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The Manager
Company Announcements Office
ASX Ltd

**THE INTERNATIONAL RESOURCE JOURNAL FEATURES ENERJI LIMITED AND
THE POTENTIAL GAINS FROM IT'S ADVANCED POWER TECHNOLOGY**

The November 2013 issue of *The International Resource Journal* features Enerji Limited. The article highlights the potential energy and money saving opportunities for the power, resources and industrial facilities from Enerji's advanced clean power technology.

The article is attached and can also be viewed at the following link:

<http://www.internationalresourcejournal.com/brochures/2013/Nov/Enerji/index.php>

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About Enerji

Enerji Limited is a Perth-based energy efficiency and clean power company focused on delivering energy recovery and waste heat to power systems.

The Enerji technology and systems transform heat into electricity with the potential for significant energy cost savings and reduced CO₂ emissions.

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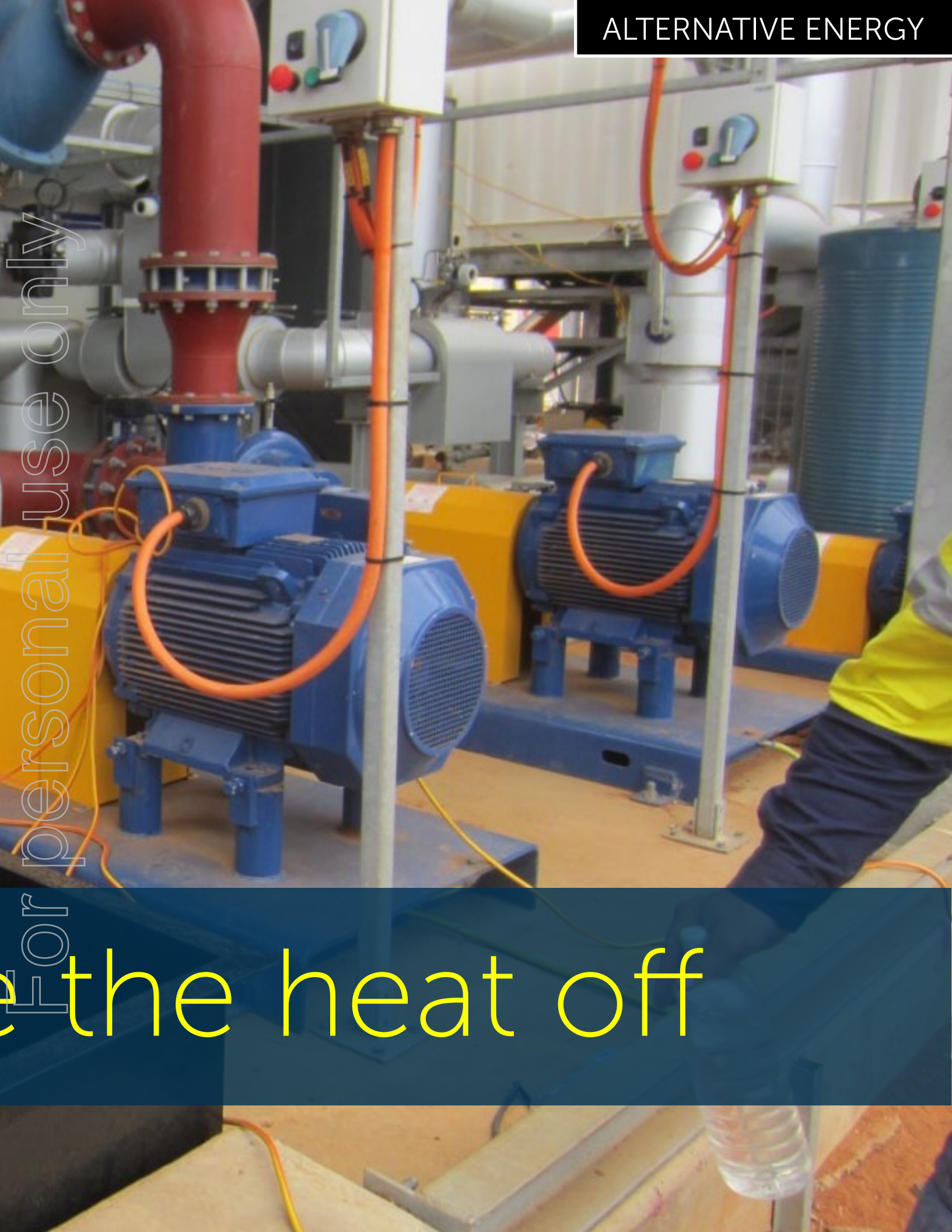
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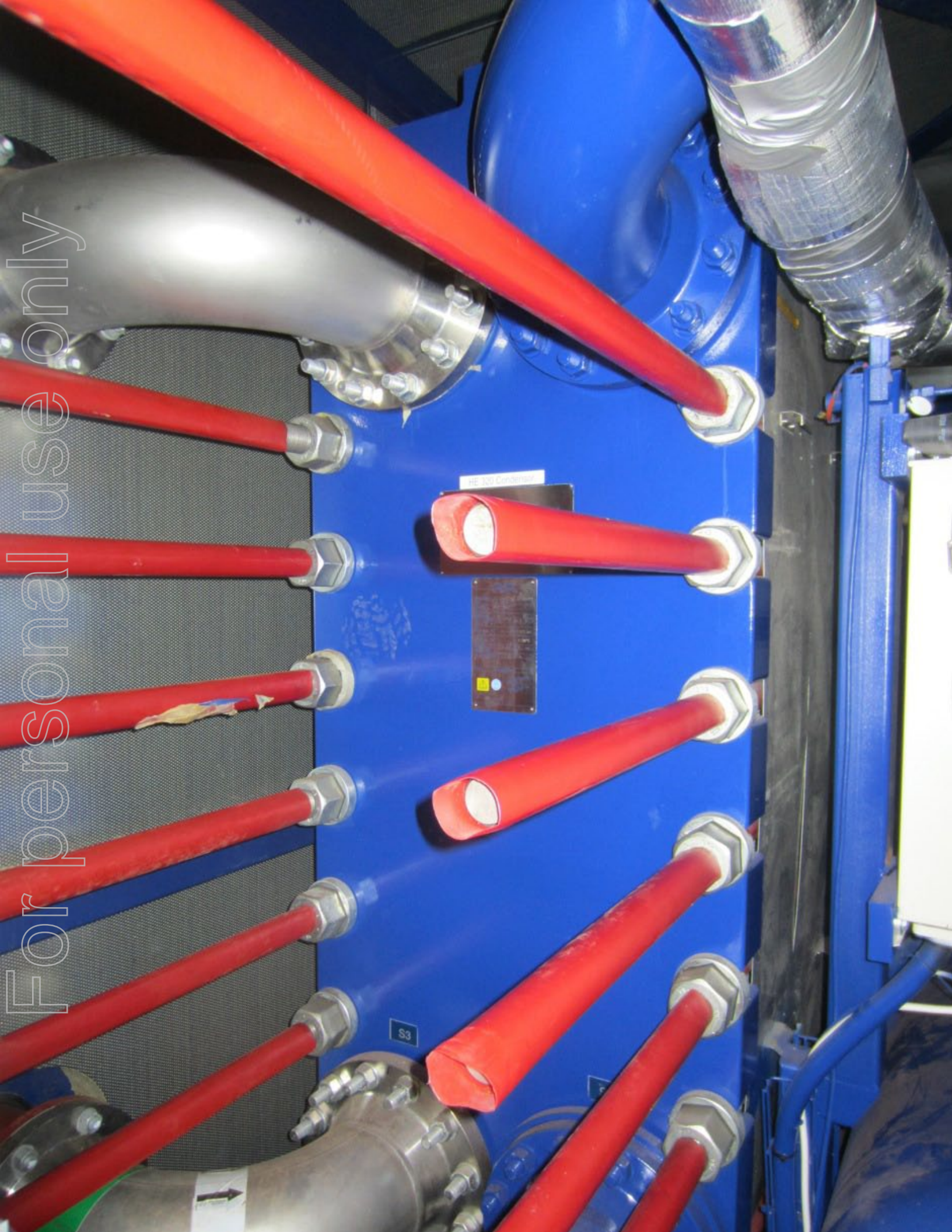


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the heat off



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Clean power and heat recovery solutions from Enerji can help any company running power stations or industrial process plants reduce both its energy bill and carbon footprint.

