

TEST PROTOCOL TO DEMONSTRATE ENERGY SAVINGS POTENTIAL OF BOILER ENERGY MANAGERS

LEAD ORGANISATION

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PARTNERS

Energy Systems Trade Association (ESTA) and The Association of Controls Manufacturers (TACMA).

COST AND DURATION

The Carbon Trust contribution towards this project is £44,850. The project started in August 2003 and is due for completion in September 2004.

PROJECT REFERENCE NUMBER 2002-09-87



Making business sense
of climate change

OBJECTIVES

The objective of the project is to overcome barriers to the take-up of boiler energy managers. Barriers exist because of a lack of standard test methods and a reliance on anecdotal evidence for the energy savings potential. This project will develop standard test protocols that will be based on repeatable laboratory tests.

SUMMARY

Many existing central heating and hot water boilers in the domestic and small commercial sector are operated on a time clock with firing being controlled by the boiler's own thermostat. To improve the efficiency of these systems, a range of controllers has been developed that alter the boiler's firing pattern or other operational characteristics.

Many claims for performance are site-specific, cannot be truly repeated and do not produce data that can be readily used by purchasers to compare relative performance across products. In addition, claims of savings ranging from zero to 60% have been made based on existing tests. This, together with a lack of independent and repeatable test results, is seen to be a barrier to market diffusion.

The project aims to develop an industry-agreed method of accurate and repeatable testing to evaluate the actual savings resulting from the use of individual boiler energy managers.

The Work Programme includes:

- Establishing the range of input/output requirements of boiler energy managers currently on the UK market.
- Determining the range of boiler energy manager control functions currently available to ensure that the test method



BRE boiler controller test rig

and protocol is applicable across all the products on the market.

- Development of a test protocol methodology for review and agreement by project partners before developing the actual method/protocol.
- Demonstration of the test method through practical tests.

Once established, the test methodology will be published and made available to test houses/manufacturers in order to allow construction of test rigs to aid the future development and testing of controllers. The aim of this is to establish an industry-approved certification scheme covering the performance of boiler energy managers.