



Current Issues Brief  
No. 2 2001–02

## Some Issues in Fuel Taxation

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## Some Issues in Fuel Taxation

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# Contents

- Major Issues . . . . . i
- Introduction . . . . . 1
- Revenue . . . . . 1
- Efficiency . . . . . 2
- Simplicity . . . . . 2
- Equity . . . . . 2
- Resource Allocation . . . . . 3
  - Excise as Taxes on Intermediate Inputs . . . . . 3
  - Diesel Fuel Rebate Scheme . . . . . 4
  - Road Use Charges and Externalities . . . . . 4
    - Externalities and Relative Tax Levels . . . . . 5
- Taxation Levels . . . . . 6
- Conclusion . . . . . 6
- Endnotes . . . . . 7
- Appendix: Fuel Taxation Inquiry Terms of Reference: Press Release . . . . . 9



# Glossary

## **Allocation of resources**

The distribution of resources such as land, labour and capital among different uses. Resources are said to be allocated 'efficiently' when they are used to produce the goods and services that consumers want most and are employed in the most productive industries. Taxes 'distort' the efficient allocation of resources by interfering with decisions to consume, save, work and invest. But taxes can improve resource allocation if used to reduce negative externalities. Resources can also be 'misallocated' if the charge for a good or service does not reflect the cost of the resources used in producing it. Resource misallocation reduces output and living standards.

## **Charges**

Levies on users of services to recover the cost of resources used. Unless the charge for an activity reflects the social cost of the resources used, resources will be misallocated.

## **Efficient tax**

Efficiency refers to the desirability of taxes to be 'neutral' in their effect on decisions such as whether to consume or save. A neutral tax would not affect relative prices. In practice, taxes 'distort' decisions—and hence resource allocation—by changing relative prices, for example, between labour and capital, current and future consumption, different goods/services, and labour and leisure. Since taxes affect relative prices, a goal of taxation policy is to minimise distortions.

## **Excise**

A tax levied on the domestic production of a good usually at a specific rate such as 38.143 cents per litre, the current rate of excise on petrol and diesel. In Australia, excise is levied on alcohol, tobacco and fuels.

## **Externalities (external costs and benefits)**

Externalities arise when one party imposes on, or provides to others, costs or benefits which are not captured in market transactions. For example, trucks impose 'negative' externalities such as noise and air pollution on residents living near highways, but there is no market transaction whereby the users of the truck services compensate residents for the cost of the externalities. But charging or taxing for all negative externalities is neither desirable nor feasible; some externalities, for example, have little impact. Nor does the presence of negative externalities necessarily justify a role for government since the social benefits of reducing externalities would have to exceed the social costs of intervention. A 'socially optimal' level of externalities lies somewhere in between doing nothing about the externalities and eliminating them; that is, the socially optimal level is the level that is

accepted in return for the benefits of the activity causing the externalities. The task of policymakers is to determine which externalities require a response and the appropriate response.

### **Incidence of taxation**

The economic incidence of a tax is the eventual distribution of the burden of a tax and refers to those who incur a reduction in their real incomes as a consequence of the tax. The economic incidence may differ from the legal incidence. For example, legal responsibility for collecting the GST falls on businesses, but the economic incidence falls on final consumption, that is, the goods and services that consumers buy.

### **Intermediate inputs**

Intermediate inputs are goods and services that businesses use to produce other goods and services. Taxes on intermediate inputs distort the allocation of resources.

### **Price elasticity of demand**

Elasticity refers to the responsiveness of the quantity demanded of a good to its own price. Petrol, diesel, alcohol and tobacco are examples of goods whose demand tends to be price 'inelastic' at least in the short term; that is, the quantity demanded is relatively insensitive to price changes. The efficiency cost of a tax is smaller when applied to goods and services characterised by inelastic demand than when applied to those whose demand is 'elastic'.

### **Social cost**

The private cost of an activity plus the cost that undertaking that activity imposes on others. Private costs of, for example, running a car include fuel, repairs and depreciation. The cost to society (social cost) includes private costs plus costs for which motorists are not directly charged such as road wear and negative externalities.

## Major Issues

On 8 July 2001, the Government announced an inquiry into fuel taxation. This paper examines some of the issues surrounding the main taxes, namely, the excises and the goods and services tax (GST) on petrol and diesel. The paper considers how well these taxes meet the traditional criteria for assessing taxes—economic efficiency, equity and simplicity—and their effects on the allocation of resources (see the Glossary for definitions of terms).

