

THE DEVELOPMENT OF ENERGY EFFICIENCY LAWS FOR DOMESTIC APPLIANCES

'The postwar era is commonly described as the age of oil. Petroleum fueled the engines of industrialization and helped raise living standards around the globe. By similar logic, the current era is the age of energy efficiency. Since 1973, the world has saved far more energy through improved efficiency than it has gained from all new sources. The energy savings of the industrial market economies alone exceed the combined energy use of Africa, Latin America, and South Asia.

Most market-oriented industrial economies have improved their energy efficiency by between 15 and 30 percent in the past 15 years - a period that witnessed almost no net increase in energy supplies. Efficiency now displaces \$250 billion worth of oil, gas, coal, and nuclear power annually in industrial market countries. These energy efficiency improvements are the world's single largest step in reducing dependence on imported oil!'

The issue of energy conservation has been perceived in the western industrialised countries to be of considerable importance in recent years, and is likely to continue to be of national and international significance for the remainder of this century. In Australia, energy conservation is important because of the need to reduce oil consumption in light of the declining oil reserves in Bass Strait, the desire to counter the greenhouse effect², and the rapid escalation in the price of oil due to the Iraqi invasion of Kuwait.

The first major involvement by the Commonwealth government in energy conservation occurred in 1979, when the National Energy Conservation Program was introduced. This Program was aimed at promoting the public understanding and acceptance of energy conservation. This was followed in 1980 by the National Industrial Energy Management Scheme, designed to

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1 C Flavin and AB Durning, *Building on Success: The Age of Energy Efficiency*, Worldwatch Paper No 82, Washington, DC, 1988, at 5.

2 As discussed in the 1988 Toronto Conference Statement on 'The Changing Atmosphere' and at the recent national Greenhouse '88 Conference, unless the use of fossil fuels is drastically reduced, there will be a probable rise in the mean surface temperature of the Earth of 1.5°C to 4.5°C by the year 2030, and an increase in sea levels of between 0.4 and 1.2 metres. For recent writings on the greenhouse effect, see S Postel, *Altering the Earth's Chemistry: Assessing the Risks*, Worldwatch Paper No 71, Washington, DC, 1986; RJ Fowler, 'Policy and Legal Implications of the Greenhouse Effect', in G Pearman (ed), *Greenhouse: Planning for Climatic Change*, CSIRO, Melbourne, 1988; P Walsh, 'Australian Energy Policy and the Greenhouse Effect', Paper presented at Greenhouse '88 Conference, Adelaide, 1988; AB Pittock, 'The Greenhouse Effect: Its Impact and Implications for Energy Policy', in *Prospects for Renewable Energy in Australia*, ANZSES Status Report No 1, 1988; CP Shea, *Renewable Energy: Today's Contribution, Tomorrow's Promise*, Worldwatch Paper No 81, Washington, DC, 1988, at 5-9; South Australian Office of Energy Planning, *Greenhouse Effect and Energy Policy in South Australia*, Adelaide, 1989.

promote efficient energy management in industry. These programs remain in effect, although their emphasis and direction have changed over the years.³ The majority of the States have also devised their own energy conservation programs. An illustration of this is the Energy Information Centres established in Sydney, Melbourne and Adelaide by the New South Wales, Victorian and South Australian governments. One of the aims of these Centres is to promote the efficient use of energy in homes, buildings, transport, industry and agriculture by improving public knowledge and awareness.⁴

Energy conservation has a number of different aspects and applications. One of its major applications is in domestic and commercial buildings, where the implementation of a variety of conservation measures, such as passive solar devices⁵ and insulation, can have a dramatic impact on the amount of energy consumed for heating and cooling purposes.⁶ Another application of energy conservation relates to the overall energy efficiency of typical industrial plant. Such efficiency may be increased significantly by the use of cogeneration, which is the simultaneous production of electrical or mechanical energy and thermal energy.⁷ A cogeneration system is capable of operating at an overall thermal efficiency as much as 2½ to 3 times that of conventional utility electrical generating systems.⁸

A third application of energy conservation, with which this article is concerned, is the efficiency of domestic appliances. This issue has received much attention over the past decade in the United States where, as will be discussed later,⁹ appliance efficiency standards have been enacted into law at both the Federal and State levels. In Australia, however, little action on

3 The Commonwealth government's involvement in energy conservation is discussed in *Energy 2000: A National Energy Policy Review*, Paper No 9, 'Energy Conservation', Dept of Resources and Energy, Canberra, 1986, at para 1.2.

4 See eg Dept of Mines and Energy, *Energy Information Centre*, Energy Information Paper No 4, Government Printer, Adelaide, 1986.

5 A passive solar device does not employ any solar collector panels or mechanical devices, but seeks to control temperature by the architectural features of the building itself. Critical features of passive solar-designed buildings are the size and placement of windows, the type of materials of which the walls and ceilings are constructed, and the orientation of the building towards the sun. See AJ Bradbrook, *Solar Energy and the Law*, Law Book Co, Sydney, 1984, at para 118.

6 For a discussion of legal aspects of energy conservation in buildings, see eg GP Thompson, *Building to Save Energy: Legal and Regulatory Approaches*, Ballinger Publishing Co, Cambridge, Mass, 1980; C Flavin, *Energy and Architecture: The Solar and Conservation Potential*, Worldwatch Paper No 40, Washington, DC, 1980; WD Kopper, 'Energy Building Regulations: The Effect of the Federal Performance Standards on Building Code Administration and the Conservation of Energy in New Buildings' (1980) 13 U California at Davis L Rev 330; BM Wood, 'Energy Conservation: Government Mandated Utility Programs for Residential and Commercial Buildings — An Expensive Way to Save' (1981) 24 Howard LJ 183; California Energy Commission, *Building Energy Efficiency Standards*, Report P400-88-001, 1988; California Energy Commission, *A Compendium of Major California Conservation Programs*, Report P300-84-017, 1984; J Miles, K Kanakeswaran and O Wijetillake, *Regulatory Barriers to Low Energy Housing in Victoria*, Environmental Report No 18, Monash University Graduate School of Environmental Science, Melbourne, 1984.

7 Cogeneration is sometimes referred to as 'combined heat and power' or 'total energy plant'. For a discussion of cogeneration technology, see California Energy Commission, *Cogeneration Handbook*, Report P500-82-054, 1982; FB Cross, 'Cogeneration: Its Potential and Incentives for Development' (1979) 3 Harvard Environmental L Rev 236; DA Siler, 'Cogeneration and Small Power Production', in LE Buck and LM Goodwin (ed), *Alternative Energy — The Federal Role*, McGraw-Hill, New York, 1982, ch 7.

8 California Energy Commission, *Cogeneration Handbook*, Report P500-82-054, 1982, at 3.

9 See *infra*, ns 39-62 and accompanying text.

a concerted basis has been undertaken in this area. It appears that the significance of this aspect of energy conservation has been largely overlooked. The scope for improvement in the efficiency of a range of appliances was discussed by the Commonwealth Department of Resources and Energy in 1986. A Departmental report published that year found, for example, that in a range of two-door refrigerators tested in 1984-85 the energy consumption ranged widely from 4.9 to 10.5 watt-hours a litre of storage space a day. The cost of electricity to operate a refrigerator over a 14-year life span was estimated to be 160 per cent of the purchase price for the least efficient unit tested, as opposed to 60 per cent of the purchase price for the most efficient unit (based on a 7.0 cents per kilowatt hour (kWh) electricity tariff). Similar findings were reported in respect of a wide range of other electric appliances.¹⁰ The importance of the issue was emphasised in a recent study in the United States which estimated that between 1988 and 2000 the US appliance efficiency standards will save \$28 billion worth of electricity and gas and will keep 342 million tons of carbon out of the atmosphere!¹¹

This article will consider the role of the law in promoting energy efficiency for domestic appliances. While it may be true that market incentives are generally more efficient than legislated standards for encouraging policy changes, and that the rigidity of legislated standards may lead to evasive tactics,¹² it is submitted that the law has a significant role to play in this area. Following a brief discussion of the existing Australian legislation relating to the promotion of energy efficiency in domestic appliances, the article will examine the legal developments overseas, particularly in the United States, where the majority of the relevant developments have occurred. The article will conclude with an examination of relevant policy issues and will propose law reform measures suitable for enactment by the various State legislatures.

THE PRESENT AUSTRALIAN LAW

In Australia, energy efficiency for domestic appliances is within the residual constitutional powers of the States. However, it seems clear that the Commonwealth could legislate, if it so wished, pursuant to s 51(xx) of the Constitution, which gives the Commonwealth Parliament the power to make laws with respect to 'foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth'. In addition to the corporations power, Commonwealth legislation in this area could be justified by the trade and commerce power. Pursuant to s 51(i) of the Constitution, the Commonwealth can enact laws concerning 'trade and commerce with other countries, and among the States'. In the present context, the use of the trade and commerce power appears to be unnecessary as all domestic appliance manufacturers currently in operation in Australia would be regarded as 'trading corporations' within the accepted meaning of that phrase¹³ and would, therefore, fall squarely within the Commonwealth's constitutional legislative power.

