

# Greening your Home

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## Your Annual Energy Summary

Your house currently consumes

**3 500**  
**kWh**  
of electricity

**18,000**  
**kWh**  
of gas

This is equivalent to

**5.04t**  
tonnes CO<sub>2</sub>

**~113**  
trees

	Energy Used (kWh)	Annual Spending (£)	Carbon Footprint (Tonnes of CO <sub>2</sub> )
Space Heating	<b>12 000</b>	<b>£ 640</b>	<b>2.80 Tonnes</b>
Hot water	<b>3 000</b>	<b>£163</b>	<b>0.56 Tonnes</b>
Electricity	<b>3 500</b>	<b>£865</b>	<b>0.78 Tonnes</b>
<b>TOTAL</b>	<b>18 500</b>	<b>£1,668</b>	<b>4.14 Tonnes</b>

By implementing energy efficiency measures and moving to renewables you could get down to

**<0.50**  
**Tonnes of CO<sub>2</sub>**

# Energy efficiency measures you can take



## SMART RADIATOR VALVES

Smart radiator valves enable to heat different radiators at different times of day to different temperatures, saving 20% on your heating costs.

- **Cost to install:** £360
- **Energy saving pa:** £80 (12.5%)
- **Payback (years)** 4 years

• **Cost to install:** £250

• **Energy saving pa:** £64 (10%)

• **Payback (years)** 3-4

## SMART THERMOSTAT

Smart thermostats learn heating patterns, understand the fabric of the house and consider outside temperatures when heating the home, saving 10% on heating costs

## LED LIGHTING

LED bulbs can be up to 80% more energy efficient than conventional bulbs and last 10x longer.

- **Cost to install:** £220
- **Energy saving pa:** £60
- **Payback (years)** 3-4

**Energy  
efficiency  
measures you  
can**

**take**



**Hydromx  
Boiler Solution**

## Hydromx

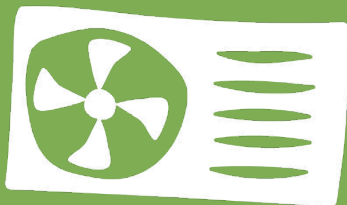
Hydromx is a nanotechnology heat transfer solution which is used to improve the heat transfer within a closed-loop heating system such as a boiler and radiators. This is achieved by reaching the required temperature faster, meaning that the energy required is vastly reduced, therefore saving money and cutting carbon emissions.

- **Cost to install:** £1100
- **Energy saving pa:** £160
- **Payback (years):** 5-6
- **CO2 saved pa:** 0.70 tonnes
- **Boiler life extension saving:** £33 a year

The benefits of Hydromx:

- Reduces heating demand by 20-35% with commensurate carbon savings
- Cuts gas flue emissions, improving air quality
- Warms home quicker 2.4 times quicker
- Installation is quick with minimum disruption.
- Little annual maintenance and extends boiler life
- 20-year warranty protection against corrosion and freezing.

## Renewable energy options



Implementing renewable energy technologies can eliminate your remaining home energy carbon footprint

### SOLAR PV

Solar photovoltaic generates electrical energy from sunlight through an array of panels generally fixed on a south facing sunny roof. The energy can either be used in your home or exported to the National Grid for someone else to use.

Based on the direction of your south & southwest facing roof, you could get:

- **Aro**
- **A 2.5kWp system at 900 hours per annum**

- |                             |                   |
|-----------------------------|-------------------|
| • <b>Cost of instal:</b>    | <b>£3750</b>      |
| • <b>Energy savings p.a</b> | <b>£378</b>       |
| • <b>CO2 saved</b>          | <b>0.5 tonnes</b> |
| • <b>Payback in year</b>    | <b>8-10 years</b> |

### AIR SOURCE HEAT PUMP

Air source heat pumps capture heat that is in the air and concentrate it up to a higher temperature with the use of a refrigerant.

Heat pumps work best when you can reduce the heating load to a minimum and spread the load over a longer period. They therefore work better in well insulated homes with under-floor heating or over sized radiators.

To incentivise householders to make the change, the government has set up a Renewable Heat Incentive (RHI) that pays owners 10p per kWh used

- |                            |                   |
|----------------------------|-------------------|
| • <b>Cost to install:</b>  | <b>£10k-12k</b>   |
| • <b>Energy saving pa:</b> | <b>£0</b>         |
| • <b>RHI Income:</b>       | <b>£10,500</b>    |
| • <b>CO2 saved pa:</b>     | <b>2.6 tonnes</b> |

**By moving to a cheaper electricity tariff, the heat pump running costs could become cheaper than gas running costs.**

**This includes £92 of standing charge for gas. In this scenario, you would be required to swap your gas hob for an electric hob.**

# Energy efficiency measures you can take

## Insulation

Walls: 35%

Roof: 25%



Floor: 15%

Windows: 25%

Heat escapes from your home through the roof, walls, floor and windows

### WALL INSULATION

Solid Wall Insulation

- Cost to install: £120-140/sqm
  - Energy saving pa: £180
  - CO2 saved pa: 0.80 tons

### LOFT INSULATION

- Cost to install: £250-£500
- Energy saving pa: £140
- CO2 saved pa: 0.60 tons

### FLOOR INSULATION

Solid, Suspended or Timber

- Cost to install: £2000
- Energy saving pa: £64
- CO2 saved p.a.: 0.28 tonnes

### WINDOW GLAZING

Double or Triple

- Cost to install: £4,000- £8000
- Cost per window: £150-£600
  - Energy saving pa: £128
  - CO2 saved pa: 0.56 tons