Regulatory Impact Statement

PROPOSAL TO INTRODUCE A MINIMUM ENERGY PERFORMANCE STANDARD FOR GAS WATER HEATERS

AGENCY DISCLOSURE STATEMENT

This Regulatory Impact Statement has been prepared by the Ministry of Economic Development.

It provides an analysis of options to assess the costs and benefits of introducing Minimum Energy Performance Standards (MEPS) for domestic gas water heaters on the New Zealand market. Models imported or manufactured in New Zealand will have to perform at or better than the proposed MEPS level. This means they would use less energy for the same water heating output. The RIS covers gas water heaters of domestic capacity, for external storage models, and internal and external instantaneous models. Internal storage models are excluded pending the development of cost-effective improvements.

These MEPS will require new gas water heaters for sale on the trans-Tasman market to use no more than 22,831 megajoules per year when tested to the standard test conditions outlined in the existing Australian Standard AS 4552, or the proposed revised version of the method of test – which will be part 2 (AS/NZS 4552.2:2010). These provisions will be made joint with New Zealand. Safety and labelling components of the standard will remain as Australian only.

The MEPS analysis includes:

- The barriers to consumers purchasing more efficient gas water heater models.
- The size and turnover of the trans-Tasman market.
- The impact on consumers of purchasing more efficient models.
- The impact on suppliers and manufacturers of requiring more efficient models (including the cost of compliance).

The proposed MEPS levels were developed to be easily achievable in the first instance, as this is the first time the trans-Tasman gas industry has been regulated for efficiency. A number of MEPS options were considered including different implementation dates and levels. The levels and timing of implementation were softened in response to stakeholder feedback regarding the pressure on the manufacturing sector through the phase out of electric storage water heaters in Australia.

An investigation into the cost-benefit of an efficiency labelling scheme for gas water heaters is underway. Efficiency labelling is currently a voluntary industry standard in Australia and can be extended to New Zealand in a voluntary manner until the results of its cost-benefit analysis are known. Water heaters are rarely available in a

comparative line-up on a shop floor, and are mostly purchased by installers on behalf of the householder, possibly where the up-front cost outweighs the need for ongoing benefits to the householder.

The proposed measures are not expected to add significant costs to business. Many of the suppliers to the New Zealand market also supply to Australia and therefore comply with the Australian Gas Association's labelling regime, on which the MEPS level is based. Furthermore, Australia has already approved the introduction of MEPS for gas water heaters, so these suppliers will already be preparing to bear the cost of meeting MEPS in Australia.

Suppliers who only sell on the New Zealand market have informed us that they intend to source products that have already been tested and shown to comply, and therefore will not need to bear the cost of testing.

One major supplier has only recently stated it will need to bear testing costs for some models sold only in New Zealand. The energy rating tests would probably need to be conducted in an Australian laboratory and, allowing for transport costs, would cost at least NZ$20,000.

The cost of sourcing new products (to replace current models that do not meet the intended MEPS level) will only be borne by a small number of suppliers for a small number of models. These costs will be passed on to the consumer.

Consequently, there will be minimal additional costs. There is no further registration cost to sell products on the New Zealand market if they are already registered for sale in Australia. After a year of trading under these regulations, the suppliers are required to provide their sales data (a few hours of administrative activity only).

The proposed MEPS are not expected to remove or restrict competition nor alter the current division of market share among technology. Products that have been manufactured or imported to New Zealand prior to the regulations being implemented can still be sold without restriction to run down stock.

Richard Hawke

[Signature of person] [Date]

STATUS QUO AND PROBLEM DEFINITION

The E3 work programme for 2010 targets the energy performance of gas water heaters. This product has been targeted because gas water heaters are sold in significant numbers and account for increasingly higher levels of energy consumption, particularly in Australia.

In the absence of any energy efficiency regulation, there will still be some increase in the efficiency of certain gas water heaters. In New Zealand it is assumed that gas instantaneous water heaters will continue to increase their market share at the expense of less efficient gas storage water heaters, and their efficiency will continue to improve based on overseas technologies and supplier competition. Already, 25 per cent of models available for sale are at the equivalent of 5.5 stars or better and therefore exceed the proposed MEPS.

