



SustainableEnergy

HeatPlant for affordable housing

e-on

Sustainable Energy the experts



Sustainable Energy is the low carbon, decentralised energy expert within E.ON. We have the capabilities that come from being part of a major energy company. We are leaders in providing energy from sustainable sources and technologies - from small microgeneration systems to large, decentralised and Energy Service Company (ESCo) funded, community-based energy centres.

We're here to help you achieve your low carbon and energy reduction objectives in whatever way we can - from initial advice, planning and independent surveys to solution design, installation, maintenance, metering, billing and 24 hour support for your customers. We can also assist with funding by helping you to apply for Government grants, other financing opportunities and ESCo models for larger projects.

Our experience of implementing sustainable solutions in a wide range of situations gives us a unique insight into the problems and opportunities you face. Our knowledge, expertise and capabilities are ready for you now.

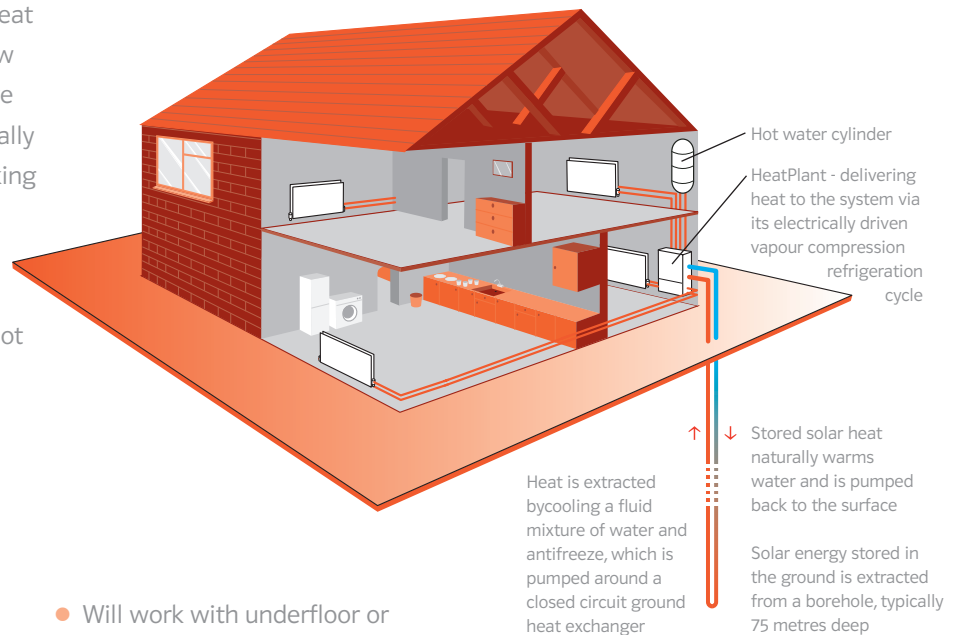
HeatPlant heating homes

HeatPlant is an innovative product and it's already changing the way we use energy.



How does it work?

HeatPlant is our ground source heat pump that can be installed in new or existing homes. This innovative system takes advantage of naturally stored energy in the ground, making it a cost-effective and more environmentally friendly heating solution. The HeatPlant creates a fully controllable heating and hot water system.



