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## Glossary

**Ad valorem tax.** A tax based on value, whose rate is applied as a percentage of the base. An example is the GST. See also **specific tax**.

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

**Alternative fuels.** Alternatives to petrol and diesel. Alternative fuels include liquefied petroleum gas, liquefied natural gas, compressed natural gas, ethanol, biodiesel, methanol, and dimethyl ether.

**Biodiesel.** Esterified vegetable oil produced from different oil-containing crops such as canola. Biodiesel can also be made from waste vegetable oils and animal fats.

**Biofuels.** Ethanol and biodiesel.

**Charges.** Levies on users of services to recover the cost of resources used. If the charge for an activity does not reflect the social cost of the resources used, resources will be misallocated.

**Diesel and Alternative Fuels Grants Scheme (DAFGS).** The predecessor of the on-road component of the Energy (Grants) Credit Scheme, which replaced the DAFGS on 1 July 2003. Also called the 'on-road' scheme, DAFGS reduced business transport costs in regional areas. The Scheme provided a grant to eligible businesses of 18.51 cents per litre for diesel fuel used (and grants for the use of eligible alternative fuels). The grant was available for the on-road use of diesel and alternative fuels in vehicles with a gross vehicle mass (GVM) of 4.5 tonnes or more and which were registered for use on public roads. For vehicles with a GVM of at least 4.5 tonnes but less than 20 tonnes, the grant was generally not payable for trips that were solely within a defined metropolitan area.

**Diesel Fuel Rebate Scheme (DFRS).** Also called the 'off-road' scheme, the DFRS provided a rebate of excise duty on diesel and 'like' fuels used in selected off-road business activities. The off-road component of the Energy Grants (Credits) Scheme replaced the DFRS on 1 July 2003.

**Diesel sulphur content standards.** The current standard—which came into effect on 31 December 2002—for the sulphur content of diesel is 500 parts per million (ppm). On 1 January 2006, the new standard will be 50 ppm—the so-called ultra-low sulphur diesel standard. A new standard is under consideration for the period from 2009.

**Effective rate of excise.** The net amount of excise paid on a fuel. The net amount is the excise less any grant which reduces the cost of the excise.

**Efficient tax.** Efficiency refers to the desirability of taxes to be ‘neutral’ in their effect on economic behaviour such as decisions 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 work and leisure. Since all taxes affect relative prices, a goal of taxation policy is to minimise distortions.

**Energy Grants (Credits) Scheme.** Under this scheme, which came into effect on 1 July 2003, grants are paid for the use of diesel and alternative fuels used on-road and off-road in selected activities and locations. The scheme has two components: the off-road and the on-road. In the case of the off-road component, the main beneficiaries are the agricultural and mining sectors that use diesel. The on-road component provides grants for the use of diesel and alternative fuels used in the road transport of goods and passengers. The scheme largely replicated (with modifications) the Diesel Fuel Rebate Scheme and the Diesel and Alternative Fuels Grants Scheme. The Government has announced that the Energy Grants (Credits) Scheme will be replaced by a broader system of fuel tax credits from 1 July 2006.

**Ethanol.** An alcohol ( $C_2H_5OH$ ) used for a variety of purposes including for adding to petrol to create fuel ethanol.

**Excise and customs duties.** Excise is a tax on a step in the production, manufacture, sale or distribution of goods (see High Court, Ha case, 1997). Customs duties are taxes imposed on imports and currently apply to a much broader range of goods than excises. Customs duties on products, which would be excisable if not imported (that is, on excise-equivalent goods) are usually set at the same rate to achieve equitable tax treatment. The *Excise Act 1901* and *Customs Act 1901* govern the major specific excises and customs duties. But other acts also impose these taxes; the wine equalisation tax, luxury car tax, and primary production levies are examples of other excises/customs duties.

**Externalities.** Externalities (also called external costs and external benefits) arise when one party imposes on, or provides to others, costs or benefits that 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 transaction whereby the users of the truck services compensate residents for their loss of amenity. Air pollution and greenhouse gas emissions are external costs or ‘negative’ externalities of fuel use.

**Fuel ethanol.** A blend of ethanol and petrol. A blend containing 10 per cent ethanol is commonly called E10.

**Gross Vehicle Mass (GVM).** The maximum loaded mass of a vehicle.

**Incidence of a tax.** Refers to who actually bears the burden of a 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 wholly or partly on consumers in the form of higher prices of the goods and services they buy.

**Intermediate inputs.** Intermediate inputs are goods and services that businesses use to produce other goods and services. Taxes on intermediate inputs can distort resource allocation.

**Low sulphur premium unleaded petrol.** Petrol with less than 50 parts per million of sulphur.

**Measures for a Better Environment.** The environmental measures the Government agreed with the Australian Democrats in order to pass the GST legislation through the Senate.

**Morbidity.** The incidence or prevalence of a disease or sickness in a population.

**Mortality.** The ratio of the total number of deaths to the total population.

**Price elasticity of demand.** Elasticity refers to the responsiveness of the quantity demanded of a good to a change in its 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 economic 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'.

**Regular diesel.** Diesel containing more than 50 parts per million of sulphur. Also called 'high sulphur' diesel. This product is no longer generally available.

**Ultra low sulphur diesel (ULSD).** Diesel containing less than 50 parts per million of sulphur. ULSD will be mandated on 1 January 2006.

**Social cost.** The private cost of an activity plus the cost that undertaking the activity imposes on others. Private costs, for example, of running a car include fuel, repairs and depreciation. The cost to society (social cost) includes private costs plus costs which motorists do not pay and impose on others such as congestion, and noise and air pollution.

**Specific tax.** A tax levied as an amount of money per unit of the commodity, for example, cents per kilogram. This is more usually called a 'volumetric tax. An excise need not necessarily be a volumetric tax, for example, the wine equalisation tax and the pre-1999 tobacco tax.

## Executive summary

Excise is a tax levied on certain goods produced in Australia. The main goods from which excise duty revenue derives are petroleum and other fuel products, crude oil, alcoholic beverages, and tobacco.

The Constitution gives the Commonwealth exclusive power to levy excise. The main reason the Commonwealth imposes excise is to raise revenue. In 2004–05, excise accounted for almost ten per cent of total Commonwealth taxation revenue (including GST).

Legal liability to pay excise—the legal incidence—lies with the producer of the commodity. But producers may be able to ‘shift’ some of the excise to consumers in the form of higher prices—the ‘economic’ incidence. The proportion of the excise which consumers pay and the proportion that producers bear depends on the sensitivity of the quantity of the good demanded to changes in its price (own-price elasticity of demand), and on the availability of substitutes. The evidence indicates that people on low incomes tend to pay a higher proportion of their incomes in excise than people on high incomes although this depends on how much of the commodity they consume.

A reason excise is imposed on petrol, tobacco and alcoholic beverages is that the quantity demanded of these products tends to be relatively insensitive to changes in their prices. Consequently, a rise in the excise rate increases revenue. Governments have also used excise to limit consumption of products such as tobacco to lower the social costs (for example, health costs) resulting from their use.

### **Petrol and diesel**

Petrol and diesel are the two most important sources of excise revenue. Governments have changed excise on these fuels for several reasons since the mid-1990s:

- in February 1994, the Government imposed an additional one cent per litre on leaded petrol to discourage its use in favour of unleaded petrol
- on 6 August 1997, the Government increased the excise on petrol and diesel by 8.1 cents per litre in response to the High Court’s ruling on the constitutional validity of state business franchise fees. The Commonwealth paid the additional revenue to the states as revenue replacement payments. The payments ceased when the GST was introduced
- the Howard Government reduced excise on petrol and diesel as part of its tax reforms. On 1 July 2000, the Government reduced excise by 6.656 cents per litre to compensate for the imposition of the GST. The Government did not reduce excise by the full 8.354 cents per litre because it claimed that its tax reforms would result in cost savings at refineries. When these savings did not appear to be forthcoming, the Government reduced excise by a further 1.5 cents per litre on 2 March 2001

- on 1 March 2001, the Government ended the biannual indexation of excise on petrol and diesel to the consumer price index. Consequently, the real value of the excise—that is, taking inflation into account—has fallen. Had indexation continued, the rate would now be about five cents higher. In March 2002, the Australian Government-commissioned Fuel Taxation Inquiry recommended the reintroduction of indexation but the Government rejected this recommendation, and
- on 1 July 2003 and again on 1 January 2004, the Government imposed an additional one cent per litre on high-sulphur diesel to encourage the early adoption of ultra low-sulphur diesel (50 parts per million or less of sulphur), which became standard on 1 January 2006.

### **Alternative fuels**

On 12 September 2002, the Government announced that ethanol would be subject to excise at the same rate as unleaded petrol (38.143 cents per litre). A production subsidy equal to the excise was also provided to domestic producers thus bringing the effective rate to zero. The Government also imposed customs duty of 38.143 cents per litre on imported ethanol. The effect is to protect domestic ethanol producers from competition from cheaper imports. The initial period for the subsidy was from 18 September 2002 to 17 September 2003. On 13 May 2003, the Government extended the subsidy period to 30 June 2008. On 29 March 2004, the Government again extended the subsidy period, this time to 30 June 2011. The Government intends to phase out the subsidy by 1 July 2015 when the proposed effective excise rate will be 12.5 cents per litre.

On 18 September 2003, biodiesel was made subject to excise at the same rate as ultra low-sulphur diesel (38.143 cents per litre). At the same time, grants of the same amount were made available for the production (and import) of biodiesel, bringing the effective rate to zero. The Government proposes to reduce the grants and to impose excise at the effective rate of 19.1 cents per litre by 1 July 2015.

### **Aviation gasoline and kerosene**

The Government levies excise on aviation gasoline (AVGAS) and aviation kerosene (commonly known as aviation turbine fuel or AVTUR). Revenue from these excises has been used to fund the Civil Aviation Safety Authority (CASA) and Airservices Australia (Airservices). Excise on these fuels has been changed for several reasons. They include rate adjustments to take account of under-recovery or over-recovery of the cost of providing Airservices and CASA's services; reductions in the excise on AVGAS as Airservices moved to 'location-specific' pricing which had the effect of reducing Airservices' reliance on excise revenue; and additional excise on both fuels to fund the subsidisation of control tower services at selected regional and general aviation aerodromes.

There are anomalies in the excises on fuels. One is the remaining excise on fuels used as business inputs. Grants are available for some business use of specified fuels—principally diesel under the Energy Grants (Credits) Scheme—which allow businesses to recover, fully

or partly, the excise paid. But the grants are not available for all business use and all fuels. These excises can distort the allocation of resources. Excise on petrol and diesel, for example, increases costs and hence prices in industries that use these fuels relatively intensively. This reduces demand for these industries' outputs and hence the volume of resources they employ. One possibility would be to abolish fuel excises and replace the excise with additional GST. But, to be revenue-neutral, the rate of GST would have to be higher than 10 per cent, which would complicate administration and compliance.

Air pollution and greenhouse gases emissions are 'negative external costs' of fuel use. Taxing fuel use is a way of trying to ensure that polluters pay some of the costs of air pollution and to reduce those costs. A question is whether fuel taxation is an appropriate mechanism to deal with external costs. The Fuel Taxation Inquiry concluded that fuel taxation is a 'limited proxy instrument' for charging for the costs of air pollution, but that the relationship between fuel consumption and greenhouse gas emissions makes fuel tax an 'appropriate instrument' for charging for the cost of climate change. The level of excise on petroleum fuels does not, however, seem to be designed to take account of externalities.

