The specifiers' playbook

How to reduce risk
and future-proof
heating specifications

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Introduction

Specifying heating systems has never been more demanding. Regulations are tightening, sustainability goals are rising, buildings are becoming more complex and end users demand higher quality, ease of use and energy efficiency. Meanwhile, you are expected to deliver solutions that perform reliably, keep end users comfortable and remain efficient over time.

In this complex landscape, it can be tempting to look for shortcuts, but the decisions you make today shape the long-term performance of your projects.

This guide gives you practical insights that can help you specify heating systems with confidence. You will find strategies to:

- Optimise your time while maintaining quality
- Avoid common pitfalls and reduce risk
- Ensure systems are compliant and end user friendly
- Specify solutions that meet requirements today and remain adaptable for the future

Content

Historically, opting for a product with low OPEX has been an easy choice when specifying heating solutions, as lower upfront costs are easy to justify to investors. However, as the competitive landscape evolves due to rising energy prices, resource scarcity and tightening legislation, the criteria for weighing CAPEX against OPEX are changing too.

Thinking long-term is now the safer choice. Solutions with a higher CAPEX can often deliver lower total costs over time than those that appear (note) cheaper upfront. The table below shows why underfloor heating often outperforms radiator heating in the long run.

	Underfloor heating	Radiators
Operating temperature	Typically 35 °C = higher efficiency, especially for heat pumps.	Typically 50 °C = lower efficiency, higher energy use.
Energy consumption	Enables 10–20% lower heat demand thanks to even comfort at lower air temperatures.	Higher air temperature needed = more energy consumed.
Appliance performance	Up to 25% better performance with heat pumps.	Limited potential for performance gains.
Lifetime & maintenance	Longer system lifespan and lower maintenance requirements.	Shorter product lifespan and more frequent maintenance.
Flexibility in energy use	Supports load shifting to off-peak hours, lowering operating costs.	Less flexible, higher reliance on peak-hour energy.
Sustainability & future-proofing	Aligns with low-carbon goals and long-term efficiency.	Harder to integrate into sustainable, future-ready systems.

Source: Insert title and URL for local whitepaper *Read more here*

Balancing OPEX and CAPEX in a changing world

Features that maximise system performance

Studies show that lowering indoor temperature by 1°C can lead to energy savings of approximately 6–10%*, depending on building insulation, heating system efficiency, and occupant behaviour. Features that make it easy to lower temperatures — especially in unused rooms — are therefore essential to future-proofing heating systems.

Zone control allows different areas of a building to be heated based on their individual needs, reducing energy waste by avoiding unnecessary heating of unoccupied spaces.

Weather compensation automatically adjusts heat output based on outdoor temperatures, optimising energy use by avoiding unnecessary heating when outdoor temperatures rise.

With **auto-balancing**, heat is distributed efficiently across the entire building, so all rooms stay at their most efficient and most comfortable temperature at all times.

Features such as zone control, weather compensation, and auto-balancing are already standard in some countries and are becoming increasingly common in others.

These features are more than just add-ons. They actively drive efficiency, reduce running costs and help your customers meet strict energy performance requirements. With regulations likely to tighten even further in the coming years, preparing in due time by specifying a system with the flexibility and scalability to adapt to future demands will help your customers avoid the cost and complexity of retrofitting later.
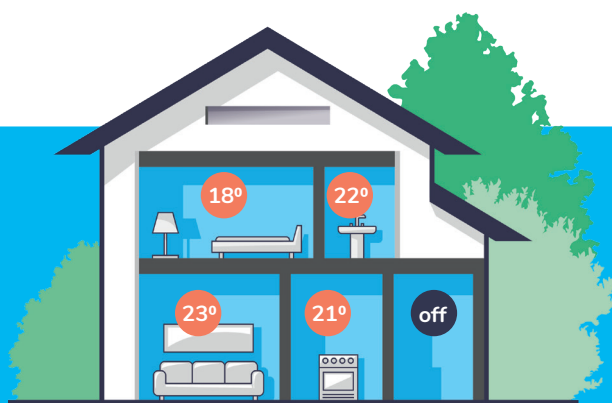
The bottom line

When specifying heating systems, prioritising advanced energy -optimising features helps future-proof investments. While this may mean a higher CAPEX upfront, the resulting energy savings can offset costs over time, balancing OPEX against the initial spend.

