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Green Taxes : Legal and Policy Issues in Using Economic Instruments for Environmental Management

Abstract

Green taxes are used widely overseas and increasingly in Australia. There are four main categories. 1. Taxes, levies, fees and other charges, including development taxes, rezoning charges, emission charges, emission licence fees, environmental protection charges, input taxes, resource rents and royalties, sliding charges for utilities, and product levies. 2. Tradeable, bankable and marketable rights and credits, including tradeable emission rights, emission reduction credits, transferable development credits, tradeable resource quotas, and tradeable emission leases. 3. Other economic instruments such as refundable deposits, performance bonds and guarantess, and subsidies, 4. Income tax concessions and differential sales taxes and import duties. Recent High Court authority suggests that whilst some of these instrucments would be excises and hence could be imposed only by the Commonwealth, most could also be imposed by state government and some also by local government. Their economic and policy advantages and disadvantages are reviewed.

Keywords

green taxes, taxation, environmental management

GREEN TAXES: LEGAL AND POLICY ISSUES IN USING ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL MANAGEMENT

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Green taxes are used widely overseas and increasingly in Australia. There are four main categories. 1. Taxes, levies, fees and other charges, including development taxes, rezoning charges, emission charges, emission licence fees, environmental protection charges, input taxes, resource rents and royalties, sliding charges for utilities, and product levies. 2. Tradeable, bankable and marketable rights and credits, including tradeable emission rights, emission reduction credits, transferable development credits, tradeable resource quotas, and tradeable emission leases. 3. Other economic instruments such as refundable deposits, performance bonds and guarantees, and subsidies. 4. Income tax concessions and differential sales taxes and import duties. Recent High Court authority suggests that whilst some of these instruments would be excises and hence could be imposed only by the Commonwealth, most could also be imposed by State governments and some also by local government. Their economic and policy advantages and disadvantages are reviewed.

Introduction

Background

Green taxes are widely used in Europe¹ and North America.² In Australia they have been endorsed by industry,³ and tentatively by conservation

1 OECD, *The Application of Economic Instruments for Environmental Protection in OECD Member Countries* (1988) OECD Report ENV/ECO/87.12; OECD, *Recommendation of the Council on the Use of Economic Instruments in Environmental Policy* (1991a) OECD Report C(90) 177/FINAL; OECD, *Guidelines for the Application of Economic Instruments in Environmental Policy* (1991b) 1 Environment Committee Meeting at Ministerial Level Background Paper; OECD, *Resource Pricing* (1991c) 2 Environment Committee Meeting at Ministerial Level Background Paper.

2 Stavins, "Clean Profits" [1989] (Spring) Policy Review 58.

3 Davis, *Market Based Approaches to Environmental Management* (1990) Australian Chamber of Commerce.

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groups,⁴ and are under close scrutiny by governments.⁵ Their social and economic effects are still controversial, but it is legal issues which are currently most critical in determining precisely how they will be designed and imposed.

Taxes have significantly different meanings in law, economics, and policy. So-called green taxes encompass a range of economic instruments of environmental policy. Only some of these are taxes in a legal sense. In addition, in many cases a particular policy goal could be achieved either by imposing a tax or charge, or by granting a private right which may be tradeable or bankable. Such environmental property rights, sometimes known as market-based measures of environmental policy, therefore need to be considered along with taxes in the stricter sense. The term green tax is thus used broadly to mean any instrument of fiscal policy with environmental applications or implications. This includes both rights and charges; and charges include taxes, levies, licence fees, and duties.

These economic instruments are only one class of environmental policy tools. Regulatory and technological instruments are the other two. Regulatory instruments specify physical standards to be attained, leaving decisions on technology and costs to the operating corporations concerned. Technological instruments specify technology to be adopted, but not costs or outcome. Economic instruments set charges for environmental use or degradation, but do not specify the equipment used or environmental quality objectives to be obtained. A given set of policy objectives may require a basket of measures of all three classes, typically employing green taxes within a framework of regulated standards or technological requirements.