However, continuing with business-as-usual would not remove the worst performing storage water heaters from the market – and these products contribute significantly to trans-Tasman gas use and emissions.

Without intervention, the products purchased in New Zealand between now and 2020 will use up to 43 petajoules (PJ) of gas over their lifetime.. Across Australia and New Zealand, energy use could be reduced by at least 17.1 PJ through improving their energy performance. However, these potential improvements are not occurring for the following reasons:

- Replacement gas water heaters are often purchased in circumstances where the existing gas water heater has failed and the household is without hot water. Hurried purchase decisions may not address longer term factors such as energy performance;

- Consumers can seldom inspect a range of gas water heaters and compare their energy labels on the shop floor, as is the case with white goods such as refrigerators;

- Gas water heaters may be purchased on the consumer's behalf by a builder or landlord who is concerned only to minimise the capital cost.

Australian energy efficiency policy and trans-Tasman issues

Energy rating labels have been in place in Australia since 1988. Suppliers to the Australian market have to meet the requirements of the Australian Gas Association for sale of gas water heaters on the Australian market. Compliance with Australian Standard AS 4552 covers registration, safety, energy efficiency and energy efficiency labelling.

The labelling scheme has not effectively transformed the market to eliminate the worst performing models from their range of appliances as a result of the barriers outlined above.

Participation with Australia in the E3 programme helps maintain New Zealand's alignment with regulatory requirements for commercially traded goods. This allows

New Zealand to honour its commitment under the trans-Tasman Mutual Recognition Arrangement (TTMRA) and the Closer Economic Relations (CER) Agreement.

Australia and New Zealand have jointly developed and consulted on policy proposals to introduce Minimum Energy Performance Standards (MEPS) for gas water heaters.

Maintaining alignment between the New Zealand and Australian markets satisfies TTMRA requirements and ensures that the New Zealand market does not become a dumping ground for less efficient products.

Existing energy efficiency measures

Building Code

The Building Code already includes provisions for minimum levels of energy efficiency for gas water heaters. The minimum energy efficiency requirement is specified in the New Zealand Standard NZS4305:1996. However, the standard only applies to gas water heaters installed in new buildings and not those installed in the existing building stock where there is the greatest opportunity for savings as old appliances are replaced.

Emissions Trading

New Zealand has committed to introducing an Emissions Trading Scheme (ETS). In November 2009, the Climate Change (Moderated Emissions Trading) Amendment Act 2009 was passed by Parliament. The revised NZ ETS will ensure New Zealand takes a responsible approach to the global problem of greenhouse gas pollution and climate. Features of the amendment Act include revised entry dates of 1 July 2010 for transport, energy and industrial sectors and 1 January 2015 for agriculture.

Attributing a cost to carbon may increase electricity and gas prices and give consumers an incentive to purchase more efficient appliances and equipment. However, as a sole measure this cannot address the problem as cost-effectively as the preferred option because:

- The price of electricity and gas in the short to medium-term is unlikely to increase enough to lead consumers to prioritise energy costs when buying appliances;
- A price signal will not address other barriers to uptake of energy efficient products.

OBJECTIVES

To reduce energy consumption, energy costs and energy-related greenhouse gas emissions from gas water heaters to below the levels projected under a business as usual scenario, through improving their energy performance.

To maintain consistent regulatory requirements with Australia, with respect to commercially traded goods, in accordance with the trans-Tasman Mutual Recognition Arrangement (TTMRA) and Closer Economic Relations (CER) Agreement.

REGULATORY IMPACT ANALYSIS

Alternative Options

Labelling

Labels can provide the necessary information to enable consumers to make informed investment decisions that reflect the lifetime operational cost of a gas water heater including its capital cost.

