

# DECC Programmes relating to heat pumps



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# DECC Programmes relating to heat pumps



- RHPP Monitoring Programme
- Social Housing Monitoring Programme
- Second year of the EST heat pump field trials
- IEA Annexes

# RHPP Monitoring Programme I

## – Simple Monitoring



### 100-350 heat pumps

		Air source	Ground source
Space heating only	Underfloor		
	Oversized radiators / fan assisted radiators		
	Standard radiators		
Space heating and hot water	Underfloor		
	Oversized radiators / fan assisted radiators		
	Standard radiators		

Monitoring the electricity input to the heat pump and heat output from the heat pump only. Half hourly monitoring.

# RHPP Detailed monitoring programme



400 heat pumps

For heat pumps, monitor SPF2 and SPF4:

$$SPF2 = \frac{Q_{HP}}{E_{HP}}$$

$$SPF4 = \frac{(Q_{HP} + E_{Immersion})}{(E_{HP} + E_{Auxiliary} + E_{Immersion} + E_{Circulation\_pumps})}$$

# Social Housing RHI Programme

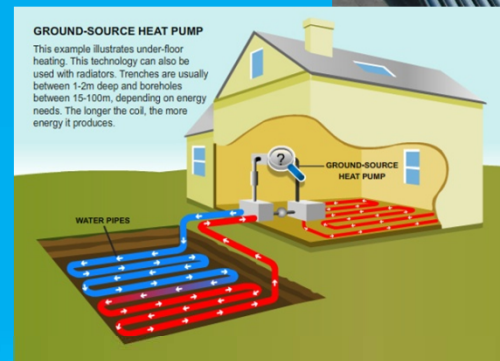
DECC is funding monitoring and evaluation of a number of renewable heat projects in the social housing sector

- Biomass boilers
- Ground source heat pumps
- Air source heat pumps
- Solar thermal panels

Encourage off gas grid

All to be insulated, (if not already insulated)

All technologies to be installed by MCS accredited installers.



# Social Housing RHI Programme (2)



Projects selected on the basis of a number of criteria, including:

- Quality of monitoring proposed
- Quality of proposed surveys of the householders
- Support to householders
- Innovation
- Value for money

The funding agreed is £3m from DECC.

# Second year of the EST heat pump field trials

44 systems to be studied in the second year.  
Interventions carried out:

Ground Loops	Radiators	Circulation Pumps	Controls	Buffer tanks	Voltage optimiser
1 borehole extended	Fan assisted radiators  Larger radiators  Extra radiators	DC pumps	Weather compensation	Insertion of buffer tanks	Voltage optimiser

# IEA Heat Pump Annexes



- The UK is a full member of the IEA Implementing Agreement
- Anyone with a UK address can download papers from [www.heatpumpcentre.org](http://www.heatpumpcentre.org)



# IEA Heat Pump Annexes

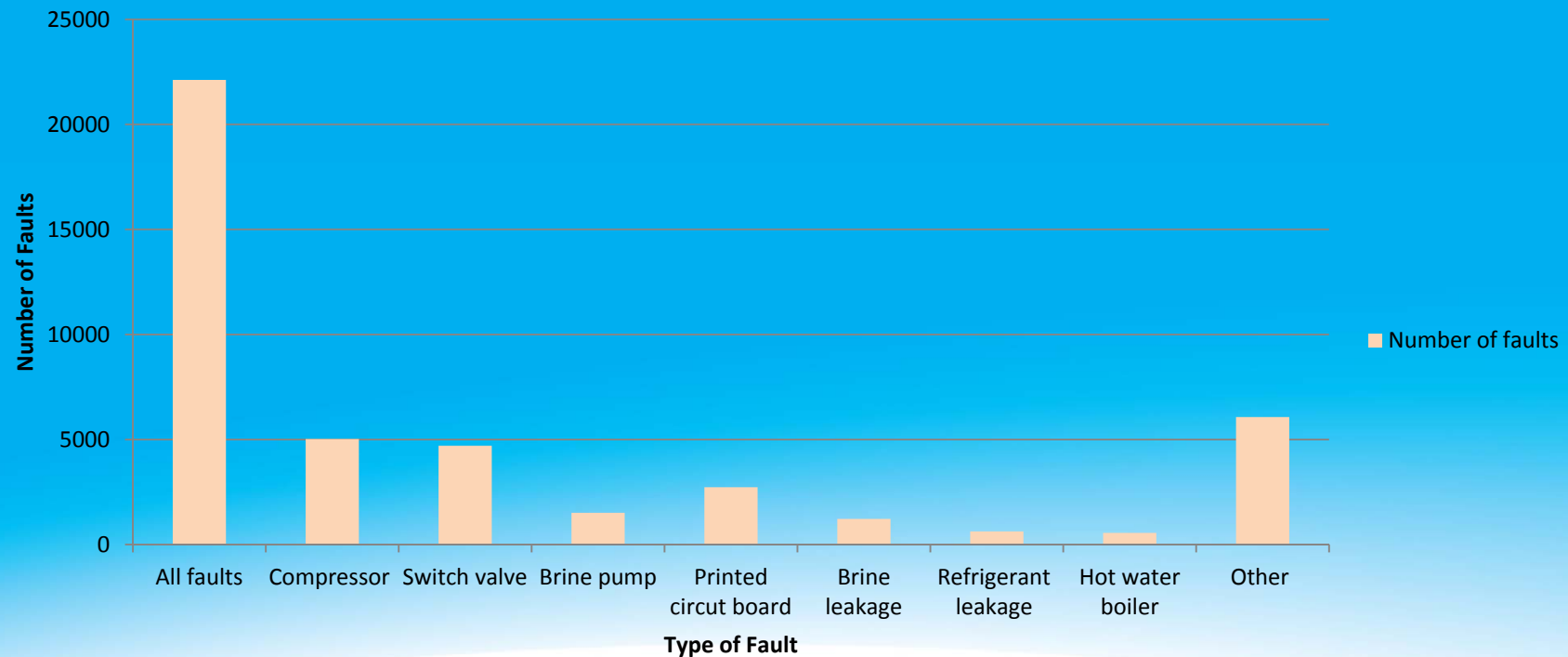


- The UK is currently a member of three research annexes:
- Annex 36 : Quality of Installation & Maintenance
- Annex 37 : Demonstration of good results from field trials
- Annex 38 : Combined solar thermal and heat pump systems

# IEA Heat Pump Annexes

## Swedish Insurers' List of Faults, Domestic Ground Source Heat Pumps, 1999-2009

Total number of "heat pump years" = 2.2 million



# Future IEA Heat Pump Annexe

- Effect of heat pumps on the grid

## PREMIO Experimentation

