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**Environment Protection Policy (Air Quality) 2004**

**Review Report**

**July 2015**

**EPA Division**

Department of Primary Industries, Parks, Water and Environment

This Review Report was prepared by the EPA Division

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# Introduction

This report has been prepared as part of a statutory review of the *Environment Protection Policy (Air Quality) 2004*, or EPP, which took effect on 1 June 2005 (DTAE, 2004). The EPP is a statutory instrument under sections 96C to 96K of Tasmania’s *Environmental Management and Pollution Control Act 1994* (EMPCA). Its stated objective is to further the objectives of EMPCA as they apply to the ambient (outdoor) air environment of Tasmania, and as such it does not apply to the air environment inside buildings.

Section 96N of EMPCA requires that the Minister must review an EPP 10 years after it comes into operation, for the purposes of:

* Assessing the effectiveness of the EPP in achieving its stated objectives;
* Assessing whether, and how effectively, the EPP has furthered the objectives of EMPCA;
* Assessing the social and economic impact of the policy; and
* Determining whether the EPP should be retained in the same form, amended or revoked.

This report provides findings on the effectiveness and impacts of the EPP to support the review.

The fundamental aim of the EPP has been to protect the health and well-being of the Tasmanian community and environment, whilst supporting with the broader sustainable development and environmental management objectives of the State’s Resource Management and Planning System. It was also developed to help regulatory authorities and industry to maintain and improve Tasmania’s air quality, and to provide a mechanism for implementing the *National Environmental Protection Measure on Ambient Air Quality* (Air NEPM), which became a State Policy in 1999.

To achieve these aims, the EPP provides a framework for the management and regulation of point and diffuse sources of emissions to air for pollutants with the potential to cause environmental harm.

The framework involves the following four-tiered approach:

* Creation of an Air Quality Strategy to assess and achieve compliance with the Air NEPM standards, in the context of airshed reserve capacity;
* Industry adoption of best practice environmental management (BPEM) and the standard waste avoidance hierarchy;
* Industry adoption of accepted modern technology (AMT) to meet in-stack contaminant concentration limits and ground level odour limits; and
* Adoption of BPEM and monitoring for planned burning related to fuel reduction, regeneration and ecological management.

## Structure of the Report

Part 2 of this report outlines the review requirements of EMPCA. Part 3 gives an overview of national and state policy, and Part 4 describes the key air quality issues addressed by the EPP.

Part 5 of the report provides an assessment of the effectiveness of the EPP. It contains a brief summary of each clause, followed by specific actions taken since the EPP took effect, and which support the intent of each clause.

Some of these actions have been as a direct consequence of the EPP, while others have been part of broader national and state developments in air quality management. Part 5 does not analyse the implementation of each action, as this lies beyond the scope of the Review. In addition, many of the actions have their own review requirements.

In accordance with the legislative requirements of this Review, Part 5 also includes findings on whether the clauses have effectively furthered the objectives of EMPCA.

Part 6 assesses the social and economic impacts of the EPP. It should be noted that economic data related to the EPP and its implementation were not collected for review purposes throughout the first ten years of the EPP’s operation, meaning that the analysis has necessarily drawn broad conclusions about the indirect impacts of the implementation actions described in Part 5.

Appendix 1 contains the objectives of EMPCA.

# National and State Policy Context

The air environment in Tasmania is protected under the Resource Management and Planning System (RMPS) by EMPCAand a number of subordinate legislative instruments, including the EPP and regulations. EMPCA requires that Tasmania’s air quality is managed to support the health and wellbeing of individuals, communities and the natural environment, both now and into the future. The subordinate legislation has the general aim of providing more detail on how the RMPS and EMPCA objectives are to be realised.

Tasmania is also a signatory to a range of NEPMs, which are statutory instruments that specify national standards for a variety of environmental issues. Current NEPMs relating directly to air quality management in Tasmania are the Ambient Air Quality, Air Toxics and Diesel Vehicle Emissions NEPMs.

In Tasmania, NEPMs are State Policies in accordance with section 12A of the [State Policies and Projects Act 1993](http://epa.tas.gov.au/policy/Pages/The-RMPS.aspx). They are generally not directly enforceable and are implemented using a variety of mechanisms and approaches depending on the particular contents of each NEPM.

Each jurisdiction is required to produce an annual report on its progress towards meeting the Air NEPM. The reports contain information such as an overview of the regions currently being monitored, assessment of compliance with the standards and goals, analysis of air quality monitoring for each region, and a summary of achievements and future directions.

On 29 April 2014, Environment Ministers signaled their intention to vary the Air NEPM to reflect the latest scientific understanding on health risks arising from particle pollution (DoE, 2014). The proposed variation seeks to establish a more stringent reporting standard for particle pollution (PM2.5 and PM10). The public consultation period for the Impact Statement and draft varied measure recently closed, and submissions are currently being considered.

