ADVECO NEWSLETTER

Welcome to Adveco's December newsletter,

This month Adveco receives the Building & Facilities News inaugural Innovation Award for its work in water heating in 2023. As we come to the end of 2023 and look forward to 2024 we wanted to take a moment to consider and celebrate our award-winning approach to innovation that meets the ubiquitous water heating demands in commercial properties. We are also extremely pleased to announce the promotion of Greg Brushett to the board as Sales Director, consider the importance of identifying and monitoring embodied carbon, and round off with the latest updates to the FUSION Electric Water Heating system.

As you read this COP28 will be in full flow and the hopes are this will further advance global sustainability efforts to ensure a better future for all. We can't think of a better present in this season of giving.

Adveco offices will close on the 22nd December, we will be taking orders that day but please note first deliveries after that date will be the 2nd January.

Thank you for reading this year and we wish you all a very happy Christmas and successful 2024.

From all the team at Adveco

Innovating Now For The Future

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Adveco began in 1971, when the company was founded as Advance Services (Sales) Ltd, supporting the launderette industry with a vision for increased efficiency and cost saving by utilising glass-lined boilers and galvanised hot water storage tanks. As a result, the company was recognised by BSRIA as the instigator of direct gas-fired water heaters in the UK.

Throughout the next 27 years, the company helped develop the market trading as A.O. Smith Water Heaters (Adveco AWP). In 2015 the company embraced its own brand and today Adveco is the trusted specialist provider of low-carbon hot water systems to the building services industry. Operating across all commercial sectors, the company is proud to be leading the way with its vision for lower carbon applications that leverage heat pump and solar thermal technologies with packaged and off-site constructed systems to help achieve net zero.

As an engineering-led business, Adveco has always been an innovator in the provision of domestic hot water (DHW) for commercial-scale projects across the UK. Retaining independent operation enables Adveco to select the optimal choice of technology and manufacturing partners to be fast to market with the right products for its commercial customers. This has allowed Adveco to seamlessly move focus to encompass a blend of traditional and new, more sustainable technologies in the form of solar thermal and especially heat pumps to integrate greater sustainability into DHW systems.

With a predicted one-third rise in non-domestic floor space by 2050, much of the current focus resides on new builds, but this still leaves more than 1.6 million pre-existing non-domestic buildings in England and Wales, generating almost one-fifth of the UK's carbon emissions, needing expert, practical support. To best support the needs of all commercial buildings Adveco has concentrated on delivering effective, rapid and lower-cost innovation of water heating systems and appliances that drive and support the adoption of sustainability, but not at the expense of existing infrastructure or working building systems.

This foundational innovation for achieving net zero is comprised of six ‘pillars’. The first of these ‘pillars of Innovation’ encompasses work to reduce energy use. This is a core building block and focuses on the delivery of greater efficiency. This starts with approaches to how internal components operate with a device and how a device interoperates with others in a larger system.

Gas-fired systems will remain an important technology for the high-demand provision of hot water in commercial buildings well into the 2040s, despite being a fossil fuel. For many older buildings, it is the only cost-effective approach available, so improving efficiency has been a key consideration.
The patented Ecologic premix burner used in Adveco’s AD, ADplus and MD ranges is a good example, increasing efficiency to reduce fuel, cutting carbon and dangerous NO_x emissions, our second pillar of innovation.

At a system level, we have spent a lot of development time calculating the best ways to reduce how hard technologies such as air source heat pumps (ASHP) and direct electric heaters, preferably boilers but also immersions need to work. As a result, the company has become a vocal supporter of a hybrid approach to commercial-scale hot water provision as the best method for maximising efficiency whilst maintaining necessary higher working flows to meet safe operational conditions. Hybrid systems can encompass anything from gas and solar thermal through to ASHPs, electric boilers, immersions and solar thermal in a single system, all balanced by bespoke controls designed in-house by Adveco.