Reasons for green taxes

Green taxes and related economic instruments have been advocated for two main reasons. The first is economic: in the right circumstances, economic instruments should be able to achieve a given level of environmental quality at lower total cost than regulatory or technological instruments. This applies only if information, metering, transaction and administration costs are low, however. Recently, economists have suggested

4 Cameron, "An Initial Appraisal of the Effectiveness of Environmental Policy Instruments: Forestry, Agriculture and Ecologically Sustainable Development" in *Papers, ANU/RAC Conference, Economics of Environmental Policy* (1990) Australian National University and Resource Assessment Commission.

5 Odgers, *Economic Instruments for Achieving Environmental Objectives and Sustainable Development* (1991) Aust. Arts Sport Environment Tourism and Territories.

that these conditions are rarely met.⁶ Green taxes which have been tried in practice, however, seem to have performed well.⁷

The second argument is social: green taxes provide incentives for socially desirable behaviour without removing individual freedom of choice. By designing appropriate economic incentives for good environmental management, government can allow many development decisions to be made by project proponents, rather than passed to government. Some types of policy instrument can also act to transfer administrative workload from public regulatory agencies to private-sector insurance and finance industries and the courts.

Aims and effects of green taxes

Taxes and associated fees and charges levied by government have various purposes and effects: to raise revenue, to recover public sector costs, to achieve social equity, or to modify taxpayer behaviour.

Taxes imposed principally to raise general revenue are by far the largest in relative financial terms, and agencies charged with administering such taxes are generally concerned only to raise maximum revenue with minimum administrative cost and social inequity.⁸ How that revenue will ultimately be disbursed is not defined at the time it is raised.

There is a large class of fees and charges imposed by government avowedly to recover costs incurred in providing specific rather than general public services. This is the so-called user-pays policy. From both economic and legal perspectives, however, the fees charged and the services provided are highly heterogeneous. Compare, for example, electricity tariffs with stamp duties.

Specific taxes intended principally as instruments of social equity are rare. Social welfare programmes, for instance, are funded from general revenue. Economic theorists, however, often postulate such taxes as policy tools.⁹ If a particular policy decision, such as approval for a major resource or industrial development, would impose costs on some individuals but allow greater gains for others, then in theory a tax could be used to force the latter to compensate the former and still enjoy a net gain.

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- 6 Vollebergh, "Wishful Thinking About the Effects of Market Incentives in Environmental Policy" in Dietz and Heijman (eds), *Environmental Policy in a Market Economy* (1987) 40; Common, *Environmental and Resource Economics: An Introduction* (1988) Longman; Common, "The Choice of Pollution Control Instruments: Why is so Little Notice Taken of Economists' Recommendations?" (1990) 21 *Environ Plan A* 1297.
 - 7 Bressers, "Effluent Charges Can Work: the Case of the Dutch Water Quality Policy" in Dietz and Heijman (eds), above n 6 at 40.
 - 8 Preston, "Taxation and the Environment" in *Papers, CEDA Conference on Future Direction of Reform in Corporate Taxation* (1990) Committee for the Economic Development of Australia; Aust, Treasury, "Economic and Regulatory Measures for Ecologically Sustainable Development Strategies" [1990] (June) Economic Roundup.
 - 9 Common, above n 6; Barbier, *Economics, Natural-Resource Scarcity and Development: Conventional and Alternative Views* (1989) Earthscan.

All taxes have secondary effects, and some of these have major social and environmental consequences. One of the main factors influencing the size of these secondary effects is the relative magnitude of other social and economic pressures on the taxpayers affected. For example, the purpose of income tax is not to alter taxpayer behaviour, but taxpayers do in fact alter their behaviour to minimise their tax liabilities. These behavioural changes are heavily constrained, however, by the taxpayers' pressing requirements for continuing income.

Most green taxes, in contrast, are deliberately designed to modify taxpayer behaviour. Commonly, they are intended to act as a deterrent to environmentally damaging behaviour or as an inducement to improve environmental management practices. Some are also intended as instruments of social equity, or to recover public-sector costs, but rarely are they intended to raise general revenue. For many green taxes, the intention is to halt or reduce the activities taxed so completely that no revenue is raised at all.

Classes of instrument

Fiscal instruments with environmental implications fall into two main classes. Firstly, many provisions in legislation for general revenue-raising taxes may have environmental implications. These include income and sales taxes, customs and import duties, and excises. These taxes are very broad in application and revenue base, and a small change in any of their provisions may have major economic and social consequences. Relevant provisions may in turn be considered in two groups. The first consists of those whose environmental consequences are inadvertent and often negative; the second of those which are specifically intended as instruments of environmental policy.

