

# OUR WILTON

COMBINED HEATING AND POWER BRINGS COMFORT FOR VETERANS CARE



Owned and operated by the registered charity Our Wilton Trust, the Veterans Hub project serves as part of a unique campus to support military veterans. Sited at the former Erskine Barracks in Wilton, Wiltshire, the hub provides a total of 44 high quality and contemporary studio, one-, and two-bedroom flats in addition to training and social enterprise opportunities.

A well designed and reliable heating and hot water system is paramount to care and accommodation buildings, where the comfort and wellbeing of residents can require year-round energy demands and a reliable source of hot water. Our Wilton's Veterans Hub, like most care and residential applications, exhibits a continuous electrical demand alongside a significant, but varied, hot water and heating usage pattern. To meet this demand, the most effective design was that of a Combined Heat and Power (CHP), or cogeneration, preheat domestic hot water system.

**Customer**  
Our Wilton

**Sector**  
Residential Care

**Location**  
Wilton, Wiltshire, UK

**Application**  
Cogeneration of hot water and power

**Products**  
Totem T20 m-CHP  
Adveco MSS thermal storage tank  
A.O. Smith IT pre-heat vessel & DHW indirect calorifiers.

# ADVECO

EXPERTLY ENGINEERED FOR YOU



## MICRO-COGENERATION FOR HOT WATER AND POWER

Our Wilton turned to Adveco Ltd., specialists in advanced heating and hot water systems, which supplied a TOTEM T20 m-CHP cogeneration system. The Adveco T20 CHP serves as the central part of a domestic hot watersystem designed by Contractors Design Partner (CDP), and brings high efficiency renewable technology to the accommodation building. The use of CHP allows the building to meet strict building standards, increasing energy efficiency while lowering harmful emissions in an environmentally friendly answer to the building's year-round domestic hot water requirements.

The system design features the 20kWe, 42kWTh TOTEM micro-cogenerator operating by heating an Adveco MSS 3000 litre thermal storage tank, which in turn feeds an A.O. Smith IT 1000 litre pre-heat vessel and two further IT 1000 DHW indirect calorifiers.

A correctly sized thermal store allows the CHP to run for extended periods of time while it heats up – all the while providing low carbon power to the building – ready to cover periods

of peak usage. This arrangement allows the CHP to supply the full domestic hot water requirement for the building. A 140 kW A.O. Smith Upsilon boiler cascade has additionally been installed to serve as a top-up energy source for periods of excess or off-peak demand while the thermal store is recharging. The use of supplementary boilers additionally increases the overall reliability of the system by adding further heating redundancy.

The CHP, boilers, thermal storage tank and indirect water heaters supplied by Adveco alongside ancillaries, safety, and flue components create a bespoke and practical DHW system that prioritises low-carbon heat generation in a high efficiency arrangement. The use of renewables leads to an estimated annual carbon saving in excess of 9,000 kg CO<sub>2</sub>.

The Totem T20 CHP gives Our Wilton a single, reliable system to both meet the demands of the varied accommodations and provide the versatility to meet future demands for hot water and power across this unique project.

With almost 50 years of industry experience, Adveco Ltd. is the trusted specialist provider of bespoke hot water, heating and power systems to the building services industry. Committed to partnering with its commercial and government customers, Adveco helps create comfortable, efficient, functional, safe and sustainable buildings through invaluable support in the design, supply, commissioning and service of business-critical hot water, heating and power. Headquartered in the UK, the company operates across Europe from offices in the Netherlands and Belgium.

## TOTEM M-CHP

- Purpose-built for operation on natural gas
- Combined Heat and Power range with outputs of 10, 20, 25 and 50 kWe
- Total cogeneration efficiency up to 107.4%
- Ultra-low emissions: NO<sub>x</sub> at <12 mg/kWh and <10 mg/Nm<sup>3</sup>,
- CO at <10 mg/Nm<sup>3</sup>
- Unparalleled reliability.
- Eligible for full points under the revised POL02 category of the 2018 BREEAM New Construction Scheme, even when installed in high pollution urban areas.