10 Energy 2000, *op cit* at 50-51.

11 C Flavin and AB Durning, *op cit* at 49.

12 *Id.*, at 47.

13 See *State Superannuation Board v Trade Practices Commission* (1983) 57 ALJR 89; *Fencott v Muller* (1983) 152 CLR 570; *R v Judges of the Federal Court of Australia and Adamson; Ex parte Western Australian Football League Inc* (1979) 143 CLR 190; and *Commonwealth v State of Tasmania* (1983) 158 CLR 1 for the meaning of a 'trading corporation'.

To date, the Commonwealth has not exercised its powers in respect of appliance efficiency standards, although it has established the framework for so doing in the consumer product standards provisions in Part V of the Trade Practices Act 1974 (Cth). Sections 65C, 65D and 65E establish consumer product standards,¹⁴ which have been described as agreed-upon statements of minimally acceptable characteristics of materials, products, systems or services.¹⁵ Sections 65C and 65D divide product standards into product safety standards and product information standards. Section 65C, which deals with product safety standards, provides, *inter alia*, that a corporation must not, in trade and commerce, supply goods in respect of which there is a prescribed consumer product safety standard and which do not comply with that standard, or goods in respect of which there is in force a notice under s 65C declaring the goods to be unsafe goods (s 65C(1)). Regulations made under the Act may, in respect of goods of a particular kind, prescribe a safety standard consisting of requirements as to, *inter alia*, packaging, design, construction, and performance of the goods, and as to the form and content of markings, warnings or instructions to accompany the goods as are reasonably necessary to prevent or reduce risk of injury to any person (s 65C(2)).¹⁶ Failure to comply with s 65C is an offence against the Act and subjects the offender to a fine (s 79). In addition, it may give rise to an action for damages under s 82 or an application for an injunction under s 80.

Section 65D, which deals with product information standards, makes it an offence for a corporation, in trade and commerce, to supply goods in respect of which a consumer product information standard has been prescribed, unless the corporation has complied with that standard in relation to those goods (s 65D(1)). Similar to s 65C(2), s 65D(2) states that regulations may be made under the Act, in respect of goods of a particular kind, which may prescribe a consumer product information standard consisting of requirements as to, *inter alia*, packaging, design, construction and performance of the goods, and as to the form and manner in which that information is to be disclosed on or with the goods, as are reasonably necessary to give persons using the goods information as to the quantity, quality, nature or value of the goods.¹⁷ Failure to comply with s 65D carries the same legal consequences as a failure to comply with s 65C.

Sections 65C and 65D must be read together with s 65E. Section 65E(1) reads:

'The Minister may, by notice in writing published in the *Gazette*, declare that, in respect of goods of a kind specified in the notice, a particular standard, or a particular part of a standard, prepared or approved by the Standards Association

14 For a detailed discussion of this legislation, see RV Miller, *Annotated Trade Practices Act*, Law Book Co, Sydney, 10th ed 1989, at 197-202.

15 WH Lawrence and JH Minan, 'The Role of Warranties and Product Standards in Solar Energy Development' (1981) 34 *Vanderbilt L Rev* 537 at 568. See also CD Beach and CM Kettles, 'Case Study: Florida Mandatory Standards' (1982) 3 *Solar Law Reporter* 809 at 810.

16 For illustrations of the operation of s 65C, see *Clarke v New Concept Import Services Pty Ltd* (1982) 2 *TPR* 183; *Hamlyn v Moppet Grange Pty Ltd* (1984) *ATPR* 40-439; *Hamlyn v Norman Ross Stores Pty Ltd* (1985) *ATPR* 40-514; *Gardam v Splendid Enterprises Pty Ltd* (1987) *ATPR* 40-779.

17 For an illustration of the operation of s 65D, see *Hamlyn v Mark Foy's Pty Ltd* (1982) *ATPR* 40-316.

of Australia or by a prescribed association or body, or such a standard or part of a standard with additions or variations specified in the notice, is a consumer product safety standard for the purposes of section 65C or a consumer product information standard for the purposes of section 65D.

Where a notice under this subsection is published, the standard shall be deemed to be a prescribed consumer product safety standard for the purposes of s 65D or a prescribed consumer product information standard for the purposes of s 65D (s 65E(2)).¹⁸

Although the scope of ss 65C, 65D and 65E does not presently extend to appliance efficiency standards, such an extension could be made by a comparatively simple amendment. This issue will be discussed later.¹⁹

The major area where legislation does exist in Australia in respect of appliance efficiency standards is energy labelling. Labelling involves the creation of a set of requirements that appliances must or may satisfy, and the establishment of a certification procedure whereby manufacturers and retailers can prove compliance with the relevant standards by displaying an approved label provided by a testing laboratory or other organisation.²⁰ Energy labelling assists in promoting consumer confidence in domestic appliances and is a form of consumer protection. It also enables consumers to make an informed choice between various competing products, provides an incentive to manufacturers to design more energy-efficient appliances, and promotes energy conservation generally.²¹

The initial move towards energy labelling occurred at the Commonwealth level in 1983 when, pursuant to a decision of the Australian Minerals and Energy Council, the Coordinating Committee on Energy Conservation investigated the possible introduction on a voluntary basis of a labelling scheme for a variety of appliances, commencing with freezers and refrigerators. Discussions were held with various industrial associations for the adoption of a voluntary Australia-wide scheme, but broke down in 1984. An alternative proposal advanced by the Australian Electrical and Electronic Manufacturers Association for a phased reduction in the average energy consumption of specified appliances together with a program to educate consumers on the efficient use of appliances also failed to gain support.²²

In late 1985, the initiative was seized by the New South Wales and Victorian governments, which jointly advanced a proposal for a national appliance energy labelling law. This proposal formed the basis for legislation in these two States enacted in 1986 and 1987. To date, the only

18 A parallel system of consumer product safety standards has been established by State legislation. For example, s 59(1) of the Consumer Affairs Act 1972 (Vic) mirrors the wording of s 65C(1) and (2) of the Trade Practices Act, and it is an offence for any person to sell any goods in respect of which there are any requirements of regulations made under s 59 in force unless all the requirements are complied with (s 60(1); s 61(2)). The comparable legislation in the other States and Territories is the Fair Trading Act 1987 (NSW), s 26; Consumer Affairs Act 1970 (Qld), Part IV; Trade Standards Act 1979 (SA); Fair Trading Act 1987 (WA); Sale of Hazardous Goods Act 1977 (Tas); Consumer Protection Act 1978 (NT), Part IV; Consumer Affairs Ordinance 1973 (ACT), Part IIIA. As in the case of the Trade Practices Act, however, the present State legislation is not broad enough to include appliance efficiency standards.

19 See *infra*, 000.

20 See WH Lawrence and JH Minan, *op cit* at 800.

21 Energy 2000, *op cit* at 63.

22 For the background to the energy labelling laws, see Energy 2000, *op cit* at 63-64.

other State which has followed the New South Wales and Victorian initiative is South Australia.

In New South Wales, the relevant law is contained in the Energy Labelling and Standards (Refrigerators, Freezers and Refrigerator-Freezers) Regulation 1986,²³ made pursuant to s 37(2) of the Electricity Act 1945, and the Energy Labelling and Standards (Refrigerative Air Conditioners) Regulation 1987,²⁴ made pursuant to s 38 of the Energy Administration Act 1987. The content and format of both regulations are similar, although not identical. Each regulation establishes a mandatory system of labelling, and states that a person shall not sell any prescribed appliance unless there is a registered label for it and the label is affixed securely to it.²⁵ Application forms for registration of a label for any appliance are specified.²⁶ Each application must contain test reports ensuring that the appliance complies with the performance standards stipulated in the regulations.²⁷ The Energy Corporation of New South Wales may refuse an application for registration of a label for an appliance if the applicant fails to comply with any of the terms of the Regulation or if the information contained in the application is inconsistent with the test reports furnished in support of the application.²⁸ The Corporation may cancel the registration of a label if the appliance is found not to comply with the prescribed performance standards or if, after carrying out tests on the appliance, it is of the opinion that the energy consumption rate or the efficiency rating on the label is incorrect.²⁹ Each regulation prescribes a register of labels,³⁰ which is open for public inspection.³¹ It is an offence to advertise or display any sign which is likely to mislead the public with respect to the energy consumption rate or with respect to other information contained in the registered label.³² Monetary penalties are prescribed for a breach of the Regulation.³³ In Victoria, roughly similar legislation is contained in the State Electricity Commission (Energy Efficiency Labelling) Regulations 1987,³⁴ made pursuant to ss 57 and 111 of the State Electricity Commission Act 1958. In South Australia, the Electrical Products Act 1988 provides the necessary legislative framework, although regulations similar to those in New South Wales and Victoria have not yet been passed.