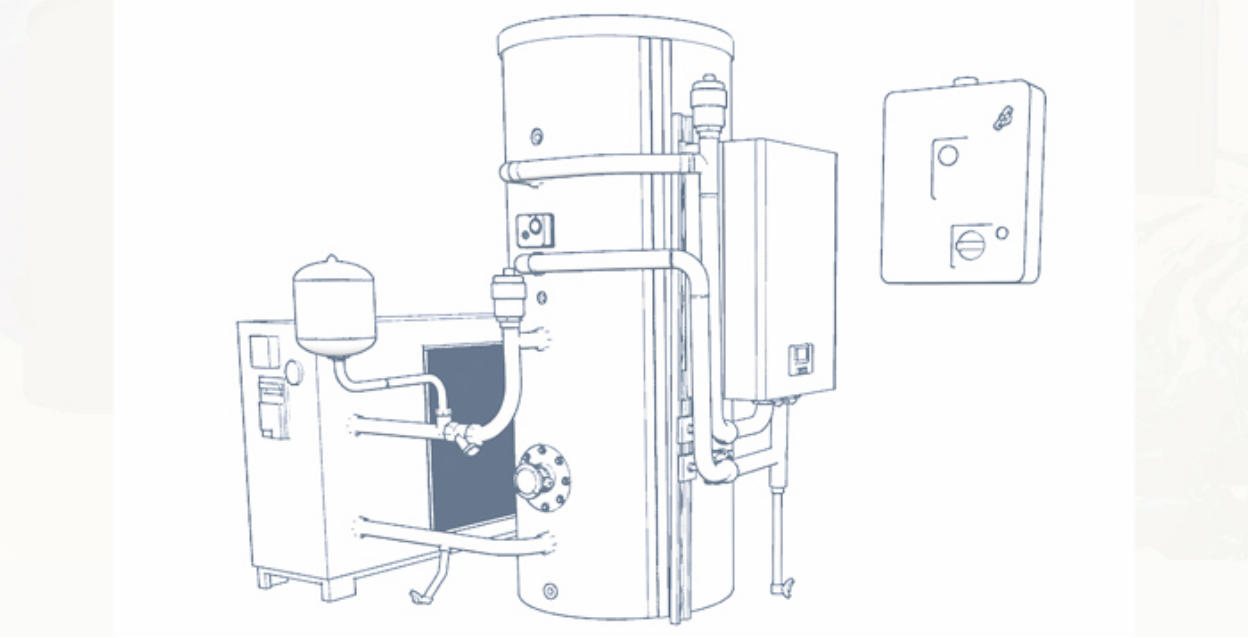
Historically this approach required bespoke system design, which could be both complex and costly. As a result, Adveco has committed itself to a research and development programme that creates pre-packaged systems. This creates new efficiencies to cut energy consumption, emissions, and reduce costs, both capital and operational, our third pillar, and improve installation, the fourth pillar.

For almost ten years Adveco has been striving to deliver a pre-sized or prefabricated system to deliver hot water demands. In 2020 the company launched its award-winning Packaged e32-Hot Water System. This prefabricated all-electric water heating system brought together Adveco’s FPi32 ASHP, a 200L GLC indirect preheat tank and a 200L GLE direct electric water

heater to provide reliable high-temperature water in a convenient, packaged system housed in a compact GRP housing.

The e32 provided a model which evolved into the FUSION FPH-S system. Launched in 2021, again to award-winning acclaim, FUSION encompassed 16 pre-specified low-carbon, all-electric, packaged hybrid hot water systems.

FUSION further evolved in 2023 into a completely new system with more than 40 pre-sized variants. The ATSH and ATSI cylinders were redesigned from the ground up to enable mounting of an ARDENT electric boiler and prefabricated pipework for a more compact form factor which is easy to install. FUSION T variants also incorporate the latest FPi-32 ASHP that offers greater efficiency at a smaller size due to the use of R32 refrigerant. This also offers a lower global warming potential (GWP) than previous models. Able to meet a range of continuous capacity hot water demands from 257-377 litres/hour makes FUSION highly adaptable for a wide range of commercial buildings. The stainless steel construction of the ATSI/ATSH cylinders also makes them excellent all-rounders, resistant to soft water corrosion and, with FUSION's unique low electric immersion heat intensity (6W/cm^2), is more resistant to scale build-up in hard water areas, extending system longevity, our fifth pillar of innovation.



