

RENEWABLES

ALTERNATIVE ENERGY SOURCES AND TECHNOLOGY ADVANCES GIVES CLIENTS MORE CHOICE THAN EVER BEFORE. WITH CONSTANT CHANGES IN LEGISLATION AND SOCIAL RESPONSIBILITY MEANS DEMAND CAN FLUCTUATE BUT SBS AIM TO WORK WITH A SELECTION OF PROVIDERS TO HELP FULFIL PROJECT REQUIREMENTS FROM HEAT PUMPS TO SOLAR OPTIONS, THE CHOICE IS EXTENSIVE. CERTAIN MANUFACTURERS ARE NOW ABLE TO PROVIDE 'SUPPLY AND INSTALL' PACKAGES MAKING THE PROCESS EVEN EASIER WHEN TENDERING FOR WORK. WE HAVE A DEDICATED EMAIL ADDRESS TO ASSIST YOU WITH.

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With a wide range of renewables and RHI extending across a wide range of products the sector keeps growing. A specialist national renewables expert has been appointed so every enquiry can be dealt with efficiently giving our customers access to our supply chain so design, technical support and after sales service can be offered. With a lot of these products, water treatment and other ancillary items are required which are all available from stock.

HEAT PUMPS



Heat pumps are designed to move thermal energy opposite to the direction of spontaneous heat flow by absorbing heat from a cold space and releasing it to a warmer one or vice-versa. A heat pump uses some amount of external power to accomplish the work of transferring energy from heat source to output.

AIR SOURCE

Air source heat pumps use the heat in the ambient air to provide efficient heating and hot water at air temperatures as low as -25°C. Installation can be indoors or outdoors and with the UK having mild winters, excellent performance levels can be reached. Another feature associated with the product is low installation costs and minimal space requirements.

GROUND SOURCE

The earth has energy from solar radiation and rainfall and a ground source heat pump extracts this energy either horizontally or vertically. Although more costly to install, higher efficiency is usually achieved regardless of seasonal variations in temperature.

AIR TO AIR (GAS ABSORPTION)

An all in one heating and cooling system which works in reverse to a refrigerator providing low cost heating. The extremely efficient process can produce five times more heat than the electrical energy it uses and the added benefit is the process can be reversed in the warmer months to provide cooling air.



BIOMASS BOILERS



Biomass means a fuel of organic material (usually wood or plant) of recent origin rather than fossil fuel which has taken millions of years to develop. As these organic materials absorb carbon dioxide (CO₂) during growing, they cancel out any CO₂ production during combustion and by managing a replanting programme, CO₂ balance can be maintained. The biomass market most commonly uses wood pellets and logs for fuel with a feeder mechanism taking fuel (combined with air) from a hopper to the combustion chamber, heat production over 90% efficiency can be achieved.



SOLAR



Solar power is the conversion of sunlight into energy and the packages offered are from various brand leading manufacturers with flat plate, vacuum tube (tubular), on-roof and in-roof options. For convenience SBS can offer solar packs which come complete all on one pallet ready for installation.

THERMAL

Solar thermal is solar energy generating thermal energy for use in industry, residential and commercial sectors to heat all types of applications such as providing hot water or warming swimming pools. This system is often used alongside a solar cylinder to maximise heat transfer.

PV

A photovoltaic system (informally known as PV) is designed to supply usable electric power using the Sun as the power source. Systems can be built in various configurations such as;

- Off-grid without battery (array-direct)
- Off-grid with battery storage for DC-only appliances
- Off-grid with battery storage for AC and DC appliances
- Grid-tie without battery
- Grid-tie with battery storage



CYLINDERS



Although cylinders have been around for years they have developed considerably and can now offer a renewable solution itself or alongside other renewable systems.

SOLAR

Along with different sizes, vented, unvented or sealed system types are available manufactured from copper and stainless steel. The cylinders aim for maximum heat transfer of solar energy into stored water. They are available in direct and indirect versions with direct units having an immersion heater to meet any additional load. Indirect units use input from the householders' traditional heat source (boiler) to top-up water temperature to the required level.

BUFFERS

A buffer tank is integrated into a system when additional volume of hot water is required to provide uninterrupted operation of a heat pump. The tank increases the volume of water a heat pump has to heat, allowing excess heat to be stored until it is required. They can be manufactured from copper or stainless steel for use on both vented and unvented (sealed) systems of variable sizes.

