LEGISLATIVE IMPLEMENTATION OF FINANCIAL MECHANISMS TO IMPROVE MOTOR VEHICLE FUEL EFFICIENCY

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[The conservation of energy represents one of the major issues of environmental concern in Australia and other industrialised nations. Energy conservation in the transport sector is of particular concern in light of the preponderant use of oil. This article considers the use of various forms of possible legislative measures designed to implement financial mechanisms to improve the efficiency of motor vehicles. It identifies a number of financial strategies that the State or Commonwealth governments may pursue to improve fuel economy and examines the current standing of the law both in Australia and overseas regarding the achievement of efficiency goals. The authors then critically analyse the various strategies and propose a package of reforms, concluding with a variety of suggestions for legislative change to Commonwealth taxation legislation.]

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> [T]here is increasing evidence that the negative consequences of transportation may be overwhelming the benefits we derive from it, and that there are serious risks to society if we continue our current patterns of transportation development and use. Governments face increasing difficulties in funding expansion of transportation infrastructure and systems to meet continuous growth in demand. Social polarization is occurring between those who have access to good transportation alternatives and those who do not. There are major threats to human health and the global climate as well as other environmental concerns from unrelenting growth in the use of fossil fuels for transportation. ... An international consensus is emerging, based on an expanding body of research, that present trends in transportation, coupled with human settlement and communication patterns, are not sustainable in the long term.[1]

I INTRODUCTION

Road transport causes vast environmental, planning and sociological problems in modern Australian society. The increasing dominance throughout the 20th century of motor vehicles as a means of transport has caused the rapid depletion of indigenous oil reserves, poor air quality in urban areas, declining quality of life in the inner cities as a result of traffic congestion, the slow decline of public transport and the consequently increasing reliance on private motor vehicles, and massive traffic flow problems. Perhaps the greatest effect of the modern obsession with the private motor vehicle has been on the design of major towns and cities. The general availability of cars has resulted in the creation of sprawling outer suburbs, poorly serviced by other forms of transport and services, where life is effectively impossible without motor vehicles.[2] The dependence of modern Australian society on motor vehicles is thus extreme.

Some of these problems have been tackled and partially resolved in recent years. Changes to the urban planning policies in most States have encouraged consolidation in an attempt to stop the spread of the capital cities.[3] There is also a variety of Commonwealth and State legislation aimed at improving air quality by

[1] National Round Table on the Environment and the Economy, *Sustainable Transportation in Canada: Backgrounder* (1996) vii.

[2] See generally Peter Newman, Jeff Kenworthy and Peter Vintila, *Housing, Transport and Urban Form* (1992); Peter Newman, Jeff Kenworthy and Tom Lyons, *Transport Energy Conservation Policies for Australian Cities: Strategies for Reducing Automobile Dependence* (1990).

[3] Policies regarding urban consolidation are generally contained in the development plans referred to by the planning legislation of each State. The relevant planning laws are as follows: *Environmental Planning and Assessment Act 1979* (NSW); *Local Government (Planning and Environment) Act 1990* (Qld); *Development Act 1993* (SA); *Town Planning and Development Act 1928* (WA); *Land Use Planning and Approvals Act 1993* (Tas); *Planning and Environment Act 1987* (Vic); *Land (Planning and Environment) Act 1991* (ACT); *Planning Act 1993* (NT). For examples of government policy toward urban consolidation, see Stuart Moseley, 'Sydney's New Metropolitan Strategy: A New Approach to Strategic Planning for Australia's Largest Urban System' (1995) 32 *Australian Planner* 130; and regarding urban consolidation in Queensland, see John Abbott, 'SEQ 2001: Quality Strategic Planning for South East Queensland' (1995) 32 *Australian Planner* 135.

requiring the installation of catalytic converters, the use of unleaded fuel in new vehicles and mandating various traffic flow requirements.[4]

One matter of concern to the federal government has been the issue of motor vehicle fuel efficiency. Fuel efficiency in Australia has consistently lagged behind the level achieved in comparable industrialised countries, such as Japan and members of the European Union, and is significantly worse than in the United States. The need to improve fuel efficiency of motor vehicles was identified in the Ecologically Sustainable Development ('ESD') Working Group reports.[5] Following protracted negotiations between local car manufacturers and the federal government, voluntary agreement was reached on the improvement of fuel efficiency,[6] but even the negotiated figures fall below those demanded by legislation in the United States.

The need to improve motor vehicle fuel efficiency has become more acute recently as a result of the climate change debate. It is necessary for Australia to implement all possible energy efficiency measures to achieve its target for atmospheric greenhouse gas emissions set under the 1997 *Kyoto Protocol to the United Nations Framework Convention on Climate Change*.[7] The improvement of motor vehicle fuel efficiency is one such measure.[8] The other problem for Australia is the prospect of reduced domestic oil production, due to declining reserves and the consequent demand for oil imports. While the price of crude oil has been comparatively low for the past 16 years, an increasing percentage of the world's recoverable oil reserves is located in politically unstable countries of the Middle East, and the economically disruptive era of periodic oil shocks may well recur. Reduced oil consumption by means of increased motor vehicle fuel efficiency is one way of minimising such risks.

In some sectors of the economy, considerable progress has been made in improving energy efficiency. Thus, for example, in the building sector an increased emphasis is placed upon thermal efficiency and solar design. This has occurred partly through state regulation and partly through increased awareness and education in the building and architectural professions.[9] Another illustration is

[4] Regarding motor vehicle standards and the use of unleaded fuel in new vehicles, see *Motor Vehicle Standards Act 1989* (Cth) and Federal Office of Road Safety, *Australian Design Rules for Motor Vehicles and Trailers* (1992). For examples of traffic flow requirements such as transit lanes and bus lanes, see *Motor Traffic Regulations 1935* (NSW); *Traffic Regulations 1962* (Qld); *Road Safety (Traffic) Regulations 1988* (Vic); *Road Traffic Regulations 1996* (SA).

[5] ESD Working Groups, *Final Report — Transport* (1991).

[6] In a speech by the Prime Minister of Australia, Mr John Howard, 'Safeguarding the Future: Australia's Response to Climate Change' (20 November 1997), the Prime Minister announced a 15 per cent fuel efficiency improvement target by 2010 over business as usual to be achieved through negotiation with the automotive industry.

[7] Opened for signature 16 March 1998, (1998) 37 ILM 22 (not yet in force) ('*Kyoto Protocol*'). Pursuant to the *Kyoto Protocol*, Australia is required to ensure that by 2012 its greenhouse gas atmospheric emissions do not increase more than 8 per cent beyond 1990 values.

[8] In 1994, transportation in Canada was responsible for 31.4 per cent of all CO_2 emissions: National Round Table on the Environment and the Economy, above n 1, 11.

[9] See generally Adrian Bradbrook, *Energy Conservation Legislation for Building Design and Construction* (1992); Grant Thompson, *Building to Save Energy: Legal and Regulatory Approaches* (1980); Christopher Flavin, *Energy and Architecture: The Solar and Conservation Potential* (1980).

power generation, where many power generators have been converted from oil to natural gas or coal and where the use of cogeneration[10] and combined cycle plant[11] has dramatically improved energy efficiency. Unfortunately, road transport is the sector where very little improvement in efficiency has been made.[12] The consumption of petroleum in this sector has burgeoned as a result of increased wealth and leisure time, reduced public transport, increased population and the lack of a high-speed rail network. It is also noteworthy that there has been no significant fuel substitution for road transport in Australia, unlike in some overseas countries where ethanol and methanol are used widely as an alternative to petrol.[13]

The primary area of focus for improving motor vehicle fuel efficiency is technological. Development is ongoing and many advances in relation to the weight of components and motors have been made over the past 20 years. In addition to technology, however, the law has a vital role to play. One important role of the law is to force technological change. A useful illustration of this occurred in the United States.[14] Pursuant to the terms of the Corporate Average Fuel Economy Standards ('CAFE'), enacted in 1975 under the *Energy Policy and Conservation Act*,[15] motor vehicle manufacturers were required to progressively improve the overall fuel consumption of their fleet each year over a specified 20 year timetable approved in the 1975 legislation.[16] Under the CAFE system, the federal government established an average fuel economy standard that each vehicle

[10] Cogeneration may be described as the simultaneous production of electrical or mechanical energy and thermal energy. It is sometimes referred to as 'combined heat and power' or 'total energy plant'. For a discussion of cogeneration technology see, eg, California Energy Commission, *Cogeneration Handbook* (1982); Frank Cross, 'Cogeneration: Its Potential and Incentives for Development' (1979) 3 *Harvard Environmental Law Review* 236; Duane Siler, 'Cogeneration and Small Power Production' in Linda Buck and Lee Goodwin (eds), *Alternative Energy: The Federal Role* (1982) [7-1].

[11] For a discussion of various combined cycle energy combinations, see generally Amulya Reddy, Robert Williams and Thomas Johansson, *Energy after Rio: Prospects and Challenges* (1997) 78.

