

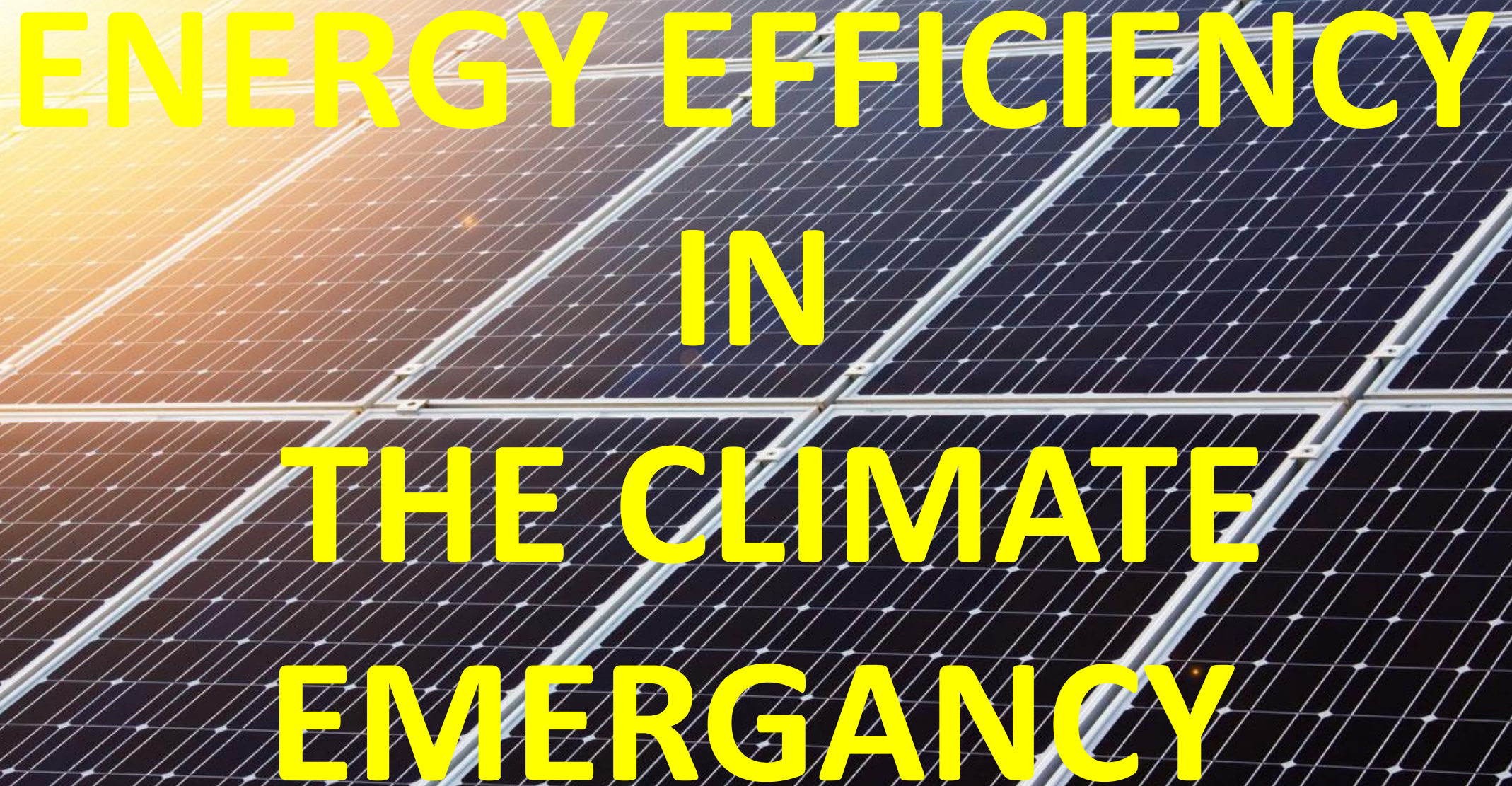


Helios House • Brockley Lane • Backwell • Bristol • BS48 4AH



ELC54057
Solar Photovoltaics Systems
Solar Heating Systems
Solid Bio-fuel Heating Systems
Heat Pump systems





