

NATIONAL APPLIANCE AND EQUIPMENT ENERGY EFFICIENCY PROGRAM

Minimum Energy Performance Standards



PACKAGED BOILERS

The March 2001 plan by the
National Appliance and Equipment
Energy Efficiency Committee to
improve product energy efficiency

AN AUSTRALIAN AND NEW ZEALAND MINERALS AND ENERGY COUNCIL
INITIATIVE FORMING PART OF THE NATIONAL GREENHOUSE STRATEGY

Minimum Energy Performance Standards: Packaged Boilers

OVERVIEW

The National Appliance and Equipment Energy Efficiency Committee (NAEEEC) is collecting information for consideration by the Australian and New Zealand Minerals and Energy Council (ANZMEC) about the appropriateness of minimum energy performance standards (MEPS) or a range of voluntary measures, for improving the efficiency of packaged boilers.

MEPS are a government regulatory program stipulated in state and territory law that excludes from the market, products that do not meet the minimum energy performance levels. NAEEEC is a Commonwealth, State and Territory (and New Zealand) group of energy efficiency officials and regulators that implement the program. ANZMEC comprises the Minister of State from each Australian jurisdiction and New Zealand responsible for energy matters.

This summary report rejects nationally consistent mandatory standards for packaged boilers on the basis that it would fail to meet the prerequisite cost benefit requirements for national law making. NAEEEC however seeks community and stakeholder comment on proposals to improve the energy efficiency of these products to ensure that the best-available products are promoted and sold in the Australian marketplace.

PUBLIC COMMENTS INVITED

NAEEEC seeks comment on the proposals contained in this plan from any interested person or organisation. Please address your comments in writing to:



AUSTRALIAN
Greenhouse
Office

Energy Efficiency Team
Australian Greenhouse Office
GPO Box 621
Canberra ACT 2601

Facsimile: (02) 6274 1884
Email: energy.efficiency@greenhouse.gov.au

Comments received by 1 July 2001 will help NAEEEC to advise ANZMEC of stakeholder views on the approach being proposed for packaged boilers and also to shape any future voluntary program.

INTRODUCTION

Program goals

Energy consumed by equipment and appliances is a major source of greenhouse emissions. Codes and performance standards programs are amongst the most effective and widely used measures throughout the world to reduce greenhouse emissions attributable to this source. In 2000 for example, 25 of the 29 OECD countries had such programs and, within our region, New Zealand announced plans to institute a similar program in the near future.

The Australian Appliance and Equipment Energy Efficiency Program provides an important stimulus for the development of world-class energy efficient products. Benefits can flow through to the general community in the form of monetary savings from lower operating costs and increased employment levels resulting from Australian industry's ability to exploit potential export markets.

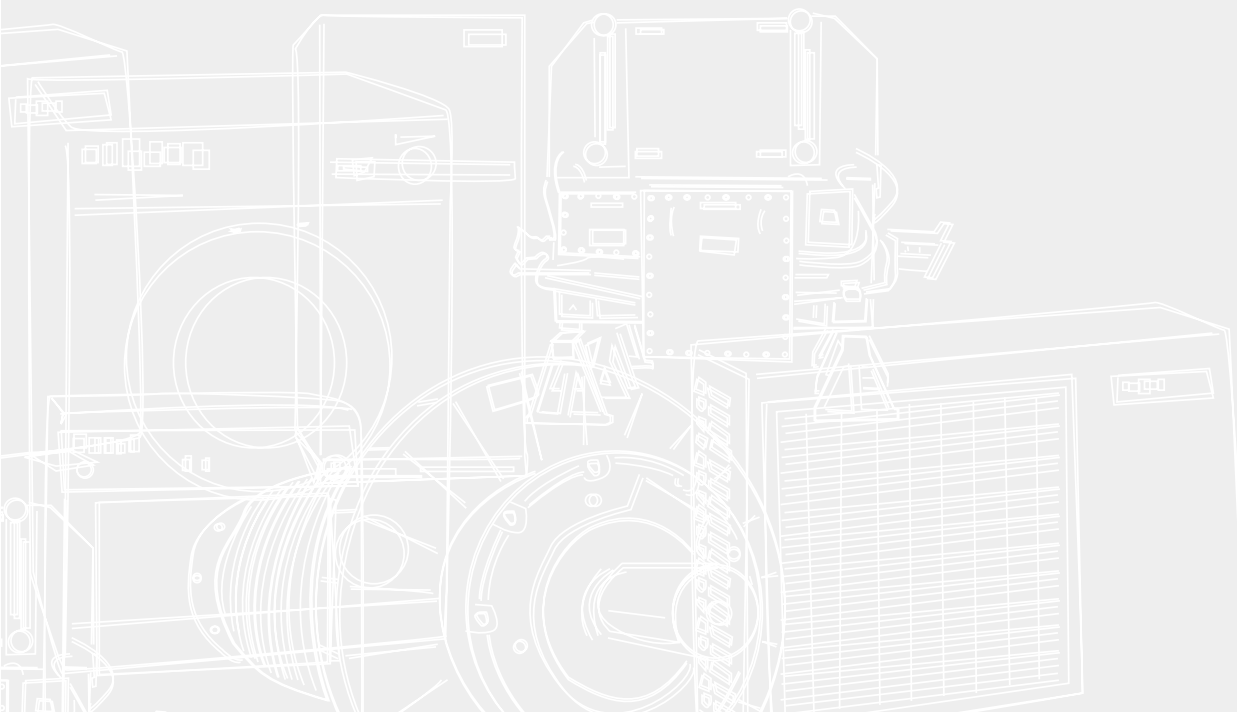
Under the 1998 National Greenhouse Strategy, responsibility for this program rests with ANZMEC. It is committed to improving this national program and has authorised NAEEEC to develop and publish plans for those products targeted for MEPS. These plans represent a transparent way for government agencies to explore community and stakeholder support (for both mandatory and voluntary measures) to reduce greenhouse gas emissions produced by these types of equipment.