The level and structure of fuel taxes depend on the reasons for imposing the taxes. Governments levy taxes on fuels to raise revenue, to change the allocation of resources and to meet equity objectives. The main reason excise and the GST are levied on petrol and diesel seems to be to raise revenue. It is estimated that these excises will raise more than \$12 billion in 2001–02. The GST on petrol is estimated to raise about \$1.55 billion in 2000–01.

A common goal of taxation policy is to minimise the distortions (inefficiency) that taxes cause. Inefficiency can be reduced by taxing goods and services where the quantity demanded is relatively insensitive to price changes, that is, whose demand is price 'inelastic'. Taxes on petrol and diesel are relatively efficient because the quantity demanded does not change much in response to tax-induced price changes, at least in the short term.

But the excises on petrol and diesel, when used as intermediate inputs, may distort the allocation of resources. Petrol and diesel excises increase the relative costs and output prices of industries that use these fuels relatively intensively. The higher relative output prices reduce demand for the output of these industries causing resources to leave. *A New Tax System* (ANTS) cut petrol and diesel excises and replaced them with the GST. The economic incidence of the GST falls on final consumption, that is, the goods and services consumers buy. ANTS thus shifted the incidence from intermediate inputs to final consumers. This may have reduced resource misallocation. Eliminating excises on petrol and diesel and replacing them with the GST may improve resource allocation. This would, however, require a higher rate of GST than the standard rate of 10 per cent in order to be revenue-neutral.

The Diesel Fuel Rebate Scheme (DFRS) provides a rebate of the excise on diesel (and like fuels) used in specified activities. The effects of the Scheme on resource allocation are mixed. On the one hand, the DFRS benefits those industries—mainly mining and agriculture—that use diesel as intermediate inputs. The DFRS improves resource

allocation to the extent that these industries trade on international markets where they have little or no influence over prices. But the DFRS also distorts resource allocation because it discriminates among and within industries; other industries also incur diesel excise on their inputs but do not receive a rebate.

Gains in the efficiency of resource use can be realised from ensuring that road users pay through charges the social cost of the resources they use. But with exceptions such as toll roads and the charges that State governments levy to recover the cost of the damage heavy vehicles cause to roads, users do not pay directly for their use of roads. Fuel taxes can be a proxy for road use charges in that the total amount of tax a user pays through fuel consumption is related to distance travelled and vehicle weight. But a limitation of using fuel taxes as a proxy for charges is that the amount of tax a user pays does not reflect the social cost of road use. For example, the amount of GST per litre depends on the pre-GST price and not on the social cost of road use.

Taxes can, however, have a role in ensuring that road users face the cost of negative externalities they impose on others. Ideally, taxes should be set at levels that reduce negative externalities to socially optimal levels. This does not mean that externalities should be eliminated—for example, by abolishing private car use—because that would impose unacceptable costs on society. Rather, it means that the cost of the externalities has to be balanced against the benefits of private car use.

The levels of tax on petrol and diesel (and other petroleum fuels) do not seem to be intended to take account of externalities. To improve resource allocation, taxes should be highest on the fuels that pollute the most. Currently, the excise on petrol and diesel is the same. But the amount of GST is currently higher on diesel than on petrol because the pre-GST price of diesel is higher. However, if the relative prices of diesel and petrol were to be reversed—and, historically, diesel has usually been cheaper than petrol—the amount of GST on diesel would fall below that of petrol.

The cost of negative externalities is generally higher in urban areas than in regional areas. The Diesel and Alternative Fuels Grants Scheme (DAFGS) recognises this in that it reduces the cost of diesel (and like and alternative fuels) used in regional areas below that used in urban areas. Under the scheme, grants are paid for business-related, on-road use of diesel by certain vehicles operating in regional areas. The grant effectively reduces diesel excise to around 20 cents a litre in regional areas whereas journeys in metropolitan areas pay the full amount of excise of around 38 cents. But the scheme takes account only of externalities associated with trucks but not other vehicles. Moreover, the amount of the grant does not seem to be based on any assessment of the difference in the cost of externalities between urban and regional areas.

Petrol and diesel excises are relatively easy to administer because there are not many collection points. The excises and the GST are regressive in that people on low incomes pay a higher proportion of their incomes in the form of tax than people on high incomes, given the same level of fuel use.