[12] The transportation sector accounts for over 60 per cent of petroleum consumption on a worldwide basis, and petroleum constitutes 98 per cent of transportation energy use: National Round Table on the Environment and the Economy, above n 1, 9.

[13] For an analysis of alternative fuel sources see, eg, Lon Ruedisili and Morris Firebaugh (eds), *Perspectives on Energy: Issues, Ideas and Environmental Dilemmas* (3rd ed, 1982); United States Department of Energy, *Assessment of Costs and Benefits of Flexible and Alternative Fuel Use in the Transportation Sector* (1988); F P Winteringham, *Energy Use and the Environment* (1992).

[14] Canada has also legislated in this area in terms similar to that of the United States: *Motor Vehicle Fuel Consumption Standards Act*, RSC 1985, c M-9. This legislation has never entered into force in light of a voluntary code of practice entered into between the federal government and the vehicle manufacturing industry to reduce average vehicle fuel consumption. The Canadian system is discussed in Transport Canada, *Voluntary Motor Vehicle Fuel Consumption Program* (1993).

[15] *Energy Policy and Conservation Act*, 42 USC s 6421 (1992).

[16] For a discussion of the CAFE system, see generally National Research Council, *Automotive Fuel Efficiency: How Far Should We Go?* (1992); John DeCicco, 'Savings from CAFE: Projections of the Future Oil Savings from Light Vehicle Fuel Economy Standards' (Working Paper, American Council for an Energy Efficient Economy, 1992); Office of Technology Assessment, *Improving Automobile Fuel Economy: New Standards, New Approaches* (1991); Charles River Associates Inc, *Policy Alternatives for Reducing Petroleum Use and Greenhouse Gas Emissions* (1991).

manufacturer must attain each year with respect to all vehicles produced during that year. Two separate standards were introduced: one for passenger vehicles and one for light trucks.[17] In respect of passenger vehicles, the standard was initially set at 18.0 miles per gallon for model year 1979 and was progressively made more stringent. The standard is currently 27.5 miles per gallon. In respect of light trucks, the standard has been increased from 16.5 miles per gallon in 1979 to 20.5 miles per gallon in 1994.[18] The manufacturers objected at the time that such a rate of change was unrealistic. In reality, however, the timetable was largely kept, and manufacturers later admitted that the existence of the regulations had been a factor in the rapid development of the technology necessary to satisfy the legislation. In addition to forcing technology, the law has the capacity to prohibit undesirable activity, to encourage positive activity and to educate the public. These three capacities are referred to as regulation, stimulation and education. All three have a role to play in improving motor vehicle fuel efficiency.

Other sources have focussed on the role of regulation and education in this context.[19] Thus, part of the means of improving automotive fuel efficiency involves mandating by regulation specified levels of efficiency for motor vehicle manufacturers to meet over a period of years. Another part of the solution is to educate the public in the importance of motor vehicle fuel efficiency by requiring the compulsory disclosure of the fuel efficiency of each new vehicle by means of a label attached to the vehicle in the showroom.[20] Numerous other possible regulatory and educational measures have been discussed in this context.[21]

No article has yet discussed how the law may be utilised to promote motor vehicle fuel efficiency through financial mechanisms. Various economic measures might be introduced to encourage vehicle manufacturers to manufacture more fuel-efficient vehicles and to encourage the public to purchase such vehicles. Such stimulatory measures might be introduced as an alternative, or in addition, to various forms of regulation. A combination of regulatory and stimulatory measures may well be the most effective approach to take.[22] The

[17] The standards with respect to both passenger vehicles and light trucks are contained in 49 USC s 32901ff (1997).

[18] For model years 1979–91, differing fuel economy standards were applied to two-wheel drive light trucks and four-wheel drive light trucks. For model years commencing 1992, the standards have been combined.

[19] See, eg, Adrian Bradbrook, 'Regulating for Fuel Efficiency in the Road Transport Sector' (1994) 1 *Australasian Journal of Natural Resources Law and Policy* 1; Office of Technology Assessment, above n 16; Charles River Associates Inc, above n 16.

[20] See, eg, Bradbrook, 'Regulating for Fuel Efficiency', above n 19, 19; Adrian Bradbrook, 'Eco-Labelling: Lessons from the Energy Sector' (1996) 18 *Adelaide Law Review* 35, 39; Beca Carter Hollings & Ferner Ltd, *Vehicle Fuel Economy Labelling and Other Fuel Economy Measures* (1993) 21.

[21] One possibility is for compulsory fuel consumption disclosure in model-specific vehicle advertising: see Bradbrook, 'Regulating for Fuel Efficiency', above n 19, 23; Energy Programs Branch, 'Vehicle Fuel Consumption Advertising' (Discussion Paper, Department of Primary Industries and Energy, 1992)

[22] In addition, voluntary agreements may be negotiated between government and industry to promote fuel efficiency: see generally International Energy Agency, *Voluntary Actions for Energy-Related CO_2 Abatement* (1997).

regulatory measures would require manufacturers to adopt a minimum standard of compliance, while the stimulatory measures would encourage and reward them to go as far as possible beyond the specified minimum. This article will examine the stimulatory side of the equation, analysing and comparing possible forms of legislation designed to stimulate improved fuel efficiency in motor vehicles. The article will also consider the most appropriate means of enacting the proposals into law, and discusses the various associated constitutional issues.

II FINANCIAL MECHANISMS

There are a number of financial strategies that State or Commonwealth governments may pursue to improve motor vehicle fuel economy. These include:[23]

A *Differential Sales Tax*

The Commonwealth sales tax regime is imposed by the *Sales Tax Imposition (Excise) Act 1992* (Cth), the *Sales Tax Imposition (Customs) Act 1992* (Cth) and the *Sales Tax Imposition (General) Act 1992* (Cth).[24] The three Acts are necessary under s 55 of the *Australian Constitution*, pursuant to which laws imposing taxation must deal with one subject of taxation only; in other words, laws imposing duties of customs must deal with duties of customs only, and laws imposing duties of excise must deal with duties of excise only.[25]

The present sales tax legislation could be amended to introduce either a skewed sales tax where higher charges are imposed on the purchase of motor vehicles with a high rate of fuel consumption; or a sales tax increase/rebate program where higher rates of tax for inefficient vehicles are combined with tax rebates for relatively efficient vehicles.

1 *Skewed Sales Tax*

The essential feature of a skewed sales tax system is that it imposes higher charges on vehicles with low levels of fuel efficiency. The tax may be levied on the manufacturer or the consumer (at the point of wholesale or retail sale). The penalty may take the form of a lump sum payment or a higher tax rate imposed on the value of the motor vehicle.

[23] See generally Nelson English, Loxton & Andrews Pty Ltd, *Study on Potential to Improve Fuel Economy of Passenger Motor Vehicles* (Working Paper, Commonwealth Department of Transport and Communications, 1991) ('*Study on Potential to Improve Fuel Economy*') for an analysis of, inter alia, the effectiveness of various financial mechanisms to improve automotive fuel efficiency. For further discussion of this study, see below Part III.

[24] For a description of the sales tax law, see especially Australian Taxation Office, *Guide to New Legislation: Streamlined Sales Tax* (1993) vols 1–2; Robert Deutsch et al, *Australian Tax Handbook* (1997); CCH, *1997 Australian Master Tax Guide* (1997); CCH, *Australian Sales Tax Guide in 4 Volumes* (1993). See also Justice D Graham Hill, 'Sales Tax: The Simplified System Explained — Streamlining' (Pt 1) (1993) 28 *Taxation in Australia* 268; Justice D Graham Hill, 'Sales Tax: The Simplified System Explained — Critical Concepts' (Pt 2) (1994) 28 *Taxation in Australia* 332.

[25] P H Lane, *A Manual of Australian Constitutional Law* (6th ed, 1995) 160; Guy Passant, 'Sales Tax Budget Bills: Or the Story of the Loaves and Fishes' in CCH, *Australian Sales Tax Guide* (1993) [74,263].

An Australian system of skewed sales tax could be modelled on the system currently in place in the United States, where a specified supplementary lump sum tax is imposed on manufacturers on the sale of new passenger motor vehicles that do not meet prescribed standards of energy efficiency. This system was devised in the United States and has been in operation since 1978. It is commonly referred to as the 'gas guzzler tax'. The supplementary federal tax is imposed according to the following schedule:[26]

If the fuel economy of the model type in which the automobile falls is:	The tax is:
At least 22.5 miles per gallon (mpg)	$0
At least 21.5 but less than 22.5 mpg	$1,000
At least 20.5 but less than 21.5 mpg	$1,300
At least 19.5 but less than 20.5 mpg	$1,700
At least 18.5 but less than 19.5 mpg	$2,100
At least 17.5 but less than 18.5 mpg	$2,600
At least 16.5 but less than 17.5 mpg	$3,000
At least 15.5 but less than 16.5 mpg	$3,700
At least 14.5 but less than 15.5 mpg	$4,500
At least 13.5 but less than 14.5 mpg	$5,400
At least 12.5 but less than 13.5 mpg	$6,400
Less than 12.5 mpg	$7,700

Emergency vehicles such as ambulances and police cars are exempt from the tax.[27] The legislation defines the terms 'automobile', 'fuel economy', 'model type', 'model year' and 'manufacturer',[28] and also explains how fuel economy is to be measured.[29]

The imposition of such a system would raise additional tax revenue. The reform could be made revenue-neutral and could provide additional incentive for the purchase of fuel-efficient vehicles if the schedule were modified and expanded so as to give a lump sum reduction for the sale of each vehicle that met or exceeded the specified fuel consumption statistics. The introduction of a sliding scale would result in a significant price reduction for the most fuel-efficient vehicles.