1999 Expansion

In 1999, ANZMEC accepted proposals from NAEEEC to include in its program any items of industrial or commercial equipment identified as a significant contributor to the growth in energy demand or greenhouse gas emissions. Each product proposed for MEPS will be subject to both a feasibility assessment and public consultation before any final decision is made. These assessments will include technical and economic cost-benefit analyses as well as consideration of all supervisory measures available (voluntary, mandatory or a combination of both) to ensure that the most appropriate energy efficiency regime for that specific product is chosen.

The NAEEEC work program contains a list of all products scheduled for consideration and is available at the Australian Greenhouse Office website.

This packaged boilers' plan is the first stage of the process to consider regulatory and voluntary initiatives in general terms. It also demonstrates the extent to which Governments want all stakeholders to participate in the development of policies to meet the challenge of reducing the climatic affects of energy intensive products.



BOILERS

A packaged boiler is defined as a device that uses an energy source, for example natural gas, oil or electricity, to generate hot water or steam. The term 'packaged' refers to the complete assembly of a vessel, combustion equipment, insulation, piping and controls that is factory-assembled and shipped as a single unit.

This report covers equipment used to generate hot water for domestic central heating systems and for various commercial uses, excluding:

- ▶ Industrial boilers and commercial boilers with greater than 100kW thermal output;
- ▶ Domestic and commercial water heating equipment covered by the existing MEPS (AS 1056.1:1991, ammendment 3, 1996) and water heaters covered by other similar NAEEEC plans;
- ▶ Instant boiling water heaters as used for providing hot beverages.

A more detailed description of these products can be found in a report commissioned by NAEEEC held at www.greenhouse.gov.au/energyefficiency/

WHY WERE PACKAGED BOILERS BEING CONSIDERED FOR MEPS?

Since MEPS for boilers have been introduced in the United States, Canada, and Europe, NAEEEC wanted to explore the costs and benefits of harmonising MEPS in Australia with these MEPS of the major economies.

The annual energy consumption of the current installed boiler stock in Australia is approximately 11.9 PJ, the vast majority of which is gas. The resultant greenhouse gas emissions are 610 kt CO₂-e per annum.

NAEEEC does not consider the development of MEPS for packaged boilers to be cost-effective for the following reasons:

- ▶ Greenhouse gas emissions are relatively modest, particularly compared to other countries with colder climates where the use of boilers is more widespread.
- ▶ The market is relatively small and fairly static (industry sources report the domestic market growing slowly and the commercial market is steady or declining).

- ▶ The distinction between commercial and domestic products is hard to define and the legal regime in states and territories used to regulate electric domestic water heaters cannot readily be amended to include these products. Working with the Australian Gas Association, improving the efficiency standard for all gas water heaters could have a beneficial impact on boilers.
- ▶ Due to the relatively low heating requirements and small market in Australia, technological improvements such as condensing flue technologies have even longer payback periods, with resultant higher economic impacts.

ELEMENTS OF THE PLANNED PROGRAM

NAEEEC considers that there is a role for the packaged boiler industry to provide information to purchasers on the relative running costs and greenhouse gas emissions of their products. This information might cover a range of climates and usage patterns and could be achieved through a listing on a website, operated by government or industry.

NAEEEC will work with the Australian gas industry to explore the benefits of a labelling scheme for gas water heaters, including whether the current test methodology in AG102 is appropriate for boilers sold to consumers. NAEEEC will also explore with the industry the potential of endorsement of efficient packaged boilers.

NAEEEC would consider assisting in the development of a best practice information program for housing authorities and any other major landlords to encourage the use of condensing boilers in appropriate circumstances.