Why tailoring control to building purpose is a must

In an attempt to optimise time spent specifying, it can be tempting to reuse specifications from previous projects. While this can be an effective time-saver, it may result in solutions that do not fit the needs of the specific building, leading to reduced comfort, inefficient use and user dissatisfaction.

In today's environment of stricter energy regulations, rising costs and high user expectations, ensuring that your specification meets the building's unique requirements is more important than ever. A poorly matched solution can lead to complaints from building users, increased maintenance issues and reputational risk for you as the specifier.

Let's look at a few examples of what to consider:

Tamper-proof vs. user-accessible interfaces
Some buildings may require tamper-proof thermostats to prevent unauthorised adjustments, while others benefit from intuitive user interfaces and app-based control to give residents ownership of their own comfort and energy consumption.

Weather compensation
Regardless of building type, outdoor conditions impact heating indoors. Weather compensation (ITC) ensures the system adjusts automatically to external temperatures, improving energy efficiency without requiring user intervention.

Auto-balancing
To optimise efficiency and user comfort, auto-balancing ensures that heat is distributed correctly throughout the building to achieve the desired temperature in every room at all times.

Scheduling
The option to set heating schedules helps match operation to building use, improving efficiency and keeping energy costs under control.

That does not mean you need to start from scratch every time. Instead, specifying a system that is flexible and scalable allows you to optimise your time while still delivering a tailored solution. By using a system that can adapt to a range of building types and user needs with minimal adjustments, you avoid unnecessary rework while ensuring each project delivers comfort and efficiency.
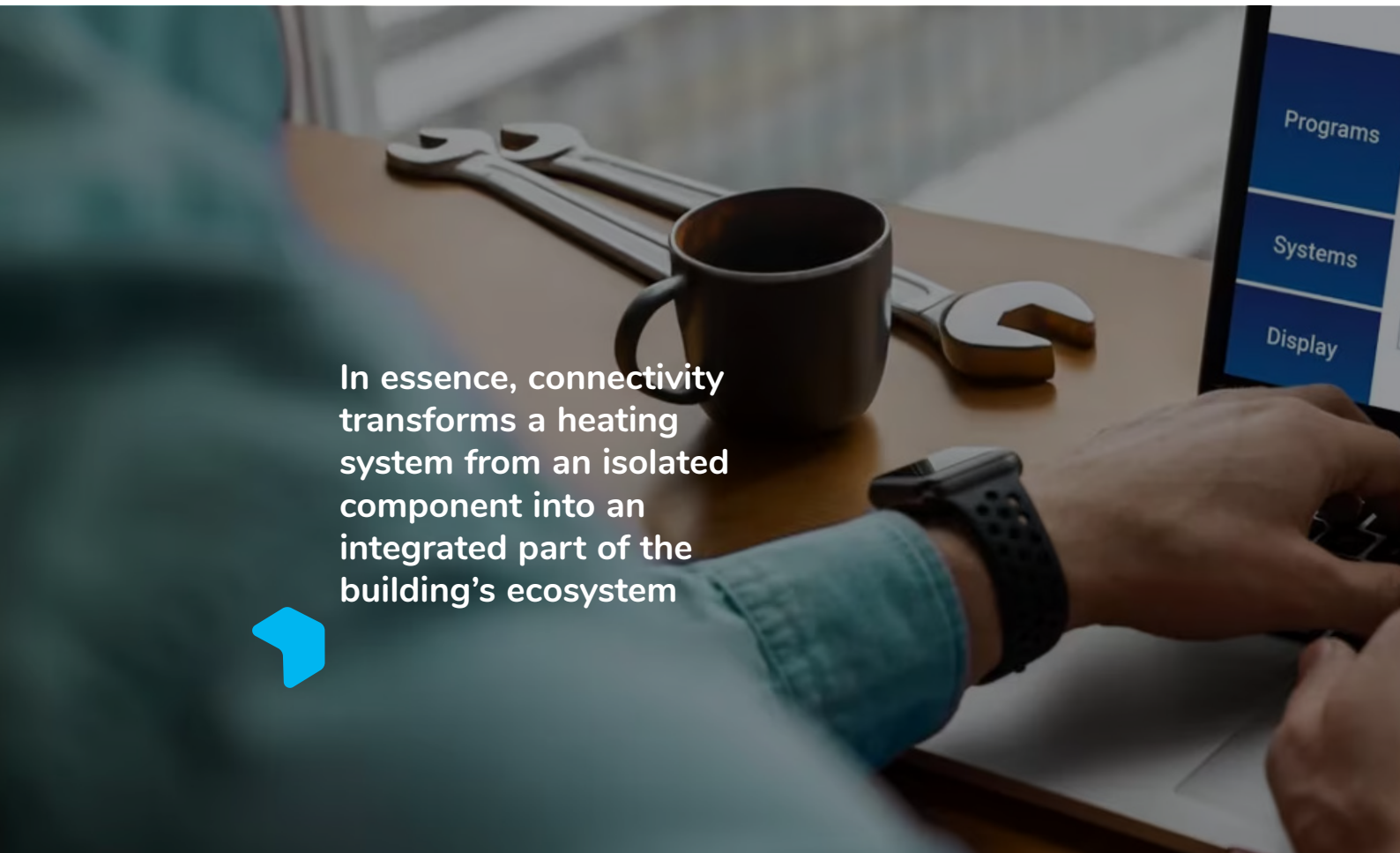
The bottom line