ENERGY EFFICIENCY IN THE CLIMATE EMERGENCY

Green Homes Grant



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Green Homes Grant Voucher Scheme

- Reduces cost of install energy saving measures in your home
- Vouchers cover two-thirds of the cost of eligible improvements, up to a maximum contribution of £5,000 (£10,000 income support).
- Eligible if you live in England own your own home
- Primary Measures: Insulation, Low carbon heating
- Secondary Measures: Doors & windows, Heating controls

For more info: <https://www.gov.uk/guidance/apply-for-the-green-homes-grant-scheme>

Low carbon heat options

solar Thermal and Air Source Heatpumps

Ground source heatpumps only really justified in farm locations with fields.

Air Source Heat Pumps - Components

<https://library.mitsubishielectric.co.uk/pdf/book/Ecodan-QUHZ-W40VA-EHPT20Q-VM2EA#page-1-2>



Outdoor unit (condenser)



Thermal Store

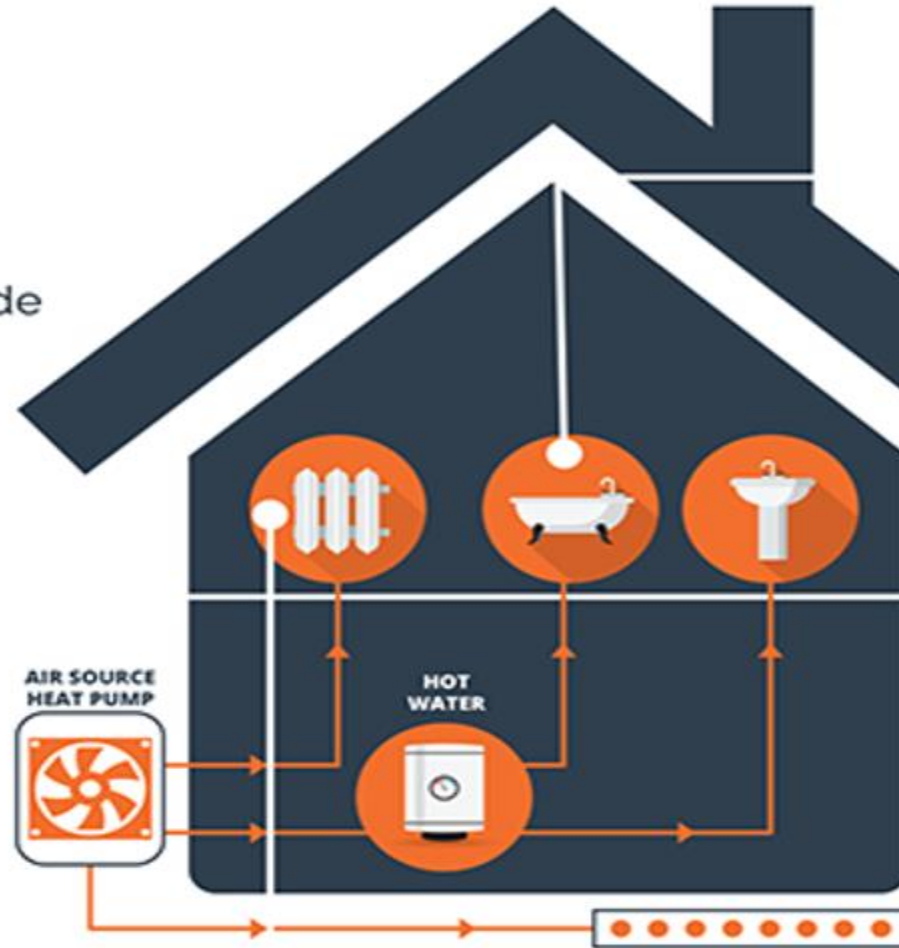
Air Source Heat Pumps Explained

1

Air source heat pump takes in air from outside

2

The heat pump absorbs warmth in the air and converts this to higher temperatures via a refrigerant circuit



