



# Diesel Boilers & Your Options

The increased running costs of diesel boiler-powered systems today have resulted in existing customers questioning what can be done to reduce the impact on these costs

For many years diesel boilers have been extremely popular in New Zealand, due to the accessibility, affordability, and exceptional performance. While the performance of our diesel boilers have only gotten better we have seen an increase in diesel fuel prices over the past year. Diesel Boilers have previously offered relatively low running costs making these a great solution for larger homes, especially where heat pump options have been much more expensive to install in comparison.

With diesel prices around \$1.50/litre, the average cost to heat a 200m<sup>2</sup> home was around \$2,200/year (or \$70/week). But when diesel was over \$2.00/litre (and as high as \$2.60/litre), the running costs for the same home has increased to as high as \$3,900/year (or \$130/week). Diesel has for a long time been one of the cheaper fuels for home heating and transportation. While prices have eased from recent highs, they remain unpredictable.



The increased running costs of diesel boiler-powered systems have resulted in many existing customers questioning what could be done to reduce the impact of these costs. We have put together potential solutions for this which should be considered. Below we have outlined the expected capital cost and running cost savings for these options.

It's important to remember every home and family are different which means capital and running costs can vary, but for example purposes we have based our options on heating a 200m<sup>2</sup> home.

## Option 1: Upgrade to a condensing diesel boiler



If the existing boiler is reaching the end of its usable life (10-15 years old), then a replacement is likely to be required in the next few years. If this existing boiler is a standard efficiency type boiler, an upgrade to a condensing boiler would be possible.

Assuming a simple replacement of the boiler and a condensate drain/pump, the upgrade cost is likely to be around \$11-12,000. The new condensing boiler will reduce the annual running costs by around 10%, resulting in an annual saving of around \$300-500, while still achieving great heating performance for many more years.

## Option 2: Smart Controls



Older systems often feature controllers that don't allow for smart heating of the home. It has been shown that by changing these systems to use smart controllers (like the Smart One thermostat), running costs can be reduced by up to 10%.

For most existing systems, the controls can be easily upgraded for \$1,000-2,000. This change can also often be completed in less than a day, resulting in minimal interruption.

As per option 1, these 10% energy savings are likely to result in running cost savings of \$300-500/year. These savings will then pay for the upgrade cost in as little as 2-5 years. It would also be possible to combine this upgrade with any of the other options listed.

## Option 3: Change the boiler out for a heat pump



Hot water heat pump systems have come a long way in recent years. The flow temperatures that can be achieved from heat pumps can now be as high as 60°C. It is common for heating systems in new homes to use heat pumps and provide space heating via radiators due to the higher temperatures that are now available. The fact is though, that heat pumps are not efficient or effective when providing these high flow temperatures and are better suited to lower running temperatures, for example, underfloor heating. In some situations, this will also mean that multiple heat pumps are needed. Central Heating New Zealand supplies Chofu or Domusa Air-to-Water Heat Pumps.

For existing diesel boiler-powered underfloor heating systems, the change to a heat pump-powered system can be relatively simple, especially if the existing underfloor system is well-designed. Typically, this change will still require some alterations to system components, and the heat pumps will be required to operate at higher flow temperatures than they would on an equivalent new system.