

ADVECO NEWSLETTER

May 2023

Welcome to Adveco's May newsletter,

During April the government also outlined its latest plans for 'Powering Up Britain', but does it go far enough in supporting the commercial and public sectors?

So we take a deeper look at the options available to organisations seeking to improve sustainability within their built estate. We will breakdown a number of options and deciding factors to consider when addressing water heating as part of a decarbonisation strategy.

As well as considering at sound generation from hot water systems and how to avoid becoming a noise polluter.

Also, our website has had a thorough Spring clean and you will now find all our product pages updated, and a new warranty reference facility under the resources tab. We have also built a whole new training section for our updated course offerings which you can read about below...

Powering Up Britain?

Powering Up Britain is a collated series of plans published to explain how the government will enhance the UK's energy security, ensure economic opportunities from the transition, and deliver on net zero commitments.



The document was drawn up after the High Court ruled the government's existing plans were not sufficient to meet climate targets set during the tenure of former PM Boris Johnson. The ambitious plans to scale up affordable, clean, homegrown power and build thriving green industries in Britain are necessary considering the Russian invasion of Ukraine that highlighted the need to secure the country's energy and further avoid the impact of energy cost rises.

Powering Up Britain has outlined a further commitment to Carbon Capture Usage and Storage to build on the £20 billion CCUS funding already announced, and a £160 million fund to support port infrastructure projects to kickstart the floating offshore wind industry. New projects were announced under the original £240 million Net Zero Hydrogen Fund. A new competition under the Great British Nuclear banner is set to select the best Small Modular Reactor technologies for development by Autumn.

Responding to the need to reduce reliance on fossil fuels to heat buildings – the government highlighted the new £30 million Heat Pump Investment Accelerator designed to leverage £270 million private investment to boost manufacturing and supply of heat pumps in the UK. The domestic Boiler Upgrade Scheme, which offers a £5,000 grant to anyone buying a heat pump, is also be extended to 2028.

Energy Security Secretary Grant Shapps said: “We have seen over the past year what can happen when global energy supplies are disrupted. Access to cheap, abundant and reliable energy provide the foundation stone of a thriving economy with our homes and businesses relying on it to deliver our future prosperity.”

The rhetoric is telling, with focus placed on national security rather than simply addressing the urgent threat of climate change which, according to the most recent [UN report](#) is a rapidly increasing, rather than decreasing threat to global economies and habitats.

The Powering Up Britain plan anticipates somewhere in the region of £100 billion of private investment into the UK’s green economy, but many are already calling out that much of the plan is too little and too late, with much talk of businesses looking to invest in US green tech which is more thoroughly supported by the Biden administration. The fear is that companies which had intended to invest in UK sites will look to relocate to cheaper, better-supported sites elsewhere, particularly in the USA.

Other elements of the plan, including the core CO₂ storage strategy, have been questioned, with a number of scientists arguing the process will not achieve the carbon commitments to which the government is legally bound to deliver.

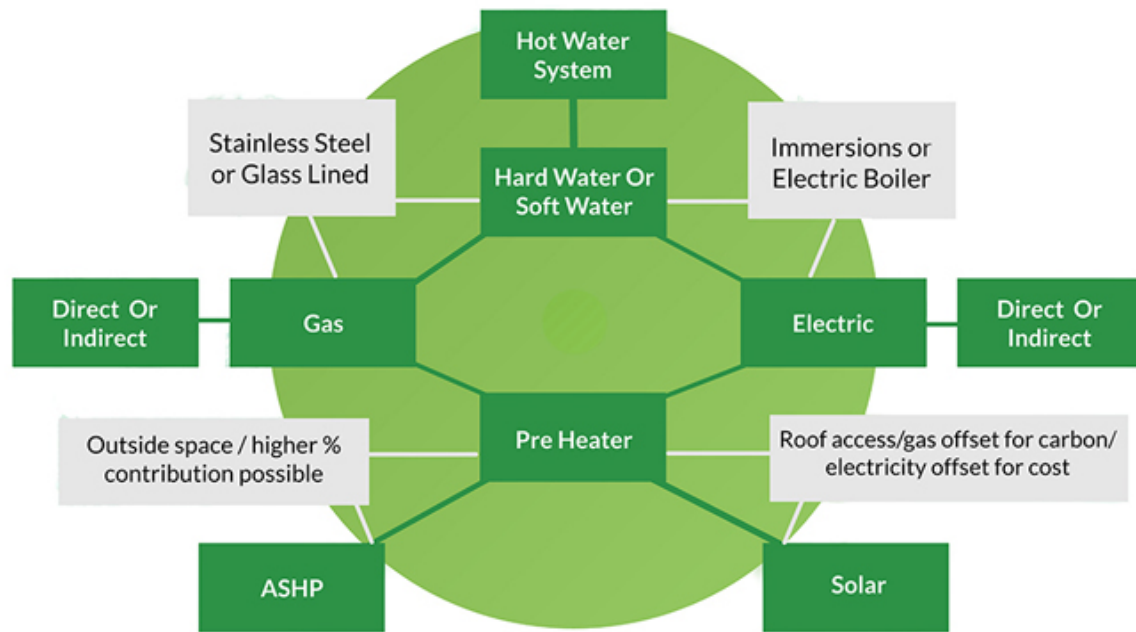
[READ MORE ABOUT POWERING UP BRITAIN](#)