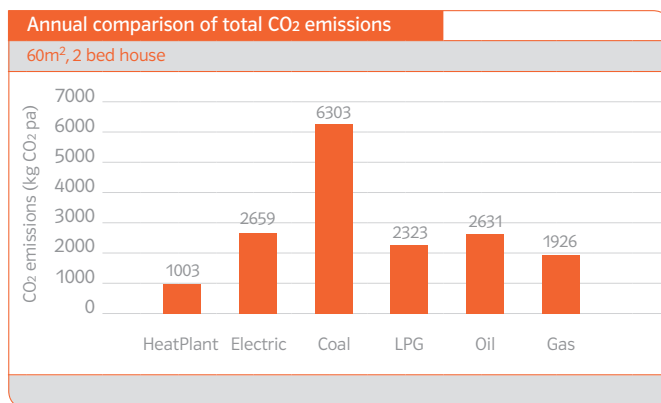
Features and Benefits

- Designed specifically for the UK domestic market
- Manufactured in the UK by a British company
- Fully self contained, one unit per property
- Domestic fridge size, designed to fit under kitchen work surfaces
- Delivers 100% of heating and hot water, no immersion top up required as output temperature is 60°C for domestic hot water
- The lowest running cost system for 'off gas' network areas
- Around 50% lower CO₂ emissions versus traditional oil and electric heating systems
- Will work with underfloor or radiator systems
- Typical Seasonal Performance Factors (SPFs) that can be achieved are:
 - 420% for underfloor heating at 35°C
 - 300% for radiator heating at 55°C
 - 225% for domestic hot water at 60°C
- 1kWh of electricity can deliver over 4kWh of renewable energy from the ground
- Can be fitted externally in its own housing unit
- No annual servicing
- No defrost cycle or buffer as may be required with an air source heat pump (ASHP)
- Can assist in achieving Code for Sustainable Homes targets
- 20 year lifetime for the HeatPlant and 50 years for the ground loop

The performance of microgeneration heat pump systems is impossible to predict with certainty due to the variability of the climate and its subsequent effect on both heat supply and demand. This estimate is based upon the best available information but is given as guidance only and should not be considered as a guarantee.

Cleaner lower carbon technology

Sustainable developments will play a vital role in the response to climate change. Government subsidies and grants already recognise the importance of incorporating lower carbon technologies. And the importance of this is likely to increase in the future. HeatPlant's advanced technology makes it one of the most cost-effective ways to achieve carbon reduction targets. HeatPlant can achieve around 60% reduction in carbon dioxide (CO₂) emissions for the whole house, compared to an electrically heated home.



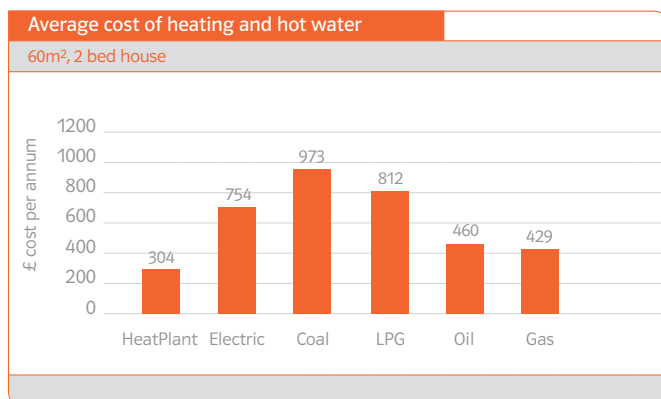
Lower costs, long term

Even though it's just the size of a domestic fridge, HeatPlant can provide all the heat a home needs and at reduced running costs of around 60% compared to an LPG fired boiler system and 30% compared to a conventional oil fired boiler system. It can heat all domestic water to temperatures of up to 60°C without the need for an immersion heater, ensuring low running costs and reduced carbon emissions.

HeatPlant works well with radiators and low temperature systems like underfloor heating. With a low starting current of just 22 amps, this technology is ideal for rural developments.

The lifetime of a typical boiler is between 10 and 15 years.

HeatPlant's advanced technology and environmentally conscious design provides a longer term home heating option. The HeatPlant unit lasts for 20 years and the lifetime of the ground loop is over 50 years.



Figures based on E.ON product monitoring from 2003 to present and industry averages for comparable houses using other fuels. Costings and savings calculated using our standard electricity tariff on 29 October 2008 and the suggested costs for buying other forms of fuel.

Industry leading innovation



Simple design

Its straightforward design makes it reliable and easy to maintain and is the only product on the market designed specifically for the UK affordable housing market.

Advanced technology

HeatPlant's advanced and robust technology offers lower running costs and reduced carbon emissions. We offer fixed price installation, which includes everything from design appraisal to installation by our approved engineers.

Expertise right down the line

We have already installed over 1,200 units across the country. Right from the start, we'll work closely with your individual requirements and timescales to ensure your project is delivered both efficiently and effectively.