4

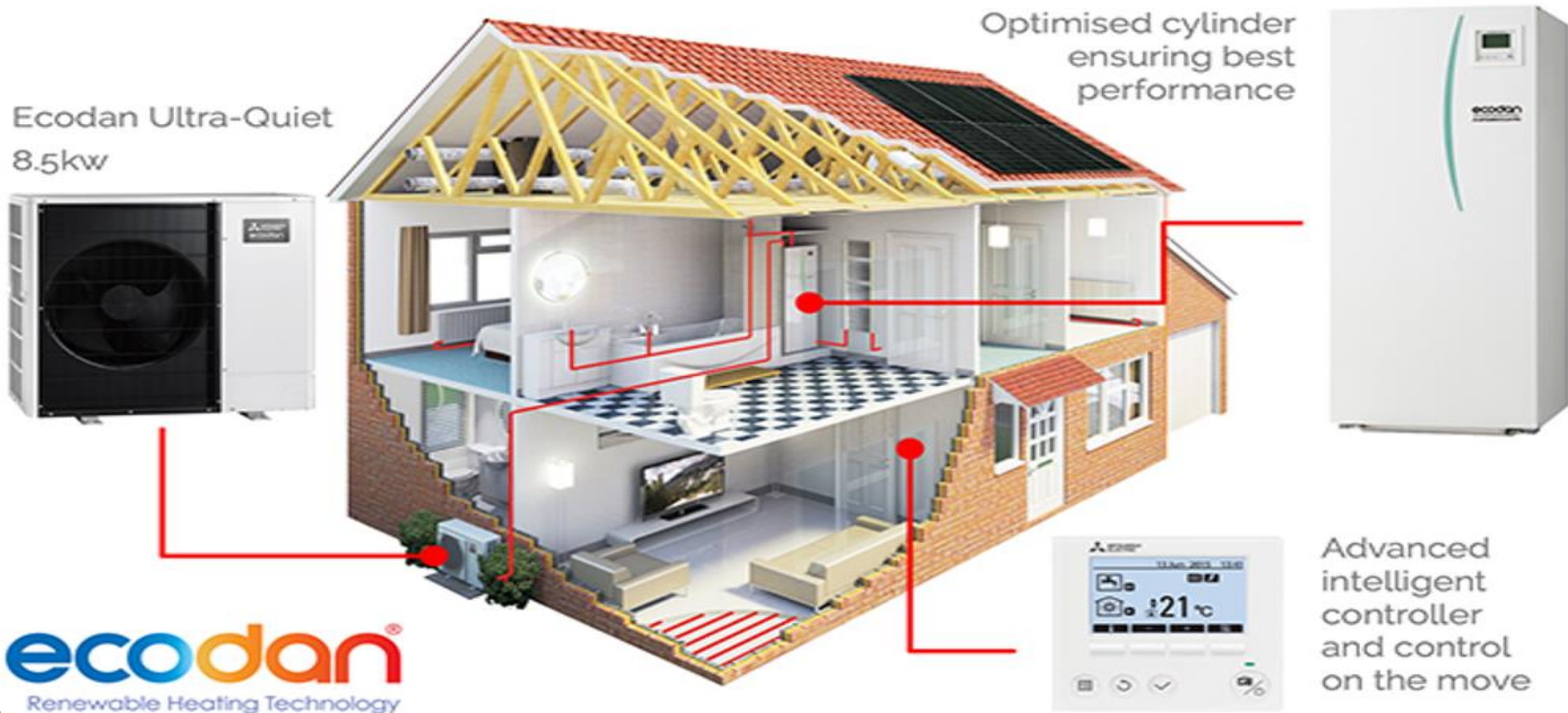
Stored hot water can be used for showers, baths and taps

3

Heat is then sent to radiators and/or underfloor heating – the remainder is stored in a hot water cylinder

Recommended - Ecodan Complete System

An effective, renewable alternative to traditional gas or oil fired heating systems