The energy labelling legislation is the only specific law in existence in Australia relating to the efficiency of domestic appliances. The only other relevant legislation is the State legislation establishing the statutory

23 Gaz No 185 of 28 November 1986.

24 Gaz No 131 of 14 August 1987.

25 Reg 17, 1986 Reg; Reg 18, 1987 Reg.

26 Reg 5, 1986 Reg; Reg 6, 1987 Reg.

27 Reg 6, 1986 Reg; Reg 7, 1987 Reg. Pursuant to reg 3 of the 1986 Regulation, the prescribed standards, in relation to refrigerator, refrigerator-freezer or freezer means Australian Standard 2575.2 — 1986 Energy Consumption Labelling of Household Appliances, Part 2. This standard is published by the Standards Association of Australia. This standard is also adopted by reg 5 of the State Electricity Commission (Energy Efficiency Labelling) Regulations 1987 (Vic).

28 Reg 8, 1986 Reg; Reg 9, 1987 Reg.

29 Reg 11, 1986 Reg; Reg 12, 1987 Reg.

30 Reg 14(1), 1986 Reg; Reg 15(1), 1987 Reg.

31 Reg 15, 1986 Reg; Reg 16, 1987 Reg.

32 Reg 22, 1986 Reg; Reg 23, 1987 Reg.

33 Reg 24, 1986 Reg; Reg 25, 1987 Reg.

34 SR No 88 of 1987.

electricity authority.³⁵ In some instances, this legislation imposes a statutory duty on the relevant statutory authority³⁶ to promote energy efficiency. Broadly speaking, this legislation is of two types. Some provisions impose a specific duty on the authority to promote the efficient use of electricity, while other provisions merely stipulate a more general goal of energy conservation. An illustration of the former approach is the State Energy Commission Act 1979 (WA), s 28(8)(d), which states:

'The duties of the [State Energy] Commission shall include —
(d) informing persons generally as to the relative efficiency, advantages, disadvantages, and cost of differing methods of the use of energy or apparatus, system or practices, conducting trials, tests and studies in the interest of consumers and conservation and management generally and publishing results therefrom, specifying apparatus approved by the Commission for connection to the supply available, and disseminating information derived from sources other than the activities of the Commission but relevant to its functions.'³⁷

An illustration of the more general approach is the State Electricity Commission Act 1958 (Vic), s 12(2)(e):

'In carrying out its responsibilities the Commission shall as far as is practicable operate as a public utility and shall also achieve the following objectives:
(e) The implementation of energy conservation goals consistent with policy established from time to time by the Government of Victoria.'³⁸

THE LAW IN OTHER COUNTRIES

The desirability of enacting energy efficiency laws for domestic appliances has received scant consideration in most overseas common law jurisdictions. However, the United States and Canada are noteworthy exceptions.

United States

The very limited nature of Australia's laws promoting energy efficiency for domestic appliances can be contrasted with the position in the United States. Perhaps by virtue of the fact that the 1973 Arab oil embargo adversely affected the United States significantly more than Australia, far more comprehensive energy conservation laws, including energy efficiency laws for domestic appliances, have been enacted in recent times in the United States, both at the State and Federal level.

35 Electricity Commission Act 1987 (NSW); State Electricity Commission Act 1958 (Vic); Electricity Act 1976 (Qld); Electricity Trust of South Australia Act 1946 (SA); State Energy Commission Act 1979 (WA); Hydro-Electric Commission Act 1944 (Tas).

36 Electricity Commission of New South Wales; State Electricity Commission (Vic); Queensland Electricity Commission; Electricity Trust (SA); State Energy Commission (WA); Hydro-Electric Commission (Tas).

37 See also State Electricity Commission Act 1958 (Vic) s 12A(d).

38 See also State Energy Commission Act 1979 (WA), s 27(7)(d). Note that this general duty is not designed to give rise to a remedy under the tort of breach of statutory duty. Section 12(6) of the State Electricity Commission Act 1958 (Vic) states:

'Nothing in sub-section (2) shall be taken to impose a duty enforceable in a Court but where the Commission has not achieved any objective the failure to achieve that objective shall be taken into account by any body appointed by the Government to inquire into the actions of the Commission.'

At the State level, California has been particularly active in legislating in this area. Wide-ranging energy conservation laws were enacted in that State by the Warren-Alquist State Energy Resources Conservation and Development Act in 1974. This Act added a new Division 15, 'Energy Conservation and Development', to the California Public Resources Code.³⁹ Section 25007 of the Code states that it is the policy of the State and the intent of the Legislature to employ a range of measures to reduce wasteful, uneconomical, and unnecessary uses of energy, thereby reducing the rate of growth of energy consumption, prudently conserve energy resources, and assure statewide environmental, public safety, and land use goals. The Act established the State Energy Resources Conservation and Development Commission, which is directed to carry out certain energy conservation measures specified in the legislation.⁴⁰ One of these measures relates to the energy efficiency of appliances. Section 25402(c)(1) of the Code states that the Commission shall, after one or more public hearings, 'prescribe by regulation standards for minimum levels of operating efficiency, based on a reasonable use pattern,⁴¹ and may prescribe other cost-effective measures, including incentive programs, fleet averaging, energy consumption labelling not preempted by federal labelling, and consumer education programs, to promote the use of energy efficient appliances whose use, as determined by the Commission, requires a significant amount of energy on a statewide basis. The minimum levels of operating efficiency shall be based on feasible and attainable efficiencies or feasible improved efficiencies which will reduce the energy consumption growth rate'. The legislation went on to state, firstly, that the standards shall become effective no sooner than one year after the date of adoption or revision; secondly, that no new appliance manufactured on or after the effective date of the standards may be sold or offered for sale in the State, unless it is certified by the manufacturer to be in compliance with the standards; and finally, that the standards must be drafted so that they do not result in any added total costs to the consumer over the designed life of the appliances concerned.

Pursuant to these provisions, appliance efficiency standards were first adopted in California in late 1976 in respect of refrigerators, refrigerator-freezers, freezers, room air conditioners, and central air conditioners of less than 65,000 Btu⁴² per hour cooling capacity. These appliances were considered first because of the fact that they consume significant amounts of electricity, because the Commission knew most about the efficiencies of available models, and because it was thought that the adoption of standards was a very effective method of improving the efficiency of these appliances.⁴³ A second set of appliance efficiency standards, adopted in December 1977, was specified in respect of space heaters, water heaters and plumbing fittings. Further sets of similar standards, adopted in June 1982 and November 1982, respectively, were specified in respect of fluorescent lamp ballasts and for large air conditioning units exceeding 65,000 Btu per hour cooling capacity.

The terms of the Warren-Alquist Act remain in effect, subject to two

39 Division 15 was added by Stats 1974, c 276, operative 7 January 1975. The Warren-Alquist Act constitutes ss 25000-25986 of the California Public Resources Code.

40 See ss 25200-25216 of the Public Resources Code.

41 Ie the amount of energy the appliance uses in a typical or normal application.

42 Btu is British thermal unit.

43 California Energy Commission, *California's Appliance Standards: An Historical Review, Analysis, and Recommendations*, Staff Report, Sacramento, 1983, at 13.

statutory amendments. First, the date on which any prescribed standard becomes effective was increased from one year to two years after the date of adoption or revision of the standard. This change was enacted to give wholesalers and retailers sufficient time to clear their inventory of noncomplying models.⁴⁴ Secondly, and more importantly, a 1975 amendment created new intermittent ignition devices (IID) standards in respect of a specified list of gas appliances. This amendment was considered necessary in light of a finding by the California Energy Commission that standing pilot lights in 1974 consumed 7 per cent of all natural gas consumption in the State, and that an IID consumes far less primary energy.⁴⁵ The IID law contained two major provisions. One provision stated:⁴⁶ 'No new residential-type gas appliance that is equipped with a pilot light shall be sold in the State after an alternate means has been certified by the Commission'. The other major provision banned the sale of specified appliances with pilot lights two years after the Commission certifies an IID on that appliance.⁴⁷

The implementation of the Californian standards is addressed by the Regulations for Appliance Efficiency Standards, contained in the California Administrative Code.⁴⁸ Under these regulations, the manufacturer of any appliance supplies efficiency test results to demonstrate its compliance with the relevant standards. The Executive Director of the State Energy Resources Conservation and Development Commission is empowered to challenge the efficiency test results provided by the manufacturer and cause the appliance to be retested. The Executive Director may spot check the manufacturer's results by selecting one unit and testing it. If the performance of the appliance falls within a five per cent tolerance level, no further action is taken and the Commission pays the costs of the testing. If the appliance fails the performance test, the manufacturer pays for the costs and either recertifies the appliance at a lower efficiency or asks for a second unit, selected by the Executive Director, to be tested at the manufacturer's expense. If the second unit fails the test, the Commissioner suspends the certification of that model.⁴⁹ No appliance can be sold or offered for sale in California unless it is certified by the Commission. Directories of certified appliances are compiled annually in respect of each major type of appliance in order to help consumers buy the most efficient appliances.⁵⁰

Less comprehensive energy efficiency laws for domestic appliances have also been enacted in some other States of the United States. An illustration

44 *Id.*, at 2.