Liquefied petroleum gas and compressed natural gas are excise-exempt. The Government has acknowledged that the exemption distorts the allocation of resources and proposes to bring these fuels into the excise net. The annual cost of the implicit subsidy to users is about \$860 million. Excise will be phased in on these fuels from 2011 to 2015.

In the energy white paper, *Securing Australia's Energy Future*, the Government proposed the removal of some anomalies in fuel taxation and credits. For example, the proposed fuel tax credits will remove distortions in the current Energy Grants (Credits) Scheme. Still, if the proposed reforms are implemented, some anomalies will remain. A feature of the proposals is that the excise on petrol and diesel will have remained at 38.143 cents per litre for 14 years. The real value of excise will thus have fallen considerably. This seems to be at odds with some of the 'environmentally-friendly' elements of the proposals. Increasing excise on petrol and diesel may be a more economic way of slowing the rate at which Australia is becoming reliant on imported crude oil and petroleum products than subsidising domestic production of alternative fuels.

### **Alcoholic beverages**

Beer is the fourth most important source of excise duty revenue, accounting for about 70 per cent of the revenue from excise on alcoholic beverages (most spirits are imported and so are subject to customs duty). Excise on beer is generally structured so that, the higher the alcohol content, the greater the amount of excise payable. This is the consequence of two factors. First, with some exceptions, the higher the alcohol content, the higher the excise rate. Second, excise on beer is levied on the amount by which the alcohol content exceeds 1.15 per cent; this has the effect of increasing, more than proportionately, the excise payable as alcohol content rises. The increase in the excise payable as alcohol content increases is a disincentive to consume higher strength beers.

However, there are differences and anomalies in beer excise rates:

- excise rates favour draught beer over packaged beer (draught beer is beer packaged in individual containers exceeding 48 litres such as kegs; packaged beer is canned and bottled). For example, the rate on low-strength draught beer (that is, whose alcohol content does not exceed three per cent) is about one-fifth that on low-strength packaged beer
- in general, one would expect the rate on low-strength beer to be lower than on higher-strength beer. But the excise on mid-strength packaged beer (alcohol content exceeding 3 per cent but not 3.5 per cent) and high-strength packaged beer is the same.

Further, there are differences and anomalies in the treatment of beer vis-a-vis other beverages:

- the rate structure favours beer relative to most other beverages. The general rate for spirits, for example, is almost ten times the lowest rate for beer
- rates—per litre of alcohol—differ greatly
- the rate of excise on brandy is less than the rate for other spirits. Brandy's favoured position dates back to 1979 when the lower rate was introduced to support grape production. Given that this industry is well and truly 'mature', there seems to be no reason for retaining this implicit subsidy to brandy drinkers.

It could be argued that the rate of excise—or, more generally, the total amount of tax—should be the same, per litre of alcohol, on all alcoholic beverages. But to have excise the same amount, per litre of alcohol, while remaining revenue-neutral would mean that the uniform rate would be lower than the rates on all spirits, full-strength beer (in bottles and cans), and ready to drink (pre-mixed) spirits. Some might see such a realignment as undesirable on social cost grounds and perhaps regressive.

## **Tobacco**

Tobacco is the third largest source of excise revenue. In the past, excise on tobacco was based on the combination of a weight-based charge, and a surcharge based on both weight and wholesale price. This encouraged smoking of more cigarettes containing less tobacco, which led to more health problems than smoking the same amount of tobacco in fewer cigarettes. The Howard Government changed the base on which excise is levied on cigarettes to a 'per stick' basis whereby excise is based on the number of cigarettes produced. The effect of the per-stick excise is to tax tobacco in cigarettes more heavily than if the base were weight. Excise on other tobacco products is based on weight.

## 1. Introduction

Excise is a tax on certain goods produced in Australia.<sup>1</sup> Excisable items under the *Excise Act 1901* include beer, spirits, cigarettes, cigars, petrol, diesel, and lubricants. Since the mid-1990s, the Government has made important changes to excises, and proposes major changes to the excise on fuels and credits for excise on fuel used. This paper reviews these changes and comments on them.

Excise is a ‘specific’ tax, that is, it is levied as an amount of money per unit of the commodity, for example, cents per kilogram.<sup>2</sup> A feature of specific taxes is that the amount of the tax is a larger proportion of the final price of a good that is relatively cheap to produce than of a good that is more expensive to produce, that is, excise increases the relative prices of cheap goods.<sup>3</sup> This may explain why excises are generally volumetric.<sup>4</sup>

Exports are excise-free. Imported goods comparable to those subject to excise—‘excise-equivalent’ goods—attract customs duty of the same amount as the excise so that imports and locally-produced goods are taxed the same. About one-third of customs duty revenue derives from excise-equivalent goods.

## 2. Legal aspects

[Section 90](#) of the Constitution gives the Commonwealth exclusive power to impose excise. The producer of the good is legally liable to pay excise. Excise is levied under the [Excise Tariff Act 1921](#) and the [Excise Act 1901](#). The rates payable are formally listed in the [Excise Tariff](#). The Australian Taxation Office, which administers excise, maintains a very useful (but not comprehensive) plain English list of [current excise duty rates](#).

### 2.1 Excise Tariff Proposals

Parliament must legislate to change excise rates. But there is often a delay between the time the government wants the new rates to come into effect and when the legislation implementing those changes commences. To bridge this gap, the government introduces Excise Tariff Proposals into parliament by way of a motion. This is normally treated as the formal procedure initiating the collection of excise.<sup>5</sup> Parliament may debate or amend the motion.<sup>6</sup> [Current Excise Tariff Proposals](#) can be found on the BillsNet section of the Parliament of Australia website.

## 3. Importance as a source of revenue

The main reason the Commonwealth imposes excise is to raise revenue. In that regard, Australia is no different from any other country in the Organisation for Economic Cooperation and Development.<sup>7</sup>

Until 1910, customs and excise duties were the sole source of Commonwealth revenue. The relative importance of excise as a source of revenue has declined over time as the Commonwealth gained new revenue sources such as income tax.<sup>8</sup> In 2004–05, excise revenue amounted to about \$22 billion or almost ten per cent of total Commonwealth taxation revenue (including GST). Of that amount, excise on petrol and diesel accounted for almost \$14 billion and tobacco products for more than \$5 billion. Table 1 shows the relative importance of excise as a source of revenue since 2000–01.

Table 1: Excise duty receipts (\$ million)

Product/year	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06
<b>Petroleum and other fuel products</b>						
Petrol	6 872	7 053	7 296	7 423	7 371	7 410
Diesel	4 955	5 231	5 493	5 587	6 164	6 420
Other	94	116	130	210	147	150
<i>Total: petroleum and other fuel products</i>	<i>11 921</i>	<i>12 400</i>	<i>12 920</i>	<i>13 220</i>	<i>13 682</i>	<i>13 980</i>
Crude oil	526	393	417	309	668	620
Beer	1 697	1 651	1 680	1 633	1 653	1 710
Potable spirits	238	339	558	659	741	840
Tobacco products	4 637	4 847	5 212	5 247	5 237	5 340
<b>Total excise</b>	<b>19 019</b>	<b>19 630</b>	<b>20 787</b>	<b>21 068</b>	<b>21 981</b>	<b>22 490</b>
Total taxation revenue	175 010	177 237	194 313	209 178	228 726	239 267
<b>Excise as per cent of total revenue</b>	<b>10.9</b>	<b>11.1</b>	<b>10.7</b>	<b>10.1</b>	<b>9.6</b>	<b>9.4</b>

Source: Final Budget Outcome, various years; Budget Paper No. 1 2005–06, pp. 5–28 and 9–4.

Notes: Data for 2005–06 are cash estimates. Other data are accrual-based. Accrual data are not available before 2000–01.

## 4. Economic aspects of excise

Decisions about taxes entail trade-offs among several considerations. They include the need to raise revenue, effects on economic behaviour, equity, enforceability, and ease of administration.

### 4.1 Tax neutrality

A principle of taxation is that a tax should not affect economic behaviour, that is, decisions such as whether to consume or save, work or not work, etc. A tax that does not change, that is, ‘distort’ economic behaviour, is said to be ‘neutral’. But all taxes distort economic behaviour to some extent. The objective thus becomes one of designing taxes that are as ‘neutral’ as possible, that is, that minimise distortions.

Goods whose quantities demanded are relatively insensitive to changes in their own prices are said to be ‘price inelastic’. Studies indicate that the demand for some goods tends to be price inelastic particularly in the short term.<sup>9</sup> If demand is price inelastic, a rise in the excise rate increases revenue.

#### 4.1.1 Externalities

Market failure is the inability of markets to supply some goods and services at all (such as national defence or street lighting) or to provide them at the most desirable or ‘socially optimal’ level. Market failure is often cited as justification for taxing alcohol and tobacco in particular. The argument is that, without taxes, the market prices of these products do not reflect social costs—such as the cost of providing health services and policing drunken and unruly behaviour—associated with their consumption. Markets by themselves thus ‘oversupply’ tobacco and alcohol. Taxing them reduces consumption and hence costs to society.

Considerations of social cost influence the level and structure of excises. For example, low-strength beer in bottles and cans is taxed at concessional rates compared with medium-strength and full-strength beer in these containers. Health considerations were behind the Government’s decision to impose excise on cigarettes on a ‘per-stick’ basis (see section 10: Tobacco).

The presence of externalities (see Box 1) is sometimes cited as justification for taxing petroleum fuels.

#### **Box 1: Externalities**

Externalities are a form of market failure. Externalities (also called ‘external’ costs and benefits) arise when one party imposes on, or provides to others, costs or benefits that are not captured in market transactions. For example, trucks impose ‘negative’ externalities such as noise and air pollution on residents living near highways, but the users of the truck services do not compensate residents for the loss of amenity.

Air pollution is an external cost of the use of petroleum fuels. Fuel excise is sometimes seen as a way of ‘internalising’ negative environmental externalities, that is, ensuring that the polluter pays some of the costs they impose on others. The Bureau of Transport and Regional Economics estimated that in 2000, the [economic cost](#) of morbidity resulting from motor vehicle-related ambient air pollution was between \$0.4 billion to \$1.2 billion, while the economic cost of mortality was between \$1.1 billion to \$2.6 billion.<sup>10</sup>

A question that arises is whether fuel taxation is an appropriate mechanism to deal with external costs. In 2002, the Australian Government–commissioned Fuel Taxation Inquiry concluded that, with respect to air pollution:

Fuel taxation is a limited proxy instrument for charging for the costs of air pollution:

- fuel taxation can incorporate differences in air pollution attributable to fuel type and the amount of fuel consumed; but
- it cannot account for air pollution attributable to differences in engine technology or maintenance, or the location of fuel use.

