

A diver prepares to install an array of ground hoops for a heat pump into the moat at Bishop's Palace



## Landowners choose a combination of sources to reduce energy bills

**A** growing number of landowners with stately homes and other large buildings on their estates are turning to a combination of ground, water and air source heat pumps coupled with solar power to reduce energy bills and carbon emissions.

One recent example is Bishop's Palace, a medieval Palace, which has been the home of the Bishops of Bath and Wells for 800 years.

It is surrounded by a stunning moat and it is from here that the renewable energy is sourced for the newly constructed visitor's centre.

An array of ground loops was designed on loop support frames by renewable energy specialist Ecovision, which then arranged for a diver to guide the loop array into the final position before lowering it under the water.

The array sits on the moat bed but is lifted by weighting blocks which keeps

it in position and holds the bottom of the loops 200 mm off the moat bed.

The company's operations director Neil Otter said: "We have installed many closed loop water source systems using the same loop layout strategy.

However in the past we have had the luxury of a dry surface to construct them. The challenge at Bishop's Palace was to get the loop set in exactly the right position by floating it from the launch area on the bank into the final sunken location.

"Calculations were made to ensure the loops, weighting blocks and frame would float into position and remain in position when filled and operational."

He explained that the closed loop water source system consisted of 6 x 100-metre coils headed into one larger flow and return which penetrated the moat wall adjacent to the plant room.

"The heat pump is the Dimplex SIH 20TE. The output of this heat pump is 22kW and can achieve a maximum flow temperature of 70° C. It will supply all of the heating and the hot water for the centre," said Mr Otter.

As far as the costings are concerned, the company believes the return from the Renewable Heat Incentive (when it comes into operation) will be in the region of £1,700 a year. The alternative conventional oil system would have cost approximately £2,900 per annum to heat the building.

The heat pump will cost about £1,200 a year to run. This gives an annual saving on heating costs of £1,700. Combined annual financial benefit is £3,400. The project received funding from the heritage lottery fund and Church Commissioners for England. ■

➔ See [www.ecovisionsystems.co.uk](http://www.ecovisionsystems.co.uk) and [www.factsaboutheatpumps.com](http://www.factsaboutheatpumps.com)

## DECC to help domestic customers

In July the Department of Energy and Climate Change (DECC) announced a fund to help domestic customers (particularly off-gas properties) with the cost of installing a renewable heating system.

For an air source heat pump (ASHP)

customers will receive a voucher for £850, which will be valid for a period of five months, within which time the heating system must be commissioned. For a ground source heat pump, the voucher is at a higher value of £1,250 and lasts for six

months from the date it is issued.

To be eligible for the scheme both the product and the installer must be MCS-accredited, the property must be occupied and off the gas network. It must also be appropriately insulated and owned by the applicant. ■

➔ For more information see [www.decc.gov.uk/en/content/cms/meeting\\_energy/renewable\\_ener/incentive/factsheet/factsheet.aspx](http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/incentive/factsheet/factsheet.aspx)