45 *Id.*, at 7.

46 A revised version of this provision is now contained in the California Administrative Code, s 1605.

47 California Public Resources Code, s 25960.

48 California Administrative Code, Title 20, Chapter 2.

49 See California Energy Commission, *op cit* at 50-51.

50 Eight directories are published by the California Energy Commission: room air conditioners (publication P400-00-016); water heaters (residential and commercial) (P400-00-024); refrigerator/freezers (P400-00-018); central air conditioners and heat pumps (P400-00-021); gas and oil fan-type central furnaces (P400-00-023); gas space heaters (other than central furnaces) (P400-00-019); boilers (P400-00-017); and shower heads and faucets (P400-00-020).

is Minnesota⁵¹, which has established a variety of energy conservation laws which are implemented and enforced by the State Department of Energy, Planning and Development. The relevant legislation, chapter 116J of the Minnesota Revised Statutes, contains two separate provisions relevant to the energy efficiency of domestic appliances. Section 116J.13 establishes minimum energy efficiency standards for new room air conditioners based on standards developed by independent organisations. This provision reads:

‘Beginning January 1, 1978, no new room air conditioner shall be sold or installed or transported for resale into Minnesota unless it has an energy efficiency ratio of 7.0 or higher. For purposes of this subdivision, ‘energy efficiency ratio’ means the ratio of the cooling capacity of the air conditioner in British thermal units per hour to the electrical input in watts. To determine the energy efficiency ratio, all room air conditioner models shall be tested in accordance with the methods and conditions specified in American National Standard Z234.1, and American Society of Heating, Refrigerating, and Air Conditioning Engineers Standard 16-69.’

Section 116J.14 prohibits the use of pilot lights in specified gas appliances:

‘No new residential

- (a) forced air type central furnace,
- (b) cooking appliance manufactured with an electrical supply card, or
- (c) clothes drying equipment

designed to burn natural gas equipped with a continuously burning pilot shall be sold or installed in Minnesota. This subdivision does not apply to forced air type furnaces designed for installation in manufactured homes.’

The origin of the Federal government’s involvement in devising laws promoting energy efficiency for domestic appliances can be traced back to the Energy Policy and Conservation Act of 1975.⁵² This Act *inter alia* required the Federal Trade Commission to consider the imposition of energy labelling requirements for domestic appliances. The Commission adopted a rule for labelling in June 1979, which requires manufacturers of refrigerators, freezers, dishwashers, water heaters, clothes washers, furnaces and room air conditioners to disclose energy efficiency ratings and energy costs. The rule requires a label to be placed on each unit for sale containing, *inter alia*, a highlighted annual energy cost or efficiency number, a comparison of energy cost or efficiency with the highest and lowest efficiency models, and a chart to estimate yearly operating costs. This legislation was followed by the National Energy Conservation Policy Act of 1978,⁵³ which was intended to both encourage and compel the implementation of a wide range of energy conservation and energy efficiency measures. This Act authorised the US Department of Energy to develop residential energy efficiency programs. Under this legislation, the Department of Energy promulgated various efficiency standards for

51 See also Massachusetts: Mass Gen Laws, ch 25B (1986); Maine: Me Rev Stat Ann, s 5012 (1985).

52 Pub L No 94-163, 89 Stat 871 (codified in various parts of the United States Code). For a useful discussion of the major provisions of this legislation, see California Energy Commission *op cit* at 53-55.

53 Pub L No 95-619, 92 Stat 3208. Codified at 42 USC ss 8201-8286b. For a brief discussion of this legislation, see WF Fox, *Federal Regulation of Energy*, Shepard’s, Colorado Springs, 1983, para 36.05.

consumer products and certain rules for State energy conservation plans,⁵⁴ although the rules were never subject to any enforcement procedure.

The energy efficiency standards established for appliances by this earlier legislation were considerably strengthened by the enactment of the National Appliance Energy Conservation Act of 1987,⁵⁵ and later amending legislation (National Appliance Energy Conservation Amendments Act of 1988).⁵⁶ This law became politically acceptable as a result of an agreement reached in 1986 between 47 disparate organisations representing appliance manufacturers, wholesalers and retailers, trade associations, consumers, public utilities, home builders and environmentalists, who developed a set of national standards acceptable to all persons concerned. A powerful factor leading to consensus was the need to set a uniform national standard for energy efficiency for domestic appliances in order to avoid a multiplicity of differing standards enacted by the various States. This would have caused severe problems for the manufacturers and wholesalers of the appliances.

Standards are prescribed in the 1987 Act for a wide range of commonly used domestic appliances, including refrigerators, freezers, air conditioners, heat pumps, water heaters, dishwashers, clothes washers and dryers, kitchen ranges and ovens, and gas and oil furnaces. The standards are designed to be phased in over a five-year period from 1988 to 1993. The relevant provisions imposing the various efficiency standards are couched in technical scientific terms incorporating the principle of energy efficiency ratios.⁵⁷ In outline, the significance of the most important provisions is as follows.⁵⁸ Standards for refrigerators, freezers, water heaters and room air conditioners are effective from 1 January 1990. For a typical refrigerator with a freezer at the top (20 cubic feet with automatic defrost system), the maximum permitted amount of electricity used to operate the unit is approximately 1,000 kWh per year, depending on the freezer volume and type of refrigerator. Many refrigerators used up to 2,000 kWh per year prior to the adoption of this new standard. A typical 20 cubic feet chest freezer is required to use less than 750 kWh per year. Furnace standards, effective on 1 January 1992, require the annual fuel utilisation efficiency to be greater than 78 per cent (as opposed to the typical pre-regulation 70 to 75 per cent efficiency rate). Standards for room air conditioners require an energy efficiency ratio of 8.5 or greater, depending on the type of conditioner and cooling capacity. Standards for water heaters require an efficiency in excess of 86 per cent for a typical 65-gallon electric water heater and in excess of 54 per cent for a typical 40-gallon gas water heater.

54 See 10 CFR, parts 420 and 430.

55 Pub L No 100-12, 101 Stat 103. For an overview of the terms of this legislation, see Note, 'National Appliance Efficiency Standards are Law' (1987) 8 (No 2) Wisconsin Energy News 3. See also S Boyle, 'More Work for Less Energy', *New Scientist*, 5 August 1989, 19 at 22. Boyle states that environmentalists in the US predict that by the year 2000 the Act will be reducing electricity consumption by 53.5 billion kWh per year, the equivalent of one-fifth of Britain's energy demand in 1988.

56 Pub L No 100-357, 102 Stat 671. This Act extends the operation of the 1987 Act to fluorescent lamp ballasts.

57 'Energy efficiency ratio' means the ratio of the heating or cooling capacity of an appliance in British thermal units per hour to the electrical input in watts.

58 See Note, *op cit* at 3-4.

After 1 January 1988 all clothes washers must have a cold water wash option, all dishwashers must have an option to dry without heat, and gas clothes dryers and kitchen ranges must have automatic pilot lights. In addition to these and other standards, 42 US Code s 6307 requires the Federal Trade Commission, in conjunction with industry trade associations and members and interested consumer and environmental organisations, to carry out a program to educate consumers as to the significance of estimated annual operating costs, the way in which comparative shopping can save energy for the nation and money for consumers, and other matters concerning the conservation of energy in the use of consumer products.

The 1987 Act contains an exemption for small manufacturers from the appliance efficiency standards. 42 US Code s 6295(q)⁵⁹ reads:

'(1) Subject to paragraph (2), the Secretary may, on application of any manufacturer, exempt such manufacturer from all or part of the requirements of any energy conservation standard established in or prescribed under this section for any period not longer than the 24-month period beginning on the date such rule becomes effective, if the Secretary finds that the annual gross revenues of such manufacturer, from all its operations (including the manufacture and sale of covered products) does not exceed \$8,000,000 for the 12-month period preceding the date of the application. In making such finding with respect to any manufacturer, the Secretary shall take into account the annual gross revenues of any other person who controls, is controlled by, or is under common control with, such manufacturer.

(2) The Secretary may not exercise the authority granted under paragraph (1) with respect to any type (or class) of covered product subject to an energy conservation standard under this section unless the Secretary makes a finding, after obtaining the written views of the Attorney General, that a failure to allow an exemption under paragraph (1) would likely result in a lessening of competition.'

