From Cold to Cozy

7 Steps to Transform Your Cold Home with Radiators

euroheat australia

Warm your home the natural (and comfortable) way

You probably still remember the unpleasant and bone-chilling cold of your home in winter: the multiple layers of clothing, a heater blazing in some corner of the house, and feeling like you're never going to be warm again.

But some would say that's the price you pay for living in a beautiful federation, bungalow or character home.

However, some of your neighbours aren't doing it tough in winter like you… in fact, some of them even *look forward* to winter coming!

How?

Have a look at the photos in this guide: You'll see elegant and stylish radiators that complement the style of the home. Like the ones you've probably seen in Europe.

These radiators automatically (and without the owner doing lifting a finger) turn themselves on and off to warm the house to exactly the temperature you want.

And the best part is that you pay less to keep your entire home warm & comfy than you would with air-conditioning heating or electrical heating.

How's that possible? And if/how to get it for your home too? We will answer these questions in this guide.

In the pages ahead, you'll see the seven steps to get a radiator-style heating system into your home… and, most crucially, how avoid the usual mistakes.

As professional engineers and experienced installers, we've been designing and installing these systems for houses and commercial buildings in Western Australia for 30+ years (since 1992).

The following tips are therefore only a snippet of what we had to learn over this time to make all our systems run… and run efficiently.

And no matter if you decide to work on designing and installing your hydronic heating system with us or not, I hope these tips will help you make sure your radiator-style heating works the way you want it to.

Phil Pacak
Hydronic Engineer

P: 08 6468 8895
E: phil@euroheat.com.au

Step #1

What's keeping you cold in winter (and why aircon/ electrical heating won't be of much help)

While our federation, bungalow and character style homes are beautiful and charming, they were built to keep the home cool in summer.

This was the main issue many decades ago…

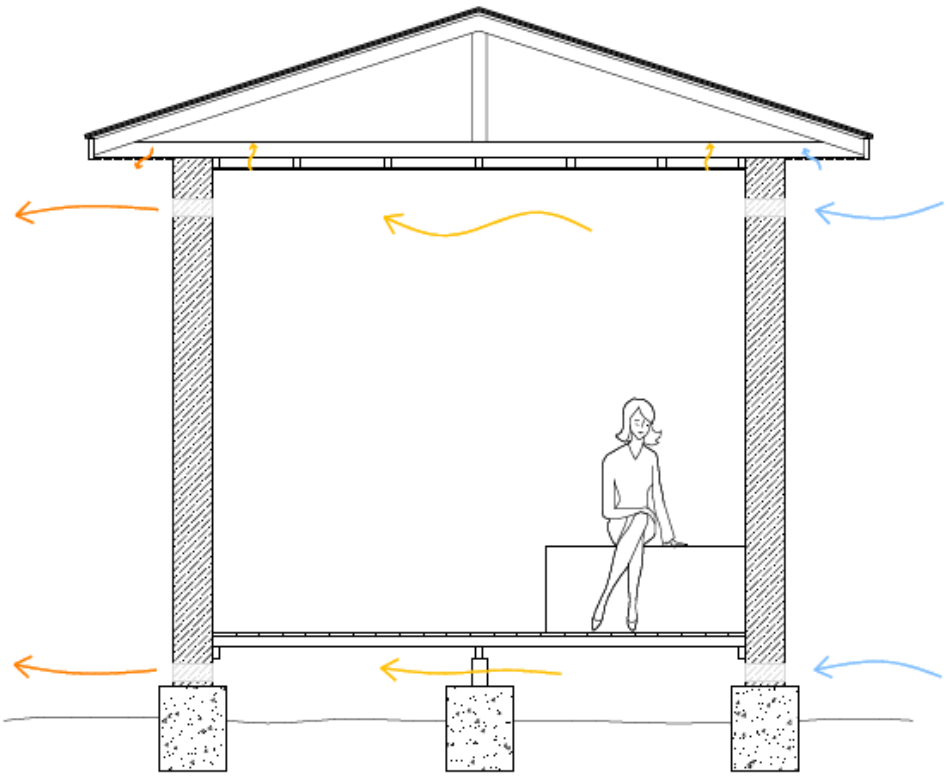
It was easy to light a fire in winter to add warmth, but there was no readily available technology to keep you cool in summer.

You can see this in the house designs: generally the floor is built above the ground, thick stone or brick walls, there are high ceilings, and lots of built-in ventilation.

Do these look familiar?

Air is easily passing through the house and while this built-in ventilation is fantastic for naturally cooling your house in summer, it's your biggest enemy in winter. Especially with traditional Australian heating.

Why? Let me explain…



Your typical aircon (or other heating) concentrates on heating the air in your rooms.

It sucks in some of the room air, and blows it out about 10°C higher.

While this might be theoretically OK (it´s making the air warmer, right?), there are two issues with this…

First, the aircon is at high level. The warm air is blown under the ceiling. And since warm air stays above cold air, your ceiling might be warm… but the room down below, where you sit, stays cold.

Second, aircon mainly heats only the air. And this heated air escapes through your built-in ventilation (since warm air rises).

If we had a thermal imaging camera (and I can show you the pictures since I have done this), you would see the air in the room is warm closer to the ceiling… but the air lower down, along with the walls and furniture and everything else is still cold.

This is one of the properties of air: It's a good insulator, but not a good heat transferrer.

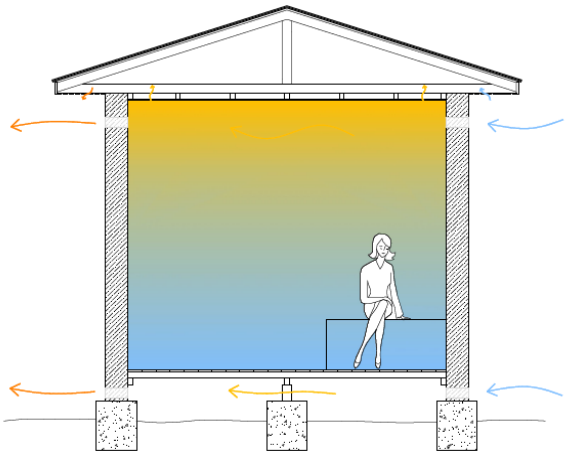
What´s worse, our bodies don´t like this hot air either.