It is not administratively feasible to vary fuel excise based on the engine or machinery in which the fuel is used. More efficient instruments than fuel taxes are available to internalise the costs of air pollutant emissions.<sup>11</sup>

Greenhouse gases are another external cost of fuel use. The Fuel Taxation Inquiry concluded:

The strong relationship between fuel consumption and greenhouse gas emissions makes fuel tax an appropriate instrument for charging for the cost of climate change.<sup>12</sup>

The level of excise on petroleum fuels does not seem to be designed to take account of externalities. Professor Freebairn has noted:

... 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, and liquid petroleum gas tax-exempt?<sup>13</sup>

Excise on petrol and diesel does, however, encourage the use of alternative fuels and more fuel-efficient vehicles.

#### 4.1.2 Intermediate inputs

Excise on intermediate inputs—goods and services used to produce other goods and services—can distort the allocation of resources. For example, the excise on petrol and diesel increases costs in industries that use these fuels relatively intensively. The cost increases flow through as higher output prices *relative* to the prices of other industries. This lowers demand for the output of the industries that use fuel intensively. Consequently, the volume of resources used in fuel-intensive industries is smaller than if there was no excise. In short, taxes on intermediate inputs can distort consumption and production decisions and thus fail the neutrality principle.

Grants are available for some business use of specified fuels—principally diesel under the Energy Grants (Credits) Scheme—which allow businesses to recover, fully or partly, the excise paid. But the grants are not available for all business use and all fuels. This is discussed in sections 8 and 9.

The Howard Government reduced excise on petrol and diesel when it introduced the GST. This reduced the taxation of business inputs and so may have improved the allocation of resources. A way of improving resource allocation would be to abolish fuel excises and

replace them with additional GST. But a downside to this is that, to be revenue-neutral, the rate of GST on petrol and diesel would have to be higher than the standard rate of 10 per cent.<sup>14</sup> This would increase administrative and compliance costs. Also, it would mean an ad valorem tax would replace a specific tax.

#### **4.1.3 Heavy vehicle cost recovery**

A qualification regarding the effect on resource allocation of excise on intermediate inputs is noteworthy. It relates to cost recovery arrangements for the damage that heavy trucks cause to roads. Infrastructure costs attributable to heavy vehicle use are recovered through national heavy vehicle charges. The charges (which the National Transport Commission determines) have two elements. The first is a notional component of the excise on diesel; the second element is an annual registration charge (which varies by truck type) and which state governments collect. The notional charge is effected through the Energy Grants (Credits) Scheme. Under this Scheme, certain business use of diesel is eligible for a grant of 18.51 cents per litre of diesel used. The grant partly offsets the excise. The notional component is the difference between the excise and the grant.

There is currently no formal link between the net excise paid by heavy vehicles and the road user charge. Under the fuel tax credit scheme (see section 8), the road user charge will be formally recognised, and the credit will be the difference between the excise paid on fuel and the road user charge.

Excise on aviation gasoline and turbine fuel is similarly a cost recovery mechanism (see section 5.2: Aviation gasoline and aviation turbine fuel).

## **4.2 Incidence and equity**

As noted, the legal liability to pay excise rests with the producer of the commodity, for example, the cigarette manufacturer or the oil refiner. But it is important to distinguish between the legal and the ‘economic’ incidence of excise. The economic incidence refers to who bears the final burden of the tax. Excise may ‘shift’—to varying degrees—from the original payer (the legal incidence) to the consumer who bears the excise in the form of higher prices.

The ability to shift the incidence on to consumers depends on factors such as the intensity of competition in the market. But businesses cannot always shift the incidence. For example, the prices of most Australian mining and agricultural exports are set on world markets, that is, exporters are ‘price takers’. In the absence of relief from (say) excise on fuel inputs, exporters bear the incidence and may respond by reducing exports. The Energy Grants (Credits) Scheme provides relief from fuel excise for some exporters (see section 7).

With respect to equity, Table 2 shows that excise is a ‘regressive’ tax, that is, people on low incomes pay a higher proportion of their incomes in excise than people on high incomes.

Table 2: Excise and income distribution by quintile

Quintile	Lowest	Second	Third	Fourth	Highest	All households
Mean gross household income per week (\$)	263	555	930	1385	2512	1128
Average weekly expenditure (\$)						
Petrol	13.10	22.06	30.25	37.31	45.92	29.72
<b>% of income</b>	<b>5.0</b>	<b>4.0</b>	<b>3.3</b>	<b>2.7</b>	<b>1.8</b>	<b>2.6</b>
Beer	4.38	5.88	9.54	10.99	15.48	9.25
<b>% of income</b>	<b>1.7</b>	<b>1.1</b>	<b>1.0</b>	<b>0.8</b>	<b>0.6</b>	<b>0.8</b>
Alcoholic beverages	8.77	14.15	22.61	27.03	44.08	23.32
<b>% of income</b>	<b>3.3</b>	<b>2.5</b>	<b>2.4</b>	<b>2.0</b>	<b>1.8</b>	<b>2.1</b>
Cigarettes	6.30	10.41	12.20	12.84	11.92	10.73
<b>% of income</b>	<b>2.4</b>	<b>1.9</b>	<b>1.3</b>	<b>0.9</b>	<b>0.5</b>	<b>1.0</b>
Tobacco products	7.33	11.35	13.26	13.51	12.34	11.55
<b>% of income</b>	<b>2.8</b>	<b>2.0</b>	<b>1.4</b>	<b>1.0</b>	<b>0.5</b>	<b>1.0</b>

Source: ABS, Household Expenditure Survey 2003–04, (Cat. No. 6535.0).

## 5. Fuel excise

Most petroleum products—fuels, greases, oils and lubricants—are subject to excise. Fuels include petrol, diesel, aviation gasoline, aviation kerosene, fuel oil, and heating oil and kerosene for burner use. Petrol and diesel are by far the most important fuels in terms of volumes used and excise revenue collected.

### 5.1 Petrol and diesel

When measured as a percentage of pump prices, Australia's taxes on petrol—excise and GST—are among the lowest in the world.<sup>15</sup> Petrol excise—now 38.143 cents per litre—has a more important effect than GST on pump prices. For example, at a retail price of 113.1 cents per litre, total tax is about 48.4 cents, comprising 38.1 cents excise and 10.3 cents GST. The base on which GST is levied includes excise, that is, there is a tax-on-a-tax component. This component is 10 per cent of 38.143 cents per litre, that is, 3.8143 cents.<sup>16</sup>

Governments have changed petrol excise for several reasons—apart from indexation—since the mid-1990s.

#### 5.1.1 Leaded and unleaded petrol

First, on 2 February 1994, the Government introduced a differential between the excise on leaded and unleaded petrol; the excise on leaded petrol was set at 31.75 cents per litre, one cent higher than on unleaded petrol, to discourage the use of the former. The differential increased with indexation. Leaded petrol is no longer produced. The excise on lead replacement petrol, which substituted for leaded petrol, was the same as on unleaded petrol.<sup>17</sup>

The excise on unleaded, premium unleaded and higher octane unleaded petrol (e.g., BP Ultimate) is the same.

### 5.1.2 Revenue replacement payments

On 6 August 1997, the Government increased the excise on petrol and diesel by 8.1 cents (sometimes called the surcharge) to 42.797 cents per litre. This was in response to a High Court ruling on 5 August 1997, which dealt with NSW's tobacco franchise fees. The ruling cast doubt on the constitutional validity of all state business franchise fees.<sup>18</sup> On 6 August 1997, the Commonwealth announced 'safety net' arrangements to protect state finances.<sup>19</sup> These arrangements included, among other things, an increase in the rates of excise (and customs duty) on tobacco and petroleum products, and an increase in the rate of the then wholesale sales tax on alcoholic beverages.

The Commonwealth returned all revenue collected under these arrangements to the states (less administrative costs) as revenue replacement payments (RRPs). The states agreed on how the RRP payments would be distributed among themselves. RRP payments ceased when the states began to receive revenue from the GST in 2000–01. Table 3 shows details of the payments.

Table 3: Revenue replacement payments to the states (\$ million)

Product/year	1997–98	1998–99	1999–00	2000–01
Tobacco	2496.9	3213.6	3332.2	64.5
Petroleum	1950.8	2547.4	2569.4	252.1
Alcohol	770.1	990.9	1027.7	118.3
<b>Total</b>	<b>5217.8</b>	<b>6752.0</b>	<b>6929.3</b>	<b>434.9</b>

Source: *Final Budget Outcome*, various years.

The surcharge the Commonwealth collected increased with indexation as shown in Table 4.

Table 4: Excise components (cents per litre)

Date of change	Total excise	State component	Commonwealth component	Reason for change
6 August 1997	42.797	8.100	34.697	High Court ruling
1 August 1998	43.054	8.149	34.905	Indexation
1 February 1999	43.355	8.206	35.149	Indexation
1 August 1999	43.485	8.231	35.254	Indexation
1 February 2000	44.137	8.354	35.783	Indexation

Source: Statistics Section, Parliamentary Library, Canberra.

Queensland was the only state that did not impose franchise fees. The increase in the excise on petrol of 8.1 cents per litre meant that petrol prices in Queensland rose by that amount. The Queensland Government [decided](#) that it would use the revenue replacement payments to subsidise petrol prices so that Queensland consumers noticed no change in petrol prices.<sup>20</sup>

In 1989, NSW introduced the so-called [three-by-three](#) fuel levy.<sup>21</sup> This was an additional three cents per litre on petroleum franchise fees. The additional revenue was spent on road improvements and road safety. The three-by-three levy ceased with the High Court's ruling on franchise fees.

### 5.1.3 Introduction of the GST

The Howard Government reduced excise on petrol and diesel as part of its *A New Tax System* reforms. On 1 July 2000, the Government reduced excise by 6.656 cents per litre to compensate for the imposition of the GST. The Government did not reduce excise by the full 8.354 cents per litre because it claimed that tax reform would result in cost savings at refineries. When these savings did not appear to be forthcoming, the Government reduced excise by a further 1.5 cents per litre on 2 March 2001.<sup>22</sup> This brought the total reform-related reduction to 8.156 cents per litre.

### 5.1.4 Indexation

As noted, excise is levied as an amount per unit of the good. Inflation erodes the real value of the amount if the rate is not increased. In 1983, the Hawke Government announced the indexation of excise rates to changes in the consumer price index.<sup>23</sup> The indexation increases applied on 1 February and 1 August of each year.

On 1 March 2001, the Howard Government [announced](#) the cessation of all future indexation of the excises on petroleum fuels (indexation continues to apply to other goods).<sup>24</sup> This decision was taken in the context of the introduction of the GST on 1 July 2000 and rising world petrol prices at the time, which gave rise to concern that the interaction of the two would push petrol prices even higher. The excise on petrol has since remained at 38.143 cents per litre.

The revenue forgone by the decision to cease indexation is considerable. Budget estimates of the revenue reductions were \$150 million in 2001–02, \$425 million in 2002–03, \$785 million in 2003–04, and \$1.135 billion in 2004–05.<sup>25</sup> Access Economics has estimated that the revenue reductions will be \$1.85 billion in 2005–06, \$2.2 billion in 2006–07, and \$2.55 billion in 2007–08.<sup>26</sup> The [Fuel Taxation Inquiry](#) estimated the revenue forgone at around \$20 billion over 10 years; this estimate is based on assumptions of a growth rate in petroleum products consumption of two per cent a year and inflation of 2.5 per cent a year.<sup>27</sup>

The Fuel Taxation Inquiry recommended the reintroduction of indexation partly on the grounds that it is:

... a core component of a revenue based justification of fuel taxation.<sup>28</sup>

The Government rejected this recommendation.<sup>29</sup>

The Fuel Taxation Inquiry observed that:

The absence of indexation effectively provides fuel consumers with a continuous tax cut as prices rise.<sup>30</sup>

The cessation of indexation may thus have encouraged the purchase of less fuel-efficient vehicles. This could be seen as inconsistent with other aspects of fuel taxation, especially the encouragement of the use of alternative fuels on environmental grounds. The cessation of indexation on petroleum fuels could also be seen as inconsistent with the continuing indexation of excise on other products.