Rather than imposing lump sum payments, the Australian legislation could impose differential sales tax rates based on motor vehicle fuel efficiency. Under this proposal, the existing sales tax rates could be modified so as to increase the rate of tax payable in respect of fuel-inefficient vehicles and (possibly) to reduce the rate of tax payable for fuel-efficient vehicles. This approach is more consistent with the current sales tax regime, which uniformly specifies rates rather than

[26] 26 USC s 4064(a) (1992).
[27] 26 USC s 4064(b)(1)(B) (1992).
[28] 26 USC s 4064(b)(1)(A), (b)(2)–(5) (1992).
[29] 26 USC s 4064(c) (1992).

lump sums, and was favoured by the report of the ESD Working Group on Transport.[30]

2 *A Feebate System*

A second option is to combine the imposition of higher sales tax for inefficient vehicles with tax rebates for relatively efficient vehicles. Such a system would specify a sliding scale of charges for vehicles of lower efficiency ('gas guzzlers') and incorporate a sliding scale of rebates for vehicles of higher efficiency ('gas sippers'). The sales tax (or rebate) would be paid (or received) by the consumer at the point of retail sale. This tax or rebate would take the form of a lump sum payment. This option is commonly referred to in North America as 'feebates'. In 1990 the government of Ontario introduced a system of this nature, entitled the Tax for Fuel Conservation. The additional tax ranges between $75 and $7,000 for vehicles with fuel consumption ratings in excess of nine litres per 100 km. A $100 tax rebate is given to purchasers of vehicles with fuel consumption ratings below six litres per 100 km.[31]

Work has been undertaken in the United States by the American Council for an Energy-Efficient Economy on the development of a model formula for the calculation of feebate charges and rebates designed to best encourage energy efficiency.[32] This study defines a feebate as the product of a feebate rate and the difference between a vehicle's energy factor and some reference level relative to which all vehicles are judged. Thus:

$$Feebate = (feebate\ rate) \times [(energy\ factor) - (reference\ level)]$$

The energy factor is a measure of the vehicle's energy efficiency. For a fuel economy based feebate, the energy factor is the vehicle's fuel economy rating in kilometres per litre.[33] The reference level is an average value of the energy factor. For example, for a fuel economy feebate, the reference level could be a fleet-based fuel economy. The feebate rate is the monetary value assigned to each unit difference in the energy factor above or below the reference level.

B *Skewing Motor Vehicle Registration Charges towards Higher Charges on Inefficient Vehicles*

Another tax policy option is to require the owners of cars with a high rate of fuel consumption to pay increased State and Territory annual motor vehicle registration charges. Each jurisdiction has legislation imposing differing registra-

30 ESD Working Groups, above n 5, 138 (Recommendation 4).

31 National Round Table on the Environment and the Economy, above n 1, 49.

32 John DeCicco et al, *Feebates for Fuel Economy: Market Incentives for Encouraging Production and Sales of Efficient Vehicles* (1992).

33 The energy factor may account for other vehicle attributes such as vehicle size, carbon dioxide emissions, vehicle class, 'crashworthiness', alternative fuel use, payload weight, power to weight ratio, or the level of domestic (as opposed to imported) content: ibid 19.

tion fees.[34] Currently, the registration charges are based on a number of factors, such as the type of vehicle to be registered, the weight of the vehicle to be registered, the number of cylinders of the motor vehicle and whether the vehicle is to be used for private or commercial purposes. A comparison of two States, South Australia and New South Wales, demonstrates the type of differences in the present charges for motor vehicle registration.

In South Australia, the charges over a 12 month registration period for private and small commercial motor vehicles depend on the number of cylinders. For vehicles with four cylinders or less the charge is $65; for five or six cylinders, $131; and for seven or more cylinders, $191. Large commercial vehicles exceeding 1,000 kg in weight pay $145; those exceeding 1,500 kg pay $245.[35]

In New South Wales, the *Motor Traffic Regulations 1935* (NSW) impose a flat-rate fee of $41 on motor vehicles, a fee of $139 for public passenger vehicles weighing less than five tonnes, and varying fees for lorries, tow trucks and trailers. Additional charges are imposed under the *Motor Vehicles Taxation Act 1988* (NSW), which subdivides the charges according to whether the vehicle is a motorcycle, a motor vehicle not exceeding 2,500 kg, a motor vehicle exceeding 2,500 kg that is not a bus, a private use vehicle, a motor lorry or self-propelled plant, a bus or private vehicle exceeding 2,500 kg, a light self-propelled plant, a primary producer's vehicle or a tractor.[36] In contrast to the South Australian regulations, the charges are based on the weight and primary use of the vehicle. For example, the tax applicable in 1996 for motor vehicles not exceeding 2,500 kg can be determined as follows:[37]

Weight of vehicle		Where the vehicle is used substantially for private purposes	Where the vehicle is not used substantially for private purposes
Exceeding kg	Not exceeding kg	$AU	$AU
...	975	123	199
975	1,150	139	223
1,150	1,500	161	261
1,500	2,500	245	393

[34] *Motor Vehicles Taxation Act 1988* (NSW); *Motor Vehicles Traffic Regulations 1935* (NSW); *Road Safety (Vehicles) Regulations 1988* (Vic); *Transport Infrastructure (Roads) Regulation 1991* (Qld); *Motor Vehicles Regulations 1996* (SA); *Road Traffic Act 1974* (WA); *Motor Vehicles Taxation Act 1981* (Tas); *Traffic (Miscellaneous) Regulations 1968* (Tas); *Motor Traffic Act 1936* (ACT); *Motor Vehicles (Fees and Charges) Regulations 1978* (NT).

[35] *Motor Vehicles Regulations 1996* (SA) sch 5, s 2(1)(b)–(c). Registration charges for heavy vehicles are based on the annual registration charges determined in accordance with *Heavy Vehicles Agreement 1991*, developed by the National Road Transport Commission and signed by the Commonwealth, States and Territories: *National Road Transport Commission Act 1991* (Cth) sch 1.

[36] *Motor Vehicles Taxation Act 1988* (NSW) sch 1.

[37] Registration charges for New South Wales in the years subsequent to 1996 are subject to indexing according to *Consumer Price Index*: *Motor Vehicles Taxation Act 1988* (NSW) s 5.

C *Increasing Petroleum Excise Tax*

Petroleum excise tax is levied directly on the consumers of petrol at the point of sale on a cents-per-litre basis. Such a tax already provides an incentive to consumers to reduce the use of petrol and to purchase fuel-efficient cars.[38] In the United States, the *Study on Potential to Improve Fuel Economy of Motor Passenger Vehicles* ('the study') suggested that motor vehicle fuel efficiency could be significantly improved by eliminating or reducing sales tax on cars and raising petroleum excise tax to compensate for the lost revenue.[39]

In Australia, until recently, both the Commonwealth and the State and Territory governments levied taxes on petroleum products. The Commonwealth levied a fuel excise tax on petrol under the *Excise Tariff Act 1921* (Cth),[40] while the States and Territories (with the exception of Queensland) levied a 'business franchise fee' on the sale of petroleum products.[41] In August 1997, the High Court of Australia in *Walter Hammond & Associates Pty Ltd v New South Wales*,[42] invalidated similar business franchise fees on tobacco, casting considerable doubt on the constitutional validity of business franchise fees on other products, including petrol. Following this decision, the Commonwealth government passed the *Excise Tariff Amendment Act (No 3) 1997* (Cth), which increased the excise duty on petroleum products by 8.1 cents to 44.972 cents per litre (for leaded petrol) and 42.797 cents per litre (for unleaded petrol and diesel fuel). The additional charges are returned to the States and Territories under the provisions of the *States Grants (General Purposes) Act 1994* (Cth) to compensate them for the loss of revenue caused by the High Court decision.

D *Income Tax Incentives*

Income tax is currently imposed under the *Income Tax Assessment Act 1936* (Cth). It is calculated by applying the appropriate tax rate to the taxable income and then subtracting any rebates or credits. Taxable income is determined by subtracting allowable deductions from a taxpayer's assessable income.

