

Dunstan Hostel 250kW, Alexandra

Dunstan Hostel is a school boarding facility in Alexandra, New Zealand, and in term time is home to up to 50 staff and pupils attending Dunstan High School. The school also lets the hostel out to visiting sports teams throughout the year, and to fruit pickers and other seasonal workers during the autumn.



Following the regional council's decision not to reissue consent for their existing coal boiler, Living Energy worked with Dunstan School Hostel through EECA's *Renewable Heating in Schools Programme* to assess their suitability for a wood-fired replacement. Living Energy made a comprehensive assessment of the energy demand at the hostel. Domestic hot water and space heating were provided by a combination of a coal boiler, sized at over 1MW, and two electric calorifiers, which were becoming increasingly expensive to run. Our survey and calculations revealed that the existing system had been grossly oversized, and as a result, the hostel boiler had been operating in kindling mode for a large proportion of the past 20 years.

Our solution was to remove the old coal boiler and replace it with a 250kW step-grate Binder woodchip boiler. Clean-burning and fully automated, the state-of-the-art Binder boiler is the perfect solution for the year-round provision of hot water and winter space heating to Dunstan Hostel. The automatic ignition and 10,000 litres of accumulator capacity ensure that there's always a plentiful supply of hot water for residents, and that the living accommodation is kept at a comfortable temperature through the cold Alexandra winter. This project involved considerable modification to the boiler house and fuel store, including the construction of a new building for the accumulator tanks and the inclusion of a Mus-Max woodchip blower as part of the fuel reception system.



Installation Summary	
Client	Dunstan School Hostel
Location	Alexandra, Central Otago
Boiler Type	Binder RRK/SRF 200-350
Rated Output	250kW
Wood Fuel Type	Wood fuels ≤55% MC
Date of Commissioning	April 2009



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