Table 5 shows what the excise rates on petrol would have been if indexation had continued.

Table 5: Estimated excise rates on petrol with indexation (cents per litre)

Date	Actual rate	Estimated rate with indexation <sup>a</sup>
1 February 2001	39.643	39.643
2 March 2001	38.143	38.143
August 2001	38.143	38.869
February 2002	38.143	39.334
August 2002	38.143	39.973
February 2003	38.143	40.525
August 2003	38.143	41.048
February 2004	38.143	41.484
August 2004	38.143	42.065
February 2005	38.143	42.559
August 2005	38.143	43.111

Source: <sup>a</sup> Statistics Section, Parliamentary Library, Canberra.

### 5.1.5 Fuel quality standards

The Government has used excise to encourage the use of ultra low sulphur diesel (ULSD), that is, diesel with less than 50 parts per million (ppm) sulphur content. Since 1 January 2003, the standard for the sulphur content of diesel has been 500 ppm. On 1 January 2006, the standard became 50 ppm under the *Fuel Quality Standards Act 2000*. Under the *Measures for a Better Environment* program, the Government undertook to encourage the early adoption of ULSD by differentiating the excise on ULSD and other (non-ULSD) diesel. On 1 July 2003, the Government increased the excise on other diesel by one cent per litre and by another one cent on 1 January 2004. The two cents differential was designed to help ULSD diesel compete with other diesel because it costs more to produce ULSD. The first one cent increase was scheduled to come into effect on 1 January 2003. But the Government [delayed](#) its introduction by six months to 1 July 2003 because of the drought.<sup>31</sup> The revenue forgone by this decision was \$60 million in 2003–04.<sup>32</sup>

In the 2003-04 Budget, the Government [announced](#) that it would provide a grant to domestic producers and importers of low sulphur premium unleaded petrol, that is, petrol with 50 parts per million or less of sulphur. The purpose of the grant was to encourage the early introduction of this standard before it becomes mandatory on 1 January 2008. The grant was

to apply from 1 January 2006, and was to be funded by additional excise of about 0.06 cents per litre on all petrol. (The Government also proposed similar arrangements, from 1 January 2007, for diesel with less than 10 parts per million sulphur content). However, in August 2005, the Government [decided](#) not to proceed with the additional petrol excise because prices were high at the time.<sup>33</sup>

## 5.2 Aviation gasoline and aviation turbine fuel

Aviation gasoline (AVGAS) and aviation kerosene (commonly called aviation turbine fuel or AVTUR) are fuels that piston-engined and turbine-powered aircraft respectively use. In the past, excise collected on these fuels partly funded the Civil Aviation Authority.<sup>34</sup> In 1995, two new bodies, Airservices Australia (Airservices) and the Civil Aviation Safety Authority (CASA), replaced the Civil Aviation Authority.<sup>35</sup> Airservices provides, among other things, terminal navigation, aviation rescue and firefighting, and en route services. Airservices' main revenue source is [charges](#) for these services.<sup>36</sup> CASA's main function is to conduct the safety regulation of civil air operations in Australia and the operation of Australian aircraft overseas. After Airservices and CASA were created, CASA received all AVTUR excise and in the order of 13 per cent of AVGAS revenue, while Airservices received the bulk of AVGAS revenue. Now, all revenue from aviation fuel excise accrues to CASA except the amount used to fund the location-specific pricing subsidy the government pays to Airservices (see Box 2).

### **Box 2: Changes to the excise on AVGAS and AVTUR**

Excise rates on AVGAS and AVTUR have been changed for several reasons since Airservices and CASA were established. First, rates were adjusted to take account of the under-recovery or over-recovery of the cost of providing Airservices and CASA's services. Second, excise on AVGAS was reduced as Airservices moved from 'network' to 'location-specific' pricing at airports. Under network pricing, Airservices' charges only partly reflected differences in the cost of providing services at different airports. Consequently, some segments of the aviation industry cross-subsidised others. Airservices phased in location-specific pricing whereby charges at an airport reflect the cost of providing services at that airport. As Airservices phased in location-specific pricing, AVGAS excise was reduced. For example, the en route component of AVGAS excise was eliminated on 25 May 1998 when the excise rate was cut by 2.6 cents to 14.083 cents per litre. The terminal navigation component of AVGAS was eliminated on 1 July 1998 when the rate was reduced by 13.082 cents per litre to 1.721 cents per litre. The third reason rates were changed was to fund a subsidy to selected regional and general aviation aerodromes. The Government capped charges for control tower services at these aerodromes to ease the financial impact of location-specific pricing. To make good the shortfall in Airservices' revenue, the Government, in the 1998–99 Budget, provided \$13 million over two years to Airservices. To fund this subsidy, the Government imposed an additional 0.51 cents per litre excise (and customs) duty on AVTUR and AVGAS. The Government subsequently extended the subsidy to 2004–05. The total cost of the subsidy is estimated at \$57 million. Fourth, on 12 May 2000, the excise on AVTUR was increased by 0.036 cents per litre to fund the activities of the Australian Competition and Consumer Commission, relating to the regulation of aeronautical charges at the major airports. Finally, duties on aviation fuels were reduced proportionally when, on 2 March 2001, the excise on petrol and diesel was reduced by 1.5 cents per litre.

The Fuel Taxation Inquiry recommended that the tax rates on fuels should generally be based on their relative energy content. Application of this principle would have resulted in substantially higher excise on AVGAS and AVTUR. But the Inquiry recommended that the basis on which excise on aviation fuels (and lubricants and greases) is levied should not change:

There are sound reasons for not calculating excise rates for aviation fuels and lubricants and greases according to their respective energy contents.

... The excise rates for aviation fuels and lubricants and greases are not designed to raise general revenue but reflect specific programmes. Given that they are largely consumed by businesses, removing any revenue raising component from these items is consistent with the principle of exempting businesses from paying broad based consumption taxes.

The Inquiry recommends that the excise status of aviation fuels and lubricants and greases should remain unchanged.<sup>37</sup>

Treasury estimates the revenue forgone from not taxing AVGAS and AVTUR for general revenue purposes at \$745 million in 2005–06.<sup>38</sup>

### **5.3 Other petroleum products**

Other petroleum fuels include fuel oil, and heating oil and kerosene (for burner use). The excise on these fuels has remained unchanged at 7.557 cents per litre since indexation ceased.

Other relatively minor changes to petroleum products excise include:

- from 25 October 2001, the excise on the water component of emulsified diesel/water fuel blends was removed. Previously, both components were subject to excise, and
- from 15 April 2002, the excise was removed from non-recyclable oils and lubricants used in the production of non-oil products.

## **6. Alternative fuels**

Alternative transport fuels—that is, alternatives to petrol and diesel—used in internal combustion engines include liquefied petroleum gas and compressed natural gas. These two fuels are excise-exempt. The value of the resulting implicit subsidy to users is estimated at \$860 million in 2005–06.<sup>39</sup> The Government proposes to bring liquefied petroleum gas and compressed natural gas into the excise net (see section 8: Fuel excise and credits reform).

### **6.1 Biodiesel**

In the 2003–04 Budget, the Government announced measures to support the production and use of biodiesel. On 18 September 2003, biodiesel was made subject to excise at the same rate as low sulphur diesel (38.143 cents per litre). At the same time, grants of 38.143 cents

per litre were made available for the production (and import) of biodiesel under the [cleaner fuels grants scheme](#).<sup>40</sup> The grants thus brought the effective rate of excise (and customs duty) to zero. Grants will be paid until 30 June 2011. From 1 July 2011 to 30 June 2015, the Government proposes to reduce the grants (see section 8: Fuel excise and credits reform). The proposed excise on biodiesel will be 19.1 cents per litre on 1 July 2015.

## 6.2 Fuel ethanol

Fuel ethanol is ethanol blended with petrol for use as a fuel. On 12 September 2002, the Government [announced](#) that ethanol would be subject to excise at the same rate as unleaded petrol (38.143 cents per litre).<sup>41</sup> A production subsidy equal to the excise was provided to domestic ethanol producers thus bringing the effective rate to zero. Together, these measures have the effect of reducing the cost of fuel ethanol, the amount of the reduction depending on the proportion of ethanol in the petrol-ethanol mix. The Government also imposed customs duty of 38.143 cents per litre on imported ethanol. The effect is to protect domestic producers from competition from cheaper imports. The [Report of the Biofuels Taskforce](#) that the Government commissioned concluded:

... barring unexpected scenarios such as ongoing oil prices over US\$47 a barrel at a 65c exchange rate, ABARE analysis suggests that Australian biofuels [ethanol and biodiesel] will generally remain uncompetitive with conventional fuels without continuing assistance in the longer term.<sup>42</sup>

The period for the production subsidy was initially from 18 September 2002 to 17 September 2003. But, on 13 May 2003, the Government announced that it would continue the effective zero excise rate until 30 June 2008.<sup>43</sup> On 29 March 2004, the Government again [extended](#) the subsidy period, this time to 30 June 2011.<sup>44</sup> As with biodiesel, the Government intends to reduce the production subsidy for fuel ethanol under its excise reform proposals (section 8: Fuel excise and credits reform).

## 7. Energy Grants (Credits) Scheme

The [Energy Grants \(Credits\) Scheme](#) (EGCS)—which came into effect on 1 July 2003—provides grants for business use of:

- diesel and like fuels in [eligible off-road activities](#) (the ‘off-road’ component), and
- diesel and alternative fuels used to transport passengers or goods on [eligible trips](#) (the ‘on-road’ component).<sup>45</sup>

The grants allow users to recover, fully or partly, excise on fuels. The Australian Taxation Office, which administers the EGCS, publishes the [grant rates](#) on its website.<sup>46</sup>

The purpose of the off-road component seems primarily to be to reduce costs for key export sectors, notably agriculture and mining. The on-road component reduces the cost of

transporting goods and passengers in regional areas and hence is a subsidy to such areas. For environmental reasons, the on-road use of diesel in vehicles under 20 tonnes wholly in urban areas is generally not eligible.

The EGCS replaced the Diesel Fuel Rebate Scheme (DFRS) and the Diesel and Alternative Fuels Grants Scheme (DAFGS). With some changes, the DFRS became the off-road component of the EGCS and the DAFGS the on-road component. The DAFGS arose from the Government's undertakings under its [Measures for a Better Environment](#) program.<sup>47</sup>

## 7.1 Problems with the Energy Grants (Credits) Scheme

The EGCS has several problems.

First, it discriminates among activities. Agricultural activities are particularly favoured. All on-road trips made as part of a primary production business are eligible. No other industries benefit from this concession, which is an implicit subsidy to primary production.