## Introduction

On 8 July 2001, the Government announced an inquiry into fuel taxation.<sup>1</sup> The terms of reference are set out in Appendix 1. An inquiry is welcome because the history of the taxation of fuels is noteworthy more for ad hoc than for rational policy decisions. This paper canvasses some of the issues surrounding fuel taxation and draws on and updates two papers written by Mr Denis James of the Department of the Parliamentary Library.<sup>2</sup> The paper examines why governments levy taxes on fuels and how well they meet the traditional criteria for assessing taxes, namely, economic efficiency, equity and simplicity. In particular, the paper canvasses some of the issues raised in paragraph 4 (a) of the terms of reference, namely:

The effects on the efficient allocation of resources, taking into account the pivotal role that petroleum products play in economic activity; environmental outcomes, including in relation to transport; and as an input to production more generally.

The paper focuses on the taxation of petrol and diesel because they are the most widely used fuels. However, the issues raised also apply to the taxation of other petroleum products such as aviation kerosene, fuel oil, heating oil and kerosene. The paper does not deal with the taxation of petroleum production in Australia and so does not discuss the resource rent tax, crude oil excise and petroleum royalties.<sup>3</sup>

## Revenue

Petrol and diesel are subject to excise,<sup>4</sup> and the goods and services tax (GST) which was introduced on 1 July 2000 as part of *A New Tax System* (ANTS). The Government reduced the excises on petrol and diesel by 6.656 cents per litre to offset the impact of the GST on prices. Petrol and diesel excises are the main source of revenue from fuel taxes and it is estimated that they will raise more than \$12 billion in 2001–02.<sup>5</sup> Estimated GST revenue from petrol in 2000–01 is \$1.55 billion.<sup>6</sup>

Governments levy taxes on fuels to raise revenue, change the allocation of resources and to meet equity objectives. It can be argued that the main reason petrol and diesel excises are levied is to raise revenue.<sup>7</sup> The Minister for Transport and Regional Services, the Hon. John Anderson, considers fuel excise to be a source of general revenue:

Fuel excise today is a source of general revenue, just like income and other taxes.<sup>8</sup>

Recent decisions have important implications for future revenue from tax on petrol and diesel. The Government's decision of 1 March 2001 to abolish indexation of the excises on petrol and diesel to changes in the consumer price index will reduce future revenues considerably.<sup>9</sup> In the absence of discretionary changes to excise rates, the real value of the excises will fall with inflation. The partial replacement of the excises with the GST has also affected revenue. GST revenue depends on pre-GST prices (as well as volume). GST revenue will therefore depend on the factors that influence fuel prices. In the past year or so, these factors have been principally the international price of oil and the exchange rate between the US and Australian dollars.<sup>10</sup>

## **Efficiency**

As noted, a criterion used to assess taxes are their economic efficiency. Excises and the GST on petrol and diesel are relatively efficient in that they do not distort consumer/user behaviour much. That is because the quantity of petrol and diesel demanded is generally relatively insensitive to tax-induced price changes at least in the short term, that is, demand is 'price inelastic'.<sup>11</sup> Consequently, even though raising the excise rate may reduce the volume of fuel demanded, the fall in volume is only small with the result that tax revenue increases.<sup>12</sup>

## **Simplicity**

Excises have the merit of being relatively easy to administer since there are only a few companies responsible for paying them. GST on petrol and diesel is collected as part of the broader system for collecting the GST and so is subject to the same administrative costs as that system.

## **Equity**

The excises and GST on petrol and diesel taxes are regressive in that people on low incomes pay a higher proportion of their incomes as tax than people on high incomes, given the same level of fuel use.<sup>13</sup>

The partial shift from excise to the GST has had equity consequences. Under the current system, all users pay the same amount of excise per litre but the amount of GST per litre varies. Thus the total amount of tax—excise plus GST—differs depending on the pre-GST price. For example, petrol and diesel pre-GST prices are generally higher in country areas than in urban areas. Consequently, the amount of GST per litre that country users pay is higher than in the cities. The Government introduced the Fuel Sales Grants Scheme to offset the effect of the GST on prices in rural and remote areas.<sup>14</sup>

One way of ensuring that the amount of tax per litre is the same for all users would be to abolish the GST on petrol and diesel and revert to levying excise only. To ensure revenue-neutrality, excise rates would have to rise. The distributional effects would depend partly on whether users are final consumers or businesses. Country final users, for example, would experience a reduction in total tax paid per litre since the reduction in GST would more than offset the rise in excise. Businesses would not be affected by the abolition of GST because they claim GST as an input tax credit. Businesses would, however, incur the higher excise on their fuel inputs.