The second major category consists of taxes and related instruments whose primary purpose is not to raise revenue. These are generally much narrower in focus: the proportion of the population or electorate which pays these taxes is relatively small, as is total revenue raised; but their social and environmental implications are large. Again, most of these instruments fall into one of two groups. The first consists of charges imposed by government for the use of publicly owned environmental goods and services. These include taxes, levies and licence fees of various types, and they may be applied to both the private and the public sector. The second group consists of private rights for the use of publicly owned environmental goods and services, sold or granted by government and subsequently transferable or bankable.

There are many different variants of each of these categories, and many have specific names such as those listed below. The general term charge is used to include taxes, levies and licence fees. The main types¹⁰ are as follows.

- environmental damage charges
- development charges
- rezoning charges
- waste, emission and pollution charges
- emission licence fees
- environmental protection charges
- input taxes
- resource rents and royalties
- product levies
- sliding charges for utilities
- tradeable emission rights
- emission reduction credits
- transferable development credits
- tradeable resource quotas
- tradeable emission leases
- refundable deposits
- performance bonds and guarantees
- subsidies and bounties
- special purpose grants

Each of these instruments has advantages and disadvantages - technical, economic, legal, administrative and political - and these vary with the type of environmental issue concerned. Not surprisingly, however, many have the common feature that the charge imposed or the price for a corresponding right is closely related to the magnitude or value of the environmental good or service which it affects.

The critical legal issues in Australia are related largely to the constitutional powers and privileges of Commonwealth and State governments respectively. Of particular significance is the question whether any of the instruments with the common feature referred to above are excises, and therefore constitutionally prohibited to State and hence to local governments. "Perhaps the liveliest issue in relation to federal fiscal powers

10 Buckley, "Environmental Accounting and National Policy. 3. Economic Instruments of Environmental Policy" in *Papers, Executive Workshop, Accounting for the Environment* (1990a) Environment Institute of Australia; Buckley, "Overview: Economic Instruments of Environmental Policy" in *Environmental Strategy: New Taxation and Other Economic Measures to Address Environmental Objectives* (1990b), Calcutt Watson; Buckley, *Perspectives in Environmental Management* (1991) Springer.

is not the scope of federal power but the extent to which States are excluded by the prohibition on State excises".¹¹

Since this question is central to the use of many proposed green taxes and related instruments, it is the first topic addressed by this review. Subsequent sections outline taxes and related instruments intended specifically for environmental protection, considering examples, advantages and disadvantages, and legal issues. The environmental consequences of income and sales tax legislation, excises and import duties are then reviewed briefly; and the final section summarises implications for the choice of green taxes and related instruments by different levels of government and for different environmental applications.

Constitutional powers and privileges

The three levels of government in Australia have different rights to impose taxes, levies, charges and fees of various types. Local governments, for example, have already imposed environmental levies of various types as part of domestic rates. State governments have set royalties for the use of natural resources, established deposit-refund systems, charged fees for waste discharge licences, and imposed environmental performance bonds. Income taxes, sales taxes, import duties and excises, however, are currently controlled by the Commonwealth.

In regard to environmental management, the Commonwealth's principal constitutional powers are specified in ss 51, 81-83, 96 and 122 of the Constitution.¹²

s 51(i)	trade and commerce, subject to s 92 (free trade between States)
s 51(ii)	taxation, subject to s 99 (non-discrimination) and s 114 (taxes on State property)
s 51(xx)	corporations
s 51(xxix)	external affairs
ss 81-83	federal spending
s 96	grants to the States, absolute or conditional
s 122	Commonwealth territories

According to Crawford,¹³ these powers are to be interpreted according to three main principles: (a) the heads of power in s 51 are to be interpreted separately and disjunctively; (b) the powers are to be construed liberally according to their terms; and (c) Commonwealth legislation must rest on one

11 Crawford "The Constitution and the Environment" in *Papers, Conference on Constitution and Environment* (1990) 9 University of Melbourne.

