Industrial appetite steers energy efficiency growth

By focusing on the immediate demand for its portfolio company Global Geothermal's waste heat technology, AIM-listed investment group Wasabi Energy is aiming to tap into a growing trend for industrial energy efficiency.

With an immediate focus on the growing industrial opportunities for its portfolio company Global Geothermal Limited (GGL), listed renewables investor Wasabi Energy is hoping to capitalise on the growing trend for decentralised energy production and increased energy efficiency from industrial processes, according to Stephen Morris, executive director of the company. He says, 'There are a lot of countries and regions with their own requirements and resources, and with a need for off-grid or decentralised energy. Typically we estimate that an industrial plant like a cement facility can generate up to 30 per cent of its electricity needs by recycling its waste heat.'

Australia-based Wasabi Energy focuses on the development of three core businesses comprising renewable power generation and industrial energy efficiency, sustainable and secure water supply, and biofuels from renewable resources. The businesses are conducted separately by Wasabi's wholly-owned subsidiary, GGL, a waste heat and geothermal company; 50 per cent of AquaGuardian Group, a water technology company currently focused on preventing water storage losses through evaporation; and 25 per cent of Australian Renewable Fuels, a company with established refining capacity to produce 90 million litres annually of biodiesel from non-food sources.

Wasabi's immediate focus is on GGL and its subsidiary Recurrent Engineering, which provide alternative energy solutions by deploying the proprietary Kalina Cycle energy conversion technology. To date, the company's licensing agreement with European power company Siemens has so far resulted in the construction of two power stations. The Unterhagen plant in Germany has a generating capacity of 3.4MW, providing power to the town and fluid for the districts heating system. The Husavikur plant in Iceland utilises geothermal heat to produce 2,000kW of electricity, while Sumitomo Metal Industries has been utilising the technology at its Japanese steelworks since 1999 to produce 3.5MW of electricity.

Investor Profile: Listed Investor
Stephen Morris, Wasabi Energy

> "Whatever industry you are looking to access, if you can present this technology through established routes and partnerships, then the sceptism tends to go away

Global reach

While GGL's technology is proven, established and not dependent on subsidy support, its regional take-up is still dictated by broader market drivers and the general appetite from industry, according to Morris.

'Looking at it from the basis of our portfolio, two of our companies are Australian, and Global Geothermal – as the name suggests – operates across the world, although there is no activity currently in the UK. While there are applications where it could thrive, there are no frameworks that would make it particularly attractive [in the UK] over and above those regions we are already present in. Although we have listed in London, we are based in the US and Australia. The UK is not a particularly exciting market for us currently due to the lack of market drivers.'

In terms of specific regions of interest, Germany's tariffs for geothermal at 20 cents per kilowatt-hour provide an attractive incentive, even if such regulatory regimes are not essential to its success. Japan also appears keen to capitalise on decentralised power and waste heat opportunities, as well as its abundant hot spring capabilities.

Morris adds, 'China is a special case. They are testing these machines in different environments and once they find something that works, I think we could see a very big order coming through.'

The issue of subsidies and regulatory environments provide an unavoidable topic for investors, many of whom prefer to target those companies and technologies that operate

successfully irrespective of this support. The appeal, however, of some of these subsidy-supported markets, can be hard to ignore.

'Our view of these does depend on the power price. There are some regions where energy is ten cents a kilowatt and without special green tariffs, you can get a two-year payback period. Some areas let you claim for co-generation, waste heat produced by electricity is not classified as renewable in some areas, and while I would disagree, this does encourage the technology to stand alone, which it can do.'

Wasabi Energy's licensing ceremony

For those companies considering bringing on new technology to help address energy wastage and efficiency, the electricity tariffs it is subject to will go a long way to act as a potential catalyst for change.

Morris adds, 'For the companies that we deal with across various industries, I think we will simply find that those clients that are paying the most for their electricity will be shouting the loudest for this technology. The market forces will dictate where we go.'

Adoption challenge

The principal challenge for the widespread adoption of a new technology within an established industry lies with overcoming the initial unfamiliarity from incumbent market leaders. At the very least, the technology has to be well-proven, according to Morris.

'People will wonder why we are, attempting to change their industrial approach. If you are a billion-dollar steel plant, the challenge can be to persuade them that we should come in and improve and upgrade their processes. We get around that by building relationships with the contractors themselves, the companies that build and maintain these plants, and if they start pushing this technology, then they will sit up and listen. Whatever industry you are looking to access, if you can present this technology through established routes and partnerships, then the scepticism tends to go away.'

During a period of continued financial strictures, finding the necessary capital to make energy efficiency improvements can also prove a considerable hurdle to address, even if this means saving money in the long run. As such, the company has been forced to come up with some creative approaches to encourage further take-up of its technology.

'While some of the companies like the prospect of payback, their capital expenditure budget may not accommodate the initial installation. Our response to this is that we can offer to install and own the plant, taking it onto our balance sheet and selling cheaper electricity to the company, saving it money and recycling the waste heat, without having to spend its own capital.'

A similar challenge can be seen among emerging technology developers, who, despite having a proven, innovative product, may struggle to raise the finance and gain the necessary profile to prove attractive to established industry participants. In established industries, new entrants are often viewed with caution.

'Kalina cycle technology has had some $100m of investment into R&D and maybe 20 years of development to get it to where it is now. Within the power sector, it takes a long time for a technology to prove itself, let alone be considered bankable and reliable. We are at that stage now and have reference plants running that we can use as examples. Until you are at that point and have plants running for ten years, then a lot of these established companies won't even talk to you. They view reliability on a much longer timescale than you might imagine. They don't measure these things over weeks and months. They measure them over decades.'

> "Within the power sector, it takes a long time for a technology to prove itself, let alone be considered bankable and reliable

Investor interest

Listed on AIM, Wasabi Energy relies on institutional investor backing to raise the necessary capital for its renewable energy acquisitions. And despite the recent lack of liquidity in global financial markets, investor interest has been promising, according to Morris.

'It is clear from the institutions that have taken placements that the investment industry recognises the potential for this area, both energy efficiency and specifically waste heat. Going forward, the options are open as to whether we use the public markets as a way to finance these plants. You have to look at individual countries to see who has been given the incentive to invest. Some areas will have special purpose investment vehicles focused on certain technologies, and this could be a possibility in the future.'

With its current portfolio embracing waste heat and energy efficiency, bioenergy and water technology, the company is also open to other technologies, such as bioalgae. However, with the immediate and wide-ranging opportunities for GGL's technology within a host of global industries, Wasabi's attention is tightly focused for the moment.

Morris says, 'Currently we own 100 per cent of GGL, and for the moment our focus is on this particular technology and what we see as a globally significant market for waste heat. It does have considerable applications for geothermal, but currently waste heat offers 100 times the market.'