# Key Issues Dealt with in the EPP

Since the EPP came into effect in 2005, Tasmania has concentrated its air quality management efforts on the three key areas covered by the Policy. These are:

* Establishing environmental values and standards - clauses 6 to 8;
* Managing industrial point sources of air contaminants - clauses 9 to 15 & Schedules 1 to 3; and
* Managing diffuse sources of air contaminants (mainly planned burning and domestic wood heaters) – clauses 16 & 17

The EPA Division of DPIPWE is responsible for regulation of Level 2 activities\* , and also assists the EPA Board in conducting environmental impact assessments of proposed Level 2 activities and other

proposals that have been ‘called-in’ for assessment by the Director, EPA.

Responsibility for managing and regulating diffuse sources is shared across a number of State Government agencies, as well as local government. Smoke from domestic wood heaters and planned burning is of some concern in Tasmania. These sources may produce elevated concentrations of fine particles in the atmosphere which has the potential to adversely affect the health of Tasmanians living in urban and regional population centres. For example, a recent study led by Dr Fay Johnston of the [Menzies Research Institute](http://www.menzies.utas.edu.au/article.php?Doo=ContentView&id=1568) found that smoke pollution increases the death rate in the community (Johnston et al. 2013).

Domestic wood smoke tends to affect local communities that rely on firewood as a heat source, whereas the effects of planned burning can often be measured across larger airsheds or even geographic regions, depending on the type and extent of the burning, as well as weather conditions. In both instances the impacts on health and amenity can be significant, even though a recent investigation found that forest industry planned burns in 2008 were likely to have contributed to the Tasmanian airshed between seventeenand twenty fourtimes the particle pollution produced by domestic wood heaters. Note that these figures refer only to total emissions to the airshed from these sources, and do not attempt to account for the relative contributions to localised areas of population exposure.

The concerns about the effects of particulate matter on public health and amenity are reflected in the significance given to management of diffuse sources within the EPP, and to subsequent strategies and actions.

# Assessment of the Effectiveness of the EPP

## Part 2 (Application and objectives)

### Summary of clauses

Clause 4 establishes that the EPP only applies to the external, or ambient, air environment of Tasmania. The clause therefore supports EMPCA objective 3(c).

Clause 5 establishes that the objective of the EPP is to further the objectives of EMPCA which relate to the ambient air environment.

### Findings

Clause 4 has provided a foundation for subsequent clauses in the EPP by matching the application of the EPP with that of the Air NEPM, and as a consequence it also directly supports EMPCA objective 3(i), which deals with inter-governmental arrangements. Clause 5 clearly supports all EMPCA objectives.

Clauses 4 and 5 have therefore effectively furthered the objectives of EMPCA.

\* Industrial activities listed in Schedule 2 of EMPCA

## Part 3 (Establishing environmental values and standards)

### Summary of clauses

Clause 6 defines the environmental values, or values and uses of the environment that are to be protected under the EPP, and in doing so mainly supports objectives 3(a), 3(b) and 3(h) of EMPCA. The defined values and uses are:

* the life, health and well-being of humans at present and in the future;
* the life, health and well-being of other forms of life, including the present and future health, wellbeing and integrity of ecosystems and ecological processes;
* visual amenity; and
* the useful life and aesthetic appearance of buildings, structures, property and materials.

Clause 7 describes the Air NEPM standards for ambient air, and requires that compliance with the Air NEPM standards be measured in accordance with the provisions of the Air NEPM or associated requirements. This clause supports EMPCA objective 3(i).

Clause 8 commits the Minister to publishing an Air Quality Strategy before 1 June 2006; its aim being to assess compliance with the Air NEPM standards and, where necessary, specify strategies for achieving compliance with the standards by 2008. Clause 8 mainly supports EMPCA objectives 3(b) – 3(f), 3(i) and 3(k).

### Key actions which support the intent of each clause

Clause 6 is a foundational statement for the EPP, and as such has not required any specific actions to be taken.

Actions which support Clause 7 include:

**October 2005** – Release of the *Amended Monitoring Plan for Tasmania,* prepared in accordance with the Air NEPM (DPIWE, 2005). The Plan documents monitoring being undertaken at the time, and upgraded monitoring programs being implemented over the period 2004-2008 to determine compliance with the Standards and Goals of the NEPM.

**2003 to 2011** – Preparation of *Annual Air Monitoring Reports.* These reports present the results of air quality monitoring in Tasmania, and assess compliance with the Air NEPM standards using approved protocols (e.g. DPIPWE, 2012).

Actions which support clause 8 include:

**October 2005** - Release of the *Draft Tasmanian Air Quality Strategy* (DPIWE, 2005).

**May 2006** - Release of the *Draft Tasmanian Air Quality Strategy* *Consultation Report* (DPIWE, 2006)

**June 2006** - Release of the *Tasmanian Air Quality Strategy*, with the Strategy's primary objective to achieve compliance with the National Environment Protection (Ambient Air Quality) Measure Standard and Goal for PM10 particles (DTAE, 2006).

