

THE E3 PROGRAM

The Equipment Energy Efficiency (E3) Program undertakes a range of activities to improve the energy efficiency of new appliances and equipment sold in Australia and New Zealand.

To reduce energy use and emissions, the Australian Government, states and territories and the New Zealand Government collaborate to deliver regulated minimum energy performance standards (MEPS), energy rating labelling (ERL), compliance, registration, and education.

This report covers the achievements of the E3 Program over a two-year period - 1 July 2019 to 30 June 2021.

Across this period, the E3 Program contributed more than A\$3.7 billion to the Australian economy in avoided energy costs. Combined, this is an estimated 12.2 Mt of carbon emissions avoided, equivalent to taking 3.3 million cars off the road over the same period.

The program contributed \$226 million to the New Zealand economy in 2019-20, representing 0.345 Mt of avoided carbon emissions.

ACHIEVEMENTS

The E3 Program regulates products through the *Greenhouse & Energy Minimum Standards Act 2012* (GEMS), with priorities updated regularly to reflect new and emerging products, changes in technologies and international regulations.

COVID-19 impact on the E3 Program

The E3 Program remained operational during COVID-19. However, the Department of Industry, Science, Energy and Resources (the Department) recognised the significant impact on Australian businesses and global supply chains and deferred several consultation processes in 2020. The E3 Review Committee (E3RC) considered the timing of consultation on new regulatory proposals.

Although these challenges impacted activities in 2020 and 2021, the E3 Program continued to achieve good outcomes.

Policy Development

Air conditioners

The *Greenhouse and Energy Minimum Standards (Air Conditioners up to 65kW) Determination 2019* came into force on 1 April 2020. This gave effect to the former Council of Australian Governments (COAG) Energy Council decision to introduce a zoned energy rating label for air conditioners, with star ratings based on seasonal energy efficiency and climate zones, and MEPS applied to single duct portable air conditioners for the first time.

The Department published an exposure draft of the *Greenhouse and Energy Minimum Standards (Air Conditioners above 65kW) Determination* in August 2019 and received public submissions. The Minister for Energy and Emissions Reduction signed the new Determination on 9 December 2020 and it will come into effect on 1 April 2022.

Household Refrigerators

On 15 August 2019, the Department published and registered the *Greenhouse and Energy Minimum Standards (Household Refrigerating Appliances) Determination 2019*. The former COAG Energy Council decided to tighten MEPS on household refrigerators and freezers, and harmonise Australian and New Zealand testing requirements with the requirements overseas, by adopting an international test standard. The Determination comes into force on 15 August 2021.

Refrigerated display and storage cabinets

The Minister for Energy and Emissions Reduction signed the *Greenhouse and Energy Minimum Standards (Refrigerated display and storage cabinets) Determination 2020* on 5 August 2020 and it came into force on 1 May 2021. This Determination expands the scope of MEPS to include refrigerated display cabinets and refrigerated storage cabinets and harmonises Australian and New Zealand standards with international standards and test methods.

Lighting

Following publication of European Union (EU) regulations for Light Emitting Diode (LED) lamps in

December 2019, E3 engaged in related standards development organised by Standards Australia, resulting in the publication of an Australia/New Zealand LED test standard and an updated incandescent performance standard in March 2021. This progresses the former COAG Energy Council 20 April 2018 decision to further improve lighting energy efficiency, by phasing out inefficient halogen lamps in Australia and introducing minimum standards for LED lamps in Australia and New Zealand. This is projected to result in \$1.4 billion in consumer savings over the next decade, resulting in an average saving of over \$200 per year per household.

The Department is currently developing the draft MEPS requirements for LED lamps, with support from a Technical Working Group (TWG) comprising industry, consumer groups and governments.

Street lighting

The Department collaborated with industry and relevant agencies during 2020 and 2021 to continue work to address regulatory barriers to the introduction of smart controls (small load metering) for street lighting. This included exploring a proposal for a National Energy Market rule change.

The Department also drafted stakeholder guidance on the use of new lighting design efficiency evaluation features in the revised AS/NZS 1158 standard for street lighting.

Televisions

Data modelling, analysis and research commenced for the Consultation Regulatory Impact Statement (RIS) in 2019. The Department put this work on hold in 2020, due to COVID-19, but resumed in 2021 with the purchase of television sales data for data analysis, modelling and review of the test standard. The Department is planning to release the consultation RIS for televisions in the first half of 2022 with a focus on how best to harmonise Australian and New Zealand requirements with those overseas.

Swimming Pool Pumps¹

Standards Australia published a revised test standard, AS 5102.1:2019 Performance of household electrical appliances – swimming pool pump units, in November 2019. This followed the former COAG Energy Council December 2018 agreement to introduce MEPS and energy labelling requirements for swimming pool pumps.

The Department published an exposure draft of the associated determination for public comment and submissions on 27 October 2020. The Determination is

proposed to come into effect on 1 October 2022.

Electric Motors

On 31 January 2020, the E3 Program published the *Issues Paper – Energy Efficiency Regulation of Electric Motors*. The paper canvassed issues that will define the scope of changes to be considered in a Consultation RIS.

Industrial Products

Through four workshops held in 2019, the Industrial Products TWG investigated product specifications, current test methods and efficiency standards for pumps, air compressors and boilers. E3 used this information to develop a suite of technical discussion papers for public consultation.