Second, the EGCS discriminates among fuels: there is one list of [eligible fuels](#) for road transport activities and another for 'other' activities.<sup>48</sup> The scheme also discriminates among fuels used in road transport: the grant for the on-road use of diesel is 18.51 cents per litre but there is no grant for petrol. Generally, the EGCS is limited to the use of diesel. Petrol is discriminated against. Alternative fuels pay no tax but receive an on-road credit because of the Measures for a Better Environment agreement with the Australian Democrats to maintain pre-GST price relativities between petrol and diesel.

Finally, the EGCS is complicated. This imposes compliance and administration costs on business and the Australian Taxation Office. For example, in the on-road scheme, eligibility depends on the vehicle's gross vehicle mass (GVM) and the trips it undertakes. All vehicles over 20 tonnes are eligible for a grant. In the case of vehicles that are at least 4.5 tonnes but less than 20 tonnes GVM, eligible trips are those from a point outside a metropolitan area to another point outside a metropolitan area, or from a point outside a metropolitan area to a point inside a metropolitan area (or vice versa). Trips from one point inside a metropolitan area to another point inside that metropolitan area are not eligible.

## 8. Fuel excise and credits reform

The Government has proposed changing the existing fuel excise and grants (credits) arrangements. This includes replacing, on 1 July 2006, the EGCS with the fuel tax credits, which will replace all existing rebates and subsidies. The Government has made four announcements about the reform of fuel excise and credits:

- in the 2003–04 Budget, the Government outlined the reforms<sup>49</sup>
- on 16 December 2003, the Prime Minister elaborated on the Budget announcement<sup>50</sup>

- in March 2004, the Government extended the transition path for fuels becoming subject to excise (see below), and
- on 15 June 2004, the Government released the energy white paper titled [Securing Australia's Energy Future](#) and the accompanying *Fuel Excise Reform* document.<sup>51</sup> The white paper proposed a credit scheme to replace the EGCS from 1 July 2006. The [Fuel Tax Credit Reform Discussion Paper](#) that Treasury released on 27 May 2005 elaborates on this proposal.<sup>52</sup>

## 8.1 Key features

Key features of the proposed reforms are:

- excise will fall into four bands
  - the bands will be based on energy content, namely, high, medium and low; the fourth band is for 'other' fuels such as compressed natural gas
- alternative fuels that are now explicitly excise-exempt (liquefied petroleum gas, compressed natural gas and liquefied natural gas) or effectively so (biodiesel and ethanol) will be subject to excise from 1 July 2011<sup>53</sup>
  - excise on alternative fuels will be phased in. Beginning 1 July 2011, credits will be paid that reduce effective rates below the final rates, which will apply from 1 July 2015
  - the final rates on alternative fuels will be half of what they would be if rates were based on energy content (the so-called 'discount' for alternative fuels)
  - grants will continue to apply to alternative fuels under the EGCS until 2010. Beginning on 1 July 2006 and ending on 30 June 2010, the grants will be progressively reduced to zero
- from 1 July 2012, all off-road business use of all fuels will be effectively excise-free
  - this measure will be introduced in stages. A credit of half of the fuel excise incurred in all currently ineligible off-road activities will be available between 1 July 2008 and 30 June 2012; a full credit will be available from 1 July 2012. All fuels, that is, diesel and petrol used in currently eligible activities will receive a full credit from 1 July 2008
- from 1 July 2006, the credit paid to users of diesel in on-road vehicles weighing over 4.5 tonnes GVM will be extended to all excisable fuels
  - the metropolitan boundaries governing eligibility for this credit will be abolished making all journeys in these vehicles eligible for the credit

- the partial excise paid on fuels used in heavy vehicles will be declared an official, non-hypothecated road-user charge from 1 July 2006, and the charge will be set consistent with future determinations of the National Transport Commission (see section 4.1.3: Heavy vehicle cost recovery)
- all private and business use of all fuels used to generate electricity will be effectively excise-free from 1 July 2006
- the excise currently levied on burner fuels—such as heating oil and kerosene—will be effectively removed from 1 July 2006.

The estimated revenue forgone from the proposals is about \$100 million in 2006–07, \$350 million in 2008–09, and \$310 million by 2012–13, bringing the total to about \$1.5 billion over the entire period.

Table 6 shows the final excise rates that will come into effect on 1 July 2015.

Table 6: Fuel excise rates from 1 July 2015

Fuel type	Energy content (megajoules/litre)	Excise rate (cents/litre)	Discounted rate (cents/litre)
High-energy content fuels: petrol, diesel, gas to liquids, diesel, biodiesel	Above 30	38.143	19.1 (biodiesel)
Mid-energy content fuels: liquefied petroleum gas, liquefied natural gas, ethanol, dimethyl ether	Between 20 and 30	25.0	12.5 (all)
Low-energy content fuels: methanol	Below 20	17.0	8.5 (methanol)
Other: compressed natural gas	Between 38 and 41 (megajoules per cubic metre)	38.0 (cents per cubic metre)	19.0 (cents per cubic metre)

Source: Australian Government, *Securing Australia's Energy Future*, Canberra, 2004, p. 96.

As noted, credits for alternative fuels will be phased out. Table 7 shows the rates that will apply to alternative fuels from 1 July 2006 to 1 July 2010.

Table 7: Alternative fuels credit rates to apply from 1 July 2006 to 1 July 2010 (cents per litre)

Fuel	1 July 2006	1 July 2007	1 July 2008	1 July 2009	1 July 2010
Biodiesel	14.808	11.106	7.404	3.703	0.000
<b>Ethanol</b>	16.647	12.485	8.324	4.162	0.000
Liquefied petroleum gas	9.540	7.155	4.770	2.385	0.000
Liquefied natural gas	6.504	4.878	3.252	1.626	0.000
Compressed natural gas (cents per cubic metre)	10.094	7.570	5.047	2.523	0.000

Source: Treasury, *Fuel Tax Credit Reform Discussion Paper*, Canberra, 2005, p. 5.

Table 8 shows the effective excise rates—that is, excise less credit—on alternative fuels from 1 July 2011.

Table 8: Effective excise rates on alternative fuels from 1 July 2011 (cents per litre)

Fuel type	1 July 2006	1 July 2007	1 July 2008	1 July 2009	1 July 2010	1 July 2011	1 July 2012	1 July 2013	1 July 2014	1 July 2015
<b>High-energy content</b>	0	0	0	0	0	3.8	7.6	11.4	15.3	19.1
Biodiesel										
<b>Mid-energy content</b>	0	0	0	0	0	2.5	5	7.5	10	12.5
Liquefied petroleum gas, liquefied natural gas, ethanol										
<b>Low-energy content</b>	0	0	0	0	0	1.7	3.4	5.1	6.8	8.5
Methanol										
<b>Other</b>	0	0	0	0	0	3.8	7.6	11.4	15.2	19.0
Compressed natural gas										

Source: Department of the Prime Minister and Cabinet, *Fuel Excise Reform*, Canberra, 2004.

Note: Rates are cents per litre except compressed natural gas which is cents per cubic metre.

Table 9 summarises the situation with respect to on-road and off-road use on 1 July 2012 under the new credits system.

Table 9: Application of fuel tax on 1 July 2012

	Business use		Private use	
Use on roads	GVM < 4.5 tonnes	Fuel tax payable	Full fuel tax payable	
	GVM >= 4.5 tonnes	Fuel tax, payable up to amount of road user charge		
Other use	Fuel tax fully offset by fuel tax credit		Electricity generation	Fuel tax fully offset by fuel tax credit
			Burner applications and non-fuel uses	Effectively fuel tax-free via a fuel tax credit to business suppliers
			Other	Full fuel tax payable

Source: Treasury, *Fuel Tax Credit Reform Discussion Paper*, Canberra, 2005, p. 2.

The reform timetable is set out in Table B in the Appendix.

## 8.2 Aspects of the proposals

Several aspects of the excise and credit proposals are noteworthy.

First, the final rates are only approximately based on energy content. Table 10 shows what the rates would be if they were based solely on energy content, using diesel as the base (column three) and petrol as the base (column five).

Table 10: Indicative relative energy content and excise rates for certain fuels

Fuel	Diesel base		Petrol base	
	Energy content as a ratio of the energy content of diesel	Energy content-based excise rate (cents per litre)	Energy content as a ratio to the energy content of petrol	Energy content-based excise rate (cents per litre)
Diesel	1.00	38.1	1.12	42.7
Petrol	0.89	33.8	1.00	38.1
Heating oil	0.96	36.9	1.08	41.2
Fuel oil	1.04	39.8	1.17	44.6
Kerosene	0.96	36.6	1.08	41.1
LPG	0.68	25.9	0.76	29.1
Ethanol	0.61	23.1	0.69	26.1

Source: Adapted from Fuel Taxation Inquiry, *Report*, (Treasury), Canberra, 2002, p. 110.

Perhaps the most interesting conclusion that can be drawn from Table 10 is that it shows that diesel is undertaxed relative to petrol (or petrol is overtaxed relative to diesel). For example, taking petrol as the base, the excise on diesel would be 4.6 cents per litre higher (42.7 less 38.1 cents). This encourages the use of diesel relative to petrol. However, when diesel prices exceed petrol prices by more than 4.6 cents per litre, as they have in recent years, this advantage disappears.

Second, the energy white paper acknowledges that the excise-exempt status of some alternative fuels has harmed economic efficiency.<sup>54</sup> The decision to bring exempt fuels into the excise net should therefore improve economic efficiency. In the absence of any clear way of valuing the environmental or other benefits of alternative fuels, the justification of the fifty per cent 'discount' applying to alternative fuels is problematic.

Third, the extension of the credit to all off-road business use and to all fuels will remove the distortions in the EGCS whereby only certain activities and certain fuels are eligible. Similarly, the extension of the credit paid to users of diesel in on-road vehicles weighing over 4.5 tonnes GVM to users of all excisable fuels will remove another distortion.

Fourth, the credit scheme should ease administration and compliance burdens. In particular, the abolition of the metropolitan boundaries should reduce the need for record keeping. Further, the ability of businesses to claim credits through their Business Activity Statements should ease the administrative burden on business. On the other hand, the abolition of the

boundaries could adversely affect the environment in urban areas. As noted, under the EGCS, the on-road component generally does not apply to the use of diesel in urban areas for environmental reasons. Under the new credit system, vehicles with a GVM of more than 4.5 tonnes will be able to claim a full credit to the extent that the amount of excise paid on fuel used exceeds the non-hypothecated road-user charge (see the discussion in section 4.1.3).

Fifth, the proposals do not change the excise on petrol and diesel, which has remained at 38.143 cents per litre since 1 March 2001. Under the proposals, the excise will not have changed for 14 years. Hence the real value of excise will continue to fall. This seems to be at odds with the ‘environmentally-friendly’ elements of the proposals. Further, increasing excise on petrol and diesel may be a more economically efficient way of reducing the rate at which Australia is becoming reliant on imported oil and petroleum products than subsidising domestic production of expensive alternative fuels.

## 9. Alcohol

Excise and the GST are levied on a range of alcoholic beverages. Excise is levied on the basis of alcohol content, that is, so many dollars per litre of alcohol. Table 11 summarises the excise rates on beer, spirits and some other alcoholic beverages as at 1 August 2005.