The Commonwealth could offer income tax rebates or credits on the purchase of motor vehicles that meet specified fuel economy standards. This concept is similar to the various incentive programs in the United States that are designed to

[38] On the effects of a fuel excise tax, see generally Bureau of Transport and Communications Economics ('BTCE'), *Reducing Greenhouse Gas Emissions in Transport: Some Tax Policy Options* (1991); ESD Working Groups, above n 5; *Study on Potential to Improve Fuel Economy*, above n 23; Office of Technology Assessment, above n 16; William Chandler and Andrew Nicholls, *Assessing Carbon Emission Control Strategies: A Carbon Tax or a Gasoline Tax?* (1990).

[39] *Study on Potential to Improve Fuel Economy*, above n 23. The econometric model used in this study predicted that an increase of 50 cents per litre in 1988 prices would produce an overall saving in fuel slightly in excess of one third in 2000.

[40] *Petroleum Excise (Prices) Act 1987* (Cth) fixes the amount of the fuel excise levy.

[41] *Business Franchise Licences (Petroleum Products) Act 1987* (NSW); *Petroleum Products Regulation Act 1995* (SA); *Petroleum Products Business Franchise Licences Act 1981* (Tas); *Business Franchise (Petroleum Products) Act 1971* (Vic); *Business Franchise (Tobacco and Petroleum Products) Act 1984* (ACT); *Business Franchise Act 1981* (NT).

[42] (1997) 189 CLR 465.

stimulate the purchase of alternative-fuel vehicles and the conversion of petrol-based vehicles to alternative fuels. For example, in 1990 California enacted legislation providing an income tax credit to individuals and businesses that either purchased new alternative fuel vehicles, or retrofitted their standard vehicles using an alternative-fuel conversion kit certified by the California Air Resources Board ('CARB').[43] Under this low emission vehicle ('LEV') credit, a taxpayer could receive as a tax credit at 55 per cent of the incremental cost (that is, the cost above the purchase price of an equivalent standard fuel vehicle) associated with purchasing a new vehicle that meets specified emission standards or converting an existing vehicle so as to meet the same standards. The maximum credit was $US1,000 for vehicles under 5,750 pounds and $US3,500 for vehicles over 5,750 pounds.[44]

A new scheme of income tax rebates or credits linked to the purchase or lease of fuel-efficient vehicles would require administrative supervision. In California, the California Energy Commission ('CEC') was declared responsible for administering the State's program. Parties interested in purchasing an alternative-fuel vehicle contacted the CEC for information on the availability of, and rules relating to, the tax credits. The taxpayer filled out the appropriate form, giving information as to the type of car purchased or converted. If the purchase or conversion was approved by CARB, the CEC would approve the application and send a certification letter to the taxpayer. This certification letter was kept for income tax audit purposes.[45]

E *Fringe Benefits Tax Incentives*

Fringe benefits tax ('FBT') is currently imposed by the Commonwealth under the *Fringe Benefits Assessment Act 1986* (Cth).[46] FBT is a separate tax paid by employers, regardless of the employees' liability for income tax. Liability is assessed on an annual basis, but is paid in quarterly instalments. The return is separate from the normal income tax return. From 1994–95, tax is payable on the 'tax inclusive' value of benefits, that is, the 'grossed up' taxable value of the benefits. The grossed up taxable value of fringe benefits can be calculated by using the formula:

$$\textit{Aggregate FBT Amount} \times 1/(1 - \textit{FBT rate})$$

where the 'aggregate FBT amount' means the aggregate FBT amount in relation to that employer for the year of tax, and the FBT rate is the rate applicable for the

[43] *Act of 1 January 1991* ch 1611, 6 Cal Stat (1990). California Legislative Analyst's Office, 'An Analysis of the Low-Emission Vehicle Tax Credit Program' (1996), California Legislative Analyst's Office, <http://www.lao.ca.gov/rp62196.html> (copy on file with author).

[44] California Legislative Analyst's Office, above n 43. The scheme was designed to expire in 1996. Federal tax incentives for the purchase of, or conversion to, alternative fuel vehicles are established in *National Energy Policy Act 1992*, 42 USC s 13201–556 (1995).

[45] California Legislative Analyst's Office, above n 43.

[46] For a description of the FBT regime see, eg, CCH, *1997 Master Tax Guide*, above n 24; Deutsch et al, above n 24.

year of tax. The tax rate applicable to the total taxable value of fringe benefits is 48.5 per cent for 1996–97 and subsequent years of tax.

The *Fringe Benefits Tax Assessment Act 1986* (Cth) sets out particular rules for assessing the value of car fringe benefits. As a general rule, liability for FBT will arise where an employee has the private use of an employer's car. The car may be leased or owned by the employer. 'Car' is defined in s 136 of the *Fringe Benefits Tax Assessment Act 1986* (Cth). Exemptions from FBT apply to certain types of commercial vehicle where the only private use of the vehicle is for 'work-related' travel (s 8).

The Commonwealth could seek to encourage the purchase or lease by businesses of more fuel-efficient motor vehicles by providing FBT incentives, in the form of tax deductions or rebates. Such deductions or rebates would reduce the cost to businesses of providing vehicles to employees. In a similar fashion to that applicable for sales tax, a skewed system could be employed whereby FBT surcharges on the provision of energy-inefficient cars to employees would co-exist with FBT rebates for fuel-efficient vehicles.

F *Grants, Low Interest Loans or Loan Guarantees to Businesses or State or Territory Agencies for the Lease or Purchase of Fuel-Efficient Vehicles*

Another option to encourage the use of more fuel-efficient vehicles by businesses is government subsidisation of the purchase or lease of fuel-efficient vehicles by grants, low-interest loans or loan guarantees. Government subsidisation of the costs of purchasing or leasing new motor vehicles by businesses may take the form of State or Territory government funding and administration, Commonwealth government funding (in whole or in part) coupled with State or Territory government administration, or Commonwealth government funding and administration.

In addition, the Commonwealth could provide assistance to State and Territory agencies for the lease or purchase of fuel-efficient vehicles. Each State and Territory currently operates a fleet of motor vehicles, comprised of various types of vehicles. Many of these vehicles are large and energy-inefficient. For example, in South Australia, as at September 1997, the vehicle fleet consisted of 7,470 vehicles, of which only 1,568 were classed as small or medium cars and thus energy-efficient. Although fuel efficiency may be a factor that State and Territory governments take into account when determining the composition of their vehicle fleet, it is only one of many. The Commonwealth could influence the States' and Territories' vehicle mix by making the selection of fuel-efficient vehicles more economically attractive. This could be achieved by providing funding for the purchase and/or the operating costs of fuel-efficient vehicles, pursuant to s 96 of the *Australian Constitution*.[47]

[47] For further discussion of s 96 of the *Australian Constitution*, see below Part IV(C)(2).

III CRITICAL ANALYSIS OF REFORM OPTIONS

The 1991 *Study on Potential to Improve Fuel Economy* considered the effectiveness of various mechanisms to improve automotive fuel efficiency.[48] The study examined the costs and benefits of each option to assess the effectiveness of the individual mechanisms. Of the financial mechanisms considered in this paper, four were analysed by the study, and ranked in the following order: (1) changes to the sales tax regime; (2) fuel excise/business franchise fees; (3) fringe benefits tax; and (4) motor vehicle registration charges. In this section we briefly examine the advantages and disadvantages of each option and make recommendations for change. However, it must be stressed that a full understanding of the distributional effects of the combination of options we propose, particularly in comparison to the outcomes of other possible combinations of measures, will only be achieved by appropriate econometric modelling. Such empirical research is beyond the scope of this paper.

The study argues that both changes to the FBT and annual motor registration charges should be discarded as possible options. One advantage of changing the FBT regime is that the negative equity effects for low income earners are minimal, as the tax operates directly upon companies and not individuals. However, the costs of FBT are small relative to other costs of vehicle operation, and very large additional imposts (or incentives) would be required to have any impact on vehicle purchasing decisions (perhaps in the order of three times the existing charges).[49] This option is rejected for its limited effectiveness in achieving fuel efficiency improvements (unless the changes are so large as to be unacceptable to business).

As with changes to the FBT, very large additional changes to annual registration charges would be required to have any impact on vehicle purchasing decisions.[50] A skewed registration system also raises equity issues. Because of the tendency for lower income groups to own a greater proportion of older, higher fuel consumption vehicles, those who can least afford higher charges may pay more in registration fees. This regressive effect could be solved or minimised by adopting a system of 'grandfathering', whereby the skewed registration scheme would apply only to new cars purchased after a specified date and would exempt all existing vehicles. However, such a system would have two disadvantages: firstly it would disadvantage owners of existing low fuel consumption cars as against owners of new low fuel consumption cars; and secondly it would encourage consumers to keep older, less efficient cars on the road to avoid paying higher registration charges. This would delay the permeation of fuel efficiency improvements. If a system of 'grandfathering' were not adopted, the improvement in fleet economy would be expedited, but at equity costs for low

[48] In the *Study on Potential to Improve Fuel Economy*, above n 23, Nelson English, Loxton & Andrews considered non-financial mechanisms such as public education programs and fuel consumption standards. Non-financial mechanisms are beyond the scope of this paper.

[49] Ibid 80.