AS EVEN THE largest of Australia's miners strive to cut costs, it appears that maximising efficiency and saving money is more important than ever.

Fossil fuel and electricity costs continue to rise as commodity prices fall, making it increasingly difficult for mining companies to make a profit.

But help is at hand. Advanced heat recovery technology from clean power company Enerji Ltd (ASX: ERJ) offers miners – as well as other industrial businesses – a solution to reducing their outgoings, both financial and environmental.

"Quite a large amount of heat is lost from the power and industrial sectors, because it can't economically be recovered," explains Colin Stonehouse, Chief Executive and Managing Director of Enerji. "The technologies we use are focused on effectively converting waste heat, which may be from the exhausts of power stations, or the output of large industrial process plants, into sustainable and clean power."

Depending on the specifics of each application, Enerji is able to utilise two different types of heat recovery process: innovative Organic Rankine Cycle (ORC) technology, and traditional steam cycle technology. Steam technology is suited to generating electricity from large amounts of high-temperature waste heat.

ORC, a particular specialism of Enerji's, is suited to generating electricity from the lower-quality heat typically released in smaller amounts and at lower temperatures as a by-product of industrial processes. ORC is an existing technology, explains Stonehouse, but not commonly implemented in the past due to being uneconomic.

"The economics have changed, and the ability to make money out of the technology improved," he adds. "Enerji is a leader in applying this technically viable technology in a commercially viable way. Effectively, we are commercialising proven technology to generate sustainable electricity."

Much to gain

Enerji's waste heat recovery technology offers many benefits to companies operating large process plants. "It uses heat that would otherwise have been vented into the atmosphere to generate electricity, without any additional fuel required," Stonehouse explains. "That means the electricity is produced with no additional polluting emissions, such as carbon dioxide. It can also help to disperse heat in the plant, thus negating the need for the additional expense of a cooling system."

By converting waste heat from their process plants into electricity, companies stand to make significant financial savings on the cost of power and fuel especially if their plants are remote and previously had to rely on diesel-generated electricity. If a company is replacing electricity generated by fossil fuels with electricity generated from waste heat, it will reduce its carbon emissions – not to mention its liability to pay the Australian carbon tax.

Enerji packages the ORC technology in a modular system suited to off-site prefabrication. This is designed to be easy to install, transportable and tailored for Australian conditions. The modular



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- Design of the earth grid and earthing systems to interface with the existing power station earth grid
- Tendering and procurement services for the electrical, controls and instrumentation

PME congratulates Enerji on the commissioning of their first Power Box site at Canarvon.

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ORC system can increase a company's capacity for electrical power generation and provide reliable operation even in fast-changing processes, which helps keep maintenance costs low.

Pilot plant

Enerji now has to demonstrate its capabilities to the world. It is doing this through a full-scale pilot plant using its ORC system at a power plant near the coastal town of Carnarvon in Western Australia. The pilot plant was more-or-less completed by January 2013, but had some legacy problems with the interconnection of the ORC with the host power plant. Stonehouse traces these problems back to the project

delivery under the former CEO of Enerji, who he replaced in June 2013.

"The management I was replacing did a poor job of managing the project," he says. "It had some technical problems that were not fundamental to the technology itself; it had some equipment that wasn't performing as it should."

Enerji had the system running and exporting energy to the grid earlier this year, but deferred further trailing of the facility in order to fix the legacy problems and optimise the plant's performance. Part of the pilot plant's purpose, after all, is to allow Enerji to trial different things to find the most robust and reliable way of running the technology. Enerji has commissioned Sinclair Knight Merz (SKM) to undertake a review of

the project, which Enerji will use to modify and optimise the operation. “We’re finding better, cheaper and quicker ways of delivering the technology,” explains Stonehouse. “As a result, our next projects will be done at a lower capital cost and with a shorter delivery time frame.”

Stonehouse expects the optimisation exercise to be finished by the end of October, after which Enerji plans to run the plant for six to eight weeks to demonstrate its performance to potential customers and for independent verification.