Table 11: Excise on alcoholic beverages as at 1 August 2005

<b>Packaged beer<sup>a</sup></b>	
Beer, in individual containers <b>not</b> exceeding 48 litres, <b>not</b> exceeding 3% by volume of alcohol	\$31.26 per litre of alcohol, calculated on the amount by which the alcohol content (by volume) exceeds 1.15%
Beer, in individual containers <b>not</b> exceeding 48 litres, exceeding 3% but <b>not</b> exceeding 3.5% by volume of alcohol	\$36.43 per litre of alcohol, calculated on the amount by which the alcohol content (by volume) exceeds 1.15%
Beer, in individual containers <b>not</b> exceeding 48 litres, exceeding 3.5% by volume of alcohol	\$36.43 per litre of alcohol, calculated on the amount by which the alcohol content (by volume) exceeds 1.15%
<b>Draught beer<sup>b</sup></b>	
Beer, in individual containers exceeding 48 litres, <b>not</b> exceeding 3% by volume of alcohol	\$6.24 per litre of alcohol, calculated on the amount by which the alcohol content (by volume) exceeds 1.15%
Beer, in individual containers exceeding 48 litres, exceeding 3% but <b>not</b> exceeding 3.5% by volume of alcohol	\$19.60 per litre of alcohol, calculated on the amount by which the alcohol content (by volume) exceeds 1.15%
Beer, in individual containers exceeding 48 litres, exceeding 3.5% by volume of alcohol	\$25.65 per litre of alcohol, calculated on the amount by which the alcohol content (by volume) exceeds 1.15%
<b>Other alcoholic beverages</b>	
Other alcoholic drinks, <b>not</b> exceeding 10% alcohol content (includes ready to drink or pre-mixed spirits)	\$36.43 per litre of alcohol
Brandy	\$57.62 per litre of alcohol
Fruit brandy, whisky, rum and liqueurs	\$61.71 per litre of alcohol
Other spirits and alcoholic drinks, exceeding 10% alcohol content	\$61.71 per litre of alcohol

Source: Australian Taxation Office at <http://www.ato.gov.au/print.asp?doc=/content/4085.htm>

Notes: a Packaged beer is beer in and bottles and cans. b Beer in containers of more than 48 litres is a proxy for draught beer.

## 9.1 Beer

Excise on beer has been levied on the basis of alcohol content (that is, per litre of alcohol) since 1988. Beer excise is generally structured so that, the higher the alcohol content, the larger the amount of excise payable. This provides an incentive to consume low-alcohol beer. Australia is in the minority of OECD countries where the excise amounts are progressive by alcohol strength.<sup>55</sup>

The increase in the excise payable as alcohol content increases is the consequence of two factors. First, excise is calculated on the amount by which the alcohol content exceeds 1.15 per cent (also introduced in 1988). The effect of the 1.15 per cent threshold is to increase, more than proportionately, the excise payable as alcohol content rises (see Box 3).

### **Box 3: Effect of 1.15 per cent threshold**

Take, for example, a 375 millilitre can of beer with an alcohol content of 6.15 per cent. The taxable alcoholic content is five per cent (6.15 less 1.15 per cent). The taxable volume of alcohol is five per cent of 375 millilitres (equals 0.01875 litres). The amount of excise is this volume multiplied by the excise rate (\$36.43 per litre of alcohol), which equals 68 cents. If, on the other hand, the alcohol content were 4.9 per cent, the amount of excise would be 51 cents. The 26 per cent increase in the alcohol content (from 4.9 to 6.15 per cent) increases the amount of excise by 33 per cent (from 51 to 68 cents).

Second, in general, the higher the alcohol content, the higher the excise rate.

### **Box 4: Beer taxation: three tier system**

The following is an extract from *A New Tax System*, in which the Government proposed changing alcohol taxation.

The Government has decided that, from 1 July 2000: ...

·The excise on beer, and other beverages with less than 10 per cent alcohol content, will be increased to make up for the removal of the present 37 per cent wholesale sale tax. An excise will be imposed on drinks such as alcoholic cider. However, the change in excise will be limited so that the retail price of a carton of full strength beer need only increase by the estimated general price increase associated with indirect tax reform.

·To continue support for the production of low alcohol beer, the Government will increase the excise-free threshold for beer, from the present level of 1.15 per cent, to 1.4 per cent. This will mean that the retail price of a carton of low alcohol beer should not increase and, in some cases, may fall slightly. This will increase the price differential between full strength and low alcohol beer.

·The excise on beverages other than wine, with more than 10 per cent alcohol content, such as spirits and liqueurs, will rise to offset the removal of the wholesale sales tax. The change in excise will be limited such that the retail price of whisky, which is currently heavily taxed, will not need to change. The brandy excise rate will increase but remain below the rate applying to other spirits'.<sup>56</sup>

In the event, following objections that the proposals would, among other things, increase beer prices, the Government [announced](#) in the 2000–01 Budget that it would introduce, from 1 July 2000, a three-tiered excise structure for beer.<sup>57</sup> The *Excise Tariff Amendment Act (No. 1) 2001* effected these proposals.<sup>58</sup>

As can be seen from Table 11, the rate of excise on beer depends on whether its strength is low (alcohol volume not exceeding three per cent by volume of alcohol), medium (exceeding three per cent but not exceeding 3.5 per cent), or high (more than 3.5 per cent). The origins of this three-tier system are described in Box 4.

On 22 March 2002, the Treasurer announced that the Commonwealth and states had agreed to implement a national excise scheme for low-strength beer. The scheme, which came into effect on 1 July 2002, replaced state subsidy schemes with a nationally-uniform and administratively more efficient system for the concessional treatment of low-strength beer (compared to full-strength beer).

## 9.2 Rate structure: differences and anomalies

There are several differences and anomalies in the excise on alcoholic beverages.

First, rates—per litre of alcohol—differ greatly across beverages. The general rate for spirits, for example, is almost ten times the lowest rate for beer. Similarly, the rate on spirits is more than 50 per cent higher than on the same spirit in ready-to-drink products (pre-mixed drinks such as rum and cola). The lower rate on pre-mixed drinks encourages their consumption compared with spirits. Differences in rates are compounded by the interaction of the GST and excise. The fact that the base on which GST is levied includes excise means that the amount of GST on excise ranges from 62 cents per litre of alcohol on low-strength draught beer to \$6.17 on spirits.

Second, the 1.15 per cent threshold for beer provides it with an advantage over pre-mixed drinks. Beverages whose alcohol content does not exceed 10 per cent include beer and pre-mixed drinks. The 1.15 per cent threshold for beer exempts part of the alcohol from excise whereas excise on pre-mixed drinks is levied on the entire amount of alcohol. The gain to revenue from not applying the threshold to pre-mixed drinks is estimated at \$130 million in 2005–06.<sup>59</sup>

Third, an anomaly is that the rates favour draught over packaged beer. For example, the rate on low-strength draught beer is about one-fifth that on low-strength packaged beer. The concessional treatment of draught beer favours pubs and clubs; a person who drinks the same beer at home from bottles or cans pays more excise. The estimated revenue forgone in 2005–06 from the concessional treatment of draught beer is \$170 million.<sup>60</sup> The origins of this anomaly are described in Box 5.

Fourth, one would generally expect the rate of excise on lower-strength beer to be lower than on higher-strength beer. However, the excise on mid-strength and high-strength packaged beer is the same.

**Box 5: Differential for draught beer**

The draught beer concession arose from the statements by the Prime Minister in the 1999 election campaign that the price of ‘ordinary beer’ would not rise by more than 1.9 per cent under *A New Tax System*. On 21 June 2000, Excise Tariff Proposal No. 2 (2000) was introduced into Parliament to increase the rates of excise on alcoholic beverages to offset the repeal of the sales tax legislation and in accordance with the policy in *A New Tax System*. However, it became clear that the Senate would not pass the bill incorporating the terms of the Tariff Proposal in its original form.

As a result of the subsequent negotiations with the Australian Democrats, a lower rate was introduced from 4 April 2001 for beer in containers of more than 48 litres, which is a proxy for draught beer, through the *Excise Tariff Amendment Act (No. 1) 2001*.

Source: Treasury, *Review of the Schedule to the Excise Tariff Act: Industry Discussion Paper*, Canberra, 2005, p. 15.

Fifth, there is a difference between the excise on brandy and the general rate for other spirits. The rate on brandy is more than \$4 less than the rate for other spirits. (With indexation of excise rates, this difference increases over time although not in real terms). Brandy’s favoured position dates back to 1979. In that year’s Budget, a lower rate of excise was introduced for brandy as a support measure for the grape production industry. Given that this industry is well and truly ‘mature’, there seems to be no reason for retaining this implicit subsidy to brandy drinkers. The cost of the subsidy is estimated at \$5 million in 2005–06.<sup>61</sup>

Finally, the rate structure favours certain other consumers and producers. For example, the system treats microbreweries favourably. Those producing less than 30 000 litres annually are entitled to an excise refund. The refund in any financial year must not exceed the lesser of \$10 000 or 60 per cent of the excise payable. This concession may help to account for the rapid growth in the number of microbreweries. Drinkers of home brewed beer benefit from the concession that beer, which private individuals brew for personal use is excise-exempt. The estimated value of this concession in 2005–06 is \$35 million.

While some of the rate differences have been justified on social grounds—for example, taxing low-alcohol content beverages less heavily than those with higher alcohol content—other differences are difficult to justify. Why, for example, should draught beer be favoured over packaged beer, and why should spirits in pre-mixed drinks be taxed less heavily than the same spirits in other forms?

### 9.2.1 Uniform excise rate?

One can question why the rates of excise, per litre of alcohol, should differ. It could be argued that the rate of excise—or, more generally, the total amount of tax—should be the same, per litre of alcohol, on all alcoholic beverages. To be revenue-neutral, a uniform excise rate would mean, among other things, that the rate would be much lower than the top rate on spirits, and lower than the rates on full-strength beer (in bottles and cans) and ready to drink (pre-mixed) spirits. This is a consequence of three factors: the fact that excise revenue from beer is a large proportion—71 per cent—of the excise collected on alcohol; the low rates on draught beer; and the duty-free threshold on beer.<sup>62</sup> Based on excise rates as at August 2005, a uniform rate may be as low as \$28 per litre of alcohol.<sup>63</sup> The fall in the excise on spirits

relative to beer could encourage the consumption of spirits. Some, however, would see this as undesirable because spirits have a higher alcohol content—in the order of 40 per cent by volume—than beer. A reason for the present rate structure seems to be to encourage the consumption of beer relative to spirits presumably on social cost grounds.<sup>64</sup>

## 10. Tobacco

In the past, excise on tobacco was based on a combination of a weight-based charge, and a surcharge based on both weight and wholesale price.<sup>65</sup> This encouraged smoking of more cigarettes containing less tobacco. This led to more health problems than smoking the same amount of tobacco in fewer cigarettes.

The use of weight as the base was unique to Australia and New Zealand.<sup>66</sup> In *A New Tax System*, the Government proposed changing the base for cigarettes:

Very few other countries in the world still collect tobacco excise based on weight, because such an arrangement encourages people to smoke more, lighter cigarettes. This creates greater health problems than smoking even the same amount of tobacco in fewer cigarettes.