[50] Ibid 80–1.

income groups.[51] The writers therefore discard this option as it has minimal effectiveness in achieving fuel efficiency goals whilst involving regressive distributional effects.

The income tax option is also discarded as an option for achieving improvements in fuel efficiency. This option has the advantage of assisting individuals, in particular low income earners, to retire relatively older, fuel-inefficient vehicles earlier than would otherwise be the case. However, changes to the income tax regime are less satisfactory as the financial effect on the taxpayer is more indirect (compared to sales taxes and fuel taxes), in that any rebate or deduction would be only one of a number of factors affecting taxation liability in any given year. The other problem is that the financial effect is also delayed as the taxpayer would not receive the benefit until the end of the taxation year. A skewed sales tax or feebates system would offer immediate benefits in a more direct manner.

Sales taxes and feebates offer a number of advantages.[52] These taxes/incentives directly affect the purchasing decisions of consumers by altering the price of vehicles. Sales taxes and feebates are flexible, in that they may be applied across-the-board, or to specific classes of vehicle. Negative equity effects are minimised because low income earners do not tend to buy new cars. Fuel efficiency improvements are achievable through flow-on effects to used car markets, with used high-consumption vehicles becoming more expensive relative to second-hand low-consumption vehicles. Revenue outcomes are easily controlled by the government. Sales taxes and feebates have the disadvantage of lock-in effects, where owners of high-consumption vehicles delay the purchase of new vehicles, thereby slowing the permeation of fuel economy improvements.[53] Sales taxes or feebates are preferred by the writers, as they are direct and powerful tools for achieving fuel efficiency goals with minimal equity effects for low income earners.

As between the skewed sales tax or feebate system options, it is submitted that there is only scope to select one of these two options, which offer essentially the same type of incentive. Each would require significant administrative supervision, and to implement both would lead to an unjustifiable increase in the bureaucracy and costs of administration. The preference of the writers is for a skewed sales tax system. Feebates offer the advantage that the persons ultimately responsible for fuel efficiency, the customers, are obliged to pay the tax directly, rather than indirectly, as in the case of sales tax. Feebates therefore offer greater educational value in terms of emphasising to the public the importance of vehicle fuel economy.[54] On the other hand, the proposed skewed sales tax regime could be implemented by the simple addition of one or more sections to the current sales tax legislation. A system of feebates, being novel to our present system and

[51] Ibid 30.

[52] Ibid 79.

[53] BTCE, above n 38, 31. BTCE suggests this problem could be overcome by progressively tightening exhaust emissions regulations and making them applicable to existing vehicles.

[54] Robin Miles-McLean, Susan Haltmaier and Michael Shelby, 'Designing Incentive-Based Approaches to Limit Carbon Dioxide Emissions from the Light-Duty Vehicle Fleet' in David Greene and Donilo Santini (eds), *Transportation and Global Climate Change* (1993) 109, 119.

based on actual monetary amounts rather than a percentage rate, would require comprehensive new legislation and a significant body of administrative support. On balance, the writers believe that modifications to the current sales tax regime represent the preferred option. The current regime should be amended, as suggested above, to provide for a preferential rate of sales tax with respect to more fuel-efficient vehicles. The introduction of such a system would need to be deferred until the Commonwealth decides on an acceptable level of fuel economy for the new legal regime, or adopts fuel efficiency standards. Such new standards would have to be incorporated as changes to the sales tax legislation.

The proposed sales tax changes should exist concurrently with increases to the petroleum excise taxes. Fuel taxes are an up-front and highly visible charge on the use of fuel. By directly increasing the price of fuel, such taxes are a powerful and effective tool for achieving improvement in fuel economy by reducing travel and fuel use, and stimulating demand for fuel-efficient vehicles. There may also be positive environmental side effects in the form of reduced congestion and noise in urban areas. Increases to petroleum excise taxes may be used to compensate for any revenue shortfall that would be caused to the Commonwealth by the reduction of sales tax for a significant proportion of motor vehicles.[55] Such increases can also be justified as being consistent with the user-pays system for maintenance of the highway system. The combination of skewed sales tax and higher excise charges would amount to a 'carrot and stick' system for the purchasers of new vehicles, whereby the consumer is simultaneously rewarded for taking the right approach to vehicle fuel economy (in this case, by reduced sales tax) and punished for taking the wrong approach (by higher petrol excise taxes). The two tax changes thus mutually reinforce each other.

The major disadvantage of fuel taxes is their negative distributional effects.[56] Petrol prices tend to form a greater percentage of household expenditure for low income earners than for those on high incomes – thus higher fuel prices will impact more adversely on low income households. This is exacerbated by the fact that low income earners cannot afford to purchase new fuel-efficient vehicles to minimise the costs of (more expensive) fuel. Low income earners living on the fringe of cities where public transport systems tend to be poorer will be more heavily disadvantaged than high income earners. In addition, higher fuel prices may adversely affect those who live in rural areas, who must travel longer distances. This may be seen as unfair, particularly as most pollution occurs in urban areas.[57]

The distributional effects of a fuel tax will depend on many factors, including: the size of the tax; the proportion of household expenditure devoted to the purchase of petrol; the length, purpose and frequency of car journeys; the availability and substitutability of public transport; and the proportion of house-

[55] *Study on Potential to Improve Fuel Economy*, above n 23, 94–5.
[56] Ibid 108–9 (emphasis added). See also BTCE, above n 38, 44–6.
[57] *Study on Potential to Improve Fuel Economy*, above n 23, 109 suggests that regional differentiation in the rate of tax, with a higher fuel tax in urban areas, may be a useful solution.

hold expenditure devoted to public transport.[58] While the study suggests that if 'substantial rises' to fuel taxes were to occur, there would be a potential for a significant loss in national welfare, the Bureau of Transport and Communications Economics ('BTCE') submission is more cautious, stating that although there are 'indications higher transport fuel prices induced by a carbon tax would be regressive ... the relatively low proportions of income and expenditure devoted to petrol *on average*, for all groups, limit the extent of any regressive effect'.[59]

The fuel tax is a powerful and effective tool for achieving fuel economy goals. The writers suggest that such taxes should be substantially increased, with any welfare losses resulting from additional fuel tax being compensated for, at least partially, by the government devoting a proportion of the extra revenue gained from the increased tax to targeted welfare programs to aid the financially disadvantaged.

Changes to sales tax and fuel taxes should be implemented in addition to the provision of Commonwealth and/or State and Territory grants, low interest loans or loan guarantees to businesses for the purchase of vehicles of a high fuel economy standard. The purchasing decisions of individuals and corporations are affected by sales tax and fuel tax regimes. However, government grants or loans to businesses are aimed at influencing large-scale purchasing decisions made by corporations. Such loans and grants would provide a strong incentive to businesses to convert their vehicle fleets to more fuel-efficient models. While there may be a number of disadvantages in such a scheme, including the incentive for businesses to engage in strategic behaviour (such as the distortion of financial data) in order to become eligible for a subsidy, the scope for fuel savings, if the existing composition of business vehicle fleets were altered, is substantial. Any problems or inequities in the operation of the scheme could be alleviated or avoided through careful framing by the government of the rules of eligibility for a grant or low-interest loan.[60]

It is accordingly submitted that a skewed sales tax regime, increased petroleum excise tax, and government loans, grants or loan guarantees to businesses and State or Territory agencies, should be adopted on an Australia-wide basis. There appears to be no reason why the financial mechanisms adopted should differ from jurisdiction to jurisdiction, as the environmental problems associated with the use of fuel in transport transcend State and Territory borders. The need for uniformity and certainty, particularly when a package of measures is to be implemented, suggests that one Commonwealth Act dealing with all financial measures may be appropriate, or that the States and Territories should pass uniform legislation implementing the three recommended reforms.

58 BTCE, above n 38, 46.

59 Ibid. See also *Study on Potential to Improve Fuel Economy*, above n 23, 108.

60 The writers are not aware that any econometric analysis of the loan/subsidy option has been undertaken. Such an analysis, recommended by us, is beyond the scope of this paper.

IV METHODS OF IMPLEMENTING FINANCIAL MECHANISMS

A *Skewed Sales Tax*

The actual operation of the sales tax regime is governed by the *Sales Tax Assessment Act 1992* (Cth) and the *Sales Tax (Exemptions and Classifications) Act 1992* (Cth). The former Act establishes the rules for assessing sales tax and regulates a number of areas relevant to the operation of the sales tax regime. The latter Act specifies the goods that are exempt from sales tax and classifies those goods for the purpose of applying different tax rates. The *Sales Tax (Exemptions and Classifications) Act 1992* (Cth) is linked to the *Sales Tax Assessment Act 1992* (Cth) through the rules for taxing assessable dealings. Pursuant to s 16(3) of the *Sales Tax Assessment Act 1992* (Cth), the amount of sales tax payable is calculated by using the tax rates that apply under the *Sales Tax (Exemptions and Classifications) Act 1992* (Cth). These tax rates are set out in schedules to the *Sales Tax (Exemptions and Classifications) Act 1992* (Cth).[61] Schedules 2-7 contain lists of goods that are subject to the specific tax rate of each schedule.