Consistent with the goal of achieving national standards, the 1987 Act supersedes pre-existing State appliance efficiency standards, although it contains two important exceptions. First, State standards are not superseded if such standards are more stringent than the corresponding Federal energy conservation standards.⁶⁰ Secondly, State standards may be allowed to co-exist with the Federal standards where the Secretary of State issues a rule that a State regulation is effective.⁶¹ This may occur on a petition by the State where the Secretary finds (and publishes such finding) that the State has established by a preponderance of the evidence that the State regulation

59 This section amends s 325 of the Energy Policy and Conservation Act of 1975.

60 42 USC s 6297(e), amending s 327 of the Energy Policy and Conservation Act of 1975.

61 42 USC s 6297(d)(1)(A) and (B), amending s 327 of the Energy Policy and Conservation Act of 1975.

is needed to meet 'unusual and compelling State or local energy interests'.⁶² Finally, it should be noted that State efficiency standards may be enacted in respect of appliances not covered by the Federal law.

Canada

The enactment by the United States Congress of the National Appliance Energy Conservation Act 1987 had serious ramifications for Canada. This legislation was of particular concern in the Province of Ontario, where the vast majority of Canadian domestic appliances are manufactured. Because of this concern, the Ontario Ministry of Energy commissioned a private consultant, Marbek Resource Consultants Ltd, to prepare a report on the appliance manufacturing industry profile, a comparison between the United States and Canada of energy efficiencies, and an assessment of the competitive threat posed by the United States in this area. Its report was published in May 1987.⁶³

In summary, the report suggested that in many respects the Canadian appliance manufacturing industry would suffer unless the appliance efficiency standards promulgated under the United States legislation were matched in Canada. The report noted that Canada is a significant importer of appliances and a significant exporter of appliances, particularly high-quality freezers, to the United States.⁶⁴ The report documented extensive evidence showing that the efficiency of most appliances produced in Canada was significantly lower than those produced by American industry, that most Canadian production lines had not been retooled for energy efficiency, and that Canada was in a technological lag on appliance efficiency. By way of contrast, the American legislation was stated to have cleared the United States market of low efficiency products, to have stimulated research, product development and massive investment in the retooling of United States' production lines, and to have produced substantial energy and economic benefits for the United States' economy.⁶⁵

The report concluded by emphasising that Canada would suffer from at least three major adverse effects as a consequence of the United States' legislation. First, as the US Act prohibits importation for the purposes of sale of non-conforming appliances, to the extent to which Canadian products could not meet the standard, they would lose their export markets. Even where Canadian appliances did meet the standard, the rising standard in the United States would introduce or increase domestic competition for Canada's share of the market. Secondly, to the extent that Canadian consumers opt for high-efficiency appliances, the higher efficiency

62 42 USC s 6297(d)(1)(C) states:

'For purposes of this subsection, the term 'unusual and compelling State or local energy interests' means interests which —

(i) are substantially different in nature or magnitude than those prevailing in the United States generally; and

(ii) are such that the costs, benefits, burdens, and reliability of energy savings resulting from the State regulation make such regulation preferable or necessary when measured against the costs, benefits, burdens, and reliability of alternative approaches to energy savings or production, including reliance on reasonably predictable market-induced improvements in efficiency of all products subject to the State regulation.

The factors described in clause (ii) shall be evaluated within the context of the State's energy plan and forecast!

63 Marbek Resource Consultants Ltd, *Appliance Efficiency Information Base*, Ontario Ministry of Energy, 1987.

64 *Id.*, para 6.2.

65 *Ibid.*

American appliances would increase their share of the Canadian market and would cause Canadian manufacturers to lose sales and their market share. Finally, in light of the fact that the majority of the Canadian appliance industry consists of companies which are subsidiaries of their American parent companies, the multinational firms would concentrate their research, development and capital in retooling their United States' manufacturing facilities, with the inevitable consequence that Canadian plants would lag still further behind in efficiency technology.⁶⁶

This report was largely responsible for the enactment by the Ontario legislature of the Energy Efficiency Act 1988.⁶⁷ By s 2, the Act is restricted in its application to certain specified domestic appliances. The major provision is s 3, which reads in part:

- '(1) No person shall offer for sale, sell or lease an appliance or product to which this Act applies unless,
- (a) the appliance or product meets the prescribed efficiency standard with respect to the appliance or product; and
 - (b) a prescribed label that sets out the efficiency standard of the appliance or product is affixed to the appliance or product.
- (2) No person shall affix a prescribed label to an appliance or product to which this Act applies unless the appliance or product meets the prescribed efficiency standard with respect to the appliance or product.'

This section does not apply to appliances manufactured on or before the prescribed date, that are sold or leased on or before the prescribed date, or to persons who are not traders in the appliances (s 3(3)). A breach of s 3(1) or s 3(2) constitutes an offence, punishable on conviction by a maximum fine of \$10,000 or, if the person is a body corporate, by a maximum fine of \$25,000 (s 5(1)). Section 5(2) states that where the breach is by a body corporate, every director or officer of the body corporate who authorises, permits or acquiesces in the breach is a party to and guilty of an offence and on conviction is liable to the penalty regardless of whether the body corporate has been prosecuted or convicted.

The other interesting provision of the Ontario Act relates to the powers of inspectors, who may be appointed by the Deputy Minister of Energy under s 4(1). Section 4(2) reads:

- 'For the purposes of this Act and the regulations, an inspector designated under subsection (1),
- (a) may enter any place where an appliance or product to which this Act applies is manufactured, offered for sale, sold or leased at any reasonable time;
 - (b) may request the production for inspection of documents or things that may be relevant to the carrying out of an inspection or test on an appliance or product to which this Act applies;
 - (c) upon giving a receipt therefor, may remove from a place documents or things produced pursuant to a request under clause (b) for the purpose of making copies or extracts and shall promptly return them to the person who produced them;

⁶⁶ *Id.*, para 6.3.

⁶⁷ Stats Ont 1988, c 32.

- (d) may inspect and test any appliance or product to which this Act applies to ensure that the appliance or product complies with the provisions of this Act and the regulations; and
- (e) may require any person to co-operate in and assist with an inspection or test.⁷

An inspector cannot exercise the power of entry contained in s 4(1) to enter the dwelling of a person who is not in the business of manufacturing, offering for sale, selling or leasing appliances (s 4(3)), or to enter a place that is being used as a dwelling without the consent of the occupier except under the authority of a warrant (s 4(4)). Warrants may be issued by a justice of the peace where he or she is satisfied that there is in a place documents or things that there is reasonable ground to believe will afford evidence relevant to the carrying out of an inspection or test under the Act (s 4(5)), or that it is necessary that a place being used as a dwelling or to which entry has been denied be entered so that an inspector may carry out an inspection or test under the Act (s 4(6)).

By s 6(1), the Act gives the Lieutenant Governor in Council wide-ranging powers to make regulations. These include, *inter alia*, regulations prescribing appliances to which the Act applies in addition to those appliances specified in s 2, designating persons or organisations to test appliances against the prescribed standards, providing for the placing of a prescribed label on appliances that conform to the prescribed standards, prescribing the contents of labels that may be placed on such appliances, and exempting any person or appliance from any provision of the Act or the regulations.⁶⁸

Similar legislation has not yet been introduced in other Canadian provinces, although most of the provinces are actively involved in research and policy discussions relating to appliance efficiency. For example, under the auspices of a residential energy program in Manitoba called 'Home Check-Up', trained advisors conduct in-home energy audits while simultaneously gathering detailed appliance information from clients' homes. Manitoba has also recently conducted a mail survey to residents of multi-family houses requesting information of this type.⁶⁹

There is no relevant legislation at the federal level in Canada. However, for the past decade the federal government has operated its 'Energuide' program. This program was developed to inform Canadians of the amount of electricity consumed by major household appliances and to help them save money and energy. Under the program, major appliances are tested to determine how much energy they consume. The consumption rating for each type of appliance is placed on an Energuide label affixed to each new unit. A major advantage of the program is that the government is able to estimate the age distribution of the appliance stocks and to project their retirement and replacement with more efficient technologies.⁷⁰ The only

68 Regulations have been passed in 1989 establishing minimum efficiency levels for six electrical appliance groups, including ranges, clothes washers and dryers, dishwashers, ground source heat pumps and water heaters. The regulations for water heaters came into effect on 1 October 1989, and for the other five appliances on 1 January 1990. Standards for other appliances will be passed in late 1990. Information supplied by Ms A Boody, Ontario Ministry of Energy.

69 Letter to Professor AJ Bradbrook from H Clare Moster, Assistant Deputy Minister of Energy and Mines, Manitoba, dated 20 June 1989.