Picture this: You're standing in the sunshine on a cold spring day. The air is cold, but you're warm. Because you have the sun radiating it´s heat on you.

Now imagine standing in the shade on a cold spring day… with a hairdryer blowing warm air in

your face, slowly drying your skin and eyes out.

I think you can feel the difference.



This is what makes radiant heat natural… and "blowing warm air at you" unnatural. Radiant heat doesn't need air or any other 'transfer medium' to get the heat to you. It invisibly, silently, and comfortably radiates this warmth too you, just like the warm sunshine on a cold day.

Don´t take my word for it, look for proof: They discovered the energy efficiency and pleasantness of radiant heat centuries ago in Europe. And that's why they don´t have aircon heating… but radiator-style heating in their homes.

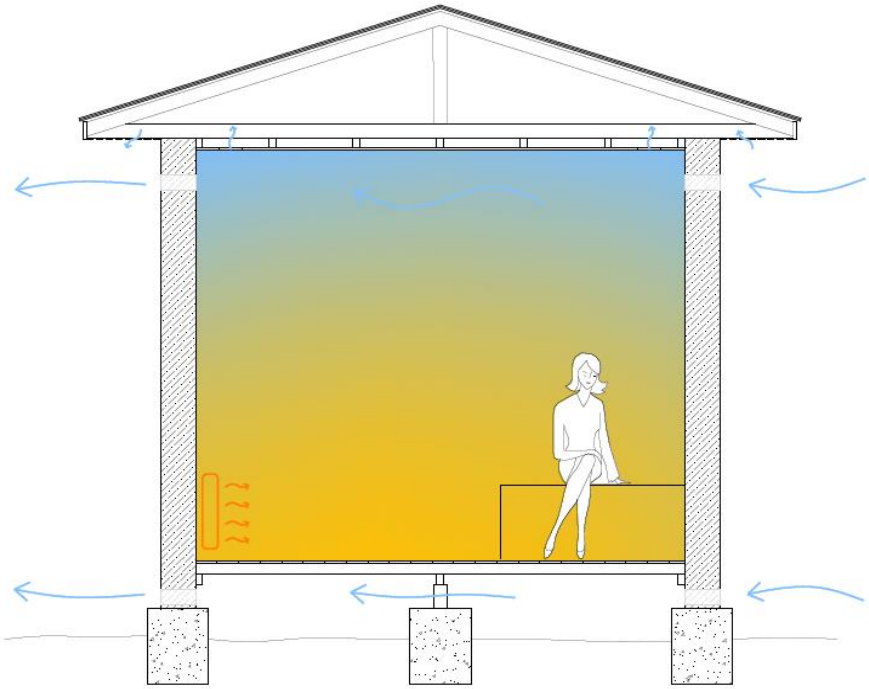
(When you think about it, they don't have problems with ventilation (because they have airtight homes). But they do have super thick walls (up to half a metre thick). This is to help stabilise the temperature inside the home (through use of the thermal mass): Once the objects (furniture, carpet, walls, etc.) become warm themselves, they keep slowly and naturally radiating the heat back into the room.)

In Australia, we also have a lot of "thermal mass" in our homes.

That's the other reason why our homes stay so cold - the heated air has no chance to warm the walls up, so the walls just keep sucking up what little heat energy is in the room. (This is because air holds 1500x *less* energy than your solid walls per cubic centimetre.)

This is where the radiant system excels:

It warms up not only you in the house, but also the furniture, the walls, and anything else around it. And these objects then become heat emitters themselves.



Step #2

Radiators in your rooms: How they work and what the benefits and downsides are

How does a radiant system work

In the previous section we said that the most comfortable and natural way to heat our homes is a "radiant" heating system.

A "radiant" system means that there a radiators radiating the heat in your home. (Lots of radiating in once sentence, right? ☺)

And for these radiators to give out the heat, these must be heated up themselves somehow.

There are two options: You can send heat to the radiators using electricity or water.

Electrical radiators are cheap and easy to install, but they have one huge downside: When you turn them on, they quickly heat up to the maximum temperature (~95˚C). They quickly heat up the air.

