Funded ground arrays for new build housing

Shared ground arrays provided at no cost to the house builder linked to individual ground source heat pumps (GSHPs) at each dwelling

The May 2018 changes to the Government's Renewable Heat Incentive (RHI) enable external funders to own and operate the infrastructure for ground source heat pumps.

Mimicking a traditional gas framework, Kensa's innovative shared ground loop system architecture links a series of boreholes to form a shared ground array acting as an energy source to multiple properties. Each property then has an individual heat pump which is wired to their own electricity supply.

The advantages of this system configuration:

- Extremely low CO_2 emissions enabling easy carbon and building regulations compliance;
- No point of use NOx and SOx emissions;
- Lowest energy bills; slightly lower than mains gas, significantly lower than air source heat pumps, LPG & oil;
- Householders able to switch energy suppliers, unlike other district heating;
- No district heat losses;
- Potential for free summer cooling;
- Scalable and flexible district size can be deployed in sections as the development progresses;
- Ultra-efficient and reliable.

The Concept

Kensa has developed an innovative funding and delivery model, where the cost of the shared ground loop array is no longer borne by the house builder.

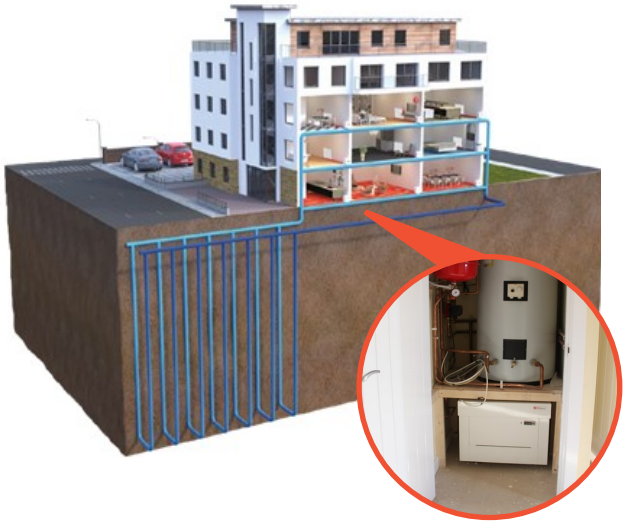
Kensa will design, supply, install and own the shared ground loop array; in return, Kensa will receive an income via the Non Domestic RHI, plus a connection charge to the house purchasers (equivalent to the gas standing charge).

Financial illustration (new build site of 85 mixed properties):

Typical ground array cost (Paid by developer)	£369,750
Ground array buy-back (On property completion)	£403,028
Cost of ground source heat pumps & cylinders	£287,342*

*Avoided costs should be subtracted from this figure. The deduction or counterfactual will depend on what system is being avoided but will include items such as boilers, cylinders, oil/gas tanks & pipework. It could also include savings in the fabric build cost as heat pumps improve emissions.

See over for more details



Kensa Contracting
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Kensa Contracting

Pioneers of shared ground loop arrays, Kensa Contracting has an award-winning heritage successfully installing thousands of Kensa Shoebox installations connected to shared ground loops in both retrofits and new builds.

Example: Acorn Blue, Perranporth Beach

Beach-front luxury new development.
40 x apartments & houses.
Shoebox heat pump in each dwelling.
5 x shared ground loop arrays.

Funding Mechanism

The Shoebox Heat Pump

Small in size, big in space and cost savings. The multi-award winning Kensa Shoebox heat pump has enabled shared ground arrays in new build developments.

MADE IN BRITAIN

NATIONAL HEAT PUMP AWARDS 2013 WINNER

SOUTH WEST GREEN ENERGY AWARDS 2013 WINNER

ErP A+ ENERGY EFFICIENCY

Install inside an airing cupboard.
Temperatures up to 65°C.
Delivers space heating & hot water.
MCS accredited and ErP A+.
HxWxL (mm): 530x475x370 (3kW).
560x605x565 (6kW).

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