introduce other RCR Energy products to international markets. That will be our next story.