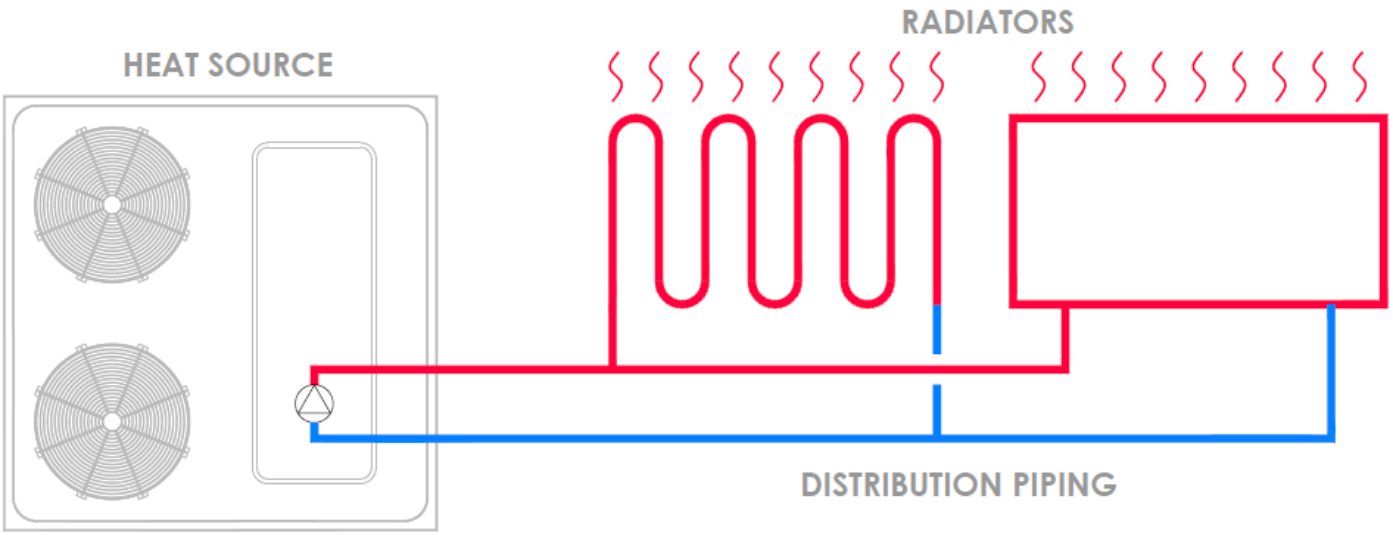
Your skin quickly feels warm (but your body doesn't). And that's why we say that electrical radiators produce a "cold heat".

… the thermostat says the temperature in the room has reached the set level, but your body doesn't feel it. Instead, it feels dry hot air, not the natural warmth.

As I explained in the previous section, for our body to feel warm, the proper way to heat the house is with lower temperatures that will gradually warm up the surroundings

… and after trying all kinds of media around the world for hundreds of years, millions of people have come to the conclusion that the best way is to use water as the heat transfer medium.

How does that work?



From this you can see that the same water is continually circulated around the closed system.

1. First, water is heated up at an energy source (like a boiler or heat pump).
2. Next, it's distributed to where it's needed through insulated piping.
3. When the water gets to its destination, the heat is given off into the room.
4. Once it's passed on its energy, the slightly cooler water makes its way back to the energy source, where it's re-heated again, and the cycle repeats.

(Once you have these radiators in your room, you will be able to really feel this… The upper part of the radiator will be much warmer than the lower part: The warm water rises to the top inside the radiator, the metal of the radiator will suck up the warmth from it. And as the water is now slightly cooler, it will come to the bottom of the radiator and be pushed out by new warm water back into the pipes and back into the heat source to get some more "warm juice".)

Why is water used?

The difference between heating your home with hot air and warm water

First, there's a lot of flexibility with using water.

Different types of heat-sources can be used together (for example a boiler and solar panels). And different end-uses can be combined (for example a radiator and floor heating system together, and also pool heating when needed). And water temperatures can be exactly managed for each different use.

Second, as touched on previously, water is a fantastic carrier of energy. This means that a small amount of water can carry a lot of heat.

For example, a litre of water holds 3,447x more energy than a litre of air at the same temperature and pressure. This means you would need to move 3,447 litres of air to transfer the same amount of energy you can move with 1 litre of water.

Now we know that a central hydronic radiator system works by heating water up at a central source, and distributing it around to the radiators.

But what's special about the radiant heat that is emitted from radiators (and floor heating)? What´s the scientific explanation of the "cold warmth" produced by other sources of heat (like the electrical heating panels I mentioned)?

Radiant heat is different to its two contemporaries in heat transfer - convection and conduction.

You see, while convection requires a fluid (such as air) to transfer energy from one object to another, and conduction requires two objects to be in direct conduct to transfer energy, radiation doesn't.

Radiation is invisible, silent, efficient and pleasant.

(Efficient because it does not require the transfer medium (like air) to move energy. This reduces energy losses. Consider aircon: You heat the air, and it rises, escaping through the ventilation, through the ceiling itself, through any gaps it can find. And it leaves the cold air down below where you and I reside.)

So, because heat radiation doesn't need to heat the air to keep you warm, it means the temperature in the room can be up to 2˚C lower than in a room with 'standard' heating such as aircon… but you still feel the same level of warmth.

And this 2˚C reduction can lower your energy bills by around 20%.

Radiation is also efficient because it works so well at low temperatures.

What I mean is that even very low temperatures – say 35˚C water – can be enough to heat buildings through radiant technology. Whereas with air-conditioning, the minimum temperature is about 65˚C. The difference in energy costs to create 35˚C instead of 65˚C is huge – up to a 49% reduction.

(And this is also the answer also to your question if there will be hot water running through the pipes and radiators, turning the radiators into dangerous red-hot skin-burning plates of metal. No, they will not… because the temperature of the water running in the system will be only around 50 ˚C. Just like warm water from the tap.)

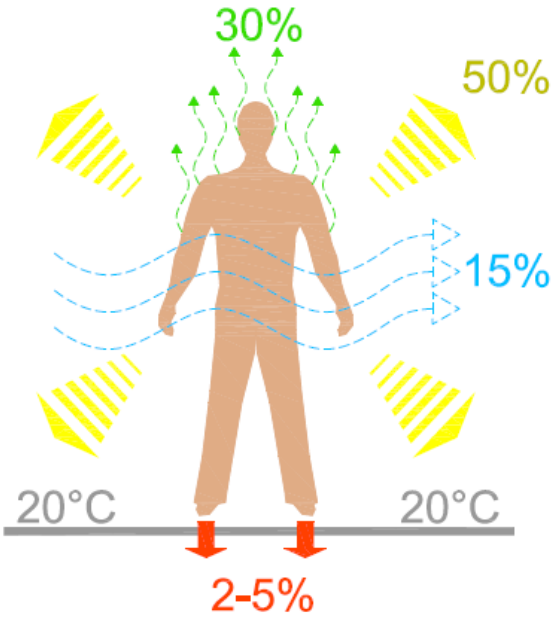
Why do our bodies prefer radiant heat?

