

Thames High School 300kW, Thames

Thames High School serves a large rural catchment at the base of the Coromandel Peninsula, with 650 students attending from the town of Thames, the Coromandel and surrounding areas. Established in 1880, Thames High School is one of the oldest schools in the country. The school premises have been extended several times over the 130 years since it was first opened, and the school now occupies a large collection of buildings in a town centre site.



Through the *Renewable Heating in Schools Programme*, Living Energy contacted the school to undertake a detailed survey of the existing boiler plant and the actual heat demand across the site. As with most sites that Living Energy worked with through the EECA schools programme, we found the existing boiler plant was in a poor state of repair and considerably oversized. Our detailed assessment saw a 33% reduction in the boiler size, replacing the 450kW coal boiler with a 300kW Binder wood chip boiler. The new boiler gives far lower particulate emissions, CO₂ reductions of around 40 tonnes per year, and a huge reduction in the amount of cleaning required by the caretaker - all with the same level of performance in their heating system.

The project involved the removal of the old boiler, its fuel recovery system and the refurbishment of the fuel store. The boiler room was completely refurbished, including a new floor, doorway and the installation of a 5,000 litre accumulator tank, an important component in wood-fired installations which smooths the load on the boiler and allows the system to meet peaks in demand without increasing the size of the boiler itself. The highly-automated Binder boiler has a robust underfed grate system which allows it to burn wood fuels with a moisture content of up to 35%. Fully automated ignition, fuel feed, self-cleaning boiler tubes and new heating controls have given Thames High a heating system which is fit for the future, and importantly, has freed up the property manager from the dirty daily task of de-ashing and clinker removal. Living Energy manage the supply of fuel and perform the maintenance and servicing on the system.



Installation Summary	
Client	Thames High School
Location	Thames, Hauraki
Boiler Type	Binder RRR/RRF 200-350
Rated Output	300kW
Wood Fuel Type	Wood fuels ≤35% MC
Date of Commissioning	April 2009



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