Labels are relatively invisible to consumers with gas water heater products typically purchased by someone other than the end-user, often in an emergency when an existing system has failed. Consequently, purchase decisions tend to be based on minimising capital cost without taking into account energy performance information.

Despite labelling not being a primary instrument to change the gas water heater market, further work is planned. Since 1988, energy rating labels have been in place in Australia. However, they have not effectively transformed the market to exclude poor performing products. A cost-benefit analysis and industry consultation is planned for later this year to consider an alternative or complimentary labelling scheme.

Preferred Option

The preferred option is to incorporate standards for external gas storage water heaters and internal and external gas instantaneous water heaters into the Energy Efficiency (Energy Using Products) Regulations 2002.

Four different levels were considered, as shown in the table below:

IMPACT ANALYSIS, BY MEPS OPTION

MEPS option	*Option 1*	*Option 2*	*Option 3*	*Option 4*
2010 MEPS	*4-star*	*5-star*	*4-star*	*4-star*
2013 MEPS	*no change*	*no change*	*5.2-star*	*5.5-star*
Sales exposed to MEPS, 2010-2020 ('000)	0.43	0.87	118.8	194.7
Lifetime energy				
gas consumption (PJ)	-0.0104	-0.0256	-0.4729	-1.7804
emissions (Mt CO_2-e)	-0.0006	-0.0014	-0.0252	-0.0949
Total costs				
net present value ($M)	0.06	0.16	3.01	11.23
Benefit/cost ratio	1.6	1.9	2.6	2.6

The preferred option is Option 1. This proposes the introduction of a MEPS at the equivalent of a 4-star rating under the existing industry labelling scheme.

This is the lowest of the four MEPS options modelled in the regulatory impact analysis. This level has been recommended for two key reasons:

a. There was strong opposition from the industry to MEPS at a higher level, particularly in Australia, where there is a large manufacturing base for external storage water heaters. This technology is the most exposed to MEPS and makes up a large share of the Australian market.

b. Australia is phasing out electric storage water heaters through building codes, and needs to ensure that gas water heaters remain widely available as replacements. In Australia, gas water heaters are preferable to electric water heaters as a means to reduce greenhouse gas emissions and control peak electricity demand.

In New Zealand, most installations are gas instant water heaters, which already have a better energy performance than the proposed MEPS. However, New Zealand suppliers have indicated their support for a MEPS at the lowest level to retain regulatory alignment with Australia.

Costs and Benefits

While the benefits to Australia are expected to be significant, for New Zealand, the net benefits from 2010-2020 are forecast to be only marginally positive. This is because most types of gas water heaters that will be sold over the period already perform at or above the proposed MEPS level, or are exempt from the proposed MEPS.

Notes on cost-benefit analysis

- The costs include additional consumer, industry and taxpayer costs.
- The benefits to New Zealand are expressed as avoided energy costs under MEPS and are attributed to the sales of gas water heaters[1] that would have performed below the MEPS level under a business-as-usual scenario.
- Avoided greenhouse gas emissions are presented below but these are not factored into the financial analysis.
- Costs and benefits have been discounted by 6 per cent to represent their present value. The sensitivity analysis applied a discount rate of 10 per cent, which resulted in a 1.3 net benefit.
- One petajoule (PJ) of energy is equivalent to the annual electricity use of 35,500 households.

[1] Sales forecasts for gas water heaters are based on analysis of sales trends from 1988 to 2006, sourced primarily through import data.

Cost-benefit summary

	Australia	New Zealand
Energy saved (cumulative)	17.13 PJ	0.01 PJ
GHG Emissions Reduction (cumulative)	1.15 Mt CO_2-e	600 t CO_2-e
Total Benefit	$147.1 million	$0.15 million
Total Cost	$23.2 million	$0.09 million
Benefit:: Cost Ratio	6.3:1	1.6:1

Impacts on business

Models imported or manufactured in New Zealand after the MEPS introduction date will need to perform at or above the minimum level in order to be eligible for sale. The proposed MEPS levels are not expected to remove or restrict competition, nor alter the current division of market share among technology. Market analysis and sales forecasts for 2010 to 2020 indicate that the proposed MEPS will affect less than five percent of the market. Through consultation, industry representatives have indicated that they can modify their product range or source compliant stock in response to the MEPS.