Now all this time I have been talking about the fact that the heat produced by a radiant source is better for our bodies.

But is it really true? What is the scientific reason?

The physics say that our body exchanges heat with its surroundings via convection (air passing by your skin), conduction (your hand touching an object) and radiation (standing in front of a fireplace) - as mentioned earlier – and also through evaporation (sweat).

The thing is, our bodies don't exchange energy through every one of these means equally.



As you can see from the picture, our bodies ideally like to exchange energy as follows:

- Evaporation ~30%
- Conduction ~2-5%
- Convection ~15%
- Radiation >50%

(I did not make these numbers up - this is what they taught us at university).

As you can see, the majority of energy exchange is through radiation.

This also explains why air-conditioning heating is so uncomfortable: The body only gives/takes about 15% of its energy exchange from the air. But if you're heating the rooms with aircon heating, you're trying to force the majority of the energy exchange through convection.

(Remember the previous analogy of standing in the sunshine on a cold spring day… and feeling comfortable… but standing in the shade with a blow drier blowing on you and feeling uncomfortable).

Step #3

What you need to know before getting a hydronic radiant system into your home: Your questions answered

After installing countless hydronic radiant systems into homes, buildings and offices around Western Australia, I find that most people have the following questions… so I've answered them for your here:

How long does it take to install?

Depending on the size of your home and the number of radiators installed, it can take from 4 to 8 days.

Would I have to move out?

Only if you want to use this as a reason to finally take that holiday you deserve. But seriously, there is no reason to move out at all. This is clean work, meaning we aren't knocking down walls or creating storms of dust. We will cover your floors where the radiators will be hung. And we always clean up after ourselves meticulously.

Do I need to organise a builder to fix anything after?

As mentioned earlier, this is clean work, so most of the time you won't even notice that we were there a few days earlier… But sometimes we may need to make a small opening for access. If this does happen, we will fix this right up for you.

Can I choose different style of radiator?

Most clients choose the classic radiator style (because it looks nice and is well priced), but there are many styles to choose from: cast-iron (for that old-European look), vertical panels, and from a huge range of 'designer' panels. We will show you the options and prices and you can select yourself.

How "difficult" is it to use the system?

The most you will have to do is flick a switch to turn it on when the weather starts getting cool, and then turn it off again a few months later when the weather warms up. And that's it.

The system is fully automatic, so you don't have to do anything day to day. We will help you programme it so that it heats the house only when you want, and to a temperature that you like. For example, you might like it to turn on at 5.30am, off at 8.30am, and maintain 22°C during this time. In the afternoon, you can set it to come on at 4.00pm and maintain 21°C until 10.00pm. How it's programmed is completely up to you (we will help you programme it at first, and change it any time you need in the future). After this, the system is fully automatic.

Does it need to be maintained?

The system does not need any regular maintenance. In fact, it can run for years without any attention (some of our clients only call us after 15 years!). But we would recommend calling on us to check up on your system at least once every three years, just to make sure the system is running as well as it can.

How do you know how to do this?

We're a team of engineers and installers from central Europe that have been designing and installing radiator (and other hydronic systems) in WA for 30+ years. From our training and experience we know how to create the perfect and efficient indoor environment for you.

When can you do it?

We typically have space for 4 installations every summer (based on the construction schedules of all our other projects). Not overcrowding our schedule means we can take the time to get your system just right.

How much will it cost?

In 2024, a radiator system for your home can start from $18,800using a gas boiler as the heat source, or from $39,700 using a heat pump as the heat source, dependent on the size of your home and the number of radiators you would like.

Is it all true?

You might be wondering if all this is true… so let the people that already have this system speak about their experience:

"Phil of Euroheat designed and installed hydronic heating into my home four winters ago. It is the best money I have ever spent!! My 'house' has become a 'home' through winter with everyone happy, warm and easy to mobilise. I have never had any issues with the system. Phil worked hard, was great to have about my home through the installation process and was a phone call away to remind me how to turn things on again the following winter. Radiant heat is amazing. All visitors to my home comment on my home's warmth through winter - I cannot recommend Phil and Euroheat highly enough."
Emma Eggleston - Cottesloe

"We recently had a central heating system installed by Euroheat on the recommendation of a friend who said it was the best thing that she had ever done, we can only agree with her.

Dealing with Phil has been simple, straight-forward and professional from the outset, from the thorough initial assessment, to the smooth 3 day installation of high quality European radiators, setting up the thermostat and prompt response to any queries. We are delighted with our heating system, for the first time in Perth, we've had a warm house without needing to use heaters in every bedroom or reverse cycle air conditioning, on a cold day it's great to wake up in a warm house. During the summer the system ticks over until you need it again in the autumn."
Nuki Martin - Mosman Park

“Euroheat installed our hydronic heating system in 2007 and then later extended it. We found them very easy to deal with and knowledgeable about the product and how it performs. The installation went without a hitch and the complicated extension was handled extremely well. Phil is very keen to ensure that customers are completely satisfied and responds very quickly on the few occasions we needed some attention – he also services the system and is completely reliable. We think that the heating system is one of the very best things we did when renovating our house. We have a beautiful warm home all winter without the drying effect of air conditioning. It was absolutely worth every cent and we will definitely use Phil for any future requirements. We have recommended Euroheat to friends and they have been delighted with the product and the service. They often thank us for the recommendation – especially in winter!”
Lorraine Young – Cottesloe

"We think that the heating system is one of the very best things we did when renovating our house. We have a beautiful warm home all winter without the drying effect of air conditioning."

Step #4

Who should you ask to install the radiator system into your home: Can any plumber do this or is special knowledge required?

The good news is that, yes, your local suburban plumber could probably 'bang' a radiator system together – after all, there are pipes and water involved.

