



Welcome

- Who are EnergyMyWay and why we are here
- Air Source Heat Pump
 - Principles of heating your home with a heat pump
 - Weather compensation
 - Heating schedules
 - Hot water settings
 - Running costs
 - Solar PV
 - How much will it generate
 - Components
 - How it works
 - Servicing



Your homes

- Well insulated modern draught free homes
- Daikin Altherma heat pump
- Unvented hot water cylinders (pressurised)
- UFH / radiators
- Solar PV array



How a heat pump works

- Heat extracted from the air even at -20°
- Requires good air flow
- Condensation
- Defrost temperature zone 8° to -1°
- More efficient if run for longer periods compared to stop/start
- Slow to build up temperature
 - / Temperature of water increases by a max of 7° as passes through the heat pump
 - Weather compensated



Weather compensation / weather dependant



- The flow temperature is calculated depending on what the outside temperature is
- Outside temperature
 15° the calculated
 flow temperature 35°
- Outside temperature
 -10° the calculated
 flow temperature 45°



Principles of heating with a heat pump

- UFH is slow to react, acts as a heat bank
- Keep the temperature as constant as possible
 - Minimal set-backs i.e. 21° during the day 19° at night
- Radiators more reactive, feel the effect quicker
- Ideal heating schedule: find the temperature you are comfortable with and keep it at that
- Impact of draughts / ventilation losses
- What to do when you go on holiday

Hot water

- System can't generate space heating & hot water at the same time
- Automatically keeps the temperature in the hot water cylinder between 45° and 50°
- Legionella purge cycle
- Hot water scheduling?



Running costs

- Heat pump is efficient if run as designed
- Efficiency is measured by amount of heat out (kWh) / amount electricity used to run the system
- Typical new home will require c20,000kWh of heat energy p.a.
- SCOP should be between 3 & 4 i.e. 1 kWh electricity = 3-4kWh heat out
- 1kWh electricity = 24p SCOP of 3.5 cost per kWh of heat = 24/3.5 = 6.8p
- 20,000 x 6.8p = £1,360 p.a.
- Compared to gas 7.8p /kWh

Controls

- Use room thermostats to set and schedule the heating not the ASHP controller
- The ASHP controller is used for the hot water setting
- You can find out the efficiency of your system and amount of electricity consumed
- You can read the current temperature of hot water in your system on the controller and the display on the cylinder

Solar PV

Each property has a solar PV array

What is Solar PV?

 An array of panels that generate electricity to be consumed in the home

- The electricity from the array becomes the primary source of electricity to the house, grid becomes secondary
- System only operates when there is mains power and there is sufficient sunlight

Components

- Solar Panels
- Inverter
- Isolator switches
- Generation meter





What to expect from your PV system

- A south-facing 4 panel system should generate approx. 1,200kWh of electricity per annum
- You can see how much is generated via the generation meter
- System can be connected to the internet and monitored via an app
- If you don't use it the electricity you generate will be exported to the grid





Should you consider batteries?

- Benefits of a battery storage system
- AC or DC battery?
 - Inverter change
- Location of battery
- Lifespan of battery

Smart Export Guarantee

- Your electricity provider will pay you for each kWh you export to the grid
- You can receive between 5p and 15p/kWh your system exports to the grid
- You need to sign up for the SEG with your electricity supplier
- You will need an MCS certificate and evidence the DNO has been notified about your array

Service & maintenance

ASHP & hot water cylinder serviced annually

- Solar PV array serviced every two years
- Solar panel cleaning

Resources

- QR code on consumer unit links to manuals & FAQ's about you PV system
- Play list of videos about your ASHP controller
- https://youtu.be/zUTwGQHYt7s?si=w7HPiaR0RdIxfwht
- <u>https://youtu.be/Ew_B7a1Dw4k?si=5iq_QCEEnBMuJw_NS</u>
- https://youtu.be/s6ymN9jmgDg?si=tUwvjntmCkc-quRl
- <u>https://youtu.be/8szYVEkEj8o?si=NZv_O5aJxsuFyb3t</u>
- https://youtu.be/xjSZpuaygq4?si=frY6310EWiCzNvCQ

Questions?