

# Palace to follow Welwyn's Lead ?

We may never know who started planning first, but in the *Sunday Times* for August 21st under the headline "Paying one's heating bills is such a bore" the Queen's plans for heating Buckingham Palace by Ground Source Heat Pumps are described.

St Mary's, Welwyn started planning its system in October 2003 and has since amassed valuable data for planning the system over two winters.

The Queen's system will extract heat during the winter from the four-acre lake in the ground of the Palace, 'compress it' to a higher temperature and use it to heat the state rooms. We hope the flamingos which grace HM's lake don't mind having slightly colder feet during the winter!

The Welwyn system will take heat from deep underground the churchyard where water runs through the chalk aquifers all the year round to heat the church and new church house (which will soon be built). Three Valleys Water know about the proposal and have no problems with it, even if the drinking water they take from the aquifers under Welwyn becomes slightly cooler

as a result!

The present Rector of Welwyn, Alan Winton, has observed that his predecessor, Edward Young 1683–1765 (famous for coining the phrase 'procrastination is the thief of time') failed in his attempt to exploit Welwyn's waters as a health cure. We all hope the waters will deliver on their promise this time!

The system for the Palace, according to the *Sunday Times*, will cost perhaps £¼m whereas Welwyn's more modest scheme will cost much less. Even so the money Welwyn needs to install the system is likely to be more trouble to raise than Her Majesty's.

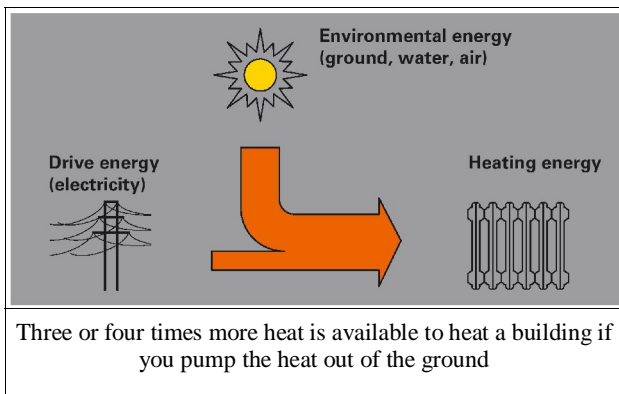
Behind both schemes, of course, is the common desire to do something to stop Global Warming caused by burning fossil fuels such as oil, gas and coal. In Welwyn's case the target is to avoid releasing most of the 44 tonnes of carbon dioxide into the atmosphere which would be caused by heating our buildings with gas.

The impact of Global Warming falls mainly on the poor of the world



whether it is due to failing crops in Africa, flooding in Bangladesh or hurricanes in the USA. According to the Bishop of Liverpool tackling Global Warming is as important as "Making Poverty History".

through closed pipes in them to collect the heat. The heat pumps will go in the present boiler house and there will be no change to the radiators in church or the under-floor heating planned for the new building.



The new system will be cheaper to run than the present one. But, at present gas prices, nothing like cheap enough to pay for the installation as an investment. Peter Brooks, St Mary's treasurer, has studied future gas and electricity prices and, although he can't prove it, he thinks in years to come our installing a Ground Source Heat Pump system now will

be seen as a very wise step.

Heating a building either from a four-acre lake or an underground stream sounds equally fanciful - after all we're not living in a country where hot springs abound. However, it does work - there are over half a million installations in the world attesting to that, in Scandinavia, Europe and the USA - and soon - in Buckingham Palace.

We may be able to get a Government Grant to help pay for it although the small amount of money available is nearly exhausted and it is primarily intended for wind powered renewable energy schemes.

Without a grant we need to find £60 - 80,000 for the system, with it, half that amount.

The much misquoted Second Law of Thermodynamics says you can "compress" heat from a lower to a higher temperature using a heat pump driven by energy, such as electricity. When you do that you get three or four times more heat than if you'd just used an electric fire.

We are hoping that many people and organisations in the community will join in raising the money for this scheme. Saving tonnes of carbon dioxide going into the village atmosphere is surely a worthy cause.

The Welwyn system will use perhaps ten 12cm (5") diameter boreholes down into the chalk under the churchyard with water circulating

David Gregory: