



Background

Narec Distributed Energy are collaborating with Northumbria University to develop an Air source heat pump test system platform.

Heat pumps are effectively used throughout the world for space heating, however, the Energy Saving Trust's recent heat pump trials have shown that installations in the UK do not perform well. This is due to a number of factors, including the installation, operating conditions and the properties they are used within.

This platform is being used to enable a greater understanding of the problems encountered in typical UK properties. A test is now being developed to give householders and industry a better measure of the Co-efficient of Performance (COP).

Project outline

The Narec Distributed Energy Air Source Heat Pump Test Platform is being designed to accurately measure the seasonal COP of an Air Source Heat Pump (ASHP) used for domestic space heating and hot water.

The test also includes the integration of a solar thermal domestic hot water pre-heat to evaluate the benefit of integrating renewables and also dumps hot water from the heat pump according to a programmed tapping.

Currently the testing of heat pumps is subject to BS EN14511 which was originally designed for air conditioning systems and does not look at the true dynamic weather conditions a heat pump system has to deal with. This new test differs significantly from the BS EN14511 test standard in that it presents the heat pump with a constantly varying thermal load determined by a real-time Matlab/Simulink thermal model of a notional house.

Project Outcomes

This test is unique in its approach and Narec Distributed Energy believe it will yield useful results which will inform profile policy makers.

Advancing Renewable Energy

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