**2008** – Establishment of the *Implementation Steering Committee* for the Air Quality Strategy*.* The Committee’s role was to review progress toward implementation of Strategy objectives and to facilitate and drive further implementation of outstanding objectives.

**2009** - Release of an *Update Report* on data in section 2.1.6 of the Strategy relating to the **contribution of PM10 emissions from forestry industry burns and domestic wood heating in 2008** (DPIPWE, 2009).

**April 2010** - A report on the mid-term review of the Strategy submitted by the EPA Division to the EPA Board noted that the majority of the Strategy’s objectives had been implemented or were being implemented, primarily through activities of the EPA Division. (DPIPWE, 2013)

### Findings

Clauses 6 to 8 each support specific EMPCA objectives. The actions listed above have fulfilled the EPP’s requirements for an Air Strategy, and for monitoring required by the Air NEPM. The implementation of these clauses has therefore effectively furthered the objectives of EMPCA.

## Part 4 (Managing point sources of air contaminants)

Note that Part 4 establishes the policy framework for managing industrial point sources of air contamination, as defined in Part 1, Clause 3 (‘Interpretation’) of the EPP.

### Summary of each clause and schedule

Clause 9 establishes a policy position that regulatory authorities should manage and regulate industrial point sources of air contaminants so that the environmental values of the EPP are not prejudiced. It also establishes a policy of setting regulatory limits for emission rates and concentrations of pollutants for new and significantly upgraded facilities, in accordance with the waste avoidance and regulatory control principles outlined in clauses 10 and 11 of the EPP. Any monitoring requirements should also be proportionate to the level of environmental risk. Clause 9 mainly supports EMPCA objectives 3(b) to 3(f).

Clause 10 emphasises that regulatory limits for point sources should minimize the emission of wastes to the atmosphere, with reference to the standard waste management hierarchy that starts with avoidance and progresses through to disposal as a last resort. This clause mainly supports EMPCA objectives 3(b), 3(c), 3(e) and 3(g).

Clause 11 /Schedules 1 and 2

Subclause 11(1)(a) establishes that unavoidable emissions should be reduced as much as possible by applying ‘accepted modern technology’, or AMT, as defined in clause 3 of the EPP. Default emission limits are given in Schedule 1, with a provision to consider other alternatives on a case-by-case basis.

Subclauses 11(1)(b) - (c) stipulate that no single emission source should be permitted to prejudice Tasmania’s compliance with the Air NEPM, at the expense of other reasonable emissions to the airshed in question. In other words, a reserve capacity should be maintained in each airshed to allow for other activities, with provision to ‘relax’ this requirement if necessary.

Subclauses 11(1)(d) and Schedule 2

Subclause 11(1)(d) establishes that unavoidable emissions modelled at or beyond a site boundary should not exceed the design criteria for individual pollutants given in Schedule 2.

Subclauses 11(1)(e) – (f) present exceptions to this requirement for pollutants not in Schedule 2 and where site and operational circumstances suggest that another regulatory approach needs to be taken.

Subclause 11(2) establishes that any management of potential atmospheric pollutants should consider the net environmental impact of management options.

Subclause 11(3) specifies that any exceedances of concentrations given in Schedule 1 during commissioning, start up and shutdown should comply with conditions set by the EPA Board.

Subclause 11(4) establishes that regulatory authorities should consider guidelines published, adopted or endorsed by the EPA Board that describe AMT for activities likely to cause air pollution.

In managing and setting regulatory controls for unavoidable emissions, Clause 11 mainly supports EMPCA objectives 3(b) to 3(f), while Schedules 1 and 2 support EMPCA objectives 3(c) to 3(f), and 3(i).

Clause 12 specifies that regulatory authorities should require progressive environmental improvement from industries that were in existence before the EPP took effect, with consideration to the environmental impact, cost and practicability of reducing emissions. This clause mainly supports EMPCA objectives 3(b) to 3(e).

Clause 13 & Schedule 3

Subclause 13(1) establishes that odour emissions (that cause or are likely to cause environmental nuisance or environmental harm) at or beyond a site boundary should not exceed the ‘odour criteria’ specified in Schedule 3. Subclause 13(2) covers industries that were in existence before the EPP took effect, specifying that the timeframe for compliance with 13(1) should give consideration to the environmental impact, cost and practicability of reducing emissions. This clause mainly supports EMPCA objectives 3(b) to 3(e), and Schedule 3 supports EMPCA objectives 3(c) to 3(f), and 3(i).

Clause 14 outlines the circumstances under which a regulatory authority should require air pollution dispersion modelling and assessment to be undertaken. In doing so it mainly supports EMPCA objectives 3(d) and 3(f).