The sales tax payable in respect of motor vehicles is determined under s 16 of the *Sales Tax Assessment Act 1992* (Cth), which sets out the general rules for calculating tax. The section reads in part:

> (1) Table 1 sets out all the assessable dealings that can be subject to sales tax.
> (2) If the time of an assessable dealing (as specified in column 4 of the Table) is on or after the first taxing day, and no exemption applies under Division 2 of this Part, then:
> (a) the dealing is a taxable dealing;
> ...
> (3) To calculate the amount of the tax:
> (a) determine the taxable value of the dealing under Division 3 of this Part;
> (b) deduct any exempt part of the taxable value that applies under Division 4 of this Part;
> (c) multiply the result by the rate that applies under the Exemptions and Classifications Act.

The taxable value is expressed as a price. The taxable value (expressed in dollar terms), less exemptions, is multiplied by the tax rate (a percentage figure) to arrive at a sales tax figure.

Motor vehicles with a taxable value that does not exceed a certain 'luxury threshold' are subject to the general rate of tax of 22 per cent.[62] Motor vehicles

[61] Pursuant to s 15(1) of *Sales Tax (Exemptions and Classifications) Act 1992* (Cth), the rates of tax that apply to taxable dealings with goods are those specified in the schedules.

[62] *Sales Tax (Exemptions and Classifications) Act 1992* (Cth) sch 4. The taxable value of a motor vehicle is determined by the Motor Vehicle Taxable Value Agreement made pursuant to *Sales Tax Assessment Act 1992* (Cth) s 43; *Sales Tax (Exemptions and Classifications) Act 1992* (Cth) sch 6. This agreement, the purpose of which is to simplify administration and reduce compliance costs, is between the Commissioner of Taxation and, on behalf of their members, the Federal Chamber of Automotive Industries and the Motor Trades Association of Australia. Under the agreement, the taxable value of a motor vehicle is its List Price less 22.25 per cent of that List Price. There are various exceptions to this agreed value. Under the Act, the vehicles taxed at 22

with a taxable value that exceeds the threshold are subject to two rates of tax. The portion of the taxable value up to the threshold is taxed at the general rate (22 per cent) and the portion of the taxable value in excess of the threshold is taxed at 45 per cent.[63] The luxury threshold is 67.1 per cent of the Motor Vehicle Depreciation Limit ('MVDL') contained in s 57AF of the *Income Tax Assessment Act 1936* (Cth).[64] The MVDL sets an upper limit on the value of a motor vehicle for the calculation of depreciation claimed as an income tax deduction. The MVDL in 1996–97 was $55,134, putting the luxury tax threshold at $36,995 for 1996–97.

Rather than applying tax rates according to a split taxable value, the *Sales Tax Assessment Act 1992* (Cth) makes provision for a special taxable value. Section 42A of the *Sales Tax Assessment Act 1992* (Cth) provides in effect that the taxable value of dealings with luxury motor vehicles is reduced by a certain amount. This amount is 34.296 per cent of the MVDL for the financial year in which the taxable dealing occurs. Thus, for a motor vehicle that does not exceed the luxury threshold, the amount of tax is the taxable value multiplied by the tax rate (22 per cent). To determine the amount of tax for a luxury vehicle, the taxable value is multiplied by the tax rate of 22 per cent up to the luxury threshold. A tax rate of 45 per cent is applied to the taxable value above the luxury threshold. However, the taxable value used to calculate tax on dealings in excess of the luxury threshold is a special taxable value (the taxable value reduced by 34.296 per cent of the MVDL for the year).

As for the appropriate means of amending this legislation to apply a skewed sales tax system to improve fuel economy, the ESD Working Group on Transport suggested amending the legislation by linking fuel economy to different sales tax rates.[65] This would fit neatly with the rules for assessing tax under s 16(3) of the *Sales Tax Assessment Act 1992* (Cth). A new schedule (schedule 9) linking various fuel economy standards to different sales tax rates would be inserted in the *Sales Tax (Exemptions and Classifications) Act 1992* (Cth). The relevant section (s 15(1)) of the *Sales Tax (Exemptions and Classifications) Act 1992* (Cth) would be modified to state that the rate of tax in schedule 9 to the *Sales Tax (Exemptions and Classifications) Act 1992* (Cth) applies.

The *Sales Tax (Exemptions and Classifications) Act 1992* (Cth) would be further modified to include necessary definitions, such as 'fuel economy', 'motor vehicle' and 'manufacturer'. The definitions could be contained in either s 3 (the principal definition section) or in schedule 9 itself. Various issues must be addressed before the definitions can be settled. For example, would 'motor

per cent are 'Passenger motor vehicles'. 'Motor vehicles' are passenger motor vehicles for the purposes of *Customs Tariff Act 1987* (Cth) sch 3 [8703] and are defined in that Act to be 'motor cars and other motor vehicles principally designed for the transport of persons (other than public transport type passenger motor vehicles including station wagons and racing cars'. Luxury motor cars include motor cars or station wagons (including four-wheel drive vehicles) but not motor vehicles specially fitted out for transporting disabled persons.

63 *Sales Tax (Exemptions and Classifications) Act 1992* (Cth) sch 6.

64 *Sales Tax Assessment Act 1992* (Cth) s 5.

65 ESD Working Groups, above n 5, 138.

vehicles' include only passenger cars, or would the definition extend to light trucks, which in some cases are used as substitutes for cars? Does 'motor vehicles' mean simply the new car and its fitted options, or does it also include spare parts?[66] Do 'manufacturers' include Australian manufacturers of motor vehicles plus distributors of imported cars?

Regardless of the mechanics of introducing a skewed sales tax, the legislature will need to determine whether the tax surcharge on cars that exceed the 'luxury threshold' is payable in addition to the new skewed rate of sales tax for fuel-inefficient vehicles and whether the existing tax exemptions will still apply. For the greatest efficacy, it would seem appropriate to add the new sales tax rules on motor vehicle fuel efficiency as a supplement to, rather than a replacement of, the existing laws. The contrary approach would be counterproductive from an energy efficiency standpoint, and may even produce a result that is more favourable for the purchase of large, energy-inefficient vehicles. This could occur, for example, if the repeal of the luxury cars sales tax rate reduced the price of large, inefficient vehicles, even after allowing for the introduction of a skewed sales tax.

B *Petroleum Excise Taxes*

Commonwealth excise duties on petroleum products are imposed by the *Excise Tariff Act 1921* (Cth). Section 5(1) states that the duties of excise specified in the schedule are imposed in accordance with the schedule. The schedule lists various items and the rate of duty to be levied on each item. Leaded petrol is listed as item 11(A)(3)(b), unleaded petrol as item 11(A)(3)(c) and diesel fuel as item 11(E)(2)(a). The rate of duty specified in the schedule for unleaded petrol and diesel fuel is 42.797 cents per litre, while the rate for leaded petrol is 44.972 cents per litre. The price differential between leaded and unleaded petrol results from the introduction of s 6AAA in February 1994. This section allowed for an additional rate of excise duty of 2 cents (in the case of leaded petrol) and 1 cent (in the case of unleaded petrol) to be added to the rate of excise in both the February and the August indexation periods in 1994.[67] The cumulative effect of adding the additional rate in each indexation period in 1994 was to create a 2 cent price differential between unleaded and leaded petrol. Subsequent indexing for inflation has increased the price differential to a little over 2 cents per litre.

Section 6A of the Act provides the formula for indexation of the rates of duty to allow for consumer price inflation. The 'indexation period' is defined to be the six month period starting on 1 February 1984 and each subsequent six month period.[68] In other words, the rates of duty are adjusted for consumer price inflation every six months, in February and August of each year. The formula is

[66] The ESD Working Group recommended that a skewed sales tax component should only be payable on the new car and its fitted options, and not on spare parts which would be subject to the normal rate of sales tax.

[67] *Excise Tariff Act 1921* (Cth) s 6AAA(4)–(5) imposes the 2 cent per litre additional duty on leaded petrol. Section 6AAA(6)–(7) imposes the 1 cent per litre additional duty on unleaded petrol.

[68] *Excise Tariff Act 1921* (Cth) s 6A(1).

given in s 6A(4) as '*relevant rate* x *factor*'. The relevant rate is the rate of duty specified for an item in a schedule or the last previous substituted rate that was adjusted for inflation (s 6A(4)). The method of calculating the factor is specified in s 6A(5). For a February indexation period, the factor is calculated by dividing the CPI for the preceding December by the highest CPI number in respect of a December quarter that preceded that quarter (but not a December quarter before the December quarter 1983). For an August indexation period, the factor is calculated by dividing the CPI for the preceding June quarter by the highest CPI number in respect of a June quarter that preceded that quarter (but not a June quarter before the June quarter 1983). If the factor that is calculated is greater than 1, the duty in the schedule is substituted by the rate of duty calculated by the formula '*relevant rate* x *factor*'.[69]

There appear to be two options available for implementing an increased petroleum excise tax to improve vehicle fuel economy. First, the schedule to the *Excise Tariff Act 1921* (Cth) could be changed to reflect the additional rate of tax on both leaded and unleaded petrol. Any differential between leaded and unleaded fuel could be reflected in the rates set out in the schedule. Section 6AAA(4)–(7) would be repealed. The formula in s 6A to adjust for inflation could remain unchanged. The definition in s 6A of 'indexation period' would be amended to take into account the starting date of the new system. Thus, if the new excise rates were to apply from 1 February 1999, the definition of 'indexation period' would state that '"indexation period" means the six-month period starting on 1 February 1999 and each subsequent six-month period.'