To maximise the potential of a heating system, specifications must be tailored to the building's purpose. Reusing specifications risks compromising project success if the products specified do not fit the needs of another building type. However, a familiar system with the flexibility to adapt to different building types makes it possible to tailor each project without starting from scratch.

Seamless integration with other systems

Using open protocols such as Modbus or API, heating systems can exchange data with other building management systems and 3rd party solutions. An open system reduces compatibility risks, simplifies design and enables integration with BMS systems and other heating and cooling system components, such as heat pumps and dehumidifiers.

Why connectivity must be standard practice

In essence, connectivity transforms a heating system from an isolated component into an integrated part of the building's ecosystem

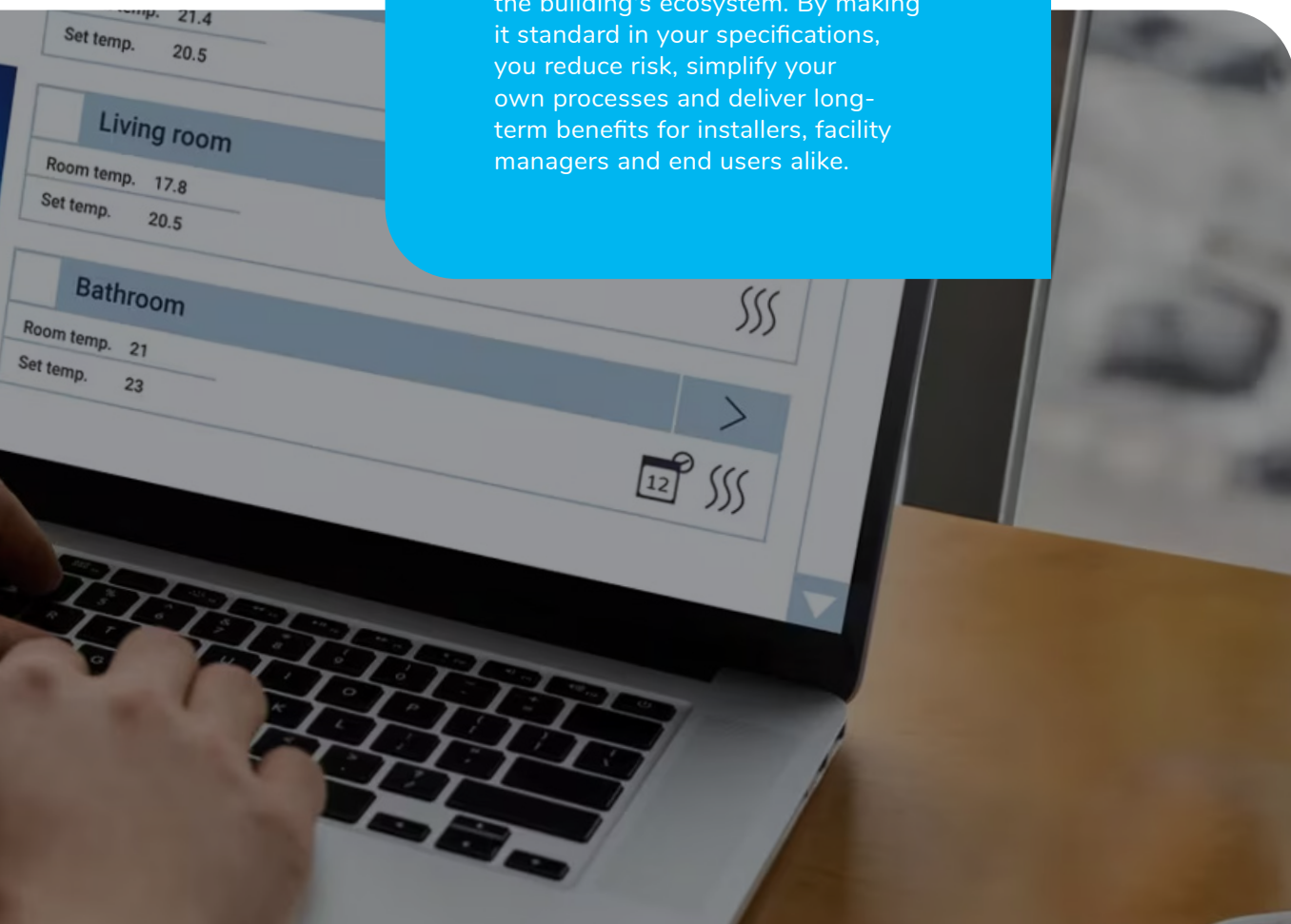**Online access and remote services**

Connecting a system to the internet (via LAN) provides advantages throughout the value chain. For end users, it enables intuitive app-based control and the confidence that their system is always up to date with the latest features and security through automatic updates.

For installers and facility managers, it opens the door to efficient remote diagnostics and servicing. Maintenance teams can monitor performance, identify faults, and in many cases resolve issues without visiting the site. And when a visit is needed, technicians can arrive better prepared, saving both time and costs.

With connectivity, you are certain that future maintenance access is factored in, making it easier to carry out maintenance efficiently and ensure smoother service visits and long-term system performance.

The bottom line

In essence, connectivity transforms a heating system from an isolated component into an integrated part of the building's ecosystem. By making it standard in your specifications, you reduce risk, simplify your own processes and deliver long-term benefits for installers, facility managers and end users alike.

Set temp.   21.4
Set temp.   20.5

Living room
Room temp.   17.8
Set temp.   20.5