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Solar Thermal Systems

Solar Thermal

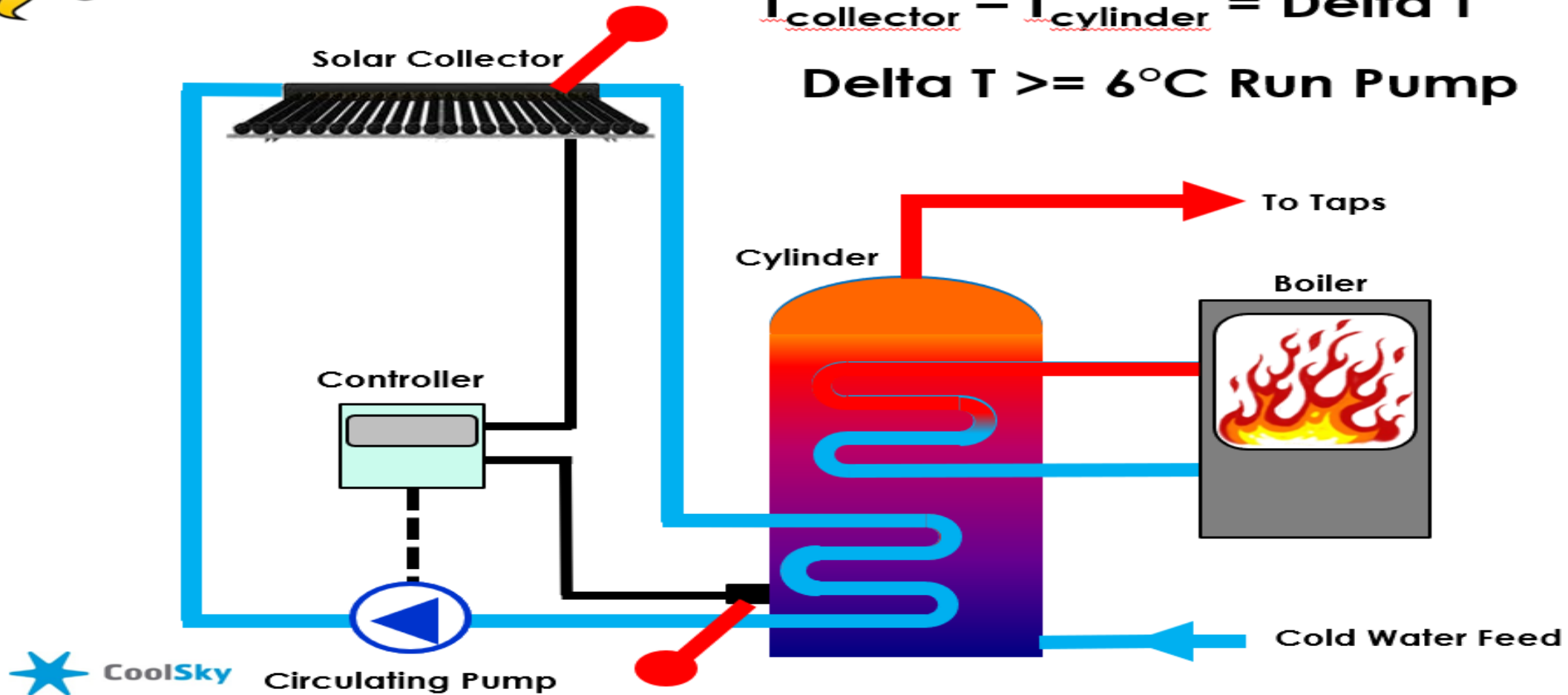
- Uses sunlight to generate heat for hot water
- Either evacuated tubes or flat plate collector
- Connected to a new twin coil hotwater cylinder
- If Combie Boilers a cylinder has to be added
- Eligible for Green home grant
- More suited for family homes
- Much more efficient than PV for hotwater



A Solar Thermal System

$$T_{\text{collector}} - T_{\text{cylinder}} = \text{Delta T}$$

Delta T $\geq 6^{\circ}\text{C}$ Run Pump



houses off mains gas will make the larger financial savings in having Solar thermal or a heatpump but all homes could be suitable but will need to make them well insulated to install a heatpump.

When installing Solar Thermal it is worth considering PV which though isnt covered under the grant will be cheaper to install alongside whilst scaffold is inplace and teams onsite and will produce power for house and towards future electric car and battery technology.

In summary, to apply for greenhomes grant for solar thermal or heatpump first request companies to survey your home then send one quote with application , then get voucher to have work installed.

Then you can enjoy the benefits of renewable heating!