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Auckland Hospital Cogeneration Plant

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ENERGY OUTSOURCING ADDS VALUE FOR ADHB

Auckland District Health Board (ADHB) will derive significant financial, risk management, and energy security benefits from its strategic energy outsourcing partnership with Energy for Industry.

That's the belief of ADHB Facilities Manager, Paul Jepsen, who worked closely with energy partner, Energy for Industry, on the recent project to develop and install a cogeneration plant at Auckland City Hospital.

"They offered a strategic approach that not only met our immediate requirements, but which also offered future-proofing capacity and protected us contractually from all of the financial and operational risk.

In addition, they saved us \$2.5 million in avoided capital expenditure costs on an upgraded emergency power system for the expanded hospital. This is much-needed money we can use for core hospital business."

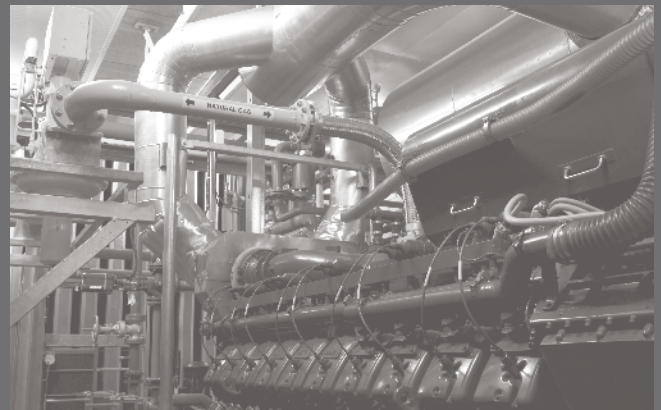
Underpinning the project was the Board's decision to centralise hospital services at Grafton and a requirement to upgrade emergency power supply systems. As part of this upgrade project, ADHB converted their boilers from coal to gas to release space for the cogeneration plant, which is housed under a car park, and to reduce emissions.

The cogeneration plant comprises two natural gas fuelled Deutz engines each of 1.8MWe/2.1MWth capacity and an associated 1.8MWe diesel genset which together provide security of supply to the hospital, should supply from the grid fail.

"Strategically, it made sense for us to capitalise on this cogeneration opportunity but we didn't want to assume the risks and we didn't have the capital," Jepsen says. "Energy for Industry's proposal offered the answer."

Jepsen says the ADHB selected Energy for Industry from a group of tenderers. He says the company offered a valuable combination of inhouse technical and commercial expertise, experience and innovation, a successful track record on similar projects, and the substantial financial and resource backing of parent company, Meridian Energy.

From the Board's initial requirements, Energy for Industry developed the final proposal, which optimised plant performance in relation to site requirements, and the returns to the parties, working closely and carefully with the ADHB to craft a contract that Jepsen calls 'robust and thorough'.



AUCKLAND HOSPITAL COGENERATION PLANT

Energy for Industry then developed and built the industrial scale cogeneration facility at no cost to the ADHB, and will operate it under a 20 year agreement, supplying the Auckland City Hospital with base load electricity (3.6 MW net), heat (4.2 MW) and standby power (2.8MW). The electricity produced is enough to supply 6000 homes.

In addition, the project afforded the opportunity to negotiate special gas and electricity lines deals, which reduced overall hospital energy costs.

And, there are environmental benefits. Compared with the alternative; production of heat from gas fired boilers and sourcing electricity from the grid, the cogeneration plant improves the overall efficiency of conversion of gas to electricity and heat by 50% (from 50% to 77%), and CO₂ emissions will be reduced by 200,000 tonnes over the life of the plant.

Over the life of the agreement ADHB will also enjoy a profit share arrangement with Energy for Industry that incentivises both parties to optimise their operational performance and energy use.

"We run hospitals, not energy plants. By involving Energy for Industry, we can get on with our core business while leveraging their breadth of skills and resources as specialist managers of energy plant and utilities.

Energy outsourcing makes for good business in our case," Jepsen says.