Alternatively, the Act could be amended, as in 1994, to provide an additional rate for both leaded and unleaded petrol in both the February and August quarters of one year, for example, in 1999. The additional rate would be a rate imposed to encourage fuel economy. This additional rate could be imposed in the same manner as the differential rate, under s 6AAA(4)–(5) for leaded petrol, and s 6AAA(6)–(7) for unleaded petrol. Section 6AAA(4)–(5) will be taken as an example. Section 6AAA(4) reads:

> If the factor worked out under subsection 6A(5) in relation to an indexation period starting on 1 February 1994 or 1 August 1994 is more than 1, section 6A operates in respect of that period as if subsection 6A(4) provided, in relation to goods of an item of the Schedule in column 1 of Table 1, that this Act has effect as if, on the first day of that period, there were substituted for the relevant rate applying to the goods, a rate worked out using the formula:
>
> *relevant rate* x *factor* + *additional rate*
>
> where:
> - 'relevant rate' means the rate as defined in subsection (8) or if, by previous operation of section 6A and this section, this Act has effect as if another rate were substituted, the last substituted rate;
> - 'factor' means the factor worked out in relation to that period under subsection 6A(5); and

[69] *Excise Tariff Act 1921* (Cth) s 6A(4).

- 'additional rate', in relation to an indexation period, means the additional rate set out in the column of Table 1 that refers to that period.

Table 1 lists the items of the schedule in Column 1, including 11(A)(3)(b) (leaded petrol), with the additional rate for the indexation period starting on 1 February 1994 in Column 2, and the additional rate for the indexation period starting on 1 August 1994 in Column 3. Section 6AAA(4) achieves a similar effect for unleaded petrol. Section 6AAA(5) and (7) ensure that where there is no inflation (factor less than or equal to 1) the additional rate still applies.

Thus, a similar provision to s 6AAA(4) could be inserted to add an extra petrol charge to encourage fuel efficiency. The indexation period would be those starting on a different date, such as 1 February 1999 and 1 August 1999. The subsection would refer to a table for the items and new rates. The table would look as follows:

Column 1 Items of the Schedule	Column 2 Additional rate for the indexation period starting on 1 February 1999 (cents per litre)	Column 3 Additional rate for the indexation period starting on 1 August 1999 (cents per litre)
11(A)(3)(b) 11(A)(3)(c)	'x'	'x'

Section 6A(4) would need to be amended to define 'relevant rate' so that the rate calculated in the new section is substituted for the last rate when indexing for inflation in the following year (in our example, 2000).

C *Grants, Low Interest Loans or Loan Guarantees to Businesses or State or Territory Agencies for the Purchase of Fuel-Efficient Vehicles*

1 *State and Territory Government Funding and Administration*

State and Territory governments offer a wide range of financial measures to assist businesses, including grants, concessional or convertible loans and loan guarantees. There are no constitutional restrictions on the power of State or Territory governments to offer these financial incentives to businesses.

An illustration of loan guarantees to small businesses is the *Small Business Guarantees Act 1984* (WA), administered by the Small Business Development Corporation. This Act provides that the relevant Minister can provide guarantees for the repayment of the whole or part of a loan to a small business. The provision of the guarantee is subject to the conditions that the loan proposal was rejected solely because the borrower was unable to provide sufficient security, and that the loan monies must be for capital expenditure, start-up working

capital, or the expansion or diversification of an existing business (s 4(1)).[70] An illustration of interest-free loans is the 'Cleaner Industries Demonstration Scheme', administered by the South Australian Environmental Protection Authority. The scheme involves the provision of interest-free loans to business to assist with the installation of new equipment (up to a maximum of $100,000) and the payment of consultant's fees. It is open to all South Australian industries and applies to the reduction of all types of industrial pollutants and waste.[71]

State governments have offered a wide range of grants. Examples from New South Wales include:

- The Business Services and Regional Development Program, administered by the Department of State and Regional Development. Assistance under this program is given to firms establishing or expanding in regional locations. The type of assistance provided includes establishment grants and financial assistance for significant growth and/or expansion.[72]
- The Business Expansion Program, administered by the Department of State and Regional Development. This program aims to assist small businesses in improving their potential for growth and competitiveness by subsidising the cost of engaging independent experts to study the activities of individual businesses and to offer advice to management. The subsidy is provided on a dollar-for-dollar basis. The maximum subsidy is $5,000 for existing businesses, and $3,000 for new businesses.[73]
- The provision of research and development funding by the Department of Energy for a wide range of energy projects, including gas, electricity and coal industry technologies, renewable energy and alternative transport fuels.[74]

State programs to subsidise the purchase or lease of fuel-efficient motor vehicles are within the legislative power of the States. A State government department or statutory authority, such as the relevant environmental agency or department or authority in charge of economic development could administer the programs. The scheme would need to specify a number of requirements, such as:

- the determination of which motor vehicles would be subsidised (that is, there would need to be 'approved' motor vehicles and accepted fuel economy standards);
- eligibility criteria for financial assistance (for example, the size of the business or the number of vehicles in the fleet);
- the amount of the grant, subsidy, loan or guarantee;
- the terms of a loan (for example, repayment times and applicable interest rate); and
- appropriate administrative arrangements, such as application procedures.

[70] Industry Commission, *State, Territory and Local Government Assistance to Industry*, Draft Report (1996) Attachment 1D, 17.
[71] Ibid Attachment 1E, 33.
[72] Ibid Attachment 1A, 35.
[73] Ibid.
[74] Ibid Attachment 1A, 41.

2 *Commonwealth Government Funding (in Whole or in Part) and State Government Administration*

Pursuant to s 96 of the *Australian Constitution*, the Commonwealth government could finance the government expenditure required to fund grants or loans to businesses for the purchase of motor vehicles. Section 96 provides:

> During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any State on such terms and conditions as the Parliament thinks fit.[75]

Commonwealth grants to the States take three forms: general revenue grants, not tied by the Commonwealth to any specific purpose; special assistance grants; and specific purpose grants. The latter ties Commonwealth funding to the States to specific purposes, such as education, health, housing and roads.

Through s 96, the Commonwealth can undertake a range of public expenditure programs and offer specific purpose grants for matters which are within the constitutional province of the States. Pursuant to the High Court decision in *Attorney-General (Vic) ex rel Black v Commonwealth*,[76] any conditions attaching to the grant can be determined solely by the Commonwealth. Furthermore, according to Wilson J in that case:

> It is not necessary that the grant should benefit the State Treasury directly, or that the purpose of the grant should be within the express legislative power of the Commonwealth, or that the State should be the instigator or even a party to the initiation of the scheme.[77]

Thus, the Commonwealth could provide a grant to the States to assist in the funding of a scheme to subsidise the purchase or lease of fuel-efficient motor vehicles.

It is possible for a scheme to be jointly funded by the Commonwealth and the States. An example of this type of arrangement is the National Enterprise Improvement Service/AusIndustry program.[78] Under this program, the State and Commonwealth governments provided subsidies to small and medium sized businesses to improve their international competitiveness. The subsidies were provided to offset the costs of such matters as consultancy services, workshops and other services. The conditions imposed were that the eligible enterprises had to: be involved in exporting directly, be a supplier, or have the potential to export and/or replace imports; be financially sound; be able to demonstrate a commitment and capacity to implement change; have the potential for growth; and be involved in either the manufacturing or traded services sector.[79]

[75] For a detailed discussion of s 96, see especially Cheryl Saunders, 'Towards a Theory for Section 96' (Pt 1) (1987) 16 *Melbourne University Law Review* 1; Cheryl Saunders, 'Towards a Theory for Section 96' (Pt 2) (1987) 16 *Melbourne University Law Review* 699.

[76] (1981) 146 CLR 559.

[77] Ibid 660.

[78] Now abolished: Industry Commission, *Annual Report 1995–96* (1996)

[79] Industry Commission, above n 70, Attachment 1B, 40; Attachment 1E, 32–3.

3 *Commonwealth Government Funding and Administration*

The Commonwealth could make grants to businesses for the purchase of fuel-efficient motor vehicles pursuant to s 81 of the *Australian Constitution*, although the exact scope of this provision is unclear. Section 81 states:

> All revenues or moneys raised or received by the Executive Government of the Commonwealth shall form one Consolidated Revenue Fund, to be appropriated for the purposes of the Commonwealth in the manner and subject to the charges and liabilities imposed by this Constitution.