Getting Started With Sustainable Water Heating

Estimates vary, but it is generally accepted that buildings are responsible for as much as 50% of the nation’s carbon emissions, with much of the existing building stock still dependent on gas, which, while increasingly efficient to use is a ‘dirty’ fossil fuel. Daily hot water usage can potentially account for as much as 30% of a commercial building’s daily energy demands so is a notable component of an organisation’s emissions. So sustainability & water heating go hand in hand, and the latter should be one of the first considerations within a decarbonisation strategy.

As a matter of course, new builds, unless exhibiting large demands for gas, will struggle to receive permission (under Part L of the building regulations) for a new gas connection and as a result, are going ‘all electric’ for heating and hot water. With modern construction fabric and insulation, this approach can pay dividends. For legacy properties requiring refurbishment, the choices become more problematic, especially for space heating where modern low-temperature systems need replacement pipework and heat emitters or will fail to deliver. Though this is not an issue for replacement hot water, the complexity of both new build and refurbishment can still suffer costly pitfalls in the drive to sustainability. With electricity on average currently costing as much as 3.8 times that of gas, serious consideration needs to

be given to a selection of technologies available to ensure that any changes to a hot water system balance the carbon reduction with the capital and operational costs.



There are several options when it comes to implementing a hot water system and as we have intimated some are driven by finance others by the desire to be environmentally aware. Other factors though can include everything from geology to available space. A building's location will instantly direct certain decisions as the hardness or softness of the water will impact options. For instance, stainless steel cylinders will be preferential in soft water areas as they are resistant to the corrosive nature of the water, whilst lower-cost glass-lined vessels are preferable in harder water areas. However, high-intensity heating, such as delivered by electric immersion can be extremely detrimental in hard water regions, accelerating limescale generation to the point that it can irreparably damage a system in a matter of months if not correctly maintained.

That does not preclude electricity as a choice, but it does affect how applications should be designed. The real leading question is do you choose gas or electricity? If gas, do you opt for direct or indirect heating systems or if electricity do you choose immersion or electric boiler as your source of thermal energy? Whichever route you decide upon, your system will additionally require a low-carbon heat source which will preheat the water reducing the energy consumption of the water heater, and in turn, reduce carbon emissions and the running costs of the water heater.

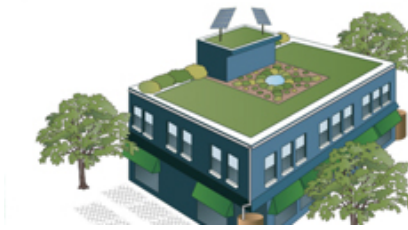
There are several choices for securing low carbon heat, including biomass; combined heat and power (CHP); ground or water source heat pumps; air source heat pumps (ASHP), solar photovoltaics (PV) and solar thermal. Through a mix of cost and simplicity, the best technologies to use for domestic hot water (DHW) systems are either ASHP or solar thermal.

You can read about the advantages of these two primary technologies, as well as gaining awareness of the pitfalls by reading our three part series on sustainable water heating...

SUSTAINABILITY & WATER HEATING

Continuous Personal Development Training

Best Practices For Electric Based Commercial Hot Water Systems



Sizing Domestic Hot Water Systems For Commercial Environments



Solar Thermal Energy In The UK



This month, Adveco has launched its new training portal, where you can review the latest continuous personal development (CPD) seminars offered at no charge. Understanding, designing and selecting the best engineered domestic hot water (DHW) application has become increasingly important for the successful delivery of hybrid and all-electric systems that reduce carbon emissions and control costs across the commercial sector. In response Adveco has created a series of CIBSE approved CPD seminars to help guide you in the creation of optimised, low-carbon systems that can be implemented today and will continue to deliver long into the future.