70 *Ibid.*

retirement and replacement with more efficient technologies.⁷⁰ The only other involvement of the federal government in appliance efficiency to date has been its co-sponsorship, through the Department of Energy, Mines and Resources, of the report commissioned by the Ontario Ministry of Energy, discussed earlier.⁷¹

POLICY CONSIDERATIONS

The potential financial benefits resulting from the legal implementation of appliance efficiency standards appear to be enormous. A 1983 study undertaken by the California Energy Commission on appliance standards in that State⁷² found that the standards implemented at that time had reduced the utility bills of all residents by almost US\$1 billion, and that if these standards remained in effect, by 2002 the savings would be in excess of US\$26 billion.⁷³ The Commission added that if the existing standards are upgraded and standards are adopted for categories of appliances not currently regulated, the annual electricity savings could double to over 16,000 gigawatt-hours, and the total utility bill savings would increase by an additional US\$12 billion by 2002.⁷⁴

A variety of other benefits may result from the legal implementation of standards. As stated in the California Energy Commission report:⁷⁵

'The standards have a variety of other benefits. Because the standards guarantee that energy consumption will be reduced, utilities can build fewer expensive and environmentally degrading energy production facilities. By 1987 the standards will have reduced the need for power plant capacity by 1,750 megawatts, the equivalent of a large coal plant which costs about \$3 billion to build. In addition, the utilities can reduce their purchases of expensive foreign oil and gas. Individual consumers have more discretionary income because their utility bills are less. The result is that more money is spent in the state's economy in general, which in turn creates jobs within California. Twice as many jobs are created from this increased spending on general consumer products than would be from the purchase of fuels and construction of energy facilities required if the standards were repealed.'

However, some possible disadvantages exist with respect to appliance efficiency standards. From an environmental perspective, increasing the efficiency of domestic appliances will cause an increase in the consumption of copper, steel and aluminium and, in respect of refrigerators and freezers, will increase the use of insulation material, particularly polyurethane. According to the California Energy Commission, however, these increases are only marginal relative to the total consumption of these materials.⁷⁶ A further environmental problem arising from the implementation of

71 See *supra*, ns 63-66 and accompanying text.

72 California Energy Commission, *California's Appliance Standards: An Historical Review, Analysis, and Recommendations*, Report P400-83-020, 1983.

73 *Id.*, at viii.

74 *Ibid.* For a discussion of the financial savings resulting from the 1987 US federal legislation on appliance efficiency standards, see Note, *op cit* at 3; American Council for an Energy-Efficient Economy, *The Most Energy-Efficient Appliances*, 1988 Edition, Washington, DC, at 2.

75 *Ibid.*

76 *Id.*, at 25.

standards is a possible increase in the energy used to manufacture the appliances, although again the Commission believes this to be insignificant.⁷⁷

From a socioeconomic perspective, the introduction of standards might also have an impact on manufacturers, retailers and consumers. Short-term problems would be caused to manufacturers as the necessary retooling and reorganising of production lines would lead to a reduction of sales caused by an inability to supply sufficient models. This in turn would affect profitability and might alter the various companies' competitive positions and impact on wholesalers. Wholesalers also face the problem of clearing out noncomplying stock. Standards would also lead to price rises, although the impact here appears to be minimal.⁷⁸ Perhaps more significant is the possibility of a loss of jobs within the appliance manufacturing industry as a result of the introduction of efficiency standards. This would result from a reduction in sales, either because of price increases or product scarcity. One US report on this subject suggested that standards applied nationally would lead to a loss of between 3,000 to 9,000 jobs in industries directly affected by the standards, although other studies have suggested figures as low as 130 jobs.⁷⁹

The other issue which needs to be addressed is whether energy savings will occur in this area even without the introduction of legislative appliance standards. The argument has been made in the United States that standards are unnecessary as the free market will produce as many savings as standards would produce. The argument runs that as energy prices increase, consumers will demand and manufacturers will produce more energy efficient appliances. This issue has also been considered by the California Energy Commission which, while admitting that more research is necessary on this issue, states that the available evidence shows that consumers do not buy more efficient appliances in response to higher energy prices and that the Californian appliance standards are responsible for most of the improvements in appliance efficiency which have occurred in recent times in the United States. The Commission added that legislative efficiency standards *guarantee* that savings will occur and allow utilities to avoid building unnecessary expensive power stations.⁸⁰

The extent to which these various environmental and socioeconomic considerations would apply in Australia can only be speculated, as no empirical research has been conducted in this area in this country. While some adverse factors associated with the proposed legislation undoubtedly exist, on any objective analysis it is extremely doubtful whether they counterbalance the beneficial effect of the legislation on the greenhouse effect and the country's dwindling oil reserves, and the financial benefits available to consumers from the energy savings. Nevertheless, before legislative standards are introduced here, it would seem advisable for studies to be conducted on, *inter alia*, the technical feasibility of proposed

77 *Ibid.*

78 *Id.*, at 22-24.

79 *Id.*, at 24-25. This job loss must be balanced against job creation which appliance standards may produce outside the appliance manufacturing industry: see *supra*, n 75 and accompanying text.

80 *Id.*, at 77-80. See also D Goldstein, 'Refrigerator Reform: Guidelines for Energy Gluttons', Technology Review February-March 1983, at 42; United States General Accounting Office, *Appliance Efficiency Standards: Issues Needing Resolution by DOE*, Report GAO/EMD-82-78, 1982, at 13.

standards, the amount of energy which would be saved by the standards, the impact of standards on employment, environmental impact, and the economic effect on manufacturers, wholesalers and consumers of domestic appliances.

SUGGESTED REFORMS

Assuming that the studies undertaken as to the environmental and socioeconomic factors associated with the introduction of legislative appliance efficiency standards are favourable, we must consider what legislative reforms should be enacted in Australia.

The first issue to consider is whether the efficiency standards would best be introduced at the State or Commonwealth level. As explained earlier,⁸¹ it seems clear that although efficiency laws are within the residual constitutional powers of the States, the Commonwealth could legislate, if it wished, pursuant to s 51(i) or s 51(xx) of the Constitution. It is strongly recommended that Commonwealth legislation, applicable to the whole of Australia, should be enacted. The major justification for this is the self-evident proposition that the need for appliance efficiency standards transcends State boundaries and applies with equal weight to each part of the country. It makes no sense to have differing standards in each State, as the States do not have vested interests to protect. Commonwealth legislation in this area would be consistent with the position in the United States where, as we have already seen,⁸² federal legislation has been enacted. Such legislation would also be sensible and logical in light of the existing Commonwealth controls in s 65C — s 65E of the Trade Practices Act 1974 relating to product information standards and product safety standards, which are analogous to appliance efficiency standards.

If the Commonwealth is unwilling to legislate in this area, we should aim to achieve uniform State legislation. As occurred in the United States prior to the enactment of the National Appliance Efficiency Standards Act of 1987, where rigorous legislative standards were first introduced in California and other large population States,⁸³ the initiative could be taken by New South Wales or Victoria, which together contain the vast majority of the appliance manufacturers in Australia. It would be difficult for States with smaller populations to set their own energy efficiency standards for appliances without the legislative cooperation of New South Wales and Victoria, as in light of the small number of sales in other States the manufacturers might find it too much trouble to bother with the standards and simply stop selling appliances in those smaller States with energy efficiency laws.

If the Commonwealth is prepared to legislate new appliance efficiency legislation, it could elect to do so by way of an amendment to Part V of the Trade Practices Act 1974. In addition to the existing product safety standards (s 65C) and product information standards (s 65E), a new section governing appliance efficiency standards could be introduced. It might read as follows:

81 *Supra*, 000.

82 See *supra*, ns 52-62 and accompanying text.

83 See *supra*, ns 39-51 and accompanying text.

(1) A corporation shall not, in trade or commerce, supply appliances⁸⁴ that are intended to be used, or are of such a kind likely to be used, by a consumer, being appliances of a kind in respect of which an appliance efficiency standard has been prescribed, unless the corporation has complied with that standard in relation to those appliances.

(2) The regulations may, in respect of appliances of a particular kind, prescribe an appliance efficiency standard consisting of such requirements as to the energy consumption of the appliances as the Minister/Governor in Council may think fit.

Failure to comply with this section would be deemed to be an offence against the Act and would subject the offender to a fine under s 79. It might also give rise to an action for damages under s 82 or an application for an injunction under s 80.

In addition, if it is decided to use the Trade Practices Act as a vehicle for new appliance efficiency standards, s 65E could be amended to enable standards prepared or approved by the Standards Association of Australia in this area to achieve the force of law. Section 65E(1), which is extracted earlier,⁸⁵ could achieve this aim by the addition of the following clause at the end of the existing subsection, ', or an appliance efficiency standard for the purposes of section X'.

Although the amendment of the Trade Practices Act in the above manner would be effective in achieving Commonwealth appliance efficiency standards, it would seem preferable to introduce separate legislation, to be styled the Appliance Efficiency Act, to achieve the desired goal. Such separate legislation can be justified by the technical nature of the appliance efficiency standards and because additional enforcement procedures are required which would not readily fit within the framework of the Trade Practices Act. As the Act would be designed as a code, it would also be appropriate to incorporate within its terms the provisions of the energy labelling laws, which at present exist only in New South Wales, Victoria and South Australia.⁸⁶ The appliance efficiency standards and energy labelling provisions could form separate Parts of the new legislation. To be consistent with normal drafting techniques, the new Act would also need a preliminary Part, containing an interpretation section and one or more provisions explaining the scope of the legislation, and a final part dealing with miscellaneous matters, such as the creation of offences and penalties and the establishment of regulation-making powers.