12 Crawford, above n 11; Fowler, *Proposal for a Federal Environmental Protection Agency* (1991) University of Adelaide.

13 Crawford, above n 11.

or more of the granted heads of power in its legal operation, but not necessarily in its practical effect. Indeed, Commonwealth legislation can be drafted to derive support cumulatively from a suite of constitutional powers, as for example in the Environment Protection (Nuclear Codes) Act 1978 (Cth). Similarly Fowler¹⁴ notes that the National Occupational Health and Safety Commission Act 1985 (Cth) draws on all relevant powers to cover: Commonwealth spending, territories, places and agencies; defence; information and communications; trade or commerce; banking; insurance; and corporations, including their financial operations and trading.

The Ozone Protection Act 1989 (Cth), for example, which introduced a national system of licences, levies and tradeable quotas for the production, import and export of ozone depleting substances, relies on the external affairs power.¹⁵ Presumably, analogous Commonwealth Acts imposing charges or tradeable quotas for greenhouse gases, acid gases or marine pollution could do likewise.

The Commonwealth has few exclusive powers; but where powers are not assigned exclusively, Commonwealth law overrules State law.¹⁶ Commonwealth and State laws can interact in various different ways.¹⁷ Some Commonwealth acts have overridden State law, for example; whereas others cease to operate if the Commonwealth declares that a parallel State law is an adequate substitute. In the particular case of income tax, it might appear that since Commonwealth legislation "covers the field" in the sense of s 109 of the Constitution, attempts by the States to levy income taxes would be constitutionally invalid. The current view, however, appears to be that the States could levy income taxes if they wished, but that political reasons have prevented them, even when they were specifically invited to do so by the Commonwealth some years ago.

Definition of excise

Constitutional context

Under s 90 of the Australian Constitution, the imposition of excises is an exclusive prerogative of the Commonwealth. The first limb of s 90 states: "On the imposition of uniform duties of customs the power of the Parliament to impose duties of customs and of excise, and to grant bounties on the production or export of goods, shall become absolute". The intention of s 90 was to give the Commonwealth power over taxation of commodities and to prevent the States hampering that power.¹⁸ It is important to establish the precise legal definition of an excise in order to determine whether any of the

14 [Fowler, above n 12 at 32.

15 [Fowler, "Global Change, the Australian Constitution and the Environment" in *Constitution and Environment*, above n 11.

16 [Crawford, above n 11.

17 [Fowler, above n 12.

18 *Parton v Milk Board (Vic)* (1949) 80 CLR 229, 260.

various forms of green tax would fall into the category of excises; since if they did, they could be imposed only by the Commonwealth.

Originally, an excise was a duty levied on domestically produced goods, notably alcohol, analogous to customs duties levied on imported goods. Such an interpretation may still hold in the UK.¹⁹ At the time of federation, an excise was conceived of as "a tax on articles produced or manufactured in a country", and "was intended to mean a duty analogous to a customs duty imposed upon goods either in relation to quantity or value when produced or manufactured, and not in the sense of a direct tax or personal tax".²⁰ This definition no longer applies in Australia, however; currently "the phrase 'duties of excise' has no definite meaning".²¹

With regard to green taxes and related instruments, two different lines of argument are important. The first defines, or at least circumscribes, the general meaning of the term excise in Australia. It derives from a long series of High Court cases, starting with *Peterswald*²² and culminating in *Philip Morris*²³ and *Coastace*.²⁴ The second, which applies to a particular class of green charges, derives from a recent case in Tasmania, *Harper*.²⁵ Both are relevant, since if a particular instrument does not fall under the authority of *Harper*, then the more general definition of excise will apply. I shall therefore examine this general definition first.

General definition of an excise in Australia

There appears to be no unanimous High Court decision still standing that defines the term excise unambiguously. Two sets of tests may be identified: those which appear to be generally accepted by the High Court at present, and those which are still contentious, largely as a result of the so-called franchise cases considered below. The generally accepted criteria are as follows.

1. An excise must be a tax: "... an excise is a particular form or category of tax. An impost will not constitute an excise unless it is a tax".²⁶ A tax must be "a compulsory exaction of money by a public authority for public purposes, enforceable by law . . .";²⁷ but not all such exactions are necessarily taxes.²⁸ The list of exactions which

19 Herbert, *More Uncommon Law* (1952) 269-274.

20 Griffith CJ in *Peterswald v Bartley* (1904) 1 CLR 497, 508-509, quoting from Quick and Garran, *Annotated Constitution of the Australian Commonwealth* (1901) 837-838.