Exemptions will apply to internally installed gas storage water heater systems until affordable energy efficient options are more widely available.

In Australia, gas water heaters have to be tested for efficiency and safety. They also have to be labelled to ensure compliance with the Australian Gas Association (AGA). Although this process has not been adopted in New Zealand, the labels can be used in a voluntary capacity until a cost-benefit analysis of an alternative or complementary labelling scheme is completed later this year.

Products that have been imported or manufactured in New Zealand prior to MEPS implementation can be sold without restriction to run down stock. For this reason, MEPS will also have no impact on replacement under warrantee (i.e. suppliers are able to keep stock for this purpose).

Costs of compliance for New Zealand businesses

Registration: If suppliers sell the same models in Australia, they will have to register the product for sale in Australia. There is no additional cost to register a product for sale in New Zealand. Registration is free in New Zealand and not required for those products already registered in Australia. After one year of trading, suppliers will be required to provide sales data for regulated products. However, this will only require a small amount of administration time each year.

Gas instantaneous water heaters (internal and external): The majority already perform at or above the MEPS level in both Australia and New Zealand. The major suppliers sell the same products in both countries. The industry already bears the

cost of testing and labelling to meet the AGA requirements so the proposed MEPS in New Zealand should not add significantly to these costs.

External gas storage water heaters: As there are only a small number imported into New Zealand, the impacts on business are small. One company that reported an inability to comply with the MEPS requirements has since indicated that they will modify their product range or source compliant stock.

Tax payer costs

New Zealand's Energy Efficiency and Conservation Authority (EECA) has a framework in place for the administration and enforcement of MEPS. Administration and compliance costs are met through EECA baseline funding. The incremental cost to the New Zealand taxpayer to administer and enforce MEPS for gas water heaters will be small and relates mainly to the costs of check-testing and product registration. A notional figure of NZ$50,000 has been assigned to the New Zealand taxpayer.

Impacts on consumers

The range of appliances on the New Zealand market under the proposed MEPS should be unaffected because most of the gas water heaters are marketed jointly in both New Zealand and Australia and the locally made internal gas storage models have been excluded from MEPS at this time.

The range of external gas water heaters on the New Zealand market will not be adversely affected by MEPS, because suppliers market these products in both countries and will be phasing in more efficient models for the Australian market.

For the New Zealand external gas storage water heater market, sales forecasts estimate approximately 400 households would face an increased purchase cost of up to $180 (this is a conservatively high estimate) due to more efficient parts and insulation. Overall, the consumer is forecast to save between $23 – $36 per year on heating costs, which amounts to an average saving of $410 over the service life of the unit.

For internal and external instantaneous gas water heating, 4-star MEPS would have no effect as all products already perform at the proposed MEPS.

CONSULTATION

Consultation with the gas water heater industry dates back to 2002. More recently, it involved a cost-benefit analysis in 2007, a Regulatory Impact Statement in 2008 and for New Zealand, discussions with the Gas Association of New Zealand, the Gas Equipment Suppliers Association and various individuals from prominent New Zealand suppliers and manufacturers.

Industry will also be represented on the Standards committee through the development of the efficiency test procedures. Many suppliers will be familiar with the current test methods and the Standard as these are required as conditions of sale for the Australian market. Products available for sale in New Zealand mostly exceed

MEPS at 4 stars, so a 5 star MEPS would achieve a greater transformation of the market.

The proposed MEPS (which is the option with the lowest impact of the four modelled) was chosen in response to industry feedback and takes into account industry concerns. We consider that the proposed MEPS will be broadly acceptable to the industry. New Zealand industry supports the proposed MEPS as a means to align regulations and costs with Australia, and between major New Zealand industry players.