Our streamlined process

- Standard Assessment Procedure (SAP) survey arranged to obtain heat loss information
- Design appraisal conducted to assess site suitability and correctly size each HeatPlant unit
- Residents engaged to inform and encourage participation
- Quotation provided with package price and advice on grants
- Delivery manager allocated, pre-start meeting arranged and schedule of works agreed
- Work begins on site, including installation of borehole, ground collector and HeatPlant unit
- Two year warranty provided as standard with facility to extend if required
- Customer service support available 24/7

Funding

Under CERT (Carbon Emissions Reduction Target), we could provide funding toward the installation of HeatPlant equipment. If the equipment is installed for a private homeowner they may be eligible for our Community HeatPlant Scheme that will totally fund their installation, subject to claiming qualifying benefits*.

* Qualifying benefits include - Income Support, Housing Benefit, Council Tax Benefit (not including single occupancy reduction), Income-based Jobseekers Allowance, Attendance Allowance, Disability Living Allowance, State Pension Credit, War Disablement Pension (which must include Mobility Supplement or Constant Attendance Allowance), Child Tax Credit (where the relevant income is less than £15,592), Working Tax Credit (where the relevant income is less than £15,592). Households must currently be heated by coal and have no mains gas supply. Groups of six or more households will be eligible for free installation.

HeatPlant specifications

HeatPlant models and specifications				
Model	Units	3500	5000	6500
Brine Temperature at 0°C¹				
Power output to water @ 35°C/55°C ²	kW	3.4/2.8	4.8/3.6	6.5/6.4
Electrical input	kW	0.7/0.7	1.0/1.1	1.5/2.0
Co-efficient of Performance (COP)		4.5/3.7	4.5/3.2	4.1/3.1
Brine temperature at 15°C¹				
Power output to water at 35°C/55°C ²	kW	5.9/5.0	8.2/6.5	9.7/9.5
Electrical input	kW	0.9/1.0	1.3/1.5	1.6/2.4
Co-efficient of Performance (COP)		6.1/4.8	5.9/4.3	5.8/4.0
Electrical data				
Electrical supply	V/ph/Hz	230V~1N/50Hz		
Minimum supply capacity	amps	11	15	20
Maximum supply fuse	amps	15	20	32
Water data				
Minimum brine flow rate ±10%	l/min	12	17	25
Pressure drop (brine)	m hd	0.45	1.2	2.8
Brine connections	inches	3/4" BSPM		
Minimum heating water flow rate ±10%	l/min	7.5	10	15
Pressure drop (heating water)	m hd	0.79	3.5	0.7
Water heating connections	inches	3/4" BSPM		
General data				
Refrigerant gas charge (R134a)	kg	1.8	2.2	2.3
Sound pressure level @1metre	dB (A)	44	45	46
Dimensions (nett)				
Width/depth/height	mm	500/444/850	500/444/850	715/465/945
Weight	kg	94	107	130
Typical ground collector requirements*				
Heat pump	kW	3.5	5.0	6.5
Borehole depth	m	60-80	70-90	80-100
Flat ground hose length	m	150-200	200-300	300-400
Slinky collectors	m	2 x 30	2 x 40	2 x 50

The above information is provided by Calorex and offered only as guidance. It is recommended that professional technical advice is sought prior to design and selection of system components.

NOTES

• We reserve the right to change or modify models without prior notice

1 = Outdoor heat exchanger inlet temperature

2 = Indoor heat exchanger outlet temperature

* Actual ground collectors size and dimensions will vary and are subject to prevailing geological conditions. Example above based on 240v single phase for 1800 hours

Other services available



Other services available for social housing

- Heating controls
- Insulation subsidies for cavity wall and loft insulation
- LED lighting
- Fuel switching
- Energy efficiency advice
- Heating services
- Other microgeneration technologies

For more information please contact your Key Account Manager

SustainableEnergy

Telephone

General enquires

0800 0515 687

9am to 5pm Monday to Friday

Customer services

0845 302 4312

Email

ses@eonenergy.com

Visit our website

eonenergy.com/sustainable

Sustainable Energy
E.ON Energy Solutions Limited
Newstead Court
Little Oak Drive
Annesley
Nottinghamshire
NG15 0DR

Registered Office
Westwood Way
Westwood Business Park
Coventry CV4 8LG

Registered in England and Wales
No. 3407430

SE/011/09