21 Dawson J in *Philip Morris Ltd v Commissioner of Business Franchises* (1989) 63 ALJR 520, 541.

22 Above n 20.

23 Above n 21.

24 *Coastace Pty Ltd v The State of New South Wales* (1989) 63 ALJR 558, (1989) 167 CLR 503.

25 *Harper v Minister for Sea Fisheries (Tasmania)* (1989) 63 ALJR 687.

26 Mason CJ and Deane J in *Philip Morris*, above n 21 at 525.

27 Latham CJ in *Matthews v Chicory Marketing Board* (1938) 60 CLR 263, 276.

28 *Air Caledonie International v The Commonwealth* (1988) 165 CLR 462, 467, followed in recent excise cases such as *Philip Morris*, above n 21.

do not constitute taxes is not exhaustive, but includes those which are "a payment for services rendered";²⁹ "a charge for the acquisition or use of property"; "a fee for a privilege"; "a fine or penalty imposed for criminal conduct or breach of statutory obligation"; and any other of "various special types of exaction".³⁰

2. An excise must be imposed in relation to goods or commodities: "... for constitutional purposes excises are taxes directly related to goods imposed at some step in their production or distribution before they reach the hands of consumers".³¹ It may, however, be imposed at any step in the process of production, manufacture, distribution or sale, before the goods concerned reach the consumer. An excise "embraces all taxes upon, or in respect of, a step in the production, manufacture, sale or distribution of goods";³² and "a tax on a step in the production or distribution of goods to the point of receipt by the consumer is a duty of excise".³³ Distribution and sale were included in 1938,³⁴ replacing the narrower definition in *Peterswald*; and the broader definition has been followed subsequently.³⁵ For a brief period, consumption was also included in the definition;³⁶ but was subsequently excluded.³⁷
3. The effect on the relevant step in (2) can be legal, practical or both; ie it may take effect in either form or substance.³⁸ An excise does not have to be a "direct" tax.³⁹ "The Court will not be restricted to considering the statutory criterion of liability alone but will consider other factors in determining whether the tax is in substance a tax upon a step in production or distribution".⁴⁰
4. Contrary to the original character of an excise, it is now no longer necessary for a tax to be quantified by the amount of the commodity manufactured or sold in order to qualify as an excise.⁴¹ This is still a relevant consideration, however, as outlined below.

29 Latham CJ in *Matthews*, above n 27 at 276.

30 *Air Caledonie*, above n 28 at 466-467.

31 Unanimous judgment of the High Court in *Bolton v Madsen* (1963) 110 CLR 264, 271.

32 Mason J in *Hematite Petroleum Pty Ltd v Victoria* (1983) 151 CLR 599.

33 Brennan J in *Philip Morris*, above n 21 at 533.

34 Dixon J in *Matthews*, above n 27 at 304.

35 *Parton*, above n 18; *Western Australia v Chamberlain Industries Pty Ltd* (1970) 121 CLR 1; *Hematite*, above n 32; *Gosford Meats Pty Ltd v New South Wales* (1985) 155 CLR 368; *Philip Morris*, above n 21.

36 Dixon J in *Matthews*, above n 27 at 303.

37 Dixon J in *Parton*, above n 18 at 261; *Bolton*, above n 31; *Chamberlain Industries* and later cases cited, above n 35.

38 Barwick CJ in *Chamberlain Industries*, above n 35; Kitto J in *Chamberlain Industries*, above n 35; Kitto J in *Philip Morris*, above n 21.

39 *sensu Peterswald*, above n 20; *Dennis Hotels Pty Ltd v Victoria* (1960) 104 CLR 529, 554; *Philip Morris*, above n 21 at 526.

40 Brennan J in *Philip Morris*, above n 21 at 535.

41 *Matthews*, above n 27 at 302-303; *Hematite*, above n 32 at 657; overruling *Peterswald*, above n 20 and later cases cited.

