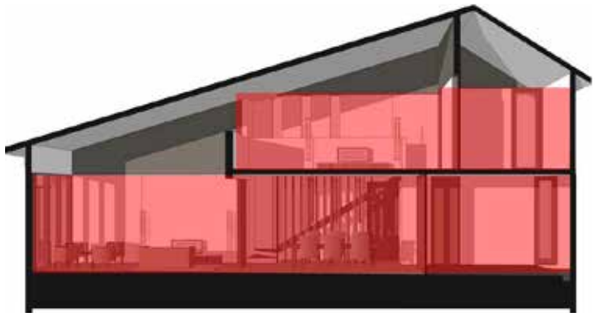
FLOW
RADIATOR & UNDERFLOOR
CENTRAL HEATING SPECIALISTS

Radiator & Underfloor
Central Heating

flowplumbing.co.nz

Defining Comfort

With *hydronic* central heating the natural radiation and convection of warmth emanates from a range of fashionable radiator styles or hidden underfloor pipes.



Central Heating
Central heating via radiators or underfloor heats every space in your home evenly, without hot or cold drafts using only natural radiation and convection.

Spot Heating
Spot heating solutions e.g. a fireplace, portable heaters, heat pumps etc create significant temperature differences between different rooms or even within the same room.

Blowing Air
Systems that blow hot air e.g. heat pumps, ducted hot air system etc create some background noise and circulate dust which can aggravate asthma and allergies.

Underfloor vs Radiators

Radiator and underfloor systems share the same high level of comfort but each method has unique characteristics which suit some applications better than others.

Radiator Central Heating

Modern radiators emit warmth via a combination of natural convection and radiant heat.

- **Lowest running cost**
  Radiators heat up quickly (within minutes) and can be programmed precisely around your timetable plus unoccupied rooms can be switched completely off
- **Renovation or new build**
  When there is access below the floor, radiators are the simplest and least evasive to install
- **Concrete and timber floors**
  Radiator systems are not dependent on concrete floor construction

Underfloor Central Heating

The most discrete and most comfortable form of central heating.

- **Constant temperature day and night**
  Due to the large thermal mass of a concrete slab, it takes less energy to keep its temperature stable than allowing it to cool down
- **No interior compromise**
  Warm water is gently circulating through pipes encapsulated within the slab so the system is effectively invisible
- **Warm floors**
  Since the heat is radiating from the floor, its surface is nice and warm underfoot

The Heating Appliance

Typically the heating appliance is installed in the garage or laundry or utility space.

The heat appliance generates the hot water and is the heart of your heating system. In most cases the best choice will be influenced by the lowest cost fuel options available at your location. We represent the very best brands available in Europe and strict European emission legislation means we benefit from the latest energy saving innovations.

Gas

Gas boilers are the most cost effective option in terms of both installation and running costs. They are ultra efficient, compact and almost silent when in use.

Typical running costs: NG = 0.07c/kWh
LPG = 0.18c/kWh

Diesel

Modern diesel boilers are quiet, clean burning and reliable. The installation of a diesel boiler is typically more involved and costly than gas boilers but remain a good option for areas without natural gas.

Typical running costs: 0.10c/kWh

Heatpumps

Air to water heatpumps scavenge heat from the ambient air to create hot water. They are extraordinarily efficient, over 400%, which makes electricity a viable energy if gas is not available.

Typical running costs: 0.07c/kWh

Wood Boilers

Wood boilers now days utilize advanced wood gasification combustion technology to produce high outputs and minimal clean air approved emissions.

Typical running cost dependent on wood type and cost

High Efficiency Multi-tasking

Multi-task Savings

The heating appliance has the capacity to be integrated and multi-task a range of extra duties including domestic hot water production and pool heating. The cost to implement this represents a significant saving over the cost of adding another plumbing system for hot water so its important to include these savings in the overall project budget.

Domestic Hot Water

Integrating a Protank stainless steel hot water cylinder provides a high capacity, high efficiency domestic hot water system. This solution not only reduces hot water costs but also saves further expenditure on additional plumbing equipment and systems.

Pool Heating

A heat exchanger is used to transfer heat energy from the heating appliance to the pool water. The Pahlen range from Sweden is optimized for pool systems and made of materials that permit their use for a wide variety of installations.

Dollars and Sense

Costs will vary depending on perceived comfort levels, insulation levels, ambient temperature extremes, building design and construction and regional energy prices.

Below shows the estimated installation and running costs for a new 200m^2 home based on a 0º outside / 20ºC inside temperature.