The physical design, dedicated controls and integrated metering ensure the ASHP preheat, and immersion work seamlessly to deliver the highest operational efficiencies. This enables FUSION to make the greatest gains possible from the heat pump, even when ambient temperature and system demands fluctuate. These gains offset much of the direct electrical energy usually required, delivering 53% carbon emissions savings and helping control the operational costs of providing business-critical hot water.

Integrating FUSION technology with solar thermal collectors which use Adveco-designed drain back to extend the efficiency and longevity of the system, we can further reduce system energy demands. By at least 30% in the UK, driving carbon emissions down by as much as 71% over equivalent-sized gas-fired systems. It is a huge accomplishment but is only the beginning.

Our work with Live Metering is already saving organisations potentially hundreds of thousands of pounds, enabling the progress of nascent sustainability strategies. As that data aggregates, we are starting to gain the first true idea of the scale of the challenge facing the commercial sector to decarbonise water heating systems in its buildings. New refrigerant technology for ASHP's based on R290 (propane) will further reduce GWP, increase efficiencies and supply higher working temperatures. Hydrogen mixes, already supported by Adveco gas water heaters, will enable the reduction of natural gas within grid supplies to further alleviate carbon emissions from legacy building stock. We are also working hard to identify and reduce the embodied carbon which resides in the logistics chain from manufacture to delivery, which is the sixth and final pillar of sustainable innovation.

Net zero is a challenge, one that demands innovation and one that Adveco relishes working in partnership with its customers to realise for future generations.

DISCOVER MORE FROM ADVECO

Greg Brushett Named Sales Director

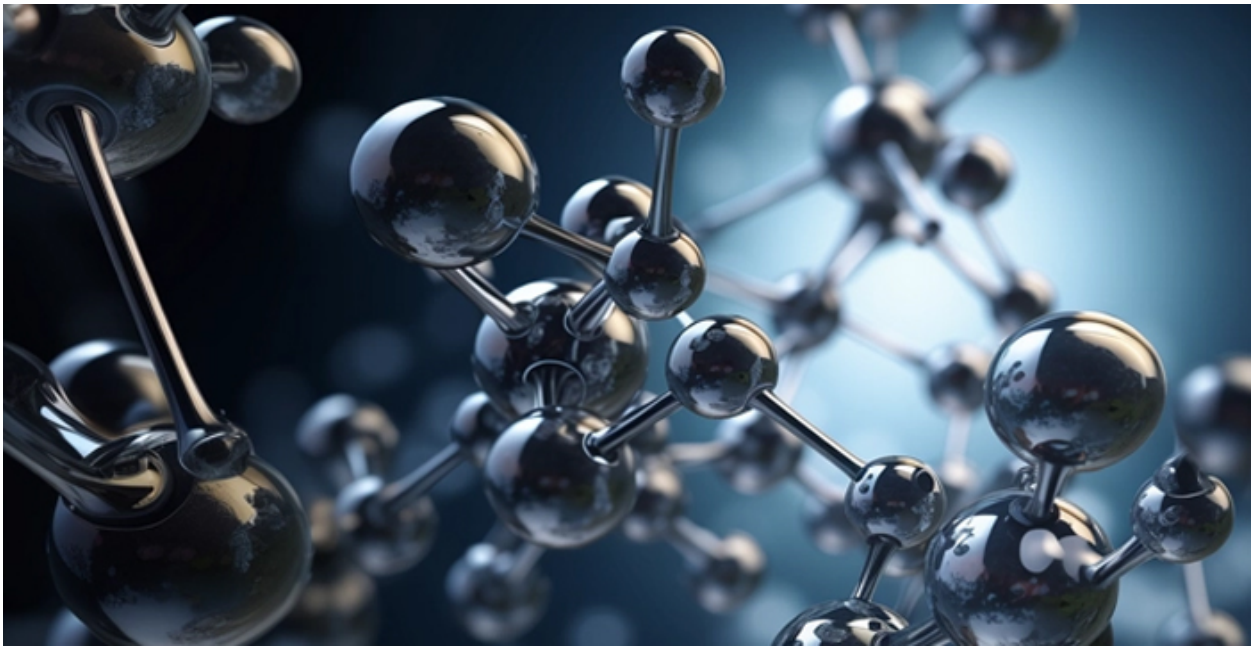
We are pleased to announce the appointment of Greg Brushett to the role of Sales Director, supporting the company's expansion in response to the continued demands for bespoke gas, and growing demands for electric and renewable approaches to provide domestic hot water systems in commercial properties.