Clause 15 outlines the circumstances and conditions under which a regulatory authority should require monitoring and reporting of emissions and ambient air quality indicators. It specifically supports EMPCA objective 3(f).

### Key actions which support the intent of each clause and schedule

Clauses 9, 10 and 11 – The EPA Division applies the policy intent of these clauses as part of its standard management and regulatory regime for both existing and planned industrial sites.

Clause 11 - The EPA Board assesses all new or upgraded industries from an AMT perspective (see clause11(1)(a)). Most new facilities are required to undertake air modelling for certain pollutants as part of the assessment process (see subclauses11(1)(d) – (f)). In several instances modelling has been conducted to ensure that the airshed capacity has not been exceeded (see subclauses 11(1)(b)-(c)).

Clause 12 - The EPA Division works with existing facilities that may not meet the requirements of the policy to achieve compliance with either schedule 1 or schedule 2 of the policy; for example, by the installation of improved pollution abatement equipment.

Clause 13 - Most new facilities with a potential to emit odours (e.g. wastewater treatment plants) are required to undertake air modelling for odour. Existing facilities with a history of environmental nuisance complaints can also be required to undertake modelling to ascertain the extent of the problem.

Clause 14 - Some existing facilities with the potential to cause environmental nuisance and/or harm have been required to undertake air modelling (see subclause 14(1)). In general most new facilities (other than small quarries or mines with low potential for offsite impact) will require air modelling to be undertaken before construction (see subclause 14(2)).

Clause15 - This clause is used to specify air pollution monitoring requirements. These requirements are usually detailed in the Environment Protection Notice (EPN) conditions for the facility. Some larger facilities have installed Continuous Emission Monitoring Systems (CEMS) which give more data about emissions than a single yearly stack test. The installation of CEMS is strongly encouraged by the EPA Division. Several facilities are also required by their EPN conditions to conduct ambient air monitoring at or beyond the facility boundary.

### Findings

Clauses 9 to 15 and Schedules 1 to 3 each support specific EMPCA objectives. Actions taken since the EPP took effect in relation to managing and regulating emission limits have met both the intent and substance of the EPP, and have therefore effectively furthered the objectives of EMPCA.

## Part 5 (Managing diffuse sources of air contaminants)

### Summary of clauses

Clause 16 establishes that regulatory authorities should use best practice in the environmental management and regulation of diffuse sources of air pollution. This includes management in accordance with guidelines published, adopted or endorsed the Environment Protection Authority Board (EPA Board), or any regulations made under EMPCA. In this context, ‘diffuse sources’ include domestic wood heaters and backyard burning, motor vehicles, and planned burning for forest regeneration or fire hazard reduction. Clause 16 mainly supports EMPCA objectives 3(b) and 3(c).

Clause 17 requires those who undertake planned burning to employ best practice, consider health and amenity impacts, and to comply with guidelines, including those issued by the State Fire Management Council (SFMC). The SMFC should also review its guidelines to make sure they are consistent with best practice.

Those undertaking burning should also institute monitoring programs and uniform complaint protocols, whilst endeavouring to minimize smoke generation.

Clause 17 mainly supports EMPCA objectives 3(b), 3(c), 3(f) and 3(k).

### Key actions which support the intent of each clause

Actions which have supported the domestic wood smoke (wood heaters and backyard burning) and vehicle emission aspects of clauses 16 and 17 include:

**August 2007** – The *Environmental Management and Pollution Control (Distributed Atmospheric Emissions) Regulations 2007* were made. The regulations include:

* a requirement for all solid fuel heaters manufactured, imported for sale or sold in Tasmania (including second-hand heaters) to comply with Australian Standard AS/NZS 4013-1999;
* a prohibition on modifications to solid fuel heaters that may increase smoke emissions;
* visible smoke limits for emissions from solid fuel heaters, fireplaces, hot water and cooking appliances and barbecues;
* a prohibition on backyard burning (either in the open or in incinerators) on allotments of less than 2,000 square metres, with certain exceptions; and
* types of solid fuel that may be burnt in heaters, etc. and the types of fuel or waste that may be burnt in backyard burning.

**December 2010** – Release of an *Implementation Evaluation Report* on the above Regulations (DPIPWE, 2010).

**2003 to 2013** - A *Wood Heater Replacement Program* was set up by Launceston City Council under funding from the former Commonwealth Government to encourage the replacement of older, polluting wood heaters with new heaters that contribute to improved air quality in Launceston. The program, which ended in 2013, offered householders a $500 grant to replace their old wood heater with a cleaner form of heating.

**2008/09** – A *Home Heating Working Group* was established to guide actions aimed at reducing wood smoke in urban areas.

**2008 to 2011** – An *Air Toxics Monitoring Program* was undertaken by the EPA Division, involving analysis and mapping of the available air toxics emissions data from the National Pollution Inventory (NPI) for Tasmania. Preliminary site selection was based on the results of a ‘desktop’ study conducted in 2005.