AIR SOURCE

Hot water storage cylinders designed specifically for use with an air source heat pump with a back up immersion heater used if and when required. With direct and indirect options of various sizes available they are an efficient and environmentally friendly way of providing hot water. Certain models operate quietly below 40dB(A) and have a plug & play (no F-Gas qualifications needed to install, only G3) feature along with excellent CoP ratings.



GIACOMINI (UFH)



Smith Brothers has teamed up with Giacomini UK with the partnership enabling our customers to have access to the Giacomini (wet) underfloor heating system through their existing SBS trade account. With supply only or supply and install quotation options, tendering UFH projects has never been so easy. Simply provide your local SBS branch with your project requirements (stating which option; install or materials only) and they'll consult Giacomini's experienced engineers in order to provide you with a quotation. Once agreed, SBS will source all the Giacomini components required for your project and deliver them direct to site.

With Giacomini having an experienced UK team of project engineers, projects are taken seamlessly from quotation to design, through to installation and commissioning. The premium brass valves and components are utilised within all system build-ups; screeded, joisted, floating floor, suspended and low-profile.

CASE STUDIES

The Shard – Public Viewing Area (Solid Floor System)

London's prestigious Shard of Glass development features Giacomini underfloor heating. A solid floor system was installed in the public viewing area on the 69th level.



Ashton Gate Stadium – Changing Rooms (Solid Floor System)

£45 million has been spent on Bristol City Football Club's & Bristol Rugby Club's ground to refurbish the Ashton Gate stadium. Included in the redevelopment was new home and away team changing rooms, which features UFH that has been designed and installed by Giacomini. The project took a total of 3 days to install, including commissioning of the system.



Ronald McDonald House – Communal Areas (Joisted System)

Families of sick children staying in Glasgow's new Southern General Hospital can now rest close by in comfortable accommodation at the brand new Ronald McDonald House. The house consists of 30 en-suite rooms with lounges, cooking and laundry facilities with UFH. The project took a total of 5 days to install with commissioning.



Kenwick Leisure Centre – Changing Area (Low Profile Spider System)

Kenwick Leisure Centre in Lincolnshire, was completely destroyed by a fire. A £5 million project was granted to rebuild the leisure facility. As part of the building work UFH from Giacomini was installed. The project was completed with no additional costs, over 2 phases. The total install took 3 days, including commissioning.



Other UFH systems/manufacturers are available through Smith Brothers should Giacomini not be able to support your requirements.

CHP

Hoval

CR remeha

Combined heat and power (CHP) plants take advantage of cogeneration to generate both electricity and usable heat, which ideally is closely located to the heat/power area requirement. The result is a very high primary energy efficiency of over 100%. By comparison, conventional power plants such as large scale gas-fired power plants only achieve a primary energy efficiency of between 30 to 50%, and lose the majority of the energy as waste heat. This waste heat is used in the combined heat and power plant as heating energy to heat water, for instance, or as process heat for industrial operations. The electricity produced is used in the plant's own building or fed into the public utility grid in return for remuneration to the energy supplier. Whether using a CHP plant to generate heat and power for one multi-family dwelling, an entire housing development, a commercial building or an industrial process, solutions are available for cost effective operation with natural gas or biogas, with various electrical and thermal outputs.



FEATURES

- Extremely efficient, lower operating costs, more sustainable operation
- Low CO₂ and NO_x emissions – supports environmental legislation
- Remote monitoring and control – Greater visibility
- Achieve even higher efficiencies
- Suitable for new build and existing buildings with year-round heat and electrical demands - Flexible solution to sustainable heat and power
- Low noise and quiet operation models
- For single use or in conjunction with condensing boilers - Versatile solution to energy-efficient, low carbon heat and power generation

RAINWATER HARVESTING

Polypipe

Kingspan Environmental

The system works from utilising rainwater usually harvested from a building and can be used in both a domestic and commercial environment. Collection can be both above or below ground via a gravity fed system or pressurised where needed. With filters and excess flow outs via one way valves installed on tanks/pipework, the system can be developed to limit the requirement for heavy maintenance costs. The manufacturers have retro-fit options where needed.