The Department delayed the development of a Consultation RIS in 2020 due to COVID-19 impacting consultation and procurement, as well as the changing circumstances of international regulation of these products (including the adoption of United States compressor MEPS and EU uncertainty on next steps for pump MEPS).

E3RC discussed technical papers on industrial pumps, boilers and compressors on 5 November 2020 and E3 released these for public comment on 9 November 2020. The Department held targeted industry consultation between November 2020 and January 2021.

Water Heaters

In response to stakeholder feedback in 2018-19 on a proposed roadmap, E3 established a technical advisory group in 2019 to develop a method for comparing hot water technologies.

In February 2021, the E3 Program released a discussion paper on a methodology to compare all technologies and technology combinations for hot water systems. E3 received stakeholder feedback and provided responses to those who submitted feedback.

Residential Space Heaters

Space heating accounts for around a third of residential energy use in Australia and New Zealand. It can be difficult for consumers to compare the energy use and energy efficiency of different space heaters.

As part of the Australian Government Climate Solutions Package, the Government provided \$6.5 million to develop an energy rating labelling scheme for residential space heaters, including gas and electric heaters.

On 21 May 2021, the E3 Program released a product profile on residential space heaters in Australia and

¹ New Zealand does not participate in the development of MEPS and energy rating labels for swimming pool pumps.

New Zealand for stakeholder feedback and submissions.

This information will support the development of policy options and technical frameworks for a space heating energy rating labelling scheme and tools to help consumers compare heating technologies and inform their decision to choose an appliance that best meets their heating needs.

E3 Prioritisation Plan

The E3 Program undertook a scoping study in 2020-21 to identify a suite of products for potential inclusion in the E3 Prioritisation Plan.

Sunsetting Determinations

E3 reviewed six of the eight “sunsetting” determinations (determinations due to expire in the next three years) in 2020-21 to determine whether they should be renewed or allowed to expire. E3 will consult with stakeholders on these reviews in early 2021-22.

GEMS Registration

The GEMS Product Registration System remained fully operational during COVID-19. The Department continued to process applications, renewals, variations and enquiries in 2020 and 2021, in line with the GEMS service commitments under the GEMS Regulator Service Charter. **Table 1** provides a summary report for this period, which shows a significant increase in the number of applications for registration compared to the previous 12-month period. The increase can be attributed to a number of factors including the introduction of 4 new and upgraded determinations, renewals for expiring products, and increased consumer demand for household products due to COVID-19.

GEMS Registration System Statistics		
Activity	2019-20	2020-21
No. of applications	5,371	7,086
No. of enquiries	974	1,205
Approval period (days)	1.15	1.36
No. of exemptions granted	2	4

Table 1: GEMS Registration System Statistics, 1 July 2019 to 30 June 2021

The Department continued its work with the regulated community to help members comply with GEMS Act requirements. A total of 22 Determinations were in effect under the GEMS Act throughout this period.

The Department developed a number of system enhancements for the GEMS product registration system in 2020-21 to streamline the registration process and reduce the regulatory burden for businesses. These include an automated label generator functionality and an automatic data-upload capability for technical test result reports.

Additionally, the Department undertook further work on cyber-security enhancements for the registration system. These include the security classification of the registration system and system data, the introduction of a robust password policy, and compliance assessment against the department’s Information Security Manual.

GEMS Stakeholder Consultation

The Australian Government released a new Regulator Performance Guide on 1 July 2021. The Department will now align its reporting and stakeholder engagement with this guide, which will include replacing the former annual GEMS Stakeholder Survey.

Energy Rating Website

The Energy Rating website serves a number of purposes:

- enabling consumer choice on energy efficient appliances
- assisting suppliers/manufacturers to understand their legal obligations for products that are regulated under the GEMS Act
- providing a platform for facilitating consultation on the development of energy efficiency policy under the E3 Program.

In December 2020, the Department delivered a Usability Evaluation Report for the website. The report highlighted positive sentiment about the platform and also on ways to improve the user experience and maximise the digital asset. Work is underway to improve the current site and options are being explored for activities in 2021-22.

GEMS Compliance

During COVID-19, travel restrictions affected GEMS Compliance engagement and education, and compliance monitoring, activities. However, GEMS inspectors continued to receive and act on feedback, and increased online market surveillance of products.

Table 2 provides the GEMS Compliance facts and figures for check testing, market surveillance, and online market surveillance for 2019-20 and 2020-21.

GEMS Compliance Statistics		
Activity	2019-20	2020-21
No. GEMS products reviewed	16	15
No. of models check tested	130	71
No. of models that met requirements	96	65
No. of models that didn't meet requirements	34	6
No. of model registrations cancelled	19	4
No. of models requiring alternative enforcement action	15	1
Registration compliance (%) - a range of household GEMS products	96	97
Registration compliance (%) - industrial products and equipment, eg. electric motors, refrigerated display cabinets	68	70

Table 2: GEMS Compliance Statistics, 1 July 2019 to 30 June 2021

The GEMS Regulator regularly receives allegations of non-compliance from consumers, industry and other government departments, which are assessed and, if appropriate, investigated. Most of the allegations relate to registration and labelling compliance.

LOOKING FORWARD

In 2021-22, E3 will be looking at:

- settling and taking forward the E3 Prioritisation Plan
- the outcomes of the GEMS Legislative Review for opportunities to:
 - improve the effectiveness of the GEMS Program
 - streamline processes and
 - strengthen compliance.