The study indicated that higher emissions of all air contaminant species tended to cluster within central business districts and particular residential areas in each airshed, consistent with a predominating contribution from air toxics associated with wood smoke, combined with traffic emissions in the commercial areas.

Seven of these sites were subsequently chosen for preliminary monitoring between 2008 and 2011. Although elevated air toxic concentrations were detected during winter months it was unlikely that NEPM monitoring investigation limits (MIL’s) were exceeded at any of the sites.

**2009 to the present** – Installation and operation by the EPA Division of the *Base Line Air Network of EPA Tasmania (BLANkET)*. This is a network of 29 air quality station, including three reference facilities, reporting near real-time indicative particle concentration data (i.e. from smoke or dust) to the EPA Division's public web pages. The stations monitor the spatial extent of smoke events produced by planned burns each autumn, and are also used in some localities to monitor wood smoke produced in winter by domestic heaters, bushfire smoke in summer, and to provide a general measure of air quality at other times. The stations also collect and report meteorological data (air temperature, wind speed, etc.).

For the purposes of the Air NEPM, the EPA Division of DPIPWE also operates three major air monitoring stations at Hobart, Launceston and Devonport. A fourth station at George Town was initially set up by the Division for the purposes of industrial monitoring, and is now operated in a partnership arrangement between Rio Tinto, TEMCO, Aurora Energy, George Town Council, West Tamar Council, and the Department of Health and Human Services.

**2012 to 2014** - The EPA Division implemented the *Domestic Smoke Management Program* (DSMP) under the umbrella of the Tasmanian Air Quality Strategy, in partnership with local government. The long term goal of the Program is to improve the health of the community by reducing domestic wood smoke in areas that have persistent periods of poor air quality.

The DSMP has been implemented as a series of targeted education and community engagement projects called ‘Burn Brighter this Winter’. The main objectives of these projects have been to:

* Improve the effectiveness of local council EHOs in the regulation and management of sources of domestic smoke;
* improve the operation of domestic wood heaters within the community; and
* Increase community awareness of the effect of wood smoke on health, the importance of correctly storing and using seasoned fire wood, and the atmospheric conditions that influence poor dispersion of smoke.

The first ‘Burn Brighter this Winter’ Project was undertaken in East Launceston and West Hobart in the winter of 2012. The project was a collaboration between the EPA Division and the Launceston and Hobart City Councils, and a report on the project results was subsequently released (EPA Division, 2012).

The second phase of the DSMP, called ‘Burn Brighter this Winter 2013’, was undertaken in partnership with Huon Valley and Meander Valley Councils, and focused on the Geeveston and Hadspen townships. A range of educational materials were produced for the project, and these can be viewed at: <http://epa.tas.gov.au/epa/burn-brighter-this-winter-2013>. The project also included community presentations, delivery of information packages to households, and mobile air quality monitoring surveys, concluding with a Project Report (EPA Division, 2013)

In the winter of 2014, the third phase of the DSMP was undertaken in partnership with the Northern Midlands and Launceston Councils. The focus area for this project was the township of Longford, and also concluded with a report (EPA Division, 2014).

**2012 to the present** - The Department of Health and Human Services, in an initiative developed with the Asthma Foundation of Tasmania and University of Tasmania researchers, provides precautionary health advisories for ambient air quality at sites around Tasmania, using real time data from the EPA Division’s monitoring network. The data is available from <http://www.dhhs.tas.gov.au/publichealth/alerts/air>

**August 2014** – Release of revised Australian Standards **AS/NZS 4012:2014 and AS/NZS 4013:2014,** relating to emission limits, power and efficiency ratings for wood heaters.

Actions which have supported the ‘planned burning’ aspect of clauses 16 and 17 (i.e. forest regeneration and fire hazard reduction) include:

**2008** – The Forest Practices Authority (FPA) released the *Forestry Industry Standard for Prescribed Silvicultural Burning Practice* (usually referred to as the ‘Smoke Management Guidelines’), following consultation with the the forestry industry, the EPA Division and Parks and Wildlife Service of DPIPWE, the Department of Health and Human Services, and the Tasmania Fire Service.

These stakeholders formed a Smoke Management Working Group to develop the guidelines and the overarching Coordinated Smoke Management System, or CSMS. The Smoke Management Guidelines were introduced on a trial basis to reduce the risk of smoke pollution in population centres by improving the planning and management of burns.

**2009** - *Revised Smoke Management Guidelines* (FPA, 2009) were put in place in 2009 following an independent review. The revised guidelines provide for improved planning of smoke dispersal using data and models developed by the Bureau of Meteorology. When the guidelines predict poor smoke dispersal, restrictions are imposed as required to ban or limit the number of burns. In this way, the coordination of planned burns should minimise the risk of high concentrations of smoke within individual airsheds.

