

Community Energy

Nicki Myers – OVESCO Project Manager



Our vision is for a future in which 100% of our energy needs are generated locally from renewable sources. We can do this by sourcing our *supply* from renewable sources and reducing our *demand*



- OVESCO is an Ouse Valley Climate Action Partner
- Energy Advice at Lewes Climate Hub based in Lewes House
- Home visits and out in the community
- Installed almost 60kW of solar PV at Kings Academy, students from school do work experience at Ovesco, in communication with school, done events at the school for children including electric car racing and an assembly



Very boring house maintenance

Damp causes cold houses, mould, bad health

Attend to guttering, leaking roofs, pointing around bricks, cracked render, material against outside of house. Ensure soakaways do what they are meant to do...Note increased rainfall...



Aim for at least 270mm depth of insulation with layers at angles to one another, to reduce air flow

- cheap
- cost-effective improvement
- But clear out the loft first

Don't forget to insulate the loft hatch too !



Homes built from 1930-1980 or maybe earlier

Double walls have an empty cavity between them which in general can be filled with insulation

Homes Built after 1979

There is insulation pre-built into these walls – no action needed

Double Glaze Your Windows – Improve your Doors

Single Glazed Windows

U-Value is 5.2 w/(m²K) – an especially old window may be 6 !

Double Glazed Windows

Replacement Building Regs U-Value is 1.4 for doors and windows
New build Building Regs U-Value is 1.2 and doors 1

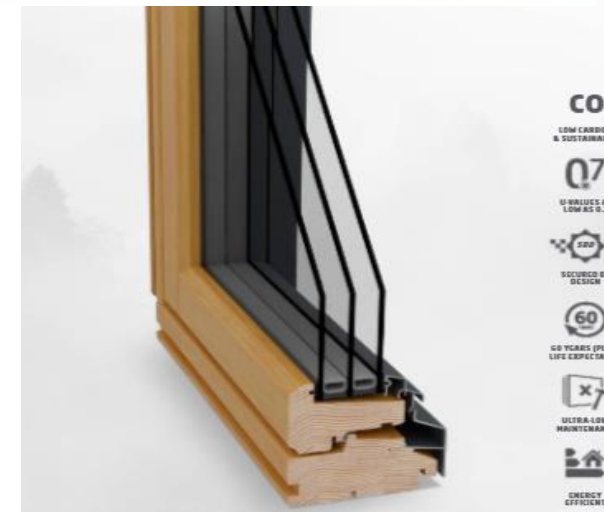
Triple Glazed Windows

U-Value down to 0.6

Doors

Think about not having holes in them (letter boxes, cat flaps !)
Replace if thin wooden panels, draught proof if gappy

Think about G-Value – how much solar gain through the window ...



Draught proofing – reduces the removal of heat

Check – floors, windows, doors. Loft hatches, cat flaps, letter boxes, key holes etc.



Controlled Ventilation

In kitchens, bathrooms. Opening windows are not necessarily enough – and make the room colder. Mechanical ventilation is good – single unit heat recovery is great (but more expensive to fit



Types of Heat Pumps

- Air source to water**
- Air to air**
- Ground source to water**
- Water to water**



ASHP in house in Rodmell



435kW ! Heat pump system for a social housing project with 86 houses



GSHP in Listed Farm House Sussex

Low temperature heating – Air Source Heat Pumps

Heat pumps absorb warmth from the outdoor air

Work exactly like a fridge or freezer, only in reverse, with the refrigerant and a compressor providing useful heat rather than cooling. This is low level heat

Runs on electricity, for every unit of electricity they consume, produce at least 3 units of heat ie efficiency of at least 300%

Not a new technology, millions fitted across Europe, particularly common in the colder Nordic countries and in France and Italy

Air source heat pumps sit outside your home – like this one – with space around (may need planning permission)



So – you want to get an Air Source Heat Pump ?