The bad news is that 9 times out of 10, the system would either not heat your house well enough, or it would cost you an arm and a leg to have it on (or even worse, both).

How can I so confidently say this?

Because I see it all the time.

You see, every month we get calls from people who have a radiator or floor heating system. And while the plumber/installer promised the world… what they usually end up with is an only slightly-warm house that totals thousands of dollars in heating costs every winter.

In Europe, where they have the most experience with heating houses (and where we got our education in this field), heating is a whole different course/apprenticeship to plumbing. The school is in another building to the plumbing section. And what they teach in this other building is much different to sending water to a tap, or laying out drainage pipes.

They teach you how to install an efficient and effect hydronic system (we know this because our installers were trained in Europe): A hydronic system that is well insulated. That does not create any noise. That heats water to the most efficient temperature. That does not lose heat to the outside ground or air along the way. That does not require constant maintenance.

But the proper installation of the pipes, radiators and the heat source is only half the 'trick' of getting the hydronic system right.

What also happens in Europe is that the system is first professionally designed by specialised "heating engineers".

First, they perform a detailed calculation to determine the actual heat load of the building (according to the building design,

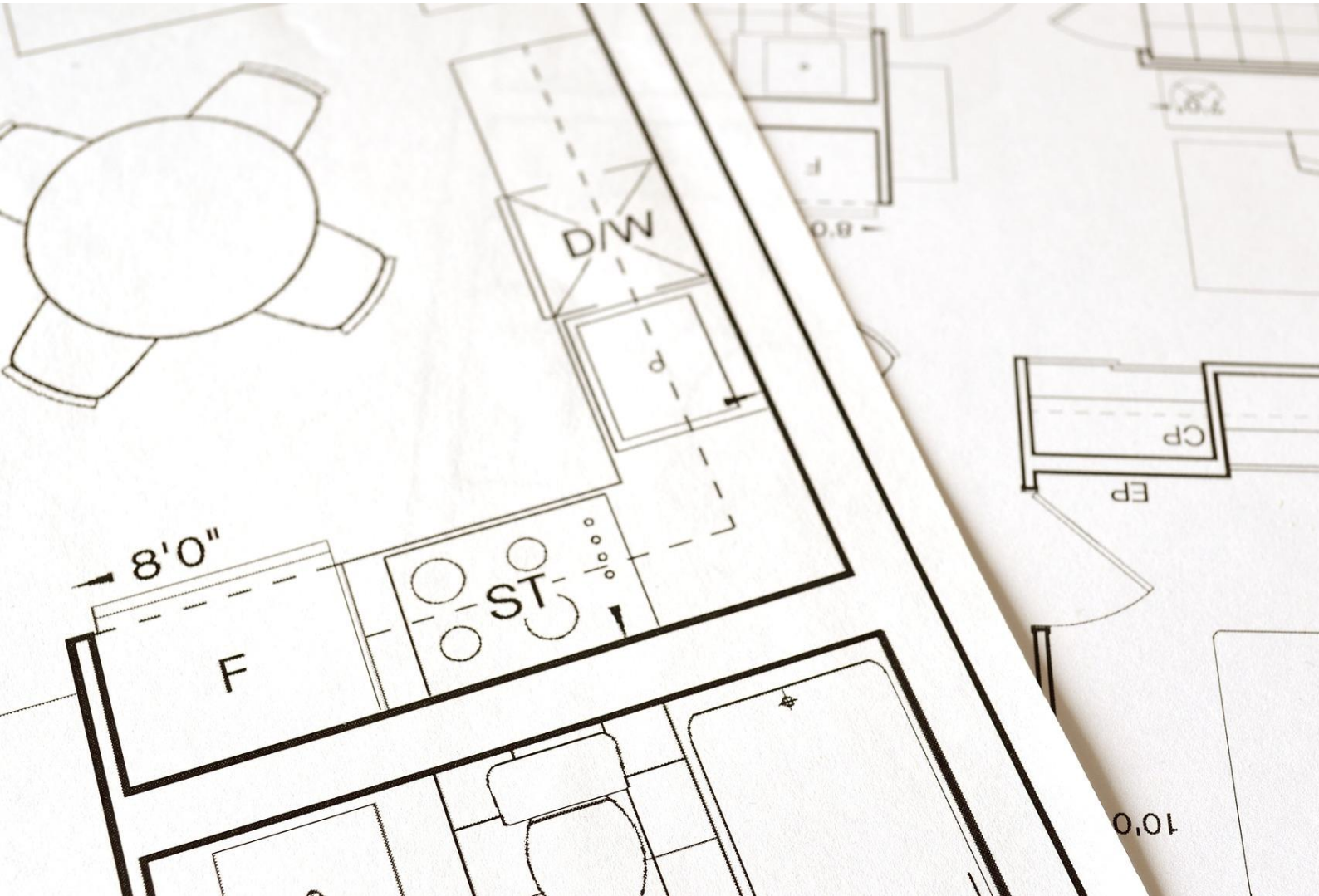
construction of the walls, roof and floor, the level of insulation, etc.). And only after this is the right type of system designed (not inefficient, not difficult to control, no unnecessary and costly "safety margins" included ‘just-in-case’).

This means the design is flawless from the start: The water is not pumped too fast or too slow. The heat source is not under or oversized. The radiators are the optimal size. The lowest water temperature possible is used for the largest gains in efficiency.

And when the system is designed by a heating engineer, and put together by a great installer, a perfect match is made… the system runs economically and keeps the occupants luxuriously warm.

This is the difference between having a system that keeps you only slightly warm, but stills costs you thousands of dollars in heating cost every winter… and a system that keeps you superbly comfortable for only hundreds of dollars every winter.

And this is what we do and guarantee at Euroheat.



Step #5

How to pick a knowledgeable and reliable installer from the offers you will receive

Now, if you want to have a hydronic radiator central heating system installed, we would love to be the ones to help you with it.

