

EST HEAT PUMP FIELD TRIALS

Energy Saving Trust
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EST Heat Pump Field Trials

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Background

- EST has experience developing and managing monitoring projects of energy efficiency installations in domestic households:
 - **Insulation; ventilation rates; condensing boilers; low-energy lighting; domestic hot water.**
- **Micro-wind field trials**
- Results have been used to set energy savings for lighting and insulation in SOP/EEC/CERT.
- The key objective of all EST monitoring work is to inform the ***consumer***.

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FIELD TRIAL OBJECTIVES

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3 Key Objectives:

- To illustrate the factors that influence the performance of in-situ domestic heat pumps.
- To determine the level of energy consumption, heat generation, and associated carbon savings in real installations (Measured by SPF and COP).
- To illustrate the customer experience and perceptions of the technology.

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Scope of Field Trials

- Include both ground and air source installations.
- Include a wide range of installation scenarios (based on property type; household; geographic distribution, etc.)
- Include a range of manufacturers' products.
- Focus on overall "system" performance including space heating and hot water.
- Open University will conduct research into customers' perceptions of the technology.
- Funding and support provided by manufacturers; energy suppliers; Defra; and EST's funds

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Desired outcomes

- Provide insight into actual system performance: do the installations perform better or worse than expected when compared with lab-based testing?
- Illustrate the factors that impact system performance.
- Inform policy (CERT) and accreditation schemes (MCS), especially for ASHP systems.

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Consultation process

- Field trial is being undertaken after extensive consultation with industry and stakeholders.
- Over 100 comments received from industry to strengthen the project's specification.
- A 'call for sites' is now open for domestic installation.
- So far EST has received expressions of interest to participate from:
 - Private householders
 - RSLs/Housing associations
 - Installers
 - Manufacturers

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DATA COLLECTION AND ANALYSIS

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- Installation of monitoring equipment in up to 100 domestic sites.
- Equipment will monitor:
 - heat output
 - energy input
 - internal air temperature
 - ‘source’ temperature (ground or air)
- Agreement from manufacturers to provide data from at least 20 additional sites.
- Data downloaded monthly by GSM modem

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PROJECT TIMELINE

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- Appoint an installation/monitoring contractor and data analysis contractor in May 2008.
- Installation of monitoring equipment from June – September 2008.
- Monitoring will commence in September/October 2008 and last for one calendar year.
- Quarterly progress meetings between EST and contractors.
- Data collection complete by October 2009
- Final results issued by end of 2009

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Extension of Trials

- Trials could be extended to increase sample numbers of both air and ground source installations
- EST is currently in discussion with stakeholders including manufacturers and energy suppliers to obtain additional funding or additional data.
- The Scottish Government have expressed an interest in providing additional sites to the trials after May 2008.

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Questions or comments?

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