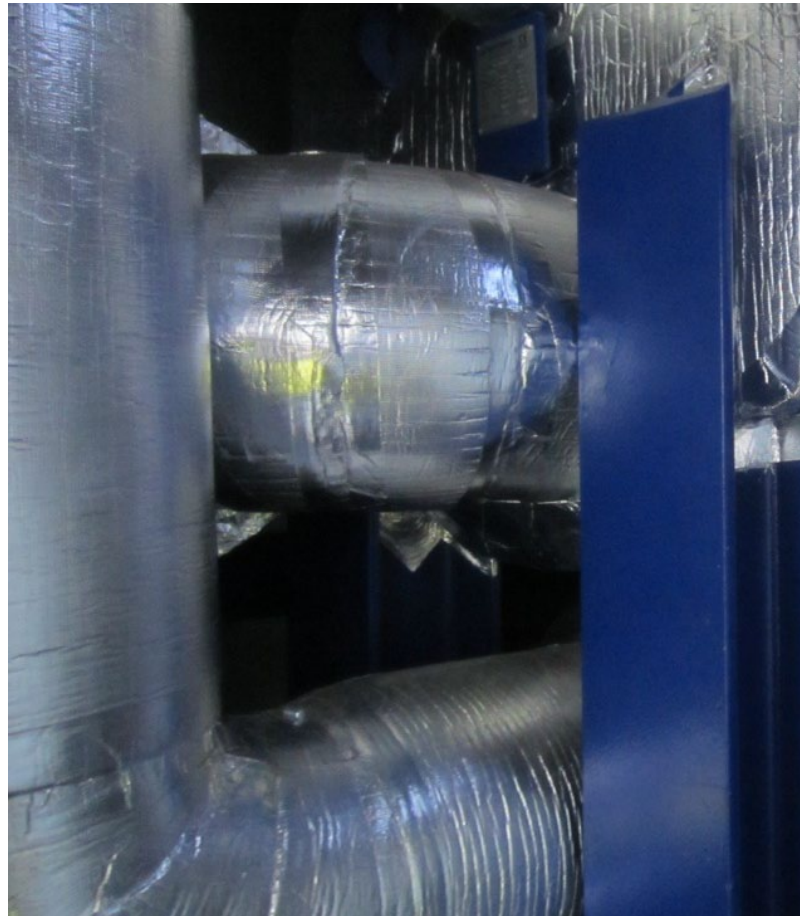
The Carnarvon power plant itself is at the end of its life and due to be decommissioned, after which the equipment from Enerji’s pilot plant will be able to be reused in a commercial installation.

“The significance of the pilot plant is that it can demonstrate the application of our technology to other host heat sources,” Stonehouse remarks. “It will allow us to show potential customers that this is how efficient it will be; this is how much electricity it will produce from your heat; and this is why you can be confident that it will run reliably.”

Back on track

Getting Enerji to where it is now has not been an easy ride, requiring Stonehouse to address a number of problems within his first few months in the job. Fortunately, his extensive power industry experience and passion for sustainable energy have provided him the knowledge and drive to achieve his goals.

“The company was not in good shape when I



took it over – it had liabilities it needed to pay and a pilot plant which, while it used great technology, had not been delivered very well,” he says.

“This meant there were some key things for me to do, which I’m still not finished doing, but have progressed a long way towards fulfilment. These tasks were putting the company back on solid financial footing; resolving issues around the construction works on the pilot plant; completing the pilot plant and getting trial results from it; and building capability and capacity within the company to take it forward and commercialise the technology.”

With the pilot plant almost ready to launch, Stonehouse reports that Enerji now has “quite a number of interested customers and possible




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projects". The next several months will see Enerji focusing on three Western Australian projects in particular: two power plants and one industrial plant.

Enerji's long-term plans are to standardise and modularise its technology, so that it can be rolled out quickly. This will increase the speed and ease with which Enerji can roll out commercial plants, through which it will begin to generate the revenue to fund the growth of the company.

Undeterred by the company's rocky beginnings, Stonehouse has big plans for its future. "We want to expand our business focus beyond Australia," he says. "We'll evolve the technology in terms of scale, so that it can be used in smaller and larger facilities than our current design".

Capable of increasing energy efficiency, reducing waste and lowering costs, it seems only a matter of time before Enerji's modular ORC system becomes an essential component of any plant. **IRJ**

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AS SEEN IN THE NOVEMBER 2013 ISSUE OF THE INTERNATIONAL RESOURCE JOURNAL

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