David O'Sullivan, Managing Director, Adveco said: "Greg's tenure as UK Sales Manager has seen the company grow as it expands its remit to encompass new technologies to deliver more sustainable, robust and cost-effective means for providing hot water for commercial buildings. He proved invaluable in guiding the business through the COVID-19 pandemic, expanding sales opportunities despite the turbulent market conditions. Today we are extremely pleased that he has accepted the position of Sales Director, and we welcome him as a full member of the board to further shape the business as we support the challenge of making the UK net zero by 2050."

Greg commented: "I am honoured to accept the invitation to join the board as Sales Director. Adveco has a long, illustrious record in the UK. It was instrumental in the introduction of gas water heating for commercial projects, and now we are pioneering low-energy systems that deliver on new demands for sustainability. I couldn't be more excited about the future possibilities for the company and growing the sales team to support new goals."

We are also pleased to be further expanding the sales department with the appointment of two new sales engineers who have joined the Internal sales team. Jethro De Freitas and Marcin Bartl join us with a wealth of experience alongside the ability to rock the house & hold their own in a kick boxing match!

The Importance of Understanding Embodied Carbon



The building industry is a major contributor to greenhouse gas emissions, accounting for nearly 40% of global energy-related emissions. While operational emissions, from energy used to heat, cool, and power buildings have been the focus of attention, embodied carbon emissions, from the production, transportation, and disposal of building materials, are increasingly recognized as a significant concern.

Embodied carbon is the total greenhouse gas (GHG) emissions associated with the entire lifecycle of a building's materials, from extraction to manufacturing, transportation, and disposal. These emissions are "embodied" within the building itself and are released over time, even if the building is operated efficiently.

A significant, yet often overlooked source of emissions, and unlike operational emissions which can be reduced through energy efficiency measures, embodied carbon emissions are more difficult to address. Once a building is constructed, its embodied carbon emissions are locked in and cannot be easily changed.

As buildings become more energy efficient, embodied carbon emissions will become an even more significant share of the total carbon footprint of buildings. In fact, some estimates suggest that embodied carbon could account for up to 80% of the total carbon footprint of new buildings by 2050.

Read on to learn more about whole life carbon and water heating...

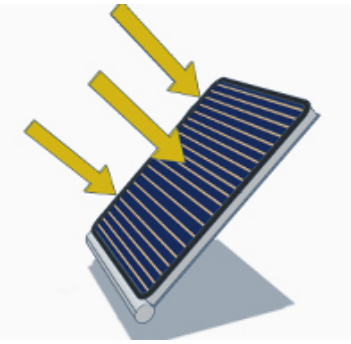
WHOLE LIFE CARBON & WATER HEATING

FUSION Now & For The Future

At Adveco we continue to advocate the use of hybrid approaches for domestic hot water in commercial environments. As such, we see FUSION Electric Water Heaters as a primary route for businesses with wash-basin led demands to achieve greater sustainability quickly and cost-effectively. To ensure this we will continue to innovate and implement changes to advance system efficiency that now supports options up to 36 kW and 300- 500 litre capacities. For all the latest data on FUSION please visit our website at https://adveco.co/ or download the latest version of the handbook.

GET THE FUSION HANDBOOK

Sustainable Electric Hot Water



Solar Thermal

A proven and extremely reliable technology, solar thermal offers a clear path to reducing CO_2 emissions and offsetting expensive electric costs for organisations 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

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

FIND OUT MORE

ARDENT Electric Boiler

ARDENT is designed to serve as an indirect water heater or heating system. Wall-hung and oorstanding variants for those seeking to avoid a reliance on gas energy supplies. In hard water areas the 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 as we move towards 2024, 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

Live Metering
Solar Thermal Systems
FPi R32 monobloc Air Source Heat Pump
L70 Air Source Heat Pumps for larger projects
FUSION packaged electric water heaters
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

Armstrong Mall, Southwood Business Park, Farnborough, Hampshire, GU14 0NR