The proposed regulations are consistent with New Zealand's international obligations under the World Trade Organisation's Technical Barriers to Trade Agreement. The Australia and New Zealand Standard applies equally to products produced locally and overseas. It also adopts a European test method used in other markets.

CONCLUSIONS AND RECOMMENDATIONS

The introduction of MEPS for external gas storage water heaters and internal and external gas instantaneous water heaters will provide marginally positive benefits to New Zealand. This includes energy savings of 0.01 PJ and 600 tonnes of CO_2 emissions reductions.

Although the economic and environmental benefits will only be marginally positive to New Zealand, there are significant benefits available to Australia. By showing support for this initiative New Zealand demonstrates its ongoing commitment to the E3 programme through recognition of the significant trans-Tasman benefits.

Aligning these standards with Australia will uphold the principles of the Australia New Zealand Closer Economic Relations Trade Agreement and the trans-Tasman Mutual Recognition Arrangement (TTMRA). Maintaining alignment will also reduce business compliance costs.

Accordingly, we recommend the proposed MEPS for gas heaters be adopted.

IMPLEMENTATION

The proposed revisions will be implemented in New Zealand through making an amendment to the Energy Efficiency (Energy Using Products) Regulations 2002 to incorporate the title of the relevant Australia/New Zealand Standards listed under Schedules 1 (for MEPS) of the Regulation.

Industry is anticipating the MEPS to be cited into regulation from a date no earlier than October 2010 (now expected to be April 2011). Subject to Cabinet approval, all the notifications and publication of the MEPS component of the Standard should have been completed. Online registration will also be available. These administrative procedures are expected to proceed quickly once Cabinet approval has been provided.

The proposed Regulation does not overlap or misalign with existing regulation, nor does it add to the existing stock of regulation.

Registering products for sale: Products sold in New Zealand that are subject to MEPS must be registered with the New Zealand regulator or an Australian state or territory regulator. Applicants must certify that the product has been tested correctly, disclose its energy performance, and be able to supply a test reports. Information on the product is then entered into a registrations database.

Education: New Zealand regulators use education as their primary tool for achieving compliance. This involves raising awareness of the regulations, creating resources to help industry members understand their obligations and working cooperatively with non-compliant business to achieve compliance.

Penalties: Under the Regulations, penalties of up to $10,000 can be sought for each instance of non-compliance. This tends to be a last resort pursued for businesses that repeatedly fail to meet their obligations. Instances of non-compliance may also be publicised.

Check-testing: Sample models of products subject to requirements are check-tested to see whether they perform as claimed by the manufacturer/importer when tested by an independent, accredited laboratory. Products are chosen based on risk factors such as: history of success and failure in check tests; newer models (likely to remain on the market for longer); high volume sales; high efficiency claims; and complaints.

Notifying affected parties

Compliance fact sheets will be made available to assist manufacturers and suppliers of the relevant products and equipment to understand and fulfil their obligations under MEPS. A generic step-by-step guide on how to comply with MEPS is available on the Energy Efficiency and Conservation Authority website. Stakeholders are notified of developments on these proposals through distribution lists.

MONITORING, EVALUATION AND REVIEW

The energy savings attributable to MEPS are determined by comparing actual energy savings to the forecast energy savings (above a business-as-usual scenario) in the original cost-benefit analysis. This determines how closely the MEPS is meeting its objective. Results are reported annually to the Energy Efficiency and Conservation Authority's Board and shared with stakeholders.

Evaluation methodology

Under Energy Efficiency (Energy Using Products) Regulations 2002, EECA collects annual sales and import data from manufacturers and suppliers for products covered by MEPS.

Sales data for each model is correlated with its energy performance data. The data is aggregated to determine the average energy performance across all models sold on the New Zealand market. This is compared against forecasts for sales volumes and average energy performance under business-as-usual and MEPS.

The standards and the market for products subject to measures are reviewed within three to five years. Revisions may be proposed where, for example a loophole in the test method or energy performance criteria has been identified, or where widespread adoption of more efficient technology or components means that higher energy savings are achievable through an adjustment to the criteria.