Another way of ensuring that the amount of tax per litre is the same for all users would be to keep excise at the current level and abolish the GST on petrol and diesel. But to remain revenue-neutral, other taxes would have to rise.

## **Resource Allocation**

### **Excise as Taxes on Intermediate Inputs**

Taxing intermediate inputs distorts the allocation of resources. Excise increases the cost of petrol and diesel that businesses use as intermediate inputs particularly in industries that use these fuels relatively intensively. This increases the output prices of such industries relative to the prices of other industries. This, in turn, lowers demand for the output of the industries that use fuel relatively intensively, causing resources to leave them. Taxes on intermediate inputs fail the efficiency criterion because they distort consumption and production.

The ability of businesses to pass on excise on inputs as higher prices depends on factors such as the level of competition. Excises can, for example, reduce exports (and potential exports) by feeding directly and indirectly into exporters' cost structures. This is perhaps most obvious in the case of mining and agricultural exports, whose prices are set on world markets ('price takers'). In the absence of the Diesel Fuel Rebate Scheme (discussed below), exporters of mining and agricultural goods would bear excise as lower profits.

The ANTS package reduced the excises on petrol and diesel and substituted the GST. This reduced the taxation of intermediate inputs and shifted the incidence of tax on to final consumption, that is, the goods and services that consumers buy. This shift in the incidence may have improved the allocation of resources.<sup>15</sup> One way to improve resource allocation may be to abolish the excises and replace them with GST. But to be revenue-neutral, the GST rate on petrol and diesel would have to be higher than the standard rate of 10 per cent. This would increase administration and compliance costs.

## Diesel Fuel Rebate Scheme

Replacing excise with GST would also allow most of the Diesel Fuel Rebate Scheme (DFRS) to be abolished. The DFRS reduces the cost of diesel used off-road for particular purposes by providing a rebate of excise duty.<sup>16</sup> The scheme's history is convoluted and its rationale is unclear. But its main effect is to act as an industry subsidy scheme.<sup>17</sup> The main beneficiaries are the mining and agricultural industries.

The effects of the scheme on resource allocation are mixed. On the one hand, the DFRS offsets the distortionary effect of the excise on the mining and agricultural industries that use diesel as an intermediate input. The DFRS has a positive effect on resource allocation to the extent that these industries are price takers in export markets. But the DFRS also distorts resource allocation because it:

- discriminates among industries. While the DFRS offsets the distortionary effect of excise on intermediate inputs on some industries, non-eligible industries also experience distortions but are not 'compensated'. Moreover, the benefit to eligible industries is at the expense of the non-eligible industries whose taxes help pay for the DFRS. Industries other than mining and agriculture conduct activities off-road but are not eligible<sup>18</sup>;
- contains an incentive to use diesel rather than petrol because the DFRS applies to diesel (and 'like' fuels) but not petrol (and other fuels);
- discriminates among activities within an industry. For example, in the forestry category, fuel used in milling timber is eligible, but fuel used after that point in the production process is not.

The DFRS is estimated to cost \$1.98 billion in 2001–02.<sup>19</sup>

## Road Use Charges and Externalities

Efficient resource allocation requires road users to pay the cost of the resources they use through charges and taxes.<sup>20</sup> Thus road users should pay the cost of negative externalities—such as environmental costs and congestion—as well as private costs such as fuel and repairs to vehicles. If road users do not pay the social cost they are, in effect, subsidised by taxpayers who pay for the construction and maintenance of roads and those who bear the externalities.

Road users do not, in general, pay directly for their use of roads. Exceptions are toll roads, and the heavy vehicle road-use charges that State governments impose to recover the cost of damage that heavy vehicles cause to roads.<sup>21</sup> In the absence of direct charges, fuel taxes are a proxy for the cost of road use in that the total amount of tax a user pays through fuel consumption is related to distance travelled and vehicle weight. But a limitation of this approach is that the amount of tax a user pays does not vary directly with the cost of

externalities. For example, the cost of traffic congestion is higher in cities than in country areas but the amount of GST per litre depends not on the cost of externalities but on the pre-GST price.