Bathroom
Room temp.   21
Set temp.   23

How systems thinking improves the safety and speed of your specifications

Time is one of your most valuable resources as a specifier. Optimising the time you spend on specifying heating solutions is not just about working faster — it is about reducing risk, ensuring quality and freeing up capacity for the tasks that require your expertise.

Specifying heating solutions as a collection of separate components creates complexity. Every hand-off introduces friction. Every additional component increases the risk of installation errors. Every new interface adds complexity for the end user and for those installing and maintaining the system.

System thinking offers a straightforward way to reduce the complexity and risk. By approaching heating as a complete system rather than as separate parts, you ensure compatibility across components, simplify the specification process and reduce the risk of issues during installation. A complete system also streamlines support, making it easier for installers and end users to know who to turn to in case of an issue.

When specifying complete heating systems, look for features that contribute to faster, safer projects, such as:

Pre-configured compatibility
Controllers, sensors and manifolds that are designed to work seamlessly together reduce the complexity of design and installation.

Integrated smart control features
Built-in weather compensation and zone control mean more efficiency with less complexity.

The ability to mix wired and wireless controllers
Wired systems are valued for their reliability, straightforward installation, and freedom from battery failures, while wireless systems are ideal when aesthetics matter or controllers need to be placed in hard-to-reach locations. Accommodating both in the same system ensures reliability and flexibility — and with the right solution, even wireless connections can be highly reliable.

A complete solution
Working with a single vendor that can act as a partner and provide a complete solution, rather than multiple component suppliers, helps prevent compatibility issues and gives you a single point of contact, the advice you need and peace of mind from start to finish.