Appliance type	System Type	Installed System Cost	Winter running cost/mnth	Calculation parameters
Natural gas boiler	Radiators	$14,300	$190	0.07c/kWh x 6hrs/day
	Underfloor	$14,900	$260	0.07c/kWh x 8hrs/day
LPG boiler	Radiators	$14,300	$490	0.18c/kWh x 6hrs/day
	Underfloor	$14,900	$660	0.18c/kWh x 8hrs/day
Diesel boiler	Radiators	$19,000	$270	0.10c/kWh x 6hrs/day
	Underfloor	$19,100	$360	0.10c/kWh x 8hrs/day
Wood gasification boiler	Radiators	$34,900 incl DHW	$0-$270	$0-$85/m^3 x 6hrs/day
	Underfloor	$34,900 incl DHW	$0-$360	$0-$85/m^3 x 8hrs/day
Heatpump	Underfloor	$25,000	$260	0.07c/kWh x 8hrs/day

Note: Prices include GST and exclude costs associated with network connections and local authority building consents

Professional System Design

The friendly Waterware tech team will design a system specifically for you and your home. We appreciate most home owners find the decision making process complex and we are here to help you make the best choices. Every new design begins with a heat loss calculation based on a floor plan and if there is any information not evident on your plan, the tech team will make contact to ask any relevant questions.

Here are some fundamental questions to get you started;

What is your best choice of energy?

Reticulated natural gas is often the best choice if its available in your location but LPG, diesel, wood or heatpumps all have merit depending on your location and the shape of your system.

Underfloor or radiators?

Don't dismiss radiators too early in the decision making process. Its still the most popular choice in European markets for good reason.

Are you also considering the plumbing?

All new builds and many renovations need a hot water system too. Integrating domestic hot water with your central heating system will reduce your overall budget and hot water consumption costs.

Alternative Heating Comparisons

A central heating system amounts to an investment similar to a kitchen or bathroom so its important your choices meet or exceed your expectations. Below is our opinion of what to expect with some common home heating alternatives.

Wood Stove or Cooker Style Radiator Systems

Utilizing a wood fired stove or cooker in place of a dedicated boiler is a nice option if you have access to low cost or free wood.

- Combines the benefits of hydronic central heating and the ambiance of an indoor fire
- Requires manual and continuous stoking of the fire to maintain output

HRV Energy Recovery Systems

Recommended for humidity control and air purification but fall well short of the kind of energy required to heat a home unless supplemented by additional heating energy.

- Have a history of misrepresenting the home heating capacity and function

Electric Underfloor

Cost effective solution for spot heating small areas with solid floor surfaces.

- Prohibitively expensive running costs make this an impractical consideration as an entire home heating solution. For example a winter month running costs in a typical 200m^2 home = $890/mnth @0.24c/kWh x 8hrs/day

Ducted Hot Air Systems or Air Heat Pumps

Heating via blown hot air is effective but provides a low level of comfort.

- The movement of hot air circulates dust which can aggravate asthma and allergies
- Heating air is up to 4 times less efficient than using the natural convection and radiation principals of hydronic systems
- Fans create background noise
- Hot air furnaces cannot multi-task hot water production
- Hot air furnaces in ducted systems tend to be less efficient than central heating boilers
- Air heat pumps are limited to the space in which they are installed and are expensive if considering to heat the whole home
- Air heat pumps have a negative visual impact on any interior design
- Air heat pumps decrease in performance and efficiency as the outdoor temperature drops - not ideal for heating

Comparing Quotes

Product Origin and Guarantees

When comparing alternative quotes consider the origin and guarantee offered on key components including the boiler, radiators and pipe systems. All of our key components come from Europe and are supported by industry leading warranty terms and conditions.

Supplier Reputation

As with all major purchases, ensure you choose suppliers that are well established and have a healthy track record. Our supplier Waterware is a well capitalised, NZ family owned business that have been in the business of keeping Kiwis warm since 1989.

RADIATOR CENTRAL HEATING

For a healthier, more comfortable home.

FLOW RADIATOR & UNDERFLOOR CENTRAL HEATING

WELLINGTONS LEADING SPECIALIST IN RADIATOR AND UNDERFLOOR CENTRAL HEATING

Flow Plumbing & Heating is Wellingtons oldest central heating company specialising in radiator and underfloor heating with over 25 years' experience.

We deliver high quality installations using premium branded products that have earnt leading reputations in the NZ, UK and international markets.

Our central heating systems are a collaboration between Flow Plumbing & Heating and our supplier Waterware whom provide the products and technical support to ensure all our installations meet or exceed your expectations.

Your installer;

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