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5. A tax is not an excise if it has "no closer connection with production or distribution than that it is exacted for the privilege of engaging in the process at all" or is "only in respect of the business generally, and not in respect of any particular act done in the course of the business";⁴² but note⁴³ "This is a fine distinction when the fee is calculated on the value of the commodity in which transactions in the business took place".
6. Charges which are imposed by other names, such as licence fees, may still be taxes and excises. "If an exaction is in truth no more than a fee for a licence, it does not amount to a tax and, accordingly, is not an excise";⁴⁴ but a so-called licence fee may still be a tax and an excise, however, if "the statutory description or label 'fee for a licence' is in truth 'a cloak for the imposition of a tax'".⁴⁵

A number of further propositions have been made, but are not agreed unanimously. The first concerns State government licence fees set in proportion to sales in a period preceding that for which the licence applies, by a "backdating" formula. This is relevant here since similar formulae could readily be used in relation to, eg, fees for licences to discharge wastes. In the so-called franchise cases,⁴⁶ licence fees calculated by backdated formulae were held not to be excises. These decisions were upheld in 1984,⁴⁷ albeit principally on the rather dubious grounds that "the States have organised their financial affairs in reliance on them". In 1985,⁴⁸ however, a fee calculated by a backdated formula was held to be an excise; and in *Philip Morris* in 1989, the Court was at pains to point out that decisions in the franchise cases did not provide authority for the general proposition that a backdated calculation would prevent a tax from being an excise. Indeed, the decisions themselves have been strongly criticised. The dissenting judgment of McHugh J in *Philip Morris*⁴⁹ was particularly blunt: "I doubt that the franchise cases were correctly decided". Crawford⁵⁰ described the High Court's decision in *Dennis Hotels*⁵¹ as "indefensible", and Fowler⁵² called it "plainly wrong". Currently, therefore, it appears that a licence fee which is calculated by reference to the value of sales in a period preceding that for which the licence applies may be an excise but will not necessarily be so.⁵³

42 Kitto J in *Dennis Hotels*, above n 39 at 560, 563; followed in *Philip Morris*, above n 21.

43 Brennan J in *Philip Morris*, above n 21 at 533.

44 Mason CJ and Deane J in *Philip Morris*, above n 21 at 525.

45 Ibid 525 per Mason CJ and Deane J.

46 Namely *Dennis Hotels*, above n 39; *Dickenson's Arcade Pty Ltd v Tasmania* (1974) 130 CLR 177; and *HC Sleigh Ltd v South Australia* (1977) 136 CLR 475.

47 *Evda Nominees Pty Ltd v Victoria* (1984) 154 CLR 311, 316.

48 *Gosford Meats*, above n 35 at 406.

49 Above n 21 at 557.

50 Crawford 1990, above n 11 at 12.

51 Above n 39.

52 Fowler, above n 15 at 25.

53 *Philip Morris*, above n 21 at 529-530.

The second proposition is that tobacco and liquor should be treated differently from other industries. This is relevant since if it were the basis for the decision in *Philip Morris*, that would reduce its relevance in an environmental context. It was the position taken by Mason CJ and Deane J in both *Philip Morris* and *Coastace*: "The licence fees in question were taxes not amounting to excise duties because, in the special fields of licences to sell alcohol or tobacco, a fee otherwise amounting to an excise duty will not be so regarded if properly characterised as a fee for carrying on a business calculated by reference to sales during a period other than the licence period: *a fortiori* in the case of a fee being an impost on sale, not on manufacture". This is a remarkable judgment, given that liquor and tobacco were two of the earliest commodities on which excises were imposed. Of the three franchise cases,⁵⁴ *Dennis Hotels* concerned liquor and *Dickenson's Arcade* tobacco, as also *Philip Morris*; but *HC Sleigh* was concerned with petroleum products. In *Philip Morris*, however, whilst Dawson, Toohey and Gaudron JJ concurred with the judgment of Mason CJ and Deane J, they did so for different reasons; so the case does not provide authority for any general proposition regarding the special nature of tobacco and liquor.

The third proposition is that taxes will not be excises if they affect the commodities concerned "in their character as articles of commerce rather than in their character as goods manufactured in Australia";⁵⁵ ie, "the question of whether [the Act] imposes a duty of excise is to be answered by ascertaining whether the tax affect tobacco products as subjects of Australian manufacture".⁵⁶ Given that the High Court had determined in previous cases that a tax affecting the distribution and sale of commodities as well as their production and manufacture could still be an excise, and given that *Philip Morris Ltd* did in fact manufacture articles in Australia from Australian grown tobacco, this was also a remarkable distinction. Again, the case does not provide authority for this proposition in general.