But even if you do choose to use someone else, we want your system to be a success – because we often see them either not heating enough, or costing an arm and a leg to run. (When people ask us to somehow repair what others have done... and we have to say sorry, but it´s too late now, there is not much that can be done after everything is in.)

So if I was you, I would ask the designer/installer/contractor of the hydronic system these questions to find out, how much they really understand the whole system and workings (or if they just slap a few pipes together):

Question 1: Why is this system energy efficient?

At Euroheat, we would tell you the following…

Hydronic systems are energy efficient for a few of major reasons (and many minor reasons):

One: The heat from the radiator is being predominantly given off as radiation.

This means it does not need to heat the air in the room to pass the heat on to your body. It's like standing in the warm sunshine in winter. The air is cold around you, but you feel warm.

Because the air is not used as the heat transfer medium, there is very little warm air collecting under the ceiling of the room. With other systems, such as aircon, warm air does collect under the ceiling… heating the ceiling/roof, and not you.

For this reason (by heating you, and not the air above you), you can save approx. 20-35% over other forms of heating.

Two: The room temperature can be set to a lower temperature, therefore saving you money.

Why?

Because of the specific nature of the heat from a hydronic system (predominantly radiant heat instead of convection or conduction heat transfer), the room temperature can be set to a lower temperature (1-2°C lower), but your body will feel the same comfort as with higher temperatures produced by air-conditioning and other heating systems.

Suppliers often say this will result in 30% savings, but in practice this is closer to 10-15% in savings.

Three: The energy is distributed through the building with water instead of air.

Why does that matter?

With aircon, you heat the air, then send it through large ducts around the house into rooms, and there it touches your skin and warms you up.

With radiant systems, you heat water. You then send this warm water through small insulated pipes to the radiators. It heats these radiators up. And the radiant heat emitted from the surface is then absorbed by your body.

This might seem the same, but the difference lies in the ability of water to store heat: Water holds around three and a half thousand times more energy than air (gram for gram).

So, the amount of energy "carried" in three thousand five hundred litres of air can be transferred in just one litre of water.

This means that:

Aircon with its large ducts will always be less efficient, as a lot of the energy is lost on the way.

A small hydronic pump will be able to send more heat for each dollar of operating cost to your rooms than aircon fans (they need to run faster and longer).

Four: Most heating systems need to create high temperature to work.

For example, a single gas heater in your living room has to produce at least 100°C heat to heat the whole room. An aircon system has to heat air in its system to 65°C, because it then mixes with cold air in the room.

A hydronic system, however, doesn't need to create such a high temperature heat.

It typically heats the rooms only with 50°C heat and this works because of two reasons:

- It's doing this over a large surface area. The larger the area you are able to spread the energy over, the lower the temperature of the heat output can be (there is more physics to it, this is a simplified explanation).

- It's not heating the air first, which then has to touch your body. The hydronic system water is heating the radiator panel, which then releases low temperature heat radiation which is absorbed by your body.

These two reasons account for 20-30 % of the efficiency of hydronic systems over other forms of heating.

Question 2: Do the pipes need to be insulated?

At Euroheat, we would tell you the following…

The pipes that carry the warm water to your radiators *must* be insulated. It's OK to leave the pipes exposed within the heated rooms, however, in all the other areas which the pipes might travel (the walls, the roof, under the floor) the pipes must be insulated to preserve the heat that is being sent to them. If the pipes

were to be uninsulated, you would be heating the walls, the roof, under the floor… and therefore wasting energy.

Question 3: Can the radiators be hidden behind furniture?

At Euroheat, we would tell you the following…

Yes you can hide the radiators behind furniture… but they will not be as good at heating the room, meaning you lose efficiency. To maximise efficiency, the radiator panels should be facing towards the most commonly used areas of the room.

Question 4: Can the radiators be really small so we can't see them?

At Euroheat, we would tell you the following…

Of course… but once again, you compromise on efficiency.

Let me explain: Remember how one of the biggest advantages of radiators is that they radiate heat. Well, the bigger the radiator surface area, the more heat is radiated out (instead of conducted or convected). This also means the water temperature running through the system can be lower, further increasing the efficiency.

We'll work with you to find the perfect balance between size and efficiency.

Question 5: What sort of guarantee do you provide?

At Euroheat, we would tell you the following…

- We provide a comprehensive 5-year guarantee on our workmanship.
- We use only quality European products with great warranties (the Italian radiators have a 25 year warranty).
- We completely check and test the system after it's installed to make sure everything is working exactly as it should be.
- But most importantly: When it starts to get cold again next year, we will come by your house, start the system up for you, check that everything is still perfect, and programme your system to your liking.

After the first month of your system running, we will also stop by again to get your feedback. We might turn the water flow down to some radiators where you think it's too warm (or up if you would like it warmer). We can re-programme the system if you would like it to come on earlier or later. And we will check, again, that the entire system is running perfectly.

"When it starts to get cold again next year, we will come by your house, start the system up for you, check that everything is still perfect, and programme your system to your liking."