The cost of transport externalities alone is considerable. The Bureau of Transport Economics estimated that traffic congestion in major Australian cities costs in the order of \$12.8 billion yearly.<sup>22</sup> Negative externalities distort resource allocation in that their production is greater than is socially optimal.

#### **Dealing with Externalities**

'Negative externalities impose costs on the community. But eliminating them altogether (for example, by banning cars totally) would also impose significant costs. A socially optimal level lies somewhere in between, with some amount of 'bad' tolerated in exchange for the benefits of economic activity. However, the social benefits of reducing an externality must outweigh the social costs of doing so, if the community is to benefit overall.'

Source: Bureau of Transport and Communications Economics, 'Externalities in the Transport Sector', Information Sheet 10.1, January 1998 at <http://www.dotrs.gov.au/ftp/pub/bte/info10a.pdf>

There is a prima facie case for governments to impose taxes to reduce negative externalities. But for society to benefit, the social benefits of intervention would have to outweigh the social costs.

#### **Externalities and Relative Tax Levels**

The taxes on fuels generally and petrol and diesel in particular do not seem to be related to the cost of externalities. For example, Professor Freebairn of Monash University has noted that:

... the present tax arrangements are poor indicators or measures of the externalities involved. If taxation of petroleum products is designed to deal with greenhouse-gas pollution, why are off-road uses of diesel, the burning of coal for electricity generation and other purposes ... exempt?<sup>23</sup>

The point can be illustrated by the example of air pollution. To improve resource allocation, taxes should be highest on the fuels that pollute the most.<sup>24</sup> But, in practice, relative tax levels seem to be unrelated to pollution externalities. In most OECD countries, tax on diesel is lower, per litre, than tax on petrol.<sup>25</sup> In Australia, the excise on petrol and diesel is the same but the amount of GST is currently higher on diesel than on petrol because the pre-GST price of diesel is higher. However, if the relative prices of diesel and petrol were to be reversed, the GST on diesel would fall below that on petrol. Historically, diesel has usually been cheaper than petrol. One way to correct for pollution externalities would be to have different rates of excise on different petroleum fuels. But that would also distort resource allocation because that would tax intermediate inputs.

## Diesel and Alternative Fuel Grants Scheme

The cost of negative externalities differs by location, time of day and other factors. For example, the cost of externalities is generally higher in urban areas than in rural areas. The Diesel and Alternative Fuel Grants Scheme (DAFGS) recognises this. Under the scheme, Commonwealth grants are paid for the business-related on-road use of diesel (and like and alternative fuels) in all vehicles over 20 tonnes gross vehicle mass (GVM), and in vehicles weighing between 4.5 and 20 tonnes GVM operating in regional areas. The grant is now 18.510 cents per litre and effectively reduces diesel excise to around 20 cents a litre for business users operating in regional areas. In contrast, businesses making non-eligible journeys in metropolitan areas pay the full amount of excise of around 38 cents. But the DAFGS takes account of externalities associated only with the use of trucks but not other vehicles. Moreover, the amount of the grant does not seem to be based on any assessment of the cost of externalities.

## Taxation Levels

The existence of negative externalities raises the question of what level fuel taxes would need to be to offset the cost of externalities. As noted, there is a *prima facie* case for governments to impose taxes to reduce externalities to socially optimal levels. The first step in doing so is to estimate the value of externalities, and a number of techniques are available.<sup>26</sup> A recent study of petrol taxes in Britain estimated that the health, congestion and environmental costs of petrol use are in the order of 25 pence (around A\$ 0.70) per litre of petrol whereas the excise is around 50 pence (A\$ 1.40) a litre.<sup>27</sup> The remaining 25 pence per litre could be thought of as a revenue tax. However, these estimates are for the total cost of the externalities. The socially optimal level of externalities is presumably smaller than if the externalities were eliminated. Hence, the socially optimal level of petrol excise would be less than 25 pence so that the revenue component would be higher than 25 pence.

## Conclusion

There are no simple answers as to how fuels should be taxed. Governments must take many factors into account when considering the level and structure of fuel taxes including revenue, resource allocation, income distribution, the environment, administrative simplicity, and the efficiency of the taxes. This paper has examined how well the Commonwealth's taxes on petrol and diesel and subsidy schemes meet the traditional criteria for assessing taxes—economic efficiency, equity and simplicity—and their effects on the allocation of resources. It has found that no one set of taxes can simultaneously satisfy all criteria. The paper has also pointed to the potential to use fuel taxes to improve the environment but that doubt exists as to their optimal levels and structure. Whatever tax arrangements the Government finally settles on, the arrangements will inevitably entail trade-offs among the competing factors.