There is also a provision for a 'no burn day' in the system which will automatically flag days when significant further volumes of smoke should not be added to an air-shed, as determined by measurements of the current air quality and in combination with poor dispersion predictions.

Note that the FPA is primarily responsible for regulating the planning and conduct of burning activities through conditions placed on forest practices plans.  The EPA is responsible for monitoring smoke emissions and reporting against the NEPM standards, and is also responsible for handling complaints and providing reports to the community.

**2009** – The *Coordinated Smoke Management System* (CSMS) was established and trialled as a means of implementing the Smoke Management Guidelines. The CSMS also provides for improved training and accreditation of personnel involved in the planning and conducting of burns. In each subsequent year the CSMS has been monitored and outcomes reviewed in order to improve its operation for the subsequent burn seasons.

The trial guidelines and strategy were applied to burns conducted as part of a forest harvesting or regeneration operation and to hazard reduction and ecological management burns conducted by the Parks and Wildlife Service. In 2014, the Tasmanian Government committed additional funds towards a program of planned fuel reduction burns to help protect Tasmanians from the threat of wildfires. This commitment highlights the continued importance of the CSMS in managing planned burns.

**2009** – The *State Vegetation Fire Management Policy* was introduced by the State Fire Management Council (SFMC). Updated to version 4.0 in June 2012 (SFMC, 2012), the policy is one of the Council’s principal functions under the *Fire Service Act 1979*. The SFMC has an independent chair, and its members represent the Forest Industry Association of Tasmania, Forestry Tasmania, the Local Government Association of Tasmania; the Parks and Wildlife Service of DPIPWE, the Tasmania Fire Service, and the Tasmanian Farmers and Graziers Association. The policy focuses on hazard reduction and bushfire management, rather than planned regeneration burns.

**2012** – A *Position Paper on Management of Smoke arising from Prescribed Burning of Vegetation Version* was released by the SFMC, with the most recent update in April 2014.

Actions which have supported the ‘vehicle emissions’ aspect of clause 16:

**2005 to the present** - Since the EPP took effect, motor vehicle emissions have continued to be controlled through [Australian Design Rules](http://www.infrastructure.gov.au/roads/motor/design/adr_online.aspx)  which require all new vehicles sold in Australia to meet specified emission limits. Visible exhaust emissions of longer duration than 10 seconds are also prohibited under the *Vehicle and Traffic (Vehicle Standards) Regulations 2001,* which are administered by the [Department of State](http://www.dier.tas.gov.au/) Growth.

**2007 / 2008** - The Diesel National Emissions Awareness Eco-Training Program was offered at TAFE Tasmania’s Hobart, Burnie and Launceston campuses. The program taught participants about the types of emissions released by diesel engines, national and international emissions standards and methods to reduce those emissions. It also gave mechanics access to diagnostic and simulation equipment. Since the end of this program, TasTAFE has continued to utilise this equipment in light and heavy-vehicle training courses. The equipment has been used in both training and commercial activities to test the operation and repairs of emission controls/devices on vehicles and to check the emission outputs of liquefied natural gas conversions.

**2008** - The Tasmanian Government Greenhouse Gas Inventory Project (DPAC, 2008) identified opportunities to reduce greenhouse gas emissions from government vehicle fleets. Under the Government Vehicle Emissions Policy, minimum greenhouse ratings have been introduced for new government fleet vehicles, and more hybrid vehicles are being purchased (DoTAF, 2008).

2008 to 2011 – Certain sites in the Air Toxics Monitoring Program were selected to enable monitoring of ambient air potentially affected by traffic emissions.

**Ongoing** - Annual reporting of the numbers of diesel vehicles in Tasmania, as part of the jurisdictional reporting required under the Diesel Vehicles Emissions NEPM.

### Findings

Clauses 16 and 17 each support specific EMPCA objectives. Actions taken since the EPP took effect in relation to managing, regulating, monitoring and informing the public about domestic wood smoke and planned burning have met both the intent and substance of the EPP, and have therefore effectively furthered the objectives of EMPCA.

## The effectiveness of the EPP in achieving its stated objectives

As noted previously, the objective of the EPP is to further the objectives of EMPCA in relation to the ambient air environment of Tasmania. The effectiveness of the EPP in achieving its stated objectives is therefore dependent on whether and how effectively the EPP has furthered the objectives of EMPCA.

### Findings

The findings provided in Section 6 of this report demonstrate that the wording of the EPP’s clauses, together with the supportive actions taken in implementing the EPP, have effectively furthered EMPCA objectives. By extension, the EPP has also been effective in furthering its own objective.