Thus, the suggested format of the legislation is as follows:

- Part I: General
- Part II: Appliance Efficiency
- Part III: Energy Labelling
- Part IV: Miscellaneous

The details of the key provisions of each Part will now be considered.

84 If this form of legislation were used, there would need to be a statutory definition of an 'appliance' contained in the definition section, s 4(1) of the Trade Practices Act 1974 (Cth).

85 *Supra*, 000.

86 For a discussion of the energy labelling laws, see *supra* ns 23-34 and accompanying text.

Part I: General

The scope of the legislation must be addressed at the outset. While eventually every type of appliance sold in Australia should be subject to the legislative controls, initially for practical reasons the legislation will need to be restricted to more commonly used appliances in respect of which an efficiency standard has been devised. The legislation must be sufficiently flexible in its drafting to allow for various appliances to be incorporated from time to time within its scope.

There are two possible methods of dealing with the problem of the scope of the legislation. One approach is to refer throughout the Act to an 'appliance' and to give an exhaustive statutory definition of the word in the definition section. The second approach is to have a section, which is separate from the definition section, stating 'This Act applies to the following appliances', and then listing the appliances to be covered. It is submitted that the second approach, which is the model adopted in the Ontario Energy Efficiency Act, is preferable as it is less likely to cause ambiguities or anomalies. It is notoriously difficult to draft complex, exhaustive definitions, and there is the constant danger of causing unintentional omissions and exclusions. The further problem is that as different appliances frequently appear on the market as a result of advances in technology, any exhaustive definition would have to be continually amended.

Thus, a separate section at the beginning of the Act should state that the Act applies to the following appliances, which are then listed. It is suggested that the final item in the list should read 'any other prescribed appliances'. If this approach is adopted, a further section should be added creating a power to prescribe various appliances under the Act. This could read:

'The Governor-in-Council may, by Proclamation which may from time to time be amended or revoked, declare any manufactured product to be an appliance for the purposes of this Act.'

This would give the government flexibility to add further appliances as and when efficiency standards are developed and technological advances occur.

The other major section to be included within the General Part of the Act is a definition section. The approach in the American legislation is to define exhaustively every type of appliance, even the most common. Thus, for example, the US Energy Policy and Conservation Act 1975, s 321(a) defines terms such as 'pool heater', 'water heater' and 'heat pump'. Conversely, the approach in the Ontario legislation is to leave these terms undefined, presumably on the basis that their meaning is well known and that in any dispute the common sense of the judiciary and the normal principles of statutory interpretation can be relied upon. It is a value judgment as to which is the preferable approach. The preferred option of the writer is to combine common sense and the desire to keep the legislation as brief as possible with the need for caution. While terms such as 'water heaters', 'clothes dryers' and 'dishwashers' are well understood and need no statutory definition (unless efficiency standards are developed which apply to only limited types of these appliances), terms such as 'heat pumps' and 'furnace' are more rarely encountered and should perhaps be defined. The guiding principle is that where the reasonable person might be thought to be uncertain as to the meaning of any term, the term should be defined.

Part II: Appliance Efficiency

The central feature of this Part will be a provision prohibiting the sale of appliances which fail to comply with a prescribed efficiency standard and allowing the Governor-in-Council to prescribe in the regulations efficiency standards in respect of any appliances. A recommended draft, which follows the model of s 65C and s 65D of the Trade Practices Act 1974 (Cth), has already been given earlier.⁸⁷ This draft provision could equally well be inserted into Part II of the proposed Appliance Efficiency Act.

The legislation should recognise the fact that efficiency standards for appliances may be independently proposed by Standards Australia. As in the case of consumer product safety standards and product information standards under Part V of the Trade Practices Act, there should be a simple legislative mechanism whereby by Ministerial decree these appliance efficiency standards can be legally effective. This could be achieved by the adoption of the following section:⁸⁸

The Minister may, by notice in writing published in the *Gazette*, declare that, in respect of appliances of a kind specified in the notice, a particular standard, or a particular part of a standard, prepared or approved by the Standards Association of Australia, or such a standard or part of a standard with additions or variations specified in the notice, is an appliance efficiency standard for the purposes of section X.

It is essential that the proposed legislation contains some form of inspection mechanism to ensure that the efficiency standards are complied with. There appear to be two competing legislative models. One option would be to adopt legislation equivalent to s 4 of the Ontario Energy Efficiency Act, which creates the system of government inspectors and gives inspectors wide-ranging powers of entry into premises for the purposes of inspecting and testing appliances which they may have reason to believe do not comply with the prescribed standards.⁸⁹ The alternative is to establish a system as in California whereby the manufacturer of each appliance supplies its own efficiency test results to a designated government official, who is empowered to conduct spot checks by selecting one or more units for independent testing. Under this system the appliance is withdrawn from sale if it fails this test until the necessary modifications are made.⁹⁰

It is submitted that the Californian system is to be preferred. The system of self-certification subject to spot checks seems less bureaucratic and more efficient than the notion of inspection by government officials. The following draft legislation, based on a modified and simplified version of the Californian Regulations for Appliance Efficiency Standards, is proposed:

- '1 (1) The manufacturers of appliances shall cause the testing of each model of appliance to be sold in Australia.
- (2) The energy consumption of all appliances manufactured on or after the prescribed date shall be certified not to exceed the prescribed standard.

87 *Supra* 000.

88 This draft provision is modelled on s 65E(1) of the Trade Practices Act 1974 (Cth).

89 The Ontario legislative system is discussed *supra*, ns 67-68 and accompanying text.

90 This Californian system is discussed *supra*, ns 48-49 and accompanying text.

- (3) No new appliance which was manufactured on or after the prescribed date shall be sold or offered for sale unless it is certified by its manufacturer to be in compliance with the prescribed standard.
- 2 (1) Each manufacturer of appliances shall submit a certification statement to the Minister for each model containing the prescribed information.
 - (2) Within thirty days after the receipt of a certification statement, the Minister shall forward to the manufacturer an acknowledgement that the statement has been received and that it is complete and accurate on its face.
 - (3) For the purposes of subsection (2), a certification of a model shall be deemed to occur upon the forwarding of an acknowledgement by the Minister.
- 3 (1) The Minister shall have the power to challenge the efficiency test results provided by the manufacturer and to cause the appliance model to be retested at the expense of the manufacturer at any voltage for which the appliance is labelled.
 - (2) On any retesting pursuant to subsection (1), if the performance of the appliance falls within a two per cent tolerance range of the certified value, no further action shall be taken.
 - (3) If the performance of the appliance does not fall within a two per cent tolerance range of the certified value, the certification for that model shall be suspended by order of the Minister.
 - (4) Where certification of an appliance has been suspended pursuant to subsection (3), the manufacturer may at any time retest and recertify the model based on a new sample selected from his or her current production?

Part III: Energy Labelling

The enactment of the legislation proposed above relating to appliance efficiency standards will not preclude the need to preserve the energy labelling laws currently in effect in New South Wales, Victoria and South Australia.⁹¹ As the purpose of the new proposed legislation is to codify the laws relating to the efficiency of domestic appliances, it would seem sensible to consolidate the existing State provisions on energy labelling in the new Commonwealth statute. As in the case of the proposed Part II of the Act, this should not cause constitutional difficulties as Commonwealth laws in respect of energy labelling can be justified under the corporations power and the trade and commerce power under the Constitution. There are only two changes that would be necessary if the New South Wales and Victorian legislation in this area are repealed and replaced by Commonwealth legislation. First, to bring the legislation within the scope of the corporations power, it is submitted that the existing wording of the State legislation, 'A person shall not sell any prescribed appliance . . .'

⁹¹ See *supra*, ns 23-24 and accompanying text.

should be modified in the new Commonwealth Act to read, 'A corporation shall not, in trade and commerce, sell any prescribed appliance'. This wording would be consistent with the various provisions in Part V of the Trade Practices Act 1974 (Cth), the constitutional validity of which is assured.⁹² Secondly, unless the Commonwealth is prepared to delegate its powers over the registration of the labelling system to an existing State authority, such as the relevant statutory electricity authorities,⁹³ a new Commonwealth instrumentality will need to be created to administer the system. In light of the likely cost of establishing such an instrumentality, and the success of the existing schemes administered by the Energy Corporation of New South Wales and the State Electricity Commission of Victoria, the preference of the writer is to enact legislation continuing the powers of these New South Wales and Victorian State instrumentalities and vesting similar powers in the electricity authorities of the remaining States.