## Endnotes

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1. On 18 August 2001, the Committee issued an Issues Paper which can be obtained through the web site at <http://fueltaxinquiry.treasury.gov.au/>. The Industry Commission's *Petroleum Products*, Report no. 40, 5 July 1994, was the last major independent review of the taxation of petroleum products.
2. D. James, 'Revenue Before Rhetoric: A Critique of Fuel Taxation in Australia', *Current Issues Brief*, no. 50, Department of the Parliamentary Library, Canberra, 1995, and 'Beer and Cigs Up': A Recent History of Excise in Australia', *Background Paper*, no. 5, Department of the Parliamentary Library, Canberra, 1996.
3. For discussions of these taxes, see 'Crude Oil Excise and Royalties' *Research Note*, no. 29, Department of the Parliamentary Library, 2001, and 'Petroleum Resource Rent Tax', *Research Note*, no. 20, Department of the Parliamentary Library, Canberra, 2001.
4. Since 2 March 2001, the rate of excise on unleaded petrol, diesel and lead replacement petrol has been 38.143 cents per litre.
5. Budget Paper No. 2, 2001–02, p. 5–15.
6. Estimate prepared by the Statistics Group, Department of the Parliamentary Library. It is difficult to calculate revenue from diesel since part is rebated under the Diesel Fuel Rebate Scheme.
7. James, op. cit., 'Revenue Before Rhetoric: A Critique of Fuel Taxation in Australia'.
8. Commonwealth Minister for Transport and Regional Services, Address to the Road Transport Forum Annual Convention, 'Transport Beyond 2000', 1 May 1999.
9. The estimated revenue reductions are \$150 million in 2001–02; \$425 million in 2002–03; \$785 million in 2003–04; and \$1135 million in 2004–05. See Budget Paper No. 2, 2001–02, p. 40.
10. See 'Petrol Price Rises: Causes and Consequences', *Research Note*, no. 6, Department of the Parliamentary Library, 2000, at <http://www.aph.gov.au/library/pubs/rn/2000-01/01RN06.htm>
11. In the longer term, scope exists for consumers to change behaviour. For example, in response to the sharp increase in fuel prices in the 1970s, consumers bought more fuel efficient cars.
12. The question remains, however, whether taxing fuels is the most efficient way of raising revenue. Alternative ways of raising revenue such as higher personal income tax or GST rates, would also have efficiency consequences. It would be necessary to compare the efficiency consequences of taxing fuels with those of the other taxes.
13. It could be argued that welfare objectives are best attained directly through programs designed specifically for the task.
14. For a description of the scheme, see the Australian Taxation Office at [http://www.ato.gov.au/content.asp?doc=/content/tax\\_reform/nat3515.htm](http://www.ato.gov.au/content.asp?doc=/content/tax_reform/nat3515.htm)