Sizing domestic Hot Water systems for Commercial Environments addressing the different sizing regulations and guides which can be confusing, compounding diversity factors which can lead to oversizing and unnecessarily high costs.

Best Practices For Electric Based Commercial Hot Water Systems covers deployment of immersion heating, use of electric boilers and indirect water cylinders, and how air source heat pump technology is rapidly evolving and should be deployed to best advantage.

Solar Thermal Energy In The UK explores how solar thermal systems, which are becoming a main technology once again, work and the pitfalls you need to be aware of if the technology is to effectively lower carbon and to reduce running costs of DHW systems.

The solar thermal CPD can also act as a jumping off point for installers wishing to train in solar thermal installation. Adveco can offer an in depth overview of installation requirements and our solar engineers are available to oversee onsite installations.

Visit the new training portal to find out more and get in touch to book a free seminar session in person at either your or Adveco's facilities, online or a mix of the two. Attendees will then be invited to register their attendance that will provide access through the portal to additional supporting content and certificate after attending the seminar..

ADVECO TRAINING & CPDS

Are You Hearing This?



Noise management is a complex issue and at times requires complex solutions. Unlike air quality, there are currently no European or national noise limits which have to be met, although there can be specific local limits for specific developments. Furthermore, sound only becomes noise when it exists in the wrong place or at the wrong time such that it causes or contributes to some harmful or otherwise unwanted effect.

Unlike many other pollutants, noise pollution depends not just on the physical aspects of the sound itself, but also on the human reaction to it. Consequently, there is a range of legislation that addresses everything from clearly identifying sound levels of products to those regulating construction quality and setting acceptable noise sound levels within the working environment.

The provision of hot water to commercial buildings is very often a business-critical function of daily operations and this can well be 365 days a year, so its important to give consideration to sound levels generated by the domestic hot water (DHW) plant.

[READ MORE ABOUT NOISE MANAGEMENT](#)

Sustainable Electric Hot Water



Solar Thermal

A proven and extremely reliable technology, solar thermal offers a clear path to reducing CO₂ emissions and offsetting expensive electric costs for organisations



Air Source Heat Pumps

The FPI32 & L70 ranges of commercial Air Source Heat Pumps (ASHP) for the provision of preheat in domestic hot water applications. Adveco ASHPs can be supplied as a part of a bespoke hybrid, or all-



ARDENT Electric Boiler

ARDENT is designed to serve as an indirect water heater or heating system. Wall-hung and floor-standing variants for those seeking to avoid a reliance on gas energy supplies. In hard water areas the

using large amounts of hot water. Adveco's collectors with drain back provide a low maintenance option to help achieve sustainability goals.

FIND OUT MORE

electric system, as well as an element of a prefabricated plant room system.

FIND OUT MORE

ARDENT electric boiler can be used to dramatically reduce the costly build up of damaging limescale.

FIND OUT MORE

Adveco 2023 Product Guide

Fully updated for 2023, this useful reference guide provides a full summary of Adveco's current product portfolio. Don't forget these are just the start of our offering, acting as the buildings blocks for your bespoke hot water systems...

2023 PRODUCT GUIDE



Discover Adveco's expanding range of low carbon and renewable products

- [FPI R32 monobloc Air Source Heat Pump](#)
- [L70 Air Source Heat Pumps for larger projects](#)
- [FUSION pre-sized hybrid hot water systems](#)
- [Solar Thermal Drainback Systems](#)
- [ARDENT Electric Boilers](#)
- [Hot Water Cylinders, Indirect Water Heaters, Calorifiers & Buffers](#)
- [Commercial Gas-Fired Water Heaters](#)
- [Standalone Heat Recovery from Chillers](#)
- [Offsite Constructed Packaged Plant Rooms](#)

☎ 01252 551540
 ✉ Enquiries@adveco.co

Adveco Ltd. is the hot water specialist with more than 50 years of expertise in the building service industry. Adveco Ltd 2023. Unit 7 & 8 Armstrong Mall, Southwood Business Park, Farnborough, Hampshire, GU14 0NR