# Assessment of the Social and Economic Impact of the EPP

## Social Impact

The indirect social impacts of the EPP, as expressed through the implementation actions described in Part 5 of this report, include the following:

* Increased stakeholder participation in air quality management;
* Improved public awareness of the relationship between air quality and public health, particularly in Launceston, Geeveston, Hadspen, Longford and Hobart as a result of domestic wood heater programs;
* Access to practical information and advice on how to ensure responsible wood heater operation, backed up by regulations;
* Educational programs for schools;
* Improved management of planned burning activities, allied with greater transparency and accountability;
* A consequential reduction in the occurrence of intervals of poor air quality, including poor visual amenity, and hence improved outcomes for public health;
* Public web access to health-related air quality data and air monitoring reports; and
* Greater public confidence in the monitoring, management and regulation of both point and diffuse sources of smoke and other airborne pollutants.

### Findings

The indirect social impacts of the EPP have generally been positive, bringing improvements in health, community engagement, access to information and public confidence.

## Economic Impact

For environmental and other resources to be used and distributed efficiently, all costs and benefits of an activity should be considered. However, in the case of ambient air quality, the impacts of emissions from point sources (industry) and diffuse sources (mainly domestic wood smoke and planned burning) have often been imposed on the wider community rather than the polluter.

These imposed and largely unaccounted costs, sometimes referred to as ‘externalities’, are viewed in economic analysis as a sign of ‘market failure’ that produce inequity and inefficient use of resources.

This ‘failure’ to account for the full costs of instances of poor ambient air quality in Tasmania was one of the main drivers behind the making of the EPP.

The EPP has attempted to address these issues by introducing a greater level of sophistication to air quality management, providing the policy foundations for industry uptake of AMT in accordance with BPEM, as well as improvements in monitoring, regulation, stakeholder cooperation and education.

This section of the report considers the economic impacts of the EPP on industry, the community and on regulators and other key stakeholders. As noted in the Introduction to the report, data on economic impacts was not purposively collected during the first 10 years of the EPP, meaning the following assessment is qualitative.

### Impacts on Business

Since the EPP took effect, existing industries have been encouraged to work towards BPEM (as was previously the case when EMPCA was unsupported by a formal policy), especially through the permit process when undertaking facility upgrades. New facilities have been required to meet BPEM at start-up. As BPEM is a set of principles and not a definitive standard, it has been adopted at a number of different levels, with varying costs and benefits. Part 4 of EPP has involved adoption of the following:

* In-stack pollutant concentration limits that would normally be achievable using AMT (Schedule 1 of the EPP);
* Design criteria for concentrations of various pollutants listed under Schedule 2;
* Odour criteria for atmospheric dispersion calculations of ground level concentrations (Schedule 3); and
* Appropriate monitoring.

Because the pre-EPP statutory requirements also involved industry working towards BPEM and employing AMT, the approach taken since the EPP’s inception is not considered to have been more financially demanding on industry, or to have had any restrictions on competition. It is also noted that some industry upgrades have provided significant operational (and presumably financial) benefits to industrial facilities (EPA, 2010). Furthermore, accreditation under the ISO 14000 series of international standards for environmental management systems would also be likely to require BPEM. The definition of BPEM has also provided a safeguard against the possibility of unreasonable implementation costs.

### Findings

Any costs that individual businesses may have incurred as they have worked towards implementing the EPP’s provisions cannot be directly attributed to the EPP because of prior, matching requirements under EMPCA and of the generally accepted industry standard of ISO 14000 certification.

### Impacts on Regulators and other Government Stakeholders

Pursuing BPEM for point (industrial) sources of air emissions has had an unquantified impact on the regulatory resources of the EPA Division, which arguably could have been allocated to other environmental management programs. Nevertheless, air quality improvement has been a high priority for both State and Local Government, and any costs have been confined within allocated budget limits.

Improving management of diffuse sources of air emissions is likely to have had an impact on the limited resources of regulators and managers of planned burning and domestic smoke. Much of this can be attributed to the sophisticated monitoring, planning, consultation and implementation requirements of the Coordinated Smoke Management System, which is administered by the FPA, and which affects a number of Agencies and authorities. There are also likely to have been some minor financial impacts associated with the Domestic Smoke Management Program. Nevertheless, these systems are entirely consistent with the community’s expectations of responsible environmental management and with the pre-EPP requirements of EMPCA. Consequently any associated costs should not be seen be seen as additional or unnecessary.

### Findings

There are likely to have been significant economic impacts on regulators and other government stakeholders as a result of implementing the EPP, although these are commensurate with the pre-existing regulatory responsibilities defined in State legislation, particularly EMPCA. In other words, any costs should not be directly attributed to the EPP. The economic impacts may increase in the future, however, as a result of the Government’s commitment to increasing fuel reduction burns as a community safety measure, set against a background of continuing State budgetary constraints.

### Impacts on the Community

The community may have experienced some minor economic impacts as an indirect result of the EPP, for example through the Domestic Smoke Management Program, which has been implemented by the EPA Division in partnership with Local Government. It should be noted, however, that this program has been largely educational and non-regulatory, providing advice on how wood heaters can be operated efficiently to minimise smoke impacts on neighbours and surrounding communities.

