

NATIONAL APPLIANCE AND EQUIPMENT ENERGY EFFICIENCY PROGRAM

# Minimum Energy Performance Standards



## *COMMERCIAL WATER HEATERS*

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: Commercial Water Heaters

## 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 evaporative air conditioners.

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 commercial water heaters 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](mailto: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 commercial water heaters 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.

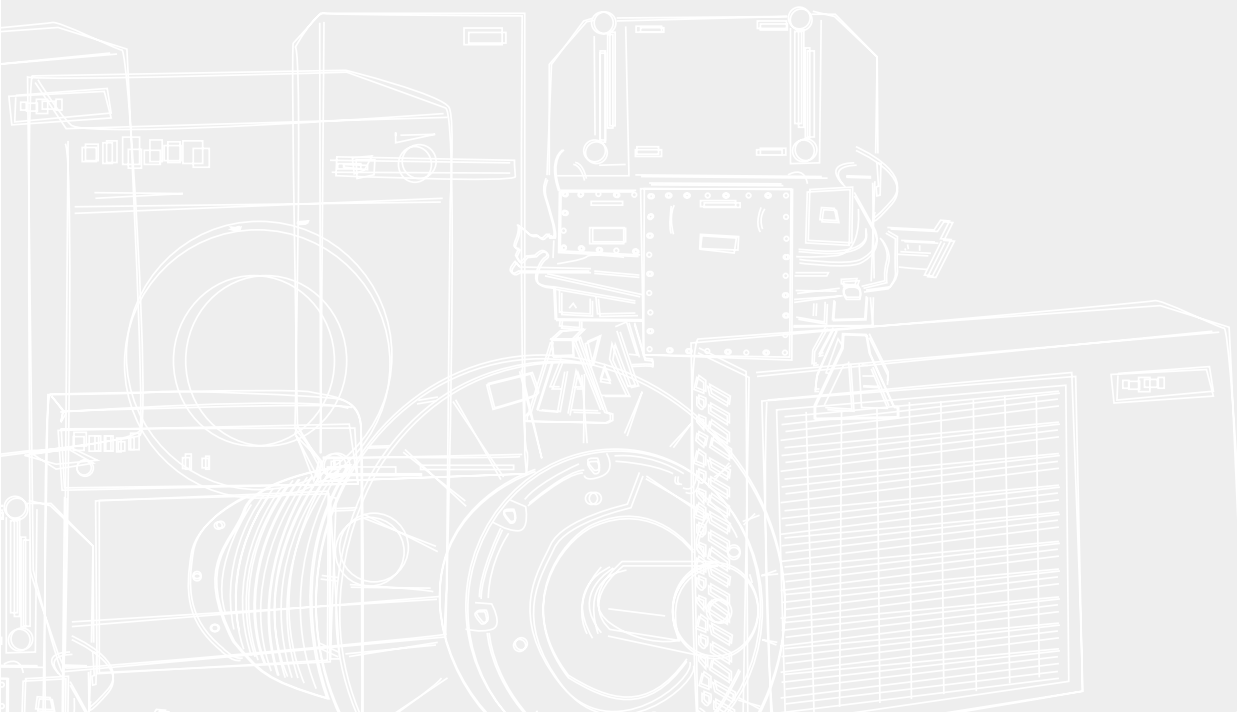
Under the 1998 National Greenhouse Strategy, responsibility for this program rests with ANZMEC. It is committed to improving this national program and has authorised NAEEEC to develop and publish plans for those products targeted for MEPS. These plans represent a transparent way for government agencies 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 commercial water heater 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.



## COMMERCIAL WATER HEATERS

Products considered include the following types of water heating technology:

- ▶ Gas Storage water heaters
- ▶ Electric and gas instantaneous heaters (with little or no storage)
- ▶ Electric and gas boosted solar
- ▶ Electric calorifiers and heat exchangers
- ▶ Electric Boiling Water Heaters.

This analysis of MEPS for these products is conducted against the backdrop of MEPS already implemented for mains pressure electric storage units with capacities up to 630 litres since 1999 (AS1056 Part 1).

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

## WHY WERE WATER HEATING TECHNOLOGIES BEING CONSIDERED FOR MEPS?

The main reason for considering minimum energy performance standards (MEPS) for water heating technologies were that MEPS have been adopted for most categories of commercial water heaters in the United States, Canada and Europe. In Australia, the technologies under review are not covered by mandatory MEPS. Of particular concern are gas water heaters and electric boiling water heaters, which industry experts believe will grow in market share through to 2015.

In addition, the technologies under review (ie. not including electric storage and boilers) contribute approximately 1.6 Mt CO<sub>2</sub>-e of greenhouse gas emissions in 2000, which represents approximately 80% of emissions due to water heating in the commercial sector.

However, NAEEEC does not consider the development of MEPS for commercial water heaters to be cost-effective for the following reasons:

- ▶ Most of the electric water heater types under consideration result in modest greenhouse gas emissions and typically occupy small niche markets which are considered unlikely to grow substantially in the foreseeable future.
- ▶ However, because electric boiling water heaters represent a growing segment of the market, NAEEEC will closely monitor overseas

developments of MEPS levels and testing methodologies and may reconsider its approach in the light of these developments.

- ▶ Gas water heaters are "regulated" through an industry scheme administered by the Australian Gas Association. NAEEEC will work with the Australian industry to review its practices in the light of a comparison with the best international MEPS levels.

## ELEMENTS OF THE PLANNED VOLUNTARY PROGRAM

At this time, NAEEEC does not intend to regulate the efficiency of commercial water heating technologies. Instead, NAEEEC will seek to develop a range of initiatives in conjunction with stakeholder organisations, as described below.

### *Electric and Gas*

NAEEEC considers that there is a role for the water heating industry to provide information to consumers on the relative running costs and greenhouse gas emissions for various water heaters. This should cover a range of water heating technologies, climates and usage patterns. This may be achieved through a public listing on a website sponsored by government or industry.

NAEEEC also wishes to work with stakeholders to develop 'best practice' information programs aimed at hot water installers, and the development of modules in existing training courses for the building trades. NAEEEC is interested to hear from parts of the industry interested in operating and promoting these initiatives, supported by government.

### *Gas Storage and Instantaneous Water Heaters*

Under the existing industry scheme administered by the Australian Gas Association, gas water heaters above 50 MJ/hr are not required to meet MEPS or labelling requirements. NAEEEC will work with the AGA to examine the scope for extending the current scheme to products up to 500 MJ/hr, in the light of best international MEPS levels for commercial gas water heaters. For example in the United States in October 2003 (USA 10 CFR Part 431, January 2001).