- Find an installer – we suggest a local installer who has been around for a while – they can service the heat pump and be there for any teething problems
- Check they are MCS accredited
- Find two more – we suggest that you get three quotes
- There is a government grant to install heat pumps – the Boiler Upgrade Scheme (BUS) which your installer will apply for

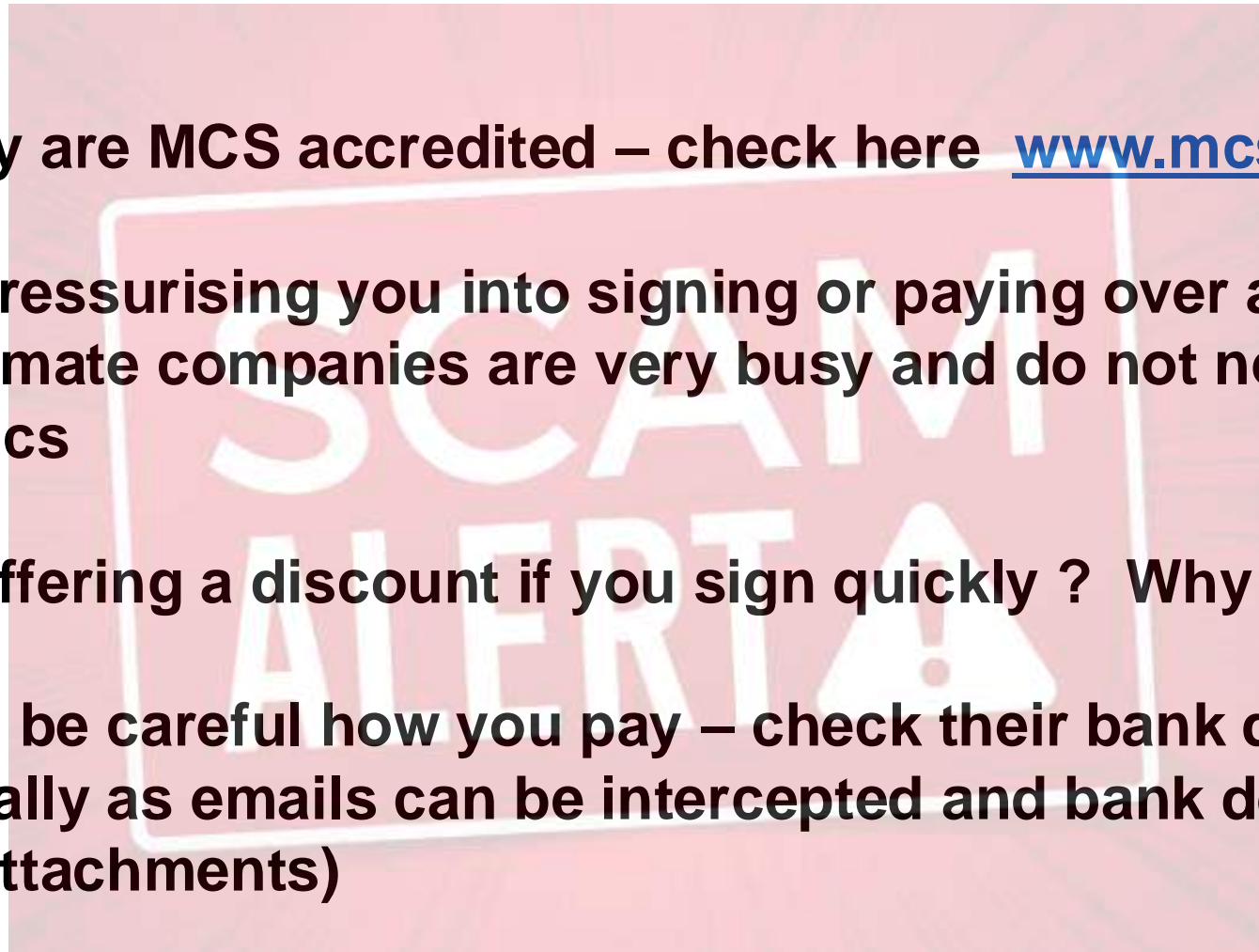
£7,500 government grant



Compare quotes (call us if you need a hand) and make sure you are comparing like for like. The quote may include electrical costs and also give details of the radiators you need to upgrade

If you need to upgrade some or all of the radiators, then remember that if the heat pump company do this, they can charge 0% VAT as it is part of the heat pump install

- Check they are MCS accredited – check here www.mcscertified.com
- Are they pressurising you into signing or paying over a deposit?
Most legitimate companies are very busy and do not need to employ those tactics
- Are they offering a discount if you sign quickly ? Why ?
- In general, be careful how you pay – check their bank details with them verbally as emails can be intercepted and bank details changed (even on attachments)