Step #6

What to do now:
Imagine a comfortable winter in your home

Once you've decided to put a hydronic radiator system into your home, the steps are easy…

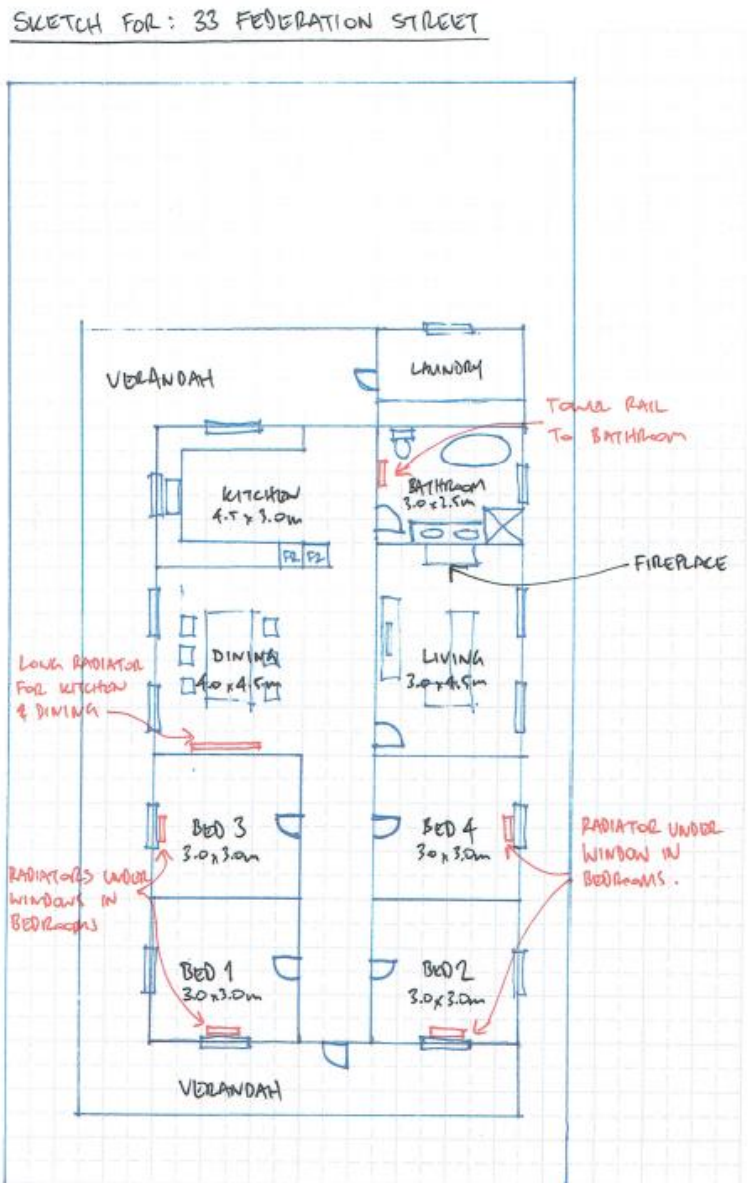
Step 1: Sketch your rooms on the following plan

Do a simple sketch of your house and your rooms (it doesn't even have to be perfect – a rough sketch is great).

You can include measurements if you want, furniture positions and any notes you may have.

Decide where you'd like your radiators: Where will they look best? Where will they be best placed to fill your rooms with warmth? (The traditional place to put them is under the windows – as this is usually where the most chill enters the room – but by no means must the radiators be there)

Below is a rough example, and on the next page you'll find a blank sketch sheet to use.



Sketch of …….. house

Step 2: Choose the style of your radiators

Have a look at the following images and decide on the feel you'd like the radiators to bring to your home. Classic, luxury, modern, etc.

Standard

Classic

Towel Rail

Designer

"It is one of the very best things we did when renovating our house. We have a beautiful warm home all winter without the drying effect of air conditioning. It was absolutely worth every cent... We have recommended (them) to friends and they have been delighted..."

Step 3: Think about the heat source that makes the most sense to you

The two most common heat sources are:

a. Condensing natural gas boiler

This is the classic hydronic heating option, but with modern improvements.

It incorporates all the hydronic system equipment required, such as pumps, expansion vessel, safety relief valve, and works at up to 107% efficiency because of the additional condensing heat exchanger (that older style boilers don't have).

This means that for every 1.0 kilowatt of gas used, you can generate 1.07kW of heat output.

But what's this 'condensing' I'm talking about?

All it means is that the boiler utilises the exhaust gases (which normal water heaters discharge) to preheat the incoming water to take advantage of the condensing principle.

This is where water vapour (within exhaust gas) condenses on cold surfaces (return system water), which releases latent energy through phase-transition (free heat!).

b. Heat pump

A heat pump uses electricity to generate heat… but not like an old-school electric hot water heater. It uses the electricity to power a compressor, which then creates heat and transfers it into water for our use.

Where does the heat come from? It's extracted from the outside air.

The heat pump works almost exactly like an air conditioning unit, but in reverse. And utilising the refrigeration cycle, it typically achieves efficiencies of around 300% (but when integrated into a well-designed system, this can be up to 450%).

This means for every 1.0kW of electricity used, you can generate 3.0kW of heat (even up to 4.5kW of heat).

Yes, this is fantastic technology, but the investment cost is higher than that of a gas boiler.

The benefit is, the running cost is at least 40% lower with the heat pump than with electricity (when the efficiency of each unit is considered, along with the input prices of gas and electricity).

Step 4: Send it to us

You can send this sketch and style selection through to us at Euroheat by email to info@euroheat.com.au.

Or you can have it ready to show if you'd like us to stop by for a quick chat.

Step #7

Call us for an obligation free quote

The lowdown: While anyone can put in the pipes, install the thermostat and turn the heat source on, only a few technicians and companies have the experience, technical education and knowledge to make the system actually as efficient as you want it to be.

At Euroheat Australia, we've been designing and installing these systems for houses and commercial buildings in Western Australia for 30+ years (since 1992).

As engineers specialised in energy efficient cooling and heating systems, we don't just calculate a building's energy gains/losses.

We don't just do ventilation. We don't just do hydronic floor and radiator systems. We don't just do aircon. We don't just open/close windows. Or just cool cellars. Or just heat pools.

Instead, we will help you optimise the building design to reduce the required energy in the first place.

We will then design every millimetre of the system, install it and continually monitor & optimise it. (The systems can integrate natural ventilation, floor heating/cooling, aircon heating/cooling, pool heating, cellar cooling, tap hot water.)