Part IV: Miscellaneous

1. Offences and Penalties

It is submitted that a separate provision should state that a corporation which contravenes any of the provisions of Part II of the Act, relating to appliance efficiency, or the regulations, is guilty of an offence punishable on conviction by a maximum specified fine, together with a daily penalty for continuing offences. The specified figures are a matter of judgment for the legislature, and should be fixed having regard to the level of penalties imposed for comparable offences in comparable legislation (such as the Trade Practices Act 1974 (Cth)).

As in the case of the consumer protection provisions contained in Part V of the Trade Practices Act 1974 (Cth), in addition a breach of any of the proposed provisions should give rise to an action for damages and/or an injunction.⁹⁴ The following legislation is suggested:

- '1 (1) A person who suffers loss or damage by the conduct of a corporation that was done in contravention of a provision of Part II may recover the amount of the loss or damage by action against that other person or against any person involved in the contravention.
 - (2) An action under subsection (1) may be commenced at any time within three years after the date on which the cause of action accrued.
- 2 (1) The court may, on the application of the Minister or any other person, grant an injunction restraining a corporation from engaging in conduct that constitutes or would constitute a contravention of a provision of Part II, or an attempt to contravene such a provision.
 - (2) Where in the opinion of the court it is desirable to do so, the court may grant an interim injunction pending the determination of an application under subsection (1).

92 See *Re CLM Holdings Pty Ltd* (1977) 136 CLR 235; G Evans, 'The Constitutional Validity and Scope of the Trade Practices Act 1974' (1975) 49 ALJ 654.

93 The relevant authorities are the Energy Corporation of New South Wales, the State Electricity Commission of Victoria, the Queensland Electricity Commission, the Electricity Trust of South Australia, the State Energy Commission of Western Australia, and the Hydro-Electric Commission of Tasmania.

94 Cf Trade Practices Act 1974 (Cth), ss 80, 82.

- (3) The court may rescind or vary an injunction granted under subsections (1) or (2):

In respect of the energy efficiency labelling laws, to be contained in Part III of the proposed Act, it is submitted that the current offences and penalties contained in reg 24 of the State Electricity Commission (Energy Efficiency Labelling) Regulations 1987 (Vic)⁹⁵ should be transcribed into the new Commonwealth legislation.

2. Regulations

As is customary in legislation in common law jurisdictions, the final section of the proposed statute should grant the Governor-in-Council or Minister the power to make regulations on a wide range of matters relevant to the development of energy efficiency laws for domestic appliances. It is always a matter of judgment for the legislature as to which provisions should be included in the Act itself and which should be relegated to the regulations. When drafting the legislation the government will doubtless be mindful of the need to change certain procedural matters on a frequent

95 Reg 24 reads:

(1) A person must not affix, attach, place or reposition a registered label otherwise than in the manner prescribed in Regulation 23.

Penalty: 5 penalty units.

(2) A person must not use on a proclaimed electrical appliance a label which has not been registered in respect of that appliance.

Penalty: For the first offence — 2½ penalty units. For any subsequent offence — 5 penalty units.

(3) A person must not —

(a) forge or fraudulently alter any application made under these Regulations;

(b) make a statement which is false or misleading with respect to —
 (i) an application for registration or variation of registration of a registered label; or
 (ii) a test report from any testing facility;

(c) remove, forge or fraudulently alter any registered label before final sale or hire to the consumer;

(d) cause a registered label to be obscured from view by any means;
 or

(e) place on any proclaimed electrical appliance or advertise or make any use of any registered label for any proclaimed electrical appliance unless that person is the holder or servant or agent of the holder of the registered label for that proclaimed electrical appliance.

Penalty: 5 penalty units.

(4) A person must not affix or attach any tag or label to a proclaimed electrical appliance offered for sale or hire (not being the registered label of that appliance) if the tag or label contains any statement which misleads or which is likely to mislead a potential buyer or hirer with respect to the energy consumption rate, the energy efficiency rating or other information contained in the registered label for that appliance.

Penalty: 2 penalty units.

(5) A person must not display on or near any proclaimed electrical appliance exposed for sale or hire on which a registered label has been affixed any sign or notice which

(a) conflicts with any information or statement contained on the registered label; or

(b) is likely to mislead the purchaser or potential purchaser or hirer or potential hirer with respect to the information or statement on the registered label.

Penalty: 2 penalty units.

(6) The purpose of sub-regulation (5) is to ensure that persons are not misled as to the marking and labelling of proclaimed electrical appliances.

A penalty unit is \$100: Penalties and Sentences Act 1985 (Vic).

basis (such as application fees), and the fact that lack of parliamentary time may preclude or delay any legislative amendments which may later be required.

In the present context, it would seem appropriate to include the details of the actual efficiency standards adopted by the government in respect of various appliances in the regulations rather than the Act itself. There are three reasons for this. First, the standards may be changed from time to time to take account of technological changes leading to new models of appliances and increased efficiency. Secondly, the standards will need to be drafted in technical language, which would unnecessarily complicate the statute and make it less intelligible to the interested parties. Finally, the inserting of the standards in the regulations would be consistent with the United States and Canadian provisions concerning appliance efficiency standards and the New South Wales and Victorian energy efficiency labelling laws.

It is recommended that the enabling section in the legislation should be drafted as widely as possible. This would entail the granting of a wide power to make any regulation which might be considered by the Minister to be necessary or expedient for the implementation of the legislation, followed by a number of specific provisions dealing with individual matters. The following draft is suggested:

- '(1) The Governor-in-Council may from time to time make all such regulations as in his opinion may be necessary or expedient for giving full effect to the provisions and objects of this Act and for its administration.
- (2) Without limiting the general power contained in subsection (1) of this section, regulations may be made for or with respect to —
 - (a) Prescribing any efficiency standard in respect of any appliance, pursuant to Part II of the Act;
 - (b) Prescribing any efficiency labelling system in respect of any appliance, pursuant to Part III of the Act;
 - (c) Prescribing any forms that may be required for the purposes of this Act;
 - (d) Prescribing matters in respect of which fees are to be payable under this Act or under regulations made under this section, the amount of the fees, and the persons liable to pay them;
 - (e) Providing for the exemption of any corporation or any appliance, either absolutely or conditionally, from any of the requirements of the Act or of regulations made under this section;
 - (f) Prescribing monetary penalties for the breach of any regulation made under this section.'

CONCLUSION

The above discussion of the proposed Commonwealth Appliance Efficiency Act is limited to the most important provisions and does not purport to be comprehensive. Thus, when such legislation is finally drafted by parliamentary counsel, it will require the inclusion of a number of additional miscellaneous provisions including, for example, additional statutory definitions, a section creating a short title, a section stating the date when the Act comes into effect, and further sections concerning the

powers and duties of the statutory authority responsible for the operation and application of the legislation.

The proposed legislation could be enacted at any time, although the urgency of the country's indigenous oil shortage and the greenhouse effect would suggest that the legislation should be enacted without unnecessary delay. The fact that neither the government nor Standards Australia have yet devised all the necessary efficiency standards for each type of domestic appliance should not be regarded as a bar to the legislation, as the framework of the Act can be enacted immediately and the various standards can be incorporated into law by means of the regulations *seriatim* as and when the standards are developed. This is the method by which the energy efficiency labelling laws were introduced in New South Wales, and a similar method can be adopted in the present context.

The proposed Appliance Efficiency Act, while an important measure for the goal of energy conservation, must not be regarded as an end in itself, but rather as one aspect of the country's effort to conserve fossil fuels and to save the atmospheric environment from global warming. Thus, the Appliance Efficiency Act is merely one part of a large package of legislative reforms which are necessary to promote energy conservation. Other parts of this package include legislation designed to promote energy cogeneration in industry,⁹⁶ and energy conservation in the building and design of commercial and residential buildings.⁹⁷ Consideration should also be given to taxation law reform in order to encourage private individuals and corporations to purchase and use the various forms of energy conservation technology now available.⁹⁸ This development, together with the parallel development of renewable energy technologies, will be essential if economic growth is to continue into the next century without catastrophic environmental damage and climatic change.

96 See *supra*, n 7 for materials relevant to this subject.

97 See *supra*, n 6 for materials relevant to this subject.

98 The use of tax incentives in this context is discussed in SV Hyatt, 'Thermal Efficiency and Taxes: The Residential Energy Conservation Tax Credit' (1977) 14 Harvard J Legis 281; SL McDonald, 'The Energy Tax Act of 1978' (1979) 19 Nat Res J 859; SF Knopf, 'Tax Benefits Through the Use of Solar Energy' (1980) 2 Northrop ULJ of Aerospace, Energy and the Environment 85; CL Deering, 'Solar Energy and Energy Conservation Bank', in LE Buck and LM Goodwin (eds), *Alternative Energy - The Federal Role*, McGraw-Hill, New York, 1982, ch 3; SE Ferrey, 'Solar Banking: Constructing New Solutions to the Urban Energy Crisis' (1981) 18 Harvard J Legis 483.