The Government has therefore decided to adopt the form of tobacco excise recommended by health experts and favoured by most other countries, which is based on the number of cigarettes produced, not the overall weight of tobacco in them. This form of excise is known as a *per stick* excise and will apply from 1 July 1999. Cigars and other tobacco products will continue to be subject to excise according to their tobacco weight.

Health experts have also recommended that tobacco taxes should be increased by 15 per cent at the same time as moving to a per stick excise. The Government has decided not to do this, but has determined that the measure will be introduced in such a way that no cigarette brand will fall in price.

After the introduction of per stick excise and the application of GST, premium branded 25s will be expected to rise by approximately 6½ per cent. The per stick excise will remove the current tax advantage of light cigarettes (especially those in high volume packets such as 50s). These will increase substantially more—an intentional outcome of the design of this excise on the basis of health grounds.<sup>67</sup>

Although the per stick scheme—for cigarettes (and cigars) that do not exceed 0.8 grams per stick actual tobacco content—was to be introduced on 1 July 1999, it was not introduced until 1 November 1999 to give tobacco manufacturers time to implement the change.

Excise on ‘other’ tobacco products—loose tobacco, and cigarettes and cigars with more than 0.8 grams of tobacco—is still imposed at a specific rate per kilogram. These products are taxed less heavily, per kilogram of tobacco, than the tobacco in cigarettes if they weigh less than 0.8 grams. Treasury estimates the gain to revenue from taxing on a stick rather than the lower rate per kilogram basis is about \$1.39 billion in 2005–06.<sup>68</sup>

Heavy taxation provides an incentive to divert tobacco to the illegal market (colloquially known as ‘chop chop’). The growth in the illegal tobacco trade led to the implementation of the *Excise Amendment (Compliance Improvement) Act 2000*. In June 2002, the Australian National Audit Office (ANAO) investigated the Australian Taxation Office’s (ATO) administration of tobacco excise including the problem of chop chop.<sup>69</sup> The ANAO concluded that, overall, the ATO had arrangements in place for the ‘effective administration of tobacco excise’. The ANAO made eight recommendations to strengthen key areas in tobacco excise administration. The ATO agreed to the recommendations, two with qualification, and advised that the report would be helpful in further developing its tobacco excise program. In 2006, the ANAO issued a follow-up report, which found that criminals are involved in the chop chop trade, and that the ATO’s efforts to halt the trade are on-going.<sup>70</sup>

Table C in the Appendix shows the excise rates since the change to the basis of taxing tobacco.

## 11. Conclusions

In 1998, it was observed with respect to alcohol taxation, that:

The existing taxation treatment of alcoholic beverages reflects factors that range from government health and industry assistance policies, to the impact of historical circumstances (such as the 1997 High Court decision that certain State business franchise fees were prohibited by the Commonwealth Constitution).<sup>71</sup>

Much the same could have been said of the excise on other goods.

While developments over the past decade have seen some progress in establishing a more rational basis for the imposition of excise, including for the purpose of changing social behaviour, scope exists for further rationalisation. Examples of where the basis for imposition have been clearly specified include the change in the base on which excise on cigarettes is levied for health reasons, and the three-tier beer excise, which is designed to discourage consumption of high-alcohol content beer. Similarly, the imposition of higher rates of excise on leaded petrol (compared with unleaded petrol) and on diesel with high sulphur content is designed to reduce social costs. The Government’s proposals to bring excise-exempt fuels into the excise net should improve economic efficiency, while the proposed Business Credits Scheme will remove many distortions in the current Energy Grants (Credits) Scheme.

On the other hand, inconsistencies and anomalies remain. For example, while excise on tobacco and alcoholic beverages continues to be indexed, indexation of excise on petrol and diesel ceased in March 2001. Further, if the Government’s proposals for excise on petrol and (low sulphur) diesel are implemented, excise on these fuels will have remained at 38.143 cents per litre for 14 years. The fall in the real value of these excises seems to be at odds with moves to encourage the use of other fuels on environmental grounds. Similarly, the disparities between the levels of excise on draught beer and packaged beer are difficult to

rationalise. It is to be hoped that such inconsistencies will be addressed in the future and that the reasons for levying excise will be clearly enunciated.

## Endnotes

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1. This paper does not discuss the crude oil excise which is a production tax.
2. In contrast, an ad valorem tax is one whose rate is expressed as a percentage of the value of a product.
3. In contrast, an ad valorem tax of, say, 10 per cent, maintains price relativities.
4. With the exception of expensive spirits, the price differentials in fuels, tobacco and beer are generally not as large as, for example, in wine.
5. Uncertainty exists as to the precise status of tariff proposals. There are, however, specific protections in the *Excise Act 1901* to allow excise to be collected at the rates from proposals. A proposal is perhaps best seen as a notice of intent to legislate retrospectively.
6. 'Retrospectivity of tax legislation', in J. R. Odgers, *Odgers' Australian Senate Practice*, 11<sup>th</sup> ed., Department of the Senate, Canberra, 2004, pp. 299–300, <http://www.aph.gov.au/Senate/pubs/odgers/chap1314.htm>; and 'Customs and excise tariff proposals', in I. C. Harris (ed.), *House of Representatives Practice*, 5<sup>th</sup> ed., Department of the House of Representatives, Canberra, 2005, pp.428-9, <http://www.aph.gov.au/house/pubs/PRACTICE/chapter11.htm#cus>, accessed on 24 March 2006.
7. Organisation for Economic Co-operation and Development, *Consumption Tax Trends: VAT/GST, Excise and Environmental Taxes*, OECD, Paris, 1999.
8. For a brief history of excise in Australia, see Denis James, "Beer and cigs up!": A recent history of excise in Australia', *Background Paper*, no. 5, Parliamentary Library, Canberra, 1995–96, <http://www.aph.gov.au/library/pubs/bp/1995-96/96bp05.htm>, accessed on 24 March 2006.
9. For example, see United States. Department of Health and Human Services, *Reducing Tobacco Use. A Report of the Surgeon General*, 2000,: U.S. Department of Health and Human Services, Centers for Disease, Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, Atlanta, Georgia, 2000, [http://www.cdc.gov/tobacco/sgr/sgr\\_2000/index.htm](http://www.cdc.gov/tobacco/sgr/sgr_2000/index.htm), accessed on 24 March 2006.
10. Bureau of Transport and Regional Economics, 'Health impacts of transport emissions in Australia: economic costs', *Working Paper*, no. 63, 2005, p. ix.
11. Fuel Taxation Inquiry (Australia), *Report*, [The Treasury], Canberra, 2002, p. 71, [http://fueltaxinquiry.treasury.gov.au/content/report/downloads/FTI%20Report\\_PDF.zip](http://fueltaxinquiry.treasury.gov.au/content/report/downloads/FTI%20Report_PDF.zip), accessed on 27 March 2006. The report advocated more use of road pricing.
12. *ibid.*, p. 73.
13. Cited in Productivity Commission, *Progress in Rail Reform*, Canberra, 1999, p. 209.

14. The effective difference between an ad valorem and a volumetric tax on fuel is not great as it is generally a uniform product. An ad valorem tax would result in revenue fluctuating as prices rose and fell.
15. See the Australian Institute of Petroleum, *World Prices and Taxes*, <http://www.aip.com.au/pricing/oecd.htm>, accessed on 24 March 2006.
16. This explains why the rates were adjusted when the GST was introduced.
17. The higher pump price of lead replacement petrol compared with unleaded petrol was due partly to the fact that it cost more to produce lead replacement petrol. Lead replacement petrol was progressively phased out with limited availability from the end of 2004.
18. *Ha and Lim v. New South Wales* (1997) CLR 465.
19. States should be read as the states and territories.
20. Queensland. Office of State Revenue, *Old fuel subsidy scheme*, <http://www.osr.qld.gov.au/gas/fuel/old.htm>, web address accessed 27 March 2006.
21. *New South Wales Government Submission to the Commonwealth Government's Inquiry into Fuel Taxation*, 2001, [http://fueltaxinquiry.treasury.gov.au/content/Submissions/Government/NSWGovt\\_270.asp](http://fueltaxinquiry.treasury.gov.au/content/Submissions/Government/NSWGovt_270.asp), web address accessed on 27 March 2006.
22. See Hon. J. Howard (Prime Minister), *Transcript of the Prime Minister the Hon John Howard MP Press Conference*, media release, Parliament House, Canberra, 1 March 2001, <http://www.pm.gov.au/news/interviews/2001/interview780.htm>, web address accessed on 24 March 2006.
23. Indexation did not apply to crude oil and liquefied petroleum gas, which were subject to separate arrangements.
24. Hon. J. Howard, op. cit. The indexation of excise on oils and lubricants was also abolished.
25. 'Budget measures 2001–02', *Budget Paper No. 2*, 2001, Canberra, p. 40.
26. Access Economics, *Budget Monitor*, no. 63, October 2004, p. 34.
27. Fuel Taxation Inquiry (Australia), op. cit., p. 112.
28. *ibid.*, p. 113.
29. P. Costello (Treasurer), *Report of the Fuel Taxation Inquiry*, media release, 14 May 2002, <http://www.treasurer.gov.au/tsr/content/pressreleases/2002/027.asp>, web address accessed on 24 March 2006.
30. Fuel Taxation Inquiry (Australia), op. cit., p. 112.
31. P. Costello (Treasurer), *Ultra Low Sulphur Diesel*, media release, 24 December 2002, <http://parlinfoweb.parl.net/parlinfo/Repository1/Media/pressrel/KZC860.pdf>, web address accessed on 24 March 2006.
32. 'Budget measures 2003–04', *Budget Paper No. 2*, 2003, Canberra, p. 42.

33. Hon. P. Costello (Treasurer) and Hon. I. Campbell (Minister for Environment and Heritage), *No increase in excise rate on petrol*, media release, Parliament House, Canberra, 20 September 2005, <http://www.treasurer.gov.au/tsr/content/pressreleases/2005/082.asp>, web address accessed on 27 March 2006.
34. In 1994–95, excise accounted for less than three per cent of the Civil Aviation Authority's revenue.
35. The Civil Aviation Authority ceased to exist on 5 July 1995.
36. Airservices Australia, *Charges for Facilities and Services*, <http://www.airservicesaustralia.com/pilotcentre/avcharge/price/charges.asp>, web address accessed 27 March 2006.
37. Fuel Taxation Inquiry (Australia), op. cit., pp. 108-9.
38. Treasury, *Tax Expenditures Statement 2004*, Canberra, 2005, p. 149, [http://www.treasury.gov.au/documents/950/PDF/TES\\_2004.pdf](http://www.treasury.gov.au/documents/950/PDF/TES_2004.pdf), web address accessed on 24 March 2006.
39. *ibid.*
40. Australian Taxation Office, *What is the cleaner fuels grants scheme?* <http://www.ato.gov.au/businesses/content.asp?doc=/content/38324.htm>, web address accessed 27 March 2006.
41. Hon. J. Anderson (Minister for Transport and Regional Services), *Ethanol decision*, media release, 12 September 2002, [http://parlinfoweb.parl.net/parlinfo/view\\_document.aspx?ID=65055&TABLE=pressrel&TARGET](http://parlinfoweb.parl.net/parlinfo/view_document.aspx?ID=65055&TABLE=pressrel&TARGET), web address accessed on 24 March 2006.
42. Australia. Biofuels Taskforce, *Report of the Biofuels Taskforce to the Prime Minister*, [Dept. of Prime Minister and Cabinet, Canberra], p. 5, [http://www.dpmmc.gov.au/biofuels/report/report\\_full.pdf](http://www.dpmmc.gov.au/biofuels/report/report_full.pdf), web address accessed on 27 March 2006.
43. D. Kemp (Minister for the Environment and Heritage), *New package to support uptake of biofuels*, media release, 13 May 2003, [http://parlinfoweb.parl.net/parlinfo/view\\_document.aspx?ID=73953&TABLE=pressrel&TARGET](http://parlinfoweb.parl.net/parlinfo/view_document.aspx?ID=73953&TABLE=pressrel&TARGET), web address accessed on 24 March 2006.
44. Department of Industry, Tourism and Resources, *Government Biofuels Initiatives*, <http://www.industry.gov.au/content/itrinternet/cmscontent.cfm?objectID=A9D9A207-0351-51FB-F20C287758203878>, web address accessed 27 March 2006.
45. Eligible alternative fuels are liquefied petroleum gas, compressed natural gas, liquefied natural gas, ethanol, biodiesel, and blends of biodiesel and diesel that consist mainly of biodiesel. Only vehicles under 20 tonnes are subject to the eligible trips restriction.
46. Australian Taxation Office, *Rates for the energy grants credits scheme*, <http://www.ato.gov.au/nonprofit/content.asp?doc=/content/35004.htm>, web address accessed 27 March 2006.