Three interpretations of the Commonwealth's power under this section have been expressed. The narrowest interpretation is that funds may be allocated to projects for which Parliament has validly legislated, or can legislate, under s 51 of the *Australian Constitution*.[80] Under the narrow view, s 81 only authorises the Commonwealth to allocate funds to subsidise the purchase of fuel-efficient motor vehicles if such legislation could validly be made under s 51. This would depend on whether the Commonwealth would have power to legislate to impose fuel-efficiency laws on motor vehicle manufacturers. Based on an earlier analysis of this issue,[81] it is submitted that such laws could be justified under the corporations power contained in s 51(xx) of the *Australian Constitution*, although the matter is not entirely free from doubt. Such laws might also be valid under s 51(xiii), which gives the Commonwealth legislative power over banking. The issue to be decided, in the context of this paper, is whether loans and subsidisation of interest rates are activities that can be described as 'banking'.[82] The High Court judges have provided various descriptions of the word. For example, Isaacs J described banking as 'a financial reservoir', receiving money and supplying that money to support commercial, industrial or other enterprises.[83] Starke J referred to banking as relating to the business of a banker and covering all those various functions that a bank undertakes.[84] In *Bank of New South Wales v Commonwealth*,[85] the High Court adopted a wide view of s 51(xiii). McTiernan J described s 51(xiii) as 'a grant of plenary legislative power which extends to the whole subject of banking, that is, the economic activity described by that name and all its adjuncts',[86] while Dixon J stated that banking should be seen as having a 'wide meaning and flexible application'.[87] The creation of the Commonwealth Bank and the Commonwealth Development Bank ('CDB') was stated to be supported by this power.[88] In light of this judicial interpretation, the granting or lending of money to fund motor vehicle purchases is likely to

80 *Attorney-General (Vic) ex rel Dale v Commonwealth* (1945) 71 CLR 237.
81 Bradbrook, 'Regulating for Fuel Efficiency', above n 19, 5.
82 Peter Hanks, *Constitutional Law in Australia* (2nd ed, 1996) 390.
83 *Commissioners of the State Savings Bank of Victoria v Permewan, Wright & Co Ltd* (1914) 19 CLR 457, 471.
84 *Melbourne Corporation v Commonwealth* (1947) 74 CLR 31, 69.
85 (1948) 76 CLR 1.
86 Ibid 392.
87 Ibid 334.
88 Ibid 191 (Latham CJ), 392 (McTiernan J).

constitute a banking activity within s 51(xiii). The subsidisation of interests rates is probably also classed as a banking activity.

Secondly, s 81 has been interpreted by the High Court in *Victoria v Commonwealth*[89] as giving the Commonwealth Parliament power to allocate funds to a wider range of projects that are of 'national concern'. Under this view, the 'purposes of the Commonwealth' include not only matters prescribed in the *Australian Constitution*, but also purposes implicit in the Commonwealth's role as a national government. This is because

> the complexity and values of a modern national society result in a need for co-ordination and integration of ways and means of planning for that complexity and reflecting those values ... [and] the complexity of society, with its various interrelated needs, requires co-ordination of services designed to meet those needs.[90]

Activities that fall within this description are those that require national rather than local planning.[91] Under this interpretation, subsidies for the purchase of motor vehicles will only be valid under s 81 if the encouragement of motor vehicle fuel efficiency requires planning on a national scale, or has a 'national, rather than a local, flavour'.[92]

Thirdly, it can be argued that s 81 confers power on the Commonwealth Parliament to allocate funds to any project which it chooses. Mason J stated in *Victoria v Commonwealth*:

> It is not lightly to be supposed that framers of the Constitution intended to circumscribe the process of parliamentary appropriation by the constraints of constitutional power and thereby to expose the items in an Appropriation Act to judicial scrutiny and declarations of invalidity. Consequences more detrimental and prejudicial to the process of Parliament would be difficult to conceive.[93]

Under this wide interpretation of s 81, the Commonwealth could appropriate money for subsidising the purchase of fuel-efficient motor vehicles by businesses. Such expenditure would not be subject to the doubts surrounding the application of s 51(xx) — the corporations power. This interpretation found support in *Davis v Commonwealth*,[94] where three of the seven High Court judges stated that *Victoria v Commonwealth* 'stands as authority for the proposition that the validity of an appropriation act is not ordinarily susceptible to effective legal challenge'.[95] However, this support must be qualified by the fact that the particular appropriation in that case was valid under the narrowest interpretation of s 81, and that the judges in the case did not consider it necessary to decide on the facts whether an appropriation could be challenged.

[89] (1975) 134 CLR 338.
[90] Ibid 412–13 (Jacobs J).
[91] Hanks, above n 82, 338.
[92] *Victoria v Commonwealth* (1975) 134 CLR 338, 413 (Jacobs J).
[93] Ibid 394.
[94] (1988) 166 CLR 79.
[95] Ibid 96 (Mason CJ, Deane and Gaudron JJ)

Given the lingering uncertainties regarding the validity of Commonwealth legislation in the area of grants and subsidies, and the funding constraints faced by the States, the most acceptable option for introducing financial grants is probably Commonwealth funding coupled with State administration of the system.

V CONCLUSION

As no mention of the common law has been made in this article, the question arises as to whether the courts have a role to play in furthering energy efficiency in the transport sector. The answer appears to be in the negative. Apart from isolated exceptions, energy law is entirely statute-based as the courts have shown themselves reluctant to intervene in energy policy issues.[96] They have adopted this approach on the basis that the courts should not intervene in matters of public policy, but should leave these matters for the legislature to resolve.[97] The development of energy efficiency and conservation policies certainly falls within this principle.

As mentioned earlier, regulatory and stimulatory measures can coexist and may well represent the best approach to advancing energy efficiency in the transport sector.[98] They do not have to be adopted together, however. The selection and timing of the introduction of such measures are ultimately political decisions. In recent years, the Commonwealth and State governments of both political persuasions have shown themselves, in a variety of contexts, to be antipathetic to regulation, preferring the principles of competition and stimulation.[99] Where regulation does occur, it is usually in situations where no viable alternative exists and is 'light-handed' in nature. The future does not therefore look promising for the adoption of the regulatory proposals for improving energy efficiency in the transport sector discussed elsewhere.[100] This means that the need for the stimulatory measures discussed in this article is even more critical, and that the enactment of such measures should not be delayed in the hope of introducing them concurrently with a regulatory regime. If regulation follows later, so much

[96] For a discussion of this issue, see especially Adrian Bradbrook, 'The Role of the Courts in Advancing the Use of Solar Energy' (1989) 9 *Journal of Energy Law and Policy* 135. Perhaps the best known exception occurred in the United States in *Prah v Maretti* 321 NW2d 182 (1982) where the Supreme Court of Wisconsin recognised a common law right of solar access in the absence of enabling legislation.

[97] Public policy has been described as 'an unsafe and treacherous ground for legal decision': *Janson v Dreifontein Consolidated Mines Ltd* [1902] AC 484, 500 (Lord Davey), and as a 'vague and unsatisfactory term ... lead[ing] to the greatest uncertainty and confusion': *Egerton v Brownlow (Earl)* (1853) 10 ER 359, 408–9 (Parke B).

[98] See Organisation for Economic Cooperation and Development, *Urban Travel and Sustainable Development* (1995) ch 8, which strongly supports the need for integrated strategies and states that such strategies were not only necessary but that their economic, environmental and social benefits greatly outweigh their costs.

[99] For a report on the benefits of competition in Australia see, eg, Independent Committee of Inquiry into Competition Policy in Australia, *National Competition Policy* (1993) ('*The Hilmer Report*').

[100] Bradbrook, 'Regulating for Fuel Efficiency', above n 19, 6.

the better, but stimulatory measures can provide a much needed boost to energy efficiency on their own.

While it is essential to focus on the details of legislative proposals to promote energy efficiency in the transport sector, it is important to keep in mind the larger objectives. The proposals discussed above should not be seen simply as a goal in themselves, but rather as part of the government's wider environmental objectives of reducing greenhouse gas emissions and minimising the depletion of the country's indigenous oil reserves. If a significant advance is to be made towards fulfilling these objectives, comprehensive legislation will be required that promotes energy efficiency and conservation, not only in the transport sector, but also in all other sectors of the economy. Comprehensive legislation will also be required in support of renewable energy sources, most of which exist in abundance in Australia but have sadly been neglected in the past.[101] Legislative reform in the transport sector should thus be seen in perspective as only one element, albeit a very important element, in the overall process of environmental reform. The challenge for the future is thus to develop comprehensive and far-sighted environmental laws throughout the energy sector.

[101] A legislative framework containing legal safeguards and fiscal incentives is required with respect to solar energy (in all its applications), wind energy, geothermal energy, biomass energy and small hydropower (up to approximately 10 megawatts capacity): see especially Adrian Bradbrook, 'A Legislative Framework for Renewable Energy and Energy Conservation' (1997) 15 *Journal of Energy and Natural Resources Law* 313.