In assessing the likely outcome of potential challenges to possible future green taxes, the judgment of Brennan J in *Philip Morris* is particularly relevant. He set out a series of propositions which integrated High Court authority to date and could be used to establish whether any particular tax is an excise. Though his was a dissenting judgment, the dissension arose over the special treatment of tobacco and liquor, and the propositions do not otherwise contradict arguments made in the majority judgment. He identified four criteria⁵⁷ to determine whether a tax has "a closer connection" as in the test⁵⁸ at item 5 in the list above. They may be paraphrased as follows.

54 Above n 46.

55 Dawson J in *Philip Morris*, above n 21 at 550.

56 *Ibid*, Toohey and Gaudron JJ.

57 *Philip Morris*, above n 21 at 540.

58 Above n 42.

- If it is simply to raise revenue, a tax is more likely to be an excise than if it is also or principally to regulate a business activity.
- If it is in substance levied only once in the chain of manufacture, distribution and sale [as in *Philip Morris*] a tax is also more likely to be an excise.
- The higher the rate of tax, the greater the connection between the tax and the transactions which attract it.
- If a backdating formula is used, then the closer and shorter the period, the greater the connection.

To date, therefore, there is no conclusive authority from the High Court on the precise definition of an excise. The High Court indicated in *Philip Morris* that it may well undertake a major review of law relating to s 90 of the Constitution in the near future, in the same way that law relating to s 92 was reviewed in *Cole v Whitfield*.⁵⁹ Meanwhile, in cases dealing with tobacco, liquor, or articles of commerce rather than manufacture, we might perhaps anticipate a similar outcome to *Philip Morris* and *Coastace*. Green taxes, however, generally do not fall into these categories, so it might be reasonable to suppose that authority from other previous cases, as summarised in the discussion above and in Brennan J's propositions, may be followed.

Special types of exaction

The precise definition of an excise is irrelevant if a particular economic instrument of environmental policy, a "green tax" in the economic and policy sense, is held not to be a tax in the legal sense. This was the outcome in *Harper*, which concerned the constitutional validity of a fee for a licence to take abalone in Tasmania. The High Court held unanimously that "... its purpose being to preserve a finite natural resource, the fee imposed was of the same character as a charge for the acquisition of property (analogous to the price of a *profit a prendre*) as distinct from a fee payable to be permitted to do an act otherwise prohibited, and therefore did not bear the character of a tax and was not a duty of excise". The Court held that since the fee is not a tax, it is irrelevant whether the seabed concerned was owned by the Commonwealth or Tasmania. The critical argument⁶⁰ was that: "[a] limited natural resource which is otherwise available for exploitation by the public can be said to be truly public property whether or not the Crown has the radical or freehold title to the resource. A fee paid to obtain such a privilege is analogous to the price of a *profit a prendre*; it is a charge for the acquisition of a right akin to property. Such a fee may be distinguished from a fee exacted for a licence merely to do some act which is otherwise prohibited (for example, a fee for a licence to sell liquor) where there is no resource to which a right of access is obtained by payment of the fee".

59 *Cole v Whitfield* (1988) 165 CLR 360; 78 ALR 42.

60 Brennan J in *Harper*, above n 25 at 693.

In attempting to assess the potential application of this case to "green taxes" in general, it may be significant that the natural resource concerned was (a) limited, and (b) "otherwise available for exploitation by the public". If the High Court considers that the latter is essential for the resource to be "truly public property," that will limit the application of the case. State forests, for example, are generally not available for exploitation by the public, so the outcome of *Harper* would not necessarily extend from fisheries to forestry. The radical title to State forests, however, would generally be held by the State concerned on behalf of the Crown, so the forests might be held to be public property nevertheless. In the case of a forest whose use was constrained by Commonwealth legislation, such as those covered by the World Heritage Properties Act or the Australian Heritage Commission Act, however, the relative significance of legislative powers and proprietary rights might become significant. This issue was raised by the defence in *Harper*, but was not determined by the Court. The Court did, however, state specifically, *per* Dawson, Toohey and McHugh JJ, that "[t]he special circumstances of the case would not support a general conclusion that no exaction of money can constitute a tax if demanded for conserving a public natural resource".