47. Hon. John Howard, (Prime Minister), *Changes to the goods and services tax (GST)*, [http://www.pm.gov.au/news/media\\_releases/1999/changes3105.htm](http://www.pm.gov.au/news/media_releases/1999/changes3105.htm), web address accessed 27 March 2006.
48. Australian Taxation Office, *Eligibility requirements*, <http://www.ato.gov.au/businesses/content.asp?doc=/content/35174.htm&page=2&H2>, web address accessed 27 March 2006.
49. 'Budget strategy and outlook 2003–04', *Budget Paper No. 1*, 2003, Canberra, pp. 1–22 and 1–23.
50. Hon. J. Howard (Prime Minister), *Fuel excise reforms*, media release, Canberra, 16 December 2003, [http://www.pm.gov.au/news/media\\_releases/media\\_Release624.html](http://www.pm.gov.au/news/media_releases/media_Release624.html), web address accessed on 27 March 2005.
51. Australian Government, *Securing Australia's Energy Future*, Canberra, 2004, p. 93, [http://www.pmc.gov.au/publications/energy\\_future/docs/energy.pdf](http://www.pmc.gov.au/publications/energy_future/docs/energy.pdf), web address accessed on 27 March 2006.
52. Treasury, *Fuel Tax Credit Reform Discussion Paper*, Canberra, 2005, <http://www.treasury.gov.au/contentitem.asp?NavId=037&ContentID=986>, web address accessed 27 March 2006.
53. The exemption for liquefied petroleum gas (LPG) dates back to 28 June 1979 when the excise on LPG was removed to help reduce reliance on imported oil and petroleum products. The Fuel Taxation Inquiry was sceptical about the cost-effectiveness of using excise exemption to increase fuel security and recommended that LPG be brought into the excise net.
54. Australian Government, *Securing Australia's Energy Future*, op. cit., p. 96.
55. Organisation for Economic Co-operation and Development, op. cit.
56. Treasury, *Tax Reform, Not a New Tax, a New Tax System: the Howard Government's Plan for a New Tax System*, AusInfo, Canberra, p. 87.
57. Budget Paper No. 2, 2000–01, pp. 24–25.
58. For background to the dispute, see Ian Ireland, 'Excise Tariff Amendment Bill (No. 1) 2001', *Bills Digest*, no. Parliamentary Library, Canberra, 2000–01, <http://www.aph.gov.au/library/pubs/bd/2000-01/01BD107.htm>, web address accessed on 24 March 2006.
59. *ibid.*, p. 151.
60. *ibid.*, p. 152.
61. *ibid.*, p. 154.
62. Australian Taxation Office, *Taxation Statistics 2002–03*, ATO, Canberra, 2003, p. 172.
63. Unpublished estimate by the Statistics section of the Parliamentary Library, Canberra.
64. This discussion focuses solely on excise. A more comprehensive consideration of the issues would have to take account of the tax on wine (the wine equalisation tax and GST) and other factors such as regressivity.
65. The surcharge was the basis on which state franchise fees were levied.

66. Organisation for Economic Co-operation and Development, op. cit., p. 33.
67. *Tax Reform, Not a New Tax, a New Tax System: the Howard Government's Plan for a New Tax System*, op. cit., pp. 88–89.
68. *Tax Expenditures Statement 2004*, op. cit., p. 150.
69. Australian National Audit Office, *Administration of Tobacco Excise*, 2002, <http://www.anao.gov.au/WebSite.nsf/Publications/4A256AE90015F69BCA256BCF00808510>, web address accessed 27 March 2006.
70. Australian National Audit Office, *Administration of Petroleum and Tobacco Excise Collections: Follow-up Audit*, Canberra, 2006.
71. *Tax Reform, Not a New Tax, a New Tax System: the Howard Government's Plan for a New Tax System* op. cit., p. 87.

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## Appendix

Table A: Excise rates on petroleum products (cents per litre)

Date	Petrol		Diesel		Heating oil and kerosenes	AVTUR	AVGAS
	Unleaded	Leaded	Low sulphur	High sulphur			
1 Sep 1996	n.c.	n.c.		n.c.	n.c.	1.778	17.931
3 Feb 1997	34.697	36.872		34.697	7.200	1.785	18.003
1 Jul 1997	n.c.	n.c.		n.c.	n.c.	n.c.	17.403
6 Aug 1997	42.797	44.972		42.797	n.c.	n.c.	n.c.
25 May 1998	n.c.	n.c.		n.c.	n.c.	n.c.	14.803
1 Jul 1998	n.c.	n.c.		n.c.	n.c.	n.c.	1.721
1 Aug 1998	43.054	45.242		43.054	7.243	1.796	n.c.
1 Feb 1999	43.355	45.559		43.355	7.294	1.809	1.733
12 May 1999	n.c.	n.c.		n.c.	n.c.	2.710	2.710
2 Aug 1999	43.485	45.696		43.485	7.316	2.718	2.718
2 Feb 2000	44.137	46.381		44.137	7.426	2.759	2.759
13 May 2000	n.c.	n.c.		n.c.	n.c.	2.795	n.c.
1 Jul 2000	37.481	39.725		37.481	n.c.	n.c.	n.c.
1 Aug 2000	38.118	40.400		38.118	7.552	2.843	2.806
1 Feb 2001	39.643	42.016		39.643	7.854	2.957	2.918
2 Mar 2001	38.143	40.516		38.143	7.557	2.845	2.808
1 Jul 2003	n.c.	n.c.	38.143	39.143	n.c.	n.c.	n.c.
1 Jan 2004	n.c.	n.c.	n.c.	40.143	n.c.	n.c.	n.c.

Source: *Budget Paper No. 1*, various years.

n.a.: not applicable. n.c.: no change.

Table B: Proposed timetable for fuel excise and credits reform

1 July 2006	Excise on burner fuels will be removed. A full credit will be provided for all fuels used in power generation. Excise on heavy vehicles will be converted to a road user charge. Excise relief will be provided for petrol and all other taxable fuels used for business purposes in heavy vehicles. Urban-regional boundaries will be removed. Spending under the Fuel Sales Grants Scheme will be converted to road funding. The Petroleum Products Freight Subsidy Scheme will end. Access to excise credits for those claiming more than \$3 million per year will be linked to participation in the Greenhouse Challenge programme. Access to on-road credits for heavy diesel vehicles will be linked with meeting one of five emissions performance criteria designed to ensure vehicles meet the emission standard set under the Diesel National Environment Protection Measure.
1 July 2008	A 50 per cent credit will be introduced for the off-road business use of taxable fuels in activities not previously eligible for credits. Petrol used in currently eligible off-road activities will qualify for a credit.
1 July 2011	Effective excise will apply to all fuels used in an internal combustion engine, including concessional excise for biodiesel, ethanol, liquefied petroleum gas, liquefied natural gas and compressed natural gas. The effective excise rates will increase over five equal annual steps, reaching their final rates on 1 July 2015.
1 July 2012	Full credit will be extended to all business use of all taxable fuels in all off-road activities.
1 July 2015	Final effective fuel excise rates will apply to all taxable fuels, including a 50 per cent discount for alternative fuels.

Source: Australian Government, *Securing Australia's Energy Future*, Canberra, 2004, p. 102.

Table C : Excise rates on selected alcoholic beverages (\$ per litre of alcohol)

Date	Beer <sup>a</sup>						Spirits		
	Draught			Other			Brandy	Ready to drink	Other spirits
	Low strength	Medium strength	High strength	Low strength	Medium strength	High strength			
1 August 2005	6.24	19.60	26.65	31.26	36.43	36.43	57.62	36.43	61.71
1 February 2005	6.16	19.35	25.32	30.86	35.96	35.96	56.88	35.96	60.92
2 August 2004	6.09	19.12	25.02	30.49	35.53	35.53	56.21	35.53	60.20
2 February 2004	6.01	18.86	24.67	30.07	35.04	35.04	55.43	35.04	59.37
1 August 2003	5.94	18.65	24.40	29.74	34.66	34.66	54.83	34.66	58.72
1 February 2003	5.86	18.41	24.09	29.36	34.22	34.22	54.13	34.22	57.97
1 August 2002	5.78	18.16	23.76	28.95	33.75	33.75	53.38	33.75	57.17
1 July 2002	5.59	17.87	23.39	28.49	33.22	33.22	52.54	33.22	56.27
1 February 2002	16.46	17.87	23.39	45.46	38.59	33.22	52.54	33.22	56.27
1 August 2001	16.26	17.66	23.11	44.92	38.13	32.83	51.92	32.83	55.60
4 April 2001	15.96	17.33	22.68	44.08	37.42	32.22	50.95	32.22	54.56
2 March 2001	44.08	37.42	32.22	44.08	37.42	32.22	50.95	32.22	54.56

Source: Budget paper No. 1 various years

Note: <sup>a</sup> per litre of alcohol over 1.15 per cent

Table D: Tobacco excise rates (\$)

Date of effect	Cigarettes, cigars and tobacco in stick form <sup>a</sup>	Tobacco products (per kilogram tobacco content)
1 February 1999	n.a.	85.37
1 August 1999	n.a.	235.90
1 November 1999	0.18872	235.90
2 February 2000	0.19155	239.44
1 August 2000	0.19481	243.51
1 February 2001	0.20260	253.25
1 August 2001	0.20645	258.06
1 February 2002	0.20893	261.16
1 August 2002	0.21227	265.34
1 February 2003	0.21524	269.05
1 August 2003	0.21804	272.55
2 February 2004	0.22044	275.55
2 August 2004	0.22353	279.41
1 February 2005	0.22621	282.76

Source: Budget Paper No. 1 various years

Notes: <sup>a</sup> tobacco content of 0.8 grams or less per stick. n.a.: not applicable