

COST ESTIMATES FOR CENTRAL HEATING SYSTEMS

How much does a warm water central heating system cost to install and run?

The price examples below are based on a 3 bedroom home with 2 living areas and 1 bathroom, approximately 185 m² of living area (standard house size minus garage area). The approximate kilowatt heat demand for the home is 15kW. The average annual usage consumed is 10,000 kilowatt hours.

Fuel Type & Heat Source	Method of Heat Distribution	Approx Capital Cost (Installed)	Fuel Cost per kWh	Appliance Net Efficiency	Cost per kW delivered heat	Annual Cost of Delivered Heat
NATURAL GAS*						
Baxi Boiler, Standard	Radiators	\$13,000	\$0.074	93%	\$0.087	\$1,249 **
Baxi Boiler, Standard	Underfloor	\$13,000	\$0.074	93%	\$0.087	\$1,469 **
Baxi Boiler, Condensing	Radiators	\$14,500	\$0.074	110%	\$0.074	\$1,114 **
Baxi Boiler, Condensing	Underfloor	\$14,500	\$0.074	110%	\$0.074	\$1,301 **
LPG GAS						
Baxi Boiler, Standard	Radiators	\$13,000	\$0.185	93%	\$0.199	\$1,986
Baxi Boiler, Standard	Underfloor	\$13,000	\$0.185	93%	\$0.199	\$2,483
Baxi Boiler, Condensing	Radiators	\$14,500	\$0.185	110%	\$0.168	\$1,682
Baxi Boiler, Condensing	Underfloor	\$14,500	\$0.185	110%	\$0.168	\$2,103
DIESEL						
Firebird Boiler, Standard	Radiators	\$16,000	\$0.157	91%	\$0.163	\$1,630
Firebird Boiler, Standard	Underfloor	\$16,000	\$0.157	91%	\$0.163	\$2,037
Firebird Boiler, Condensing	Radiators	\$17,250	\$0.157	100%	\$0.148	\$1,480
Firebird Boiler, Condensing	Underfloor	\$17,250	\$0.157	100%	\$0.148	\$1,850
WOOD PELLETS						
Woodpecker Pellet Boiler	Radiators	\$22,000 - \$32,000***	\$0.111	96%	\$0.116	\$1,158
Woodpecker Pellet Boiler	Underfloor	\$22,000 - \$32,000***	\$0.111	96%	\$0.116	\$1,447
HOT WATER HEAT PUMP						
Air Sourced Heat Pump	Radiators	\$25,000	\$0.19	200% (average)	\$0.095	\$950
Air Sourced Heat Pump	Underfloor	\$18,500	\$0.19	265% (average)	\$0.072	\$896
GROUND-SOURCED HEAT PUMP						
Geothermal Heat Pump	Radiators	\$42,000	\$0.19	400%	\$0.048	\$475
Geothermal Heat Pump	Underfloor	\$32,000	\$0.19	400%	\$0.048	\$594

All prices are ex GST and costs are to be used as a guide only. Installation and component location issues can affect the approximate capital cost of installation. Contact Central Heating New Zealand to work out the costs relevant to your home or building project. A 25% increase in fuel consumption has been allowed for in underfloor systems due to the required longer running periods and downward heat losses. Fuel use is based on 16 hours running per day, heating home to 21°C.

* Quoted natural gas figures are based on Auckland prices. ** Annual Natural Gas costs include daily standing charge. *** Depending on Wood Pellet Boiler model

FACTORS TO CONSIDER

- Not all homes of the same size have the same heatloss characteristics - type of building materials, insulation, the amount and type of glazing and location climate all have a bearing on thermal performance.
- All heat sources have advantages and disadvantages beyond their capital and running costs. Central Heating New Zealand can help you decide what system is the most appropriate for your home and lifestyle.
- Fuel use will increase if the layout of the house is complex leading to higher outside surface areas for a given floor area.
- Fuel use will increase if higher than normal temperatures are used, if a large amount of glass is used or if the house is in an area where the winter temperatures are lower than those in Christchurch.
- Fuel use can decrease if the occupancy hours are below average, or if higher insulation specifications (especially higher window and glazing specifications) are used.