

# BIRD & BIRD

## SOLAR REVIVAL - LOW CARBON PREHEAT FOR OFFICE DHW



Bird & Bird is a specialist international law firm consulting on business operations, including innovation and adaptability in businesses, corporate social responsibility and environmental sustainability.

With environmental sustainability being a core practice of this business, in 2016, Bird & Bird chose to invest in upgrading its London offices. Rather than replacing the existing calorifiers which supply domestic hot water (DHW) and were already facilitating all staff and building requirements, they opted to enhance the system and introduce greater sustainability by adding a renewable energy option, commissioning the installation of solar thermal panels on their roof to supply system pre-heat, offsetting energy demands and reducing the building's carbon footprint.

Trusall Ventilation Ltd, an air conditioning company was contracted by CBRE, a commercial real estate services and investment consultancy, to manage the acquisition of these solar collectors, and ensure the system's successful design, installation and operation. Previously impressed with its product range, technical applications and advice, Trusall selected commercial hot water specialists Advenco to design and provide technical assistance for the purchase, and commissioning of the solar collectors.

### Customer

Bird & Bird

### Sector

Low Carbon Office Space

### Location

City of London

### Application

Solar Thermal Pre-Heat

### Products

Solar Thermal Collectors  
 Drain Back

In Spring 2024, Trusall contacted Adveco for urgent assistance when due to high winds and ferocious storm conditions, a solar panel became damaged and needed urgent replacement. Circumstances such as this can be rare but possible and a fast resolution was required, not just to reinstall the damaged product but also to ensure the correct safety health and safety conditions for the entire building, occupants and surrounding areas.

Following consultation with Adveco's applications engineering team, recommendations were made to replace the damaged solar panel and further support the continuing running of the panels.

First, a new solar collector along with a mounting frame, was required. Adveco's latest generation solar thermal flat plate collectors run efficiently to reduce energy demands, operational and maintenance costs, while reducing carbon emissions. A much-needed application as we head towards a zero-carbon target year of 2050. The prefabricated mounting systems mean that these are ready to install instantly, without the need for further adjustments. This replacement panel also included a new connector to the existing array.

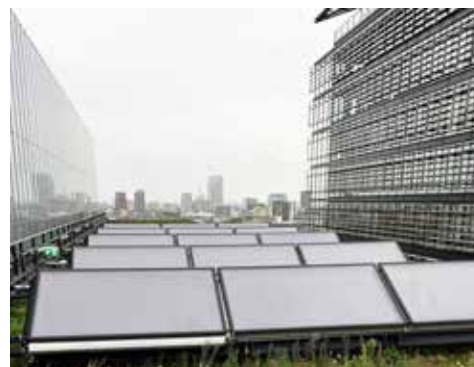
A further recommendation was for a complete replacement of the solar fluid across both the installed systems, which had now been operating for more than eight years, without refreshing this critical system element. Solar Thermal systems work by collecting solar energy as heat in a glycol fluid that passes through the copper tubing running through the collector. Gravity then carries the fluid to a storage vessel where the heat is transferred via a heat exchanger (a coil) in the cylinder, pre-heating the system water. Glycol needs to be regulated in the collector as it has the potential to overheat, causing it to boil and be converted to a damaging tar-like consistency. This is avoided in

Adveco's solar thermal system through the inclusion of drain back units on the collectors. The compact drain back component ensures smoother operation, ultimately leading to longer-lasting use and improved return on capital investment. The fluid will provide efficient operation for many years but does require regular checks and eventual replacement, which was the case for the Bird & Bird building.

With the successful installation of the new collector, drain back units checked and fluid replaced, both systems were recommissioned.

Through the combined efforts of Trusall and Adveco, there was a swift resolution to this unexpected occurrence. Particularly, with this Bird & Bird project, Trusall and their client CBRE considered that "Adveco's prompt response and advice was very helpful, and they were pleased with the replacement solar thermal collectors and commissioning that was completed, with everything meeting the needs and demands of this extremely busy office building".

*For any company looking to incorporate solar thermal for domestic hot water for more sustainable building operations Adveco can provide technical design, product supply and commissioning. For installers wishing to add solar thermal to their portfolio, Adveco offers product training and onsite engineering training for first installs.*



## COLLECTORS WITH DRAIN BACK

- High-performance copper meander absorber
- Supports a variety of mounting for most buildings
- Temperature resistant up to 200°C
- No operational noise for zero sound pollution
- Smaller footprint than PV for equivalent thermal generation
- Works with Drain Back for reliable, low-maintenance, long-term operation



- Intrinsically safe, issue-free system operation
- Extends low-maintenance operational lifespan with fluid refresh required every eight years at most

## Adveco – Hot Water Specialists

*With more than 50 years of industry experience, Adveco is the trusted specialist provider of bespoke hot water, and heating to the building services industry. Committed to partnering with its commercial and public sector 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 and heating. Adveco operates across UK with headquarters in Farnborough and sales offices in Milton Keynes.*

Visit [www.adveco.co](http://www.adveco.co)