Fitting an air source heat pump

A hot water tank is fitted in your home

Your radiators need to be bigger so the flow temperature of the heat pump can be as low as possible but still deliver heat – to keep your heat pump efficient. This will typically be around 35 degrees to 50 degrees

High temperature heat pumps can go up to 60 degrees and are slightly more expensive to run without needing to upgrade so many radiators

Underfloor heating is ideal but larger radiators work well



Check Before Installing the heat pump

A suitable place to put it

A suitable place to put the hot water tank

A big enough cupboard for all the supplementary items (pressure vessels etc)

Check incoming fuse with the installer – arrange for UK Power Networks to put in a larger one FOC if necessary before the heat pump work starts

Any further works needed ? (Electrical ? Changing cupboard? Radiator installation ?)

Take up a few references with satisfied customers ?

Will your installer take away all the old boiler, tanks (and don't forget the oil tank if you are on oil – you may have to arrange this yourself)

Planning – none needed unless in a Conservation Area (if putting in front garden) or Article 4 Directive Area (no permitted development allowed) or Listed Building (need Listed Building Consent too)



What happens at your house on install day ?



The heat pump will be installed in 4-5 days on average

The installer should not leave you without heating – there will be a point of switchover

The radiators will be installed – there may be some disruption with a few floorboards up, or there may be a little more disruption if you are completely replacing all radiators and pipework

The new system will have new controls too – make sure you know how to use them before the installer leaves

They will then send you lots of paperwork which you should keep in a safe place –you will need this if you sell your house



Using your system



You now have a completely new heating system that works in a different way from your old high temperature boiler

You should turn on the demand for heating to be on all day at a temperature which will be comfortable for you. Your house will be comfortably warm with the radiators slowly warming and cooling as the heat pump keeps your house at a constant temperature

Don't be alarmed if the radiator is cold – your room may be up to temperature

You may want to turn the heating down at night

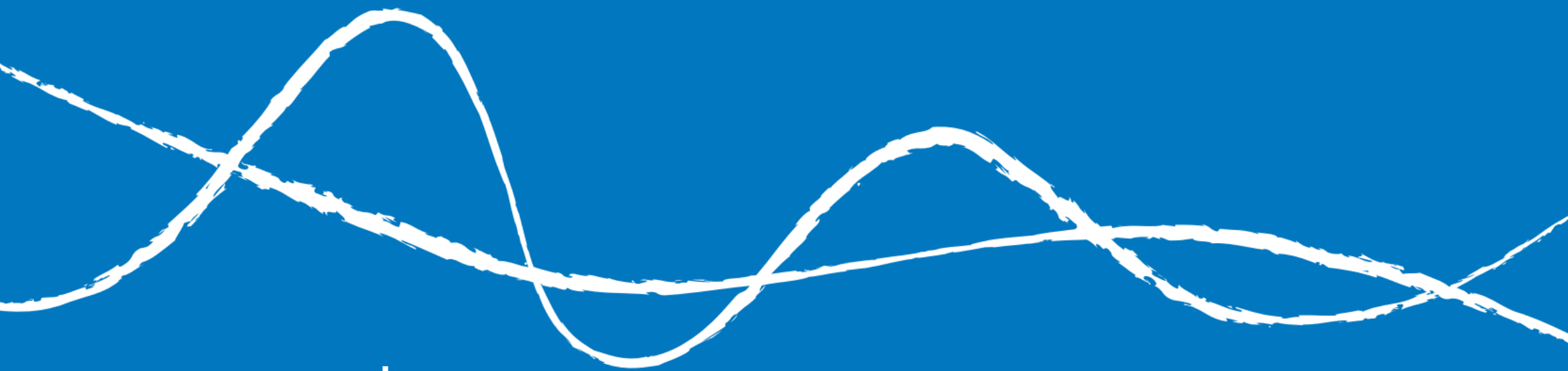
Your heating system should not cost any more than your old boiler to run – on the basis that you heat your house to the same temperature



In Summary

- Insulate your home / Double glaze your windows
- Fit a heat pump
- Check to see if your energy company offers a heat pump tariff eg Octopus
- Put up solar PV if you can afford to
- Invest in green community energy
- **Look out for our Pop Up Eco Open House Heat Pump Special coming up in the new year**
- **Book a home visit to discuss your plans**
- **Look out for our new Thermal Imaging Service**





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