And we will make sure it all works together seamlessly, so that the occupants are comfortable all year round without having to do anything… and happy with the bills as well as the eco-footprint.

I would like to say that clients marvel about the natural and non-artificial feel of the climate in their houses, but they don't:

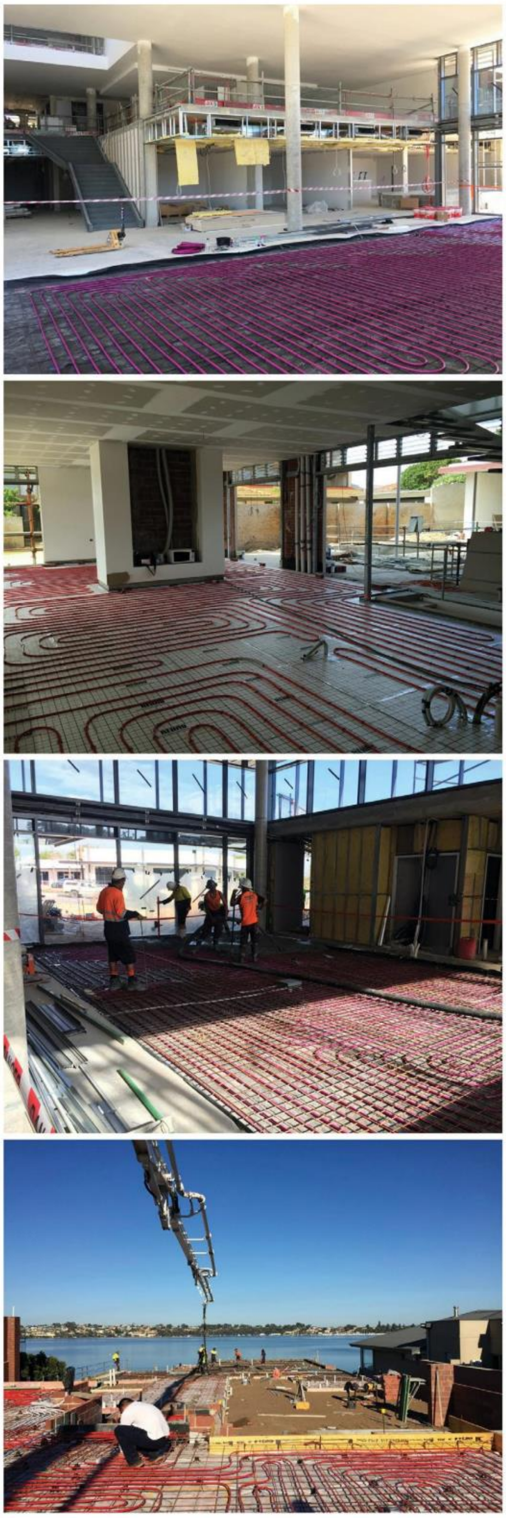
They find the warm feeling in winter and cool in summer so natural (without rapid spikes of temperature or being blown hot/cold air at them from vents) that they don´t notice they have a system doing this at all

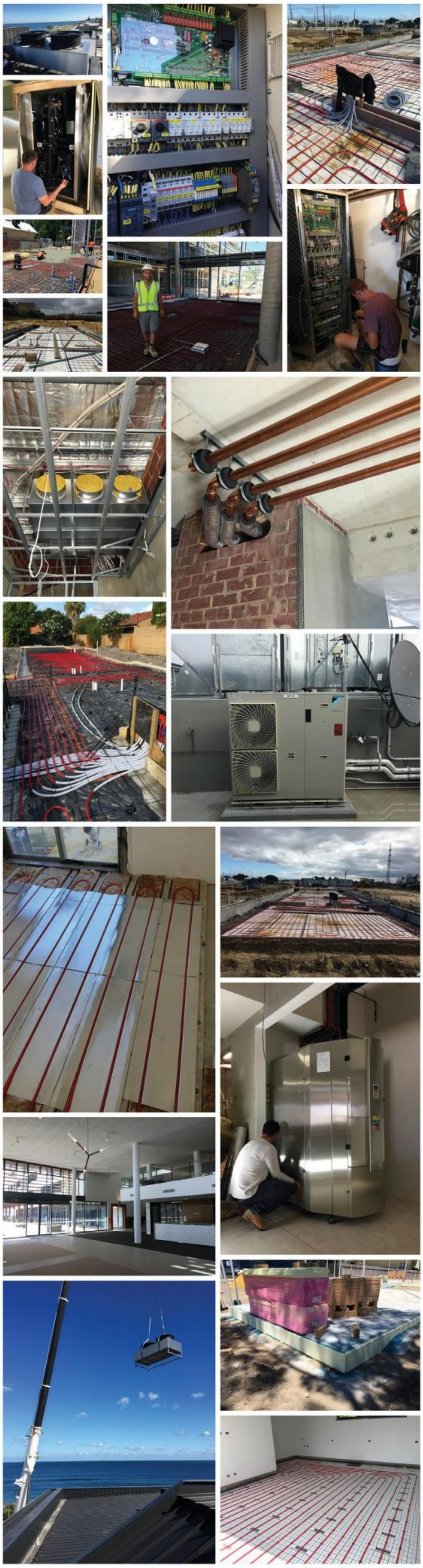
… and I suppose that is the ultimate compliment and sign of user happiness.

If you'd like to create a similar climate in your house, give us a call and we will meet with you for a quick 15-minute chat. I promise no salesy pitching, just info on building physics, energy flows, thermal efficiency and how to use it all in seamlessly heating/cooling your home

… so that the next winter in your home will be a warm & comfortable one.

Phil Pacak
Hydronic Engineer
Euroheat Australia
Ph. 08 6468 8895
phil@euroheat.com.au





euroheat australia pty ltd

08 6468 8895

info@euroheat.com.au

www.euroheat.com.au