Several other aspects of *Harper* are significant to potential future green taxes. The plaintiff noted that the High Court had previously held⁶¹ that a licence fee for fish processing was an excise, and argued that taking abalone was just the first step in a fish production process and that the licence fee was a tax on that step in production and was therefore an excise. This argument was not upheld by the Court. Hence it appears that a distinction was made between initial acquisition of the raw resource, and its subsequent transformation as a commodity. A similar approach is commonplace in the forestry industry, where payment for the a lease to log a given area of forest is distinguished from a royalty applied to the value of the logs taken. Similarly, in the petroleum industry, a fee for a petroleum production licence is quite distinct from a royalty on crude oil, gas or condensate.

A second interesting aspect of *Harper* is that the State of Tasmania had used a series of different formulae to calculate abalone licence fees payable in 1987, 1988 and 1989 respectively. In 1987 the fee was a fixed factor times the actual tonnage permitted to be taken during the licence period. In 1988 it was a fixed factor times the ratio between the value of abalone taken in previous period, and the tonnage permitted to be taken in current period. In 1989, it was a flat fee varying only according to whether the amount taken was more or less than 15 tonnes. This change in the mode of calculation might well have been interpreted as a series of moves by the State government to use formulae which were less likely to be considered as excises. Had the High Court held that the licence fee was a tax, it seems likely that the mode of calculation used in 1987 would have rendered it also an excise. The formula used in 1988 is a variant of the backdating approach

61 *M G Kailis (1962) Pty Ltd v Western Australia* (1974) 130 CLR 245.

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used in the franchise cases; that in 1989 was a flat fee whose nearest analogue would be that in *Hematite Petroleum*. This suggests that the State government was by no means confident that the fee was not a tax.

The judgment of Mason CJ, Deane and Gaudron JJ in *Harper* is of especial interest as an indicator of the High Court's views on environmental policy, and one section in particular (at 688) is worth quoting at length.

The licensing system . . . is not a mere device for tax collecting. Its basis lies in environmental and conservational considerations which require that exploitation, particularly commercial exploitation, of limited public natural resources be carefully monitored and legislatively curtailed if their existence is to be preserved. Under that licensing system, the general public is deprived of the right of unfettered exploitation of the Tasmanian abalone fisheries. What was formerly in the public domain is converted into the exclusive but controlled preserve of those who hold licences. The right of commercial exploitation of a public resource for personal profit has become a privilege confined to those who hold commercial licences. This privilege can be compared to a *profit à prendre*. In truth, however, it is an entitlement of a new kind created as part of a system for preserving a limited natural resource in a society which is coming to recognise that, in so far as such resources are concerned, to fail to protect may destroy and to preserve the right of everyone to take what he or she will may eventually deprive that right of all context. In that context, the commercial licence fee is properly to be seen as the price exacted by the public, through its laws, for the appropriation of a limited public natural resource to the commercial exploitation of those who, by their own choice, acquire or retain commercial licences. So seen, the fee is the *quid pro quo* for the property which may lawfully be taken pursuant to the statutory right or privilege which a commercial licence confers upon its holder. It is not a tax.

Relationship with value of goods

In determining whether a government exaction is a tax, and if so whether it is an excise, one critical aspect is the relation between the amount charged and the value of the goods to which the charge relates. This test operates differently in regard to taxes and excises respectively, however, and also in regard to large and small fees.

A relatively small fee will generally not be considered a tax unless it varies with the quantity or value of the commodity. "When a statute fixes a lump sum in a moderate amount as a licence fee there is no necessary reason to characterise the exaction as a tax or as an excise. On the other hand, when the statute exacts, as the fee for a licence to carry on a business of manufacturing, producing, selling or distributing a commodity, an amount calculated by reference to the quantity or value of the commodity manufactured, produced, sold or distributed by the licensee during a particular period, the exaction has the attributes of a tax. Although the exaction is expressed to be for the grant of the right to engage in the business, which is collateral to actual manufacture, production, sale or

distribution, the mode of calculation of the fee reveals its character as a tax on the activity carried on by the licensee under the licence".⁶²

For a relatively large fee, however, the test "calculated by reference to the quantity or value" is not a necessary requirement; as shown by the High Court's judgment in *Hematite Petroleum*, where a flat fee of \$10 million per annum for the use of a petroleum pipeline was held to be both a tax and an excise. The High Court held⁶³ that "[t]he fee is an exaction of such magnitude imposed in