15. Whether resource allocation improves depends on the size of the distortions from taxing intermediate inputs compared with the distortions from taxing final consumption. A widely-held view is that taxing intermediate inputs is less distorting than taxing final consumption.
16. Rebate is paid on diesel and like fuels used in the following activities, subject to certain exemptions: mining operations (use of any vehicle on a public road is not eligible); primary production, being forestry, agriculture and fishing (use of a road vehicle on a public road is not eligible); at residential premises to generate electricity in the provision of normal domestic services; at hospitals, nursing homes, homes for the aged and any other institution providing medical or nursing care; rail transport in the course of carrying on an enterprise; and marine transport in the course of carrying on an enterprise.
17. For a brief discussion of the origins of and rationale for the scheme, see R. Webb, 'Petrol and Diesel Excises', *Research Paper*, no. 6, Department of the Parliamentary Library, Canberra, 2000, at <http://www.aph.gov.au/library/pubs/rp/2000-01/01RP06.htm>
18. It is misleading to refer to the scheme as the off-road scheme. While a criterion for eligibility is that the activity must be off-road, other activities are conducted off-road but are ineligible.
19. Treasury, Portfolio Budget Statement 2001–02, p. 186.
20. This paper is not concerned with the legal distinction between charges and taxes. The Passenger Movement Charge, for example, was introduced as a cost recovery measure to recoup the cost of Customs, Immigration and Quarantine processing of inward and outward passengers and the cost of issuing short-term visitor visas. But in law, the Charge is a tax.
21. For a discussion of these charges, see R. Webb, 'Cost Recovery in Road and Rail Transport', *Research Paper*, no. 28, Department of the Parliamentary Library, Canberra, 2000 at <http://www.aph.gov.au/library/pubs/rp/1999-2000/2000rp28.htm>
22. Bureau of Transport Economics, 'Urban Transport—Looking Ahead', Information Sheet 14, 1999.
23. J. Freebairn, 'Options for Reforming Australia's Indirect Taxes', *Agenda*, vol. 4, no. 2, p. 168.
24. P. O'Brien and A. Vourc'h, 'Encouraging Environmentally Sustainable Growth: Experience in OECD Countries', Economics Department Working Papers, no. 293, 9 May 2001, p. 5. at [http://www.oilis.oecd.org/oilis/2001doc.nsf/linkto/eco-wkp\(2001\)19](http://www.oilis.oecd.org/oilis/2001doc.nsf/linkto/eco-wkp(2001)19)
25. *ibid.*
26. There are a number of techniques to estimate the value of externalities. See Bureau of Transport and Communication Economics, 'Externalities in the Transport Sector', Information Sheet 10.1, January 1998 at <http://www.dotrs.gov.au/ftp/pub/bte/info10a.pdf>
27. I. Parry, 'Are Gasoline Taxes in Britain too High?', Resources for the Future Issue Brief, April 2001 at [http://www.rff.org/issue\\_briefs/PDF\\_files/gastax\\_revsd2.pdf](http://www.rff.org/issue_briefs/PDF_files/gastax_revsd2.pdf). Reviewed in *The Economist* of 19 May 2001, p. 75.

## Appendix: Fuel Taxation Inquiry Terms of Reference: Press Release

1. The inquiry is requested to examine the total existing structure of Commonwealth and state taxation of petroleum products, and petroleum substitute products, particularly for transport and off road use (but not for commercial electricity generation) and related rebates, subsidies and grants, including the proposed Energy Grants (Credits) Scheme and other fuel related measures proposed as part of *Measures for a Better Environment*.
2. The inquiry will not impact upon the government's commitment that the Energy Credits Scheme will maintain benefits equivalent to those available under the Diesel and Alternative Fuels Grants Scheme and the Diesel Fuel Rebate Scheme.
3. Further, given the government's concern about the impact of high world oil prices, the inquiry will not consider options that involve long-term real increases in the effective level of diesel or petrol taxes paid by business or private consumers.
4. The inquiry will report on:
  - a. The effects on the efficient allocation of resources, taking into account the pivotal role that petroleum products play in economic activity; environmental outcomes, including in relation to transport; and as an input to production more generally;
  - b. The interplay between fuel taxation and related issues such as petroleum pricing, cost structures and marketing arrangements with particular attention to the effects on competition (in particular, access to supply) and the efficiency and international competitiveness of Australian industries.
  - c. The options available to the government to reduce or eliminate any adverse effects reported under (a) and (b) above, including any anomalies or inequities arising from the existing arrangements for industry and consumers;
  - d. The options available to the government to reduce the cost or improve the effectiveness of the administration of the existing and proposed arrangements; and
  - e. Implementation strategies for options identified under (c) and (d) above.
1. The inquiry should have regard to the impact of existing arrangements and proposed changes on:
  - a. The overall economic performance of the Australian economy, including promoting domestic competition and international competitiveness;
  - b. Fuel suppliers, downstream industries and consumers;
  - c. The welfare of regional, rural and remote communities;
  - d. Externalities associated with transport;

*Some Issues in Fuel Taxation*

- e. The use of fuels that would deliver better air quality and contribute to greenhouse objectives; and
- f. The flexibility and sustainability of government revenue.

The inquiry should take into account the government's wish to achieve overall budget neutrality in relation to petroleum products in its recommendations.

The existing income tax arrangements affecting petroleum producers and distributors and excise on the production of crude oil are excluded from the scope of the review.

Source: Hon. P. Costello MP and Senator the Hon. N. Michin, Treasurer's Press Release No. 50, 8 July 2001 at <http://www.treasurer.gov.au/treasurer/pressreleases/2001/050.asp>