It is also considered that implementation of the CSMS and industry measures would have had a negligible adverse economic effect on the community, noting once again that these measures match the pre-EPP requirements of EMPCA. In addition, it is considered likely that the resultant improvements in public health outcomes would, if anything, have produced a net economic benefit for the community.

### Findings

In common with the likely economic impacts on business and Government, any costs to the community should not be directly attributed to the EPP, as individuals had pre-existing environmental responsibilities under EMPCA, particularly in relation to not committing an ‘environmental nuisance’.

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# Appendix 1 – Objectives of EMPCA

**PART 1 - Objectives of the Resource Management and Planning System of Tasmania**

**1.**The objectives of the resource management and planning system of Tasmania are –

**(a)** to promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity; and

**(b)** to provide for the fair, orderly and sustainable use and development of air, land and water; and

**(c)** to encourage public involvement in resource management and planning; and

**(d)** to facilitate economic development in accordance with the objectives set out in [paragraphs (a)](http://www.thelaw.tas.gov.au/tocview/content.w3p;cond=;doc_id=44%2B%2B1994%2BJS1%40HS1%40GC1%40Hpa%40EN%2B20150223000000;histon=;inforequest=;prompt=;rec=237;term=#JS1@HS1@GC1@Hpa@EN), [(b)](http://www.thelaw.tas.gov.au/tocview/content.w3p;cond=;doc_id=44%2B%2B1994%2BJS1%40HS1%40GC1%40Hpb%40EN%2B20150223000000;histon=;inforequest=;prompt=;rec=237;term=#JS1@HS1@GC1@Hpb@EN) and [(c)](http://www.thelaw.tas.gov.au/tocview/content.w3p;cond=;doc_id=44%2B%2B1994%2BJS1%40HS1%40GC1%40Hpc%40EN%2B20150223000000;histon=;inforequest=;prompt=;rec=237;term=#JS1@HS1@GC1@Hpc@EN); and

**(e)** to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State.

**2.**In [clause 1](http://www.thelaw.tas.gov.au/tocview/content.w3p;cond=;doc_id=44%2B%2B1994%2BJS1%40HS1%40GC1%40EN%2B20150223000000;histon=;inforequest=;prompt=;rec=237;term=#JS1@HS1@GC1@EN)[(a)](http://www.thelaw.tas.gov.au/tocview/content.w3p;cond=;doc_id=44%2B%2B1994%2BJS1%40HS1%40GC1%40Hpa%40EN%2B20150223000000;histon=;inforequest=;prompt=;rec=237;term=#JS1@HS1@GC1@Hpa@EN), ***sustainable development*** means managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while –

**(a)** sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations; and

**(b)** safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

**(c)** avoiding, remedying or mitigating any adverse effects of activities on the environment.

**PART 2 - Objectives of the Environmental Management and Pollution Control System Established by this Act**

**3.**The objectives of the environmental management and pollution control system established by this Act are, in support of the objectives set out in [Part 1](http://www.thelaw.tas.gov.au/tocview/content.w3p;cond=;doc_id=44%2B%2B1994%2BJS1%40HS1%40EN%2B20150223000000;histon=;inforequest=;prompt=;rec=237;term=#JS1@HS1@EN) of this Schedule –

**(a)** to protect and enhance the quality of the Tasmanian environment; and

**(b)** to prevent environmental degradation and adverse risks to human and ecosystem health by promoting pollution prevention, clean production technology, reuse and recycling of materials and waste minimization programmes; and

**(c)** to regulate, reduce or eliminate the discharge of pollutants and hazardous substances to air, land or water consistent with maintaining environmental quality; and

**(d)** to allocate the costs of environmental protection and restoration equitably and in a manner that encourages responsible use of, and reduces harm to, the environment, with polluters bearing the appropriate share of the costs that arise from their activities; and

**(e)** to require persons engaging in polluting activities to make progressive environmental improvements, including reductions of pollution at source, as such improvements become practicable through technological and economic development; and

**(f)** to provide for the monitoring and reporting of environmental quality on a regular basis; and

**(g)** to control the generation, storage, collection, transportation, treatment and disposal of waste with a view to reducing, minimizing and, where practicable, eliminating harm to the environment; and

**(h)** to adopt a precautionary approach when assessing environmental risk to ensure that all aspects of environmental quality, including ecosystem sustainability and integrity and beneficial uses of the environment, are considered in assessing, and making decisions in relation to, the environment; and

**(i)** to facilitate the adoption and implementation of standards agreed upon by the State under inter-governmental arrangements for greater uniformity in environmental regulation; and

**(j)** to promote public education about the protection, restoration and enhancement of the environment; and

**(k)** to co-ordinate all activities as are necessary to protect, restore or improve the Tasmanian environment.