The bottom line

By specifying a solution designed with systems thinking in mind, you get a heating system that is more than the sum of its parts. And with a proven system with the flexibility to adapt to different building types, you can use the same approach across projects with only minor adjustments — ensuring each project meets its unique requirements while saving time and reducing risk for you, installers, and end users alike.

Reducing risk
with proven
systems

Specifying heating systems today is a complex task. Tightening regulations, strict energy efficiency requirements, and increasing demands for end-user comfort leave little room for error. Faced with this, it can be tempting to go for what seems simpler: a performance specification that pushes the responsibility of product selection further down the line. But that solution comes with hidden risks.

On paper, performance specifications look like a way to stay flexible while ensuring compliance. In reality, they often do the opposite. When you only specify what the system should achieve and not how, you hand over control of critical decisions to others who may choose a very different solution than you intended — or worse, one that doesn't actually exist in a practical, proven form. This can lead to systems that fail to deliver on comfort, energy performance, or compliance.

A smarter way to reduce risk is to specify a complete system with a proven track record. When components are designed to work together and backed by real-world references, you can be confident that you are specifying a system with the features to meet today's energy and comfort requirements. Just as important, an established supplier can act as more than a vendor. They can be your partner and advisor throughout the project, helping you navigate technical details, stay ahead of innovations, and secure a reliable outcome that building owners, facility managers, installers, and end users will all value. It is also worth checking that your systems provider can document relevant certifications — such as TÜV and RoHS — to demonstrate compliance and reliability.
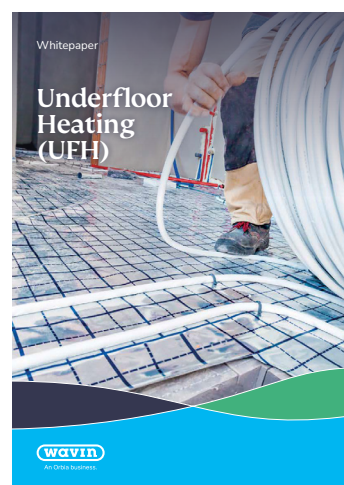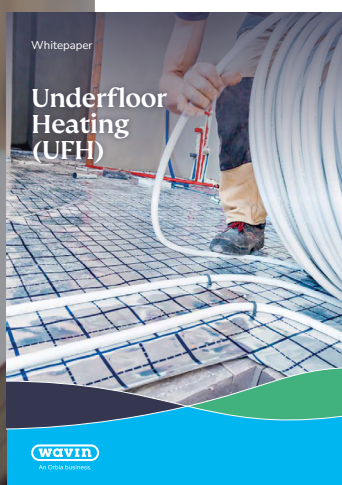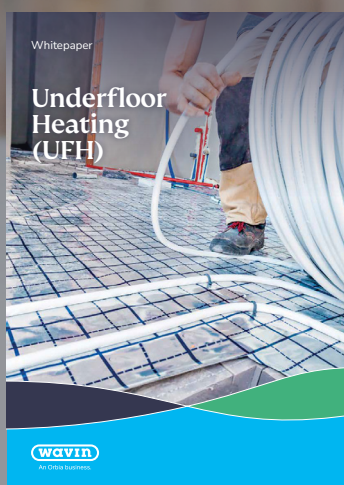
The bottom line

Ultimately, going with a proven system gives you control: control over quality, over performance, and over the reputation of your project. Performance specifications may look like the easy way out, but they put that control in someone else's hands. By choosing a trusted system from the outset, you reduce risks, minimise installation errors, and ensure your project delivers what you promised.

The specifiers' toolbox

Newsletters, documentation, calculation software, and much more

wavin.com/gb/tools-services

Whitepaper

Underfloor Heating (UFH)

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Advancing Indoor Comfort with Wavin

From family homes to apartments, Wavin stands as the trusted choice for a comprehensive indoor climate solution.
Through innovative controls, it seamlessly integrates underfloor heating, ceiling heating and cooling, heat interface units and mechanical ventilation.

All components work harmoniously in a unified solution, Advancing Indoor Comfort with efficiency and ease.

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Wavin is part of Orbia, a community of companies working together to tackle some of the world's most complex challenges.
We are bound by a common purpose:
To Advance Life Around the World.