**Week 1. The energy we use at home**

Of the fuel that we use at home electricity costs more than gas. However, unfortunately, in order to stop burning ‘fossil fuels’ and move to renewable energy we will have to use electricity for heating, cooking & hot water in future (unless hydrogen becomes a viable alternative -see below). Heating and home energy use is one of the largest sources of our domestic CO2 emissions, so this change will make a significant contribution. The scientists say that we have to make large reductions in our emissions by 2030, in order to avoid a catastrophic rise in global temperatures; and this is a target way ahead of the government’s date of net zero carbon by2050.

**Possible Solutions for our Homes**

One suggestion being explored is that we should use hydrogen in our boilers in place of ‘natural gas’. The drawbacks are the volatility of hydrogen, the present lack of an adequate supply and the possibility that the production of so-called ‘blue hydrogen’ might result in more greenhouse gases. But a ‘hydrogen-ready’ new boiler might prove a good idea.

Another technology that might work for us is heat pumps, which work to draw heat from the ground or the air. Ground source heat pumps are unlikely solutions for domestic use as they are costly and need either a large piece of land or a deep bore hole.

Air source heat pumps work well to produce background heat of 12-13 degrees centigrade. Central heating like this needs topping up with other heat sources. Older heat pumps have been noisy; and you need space to put one. In addition to the cost of the pump, which will work like a fridge in reverse, you may need to change your pipework or radiators.

Another important measure to take is to see that you have the best possible insulation and draught-proofing for your house. This is not easy for older houses; and we don’t know if there will be properly administered grants to help with the costs of improving your home.

It is also important that we campaign to have all new houses built to proper standards of sustainable construction. There is no point in adding to our problems with homes that have to be retro-fitted with insulation or solar panels or water-saving devices.

**Some good news:**

The generation of renewable electricity is becoming cheaper; and hydro-electric schemes may be able to provide half the extra energy we plan to use. And in the kitchen electric induction hobs will be an acceptable alternative to gas cookers.

As we learn how to adapt our church building to meet these challenges, we will pass on information that will help the decisions about your homes. But maybe we may have to meet in the church hall again in the wintertime.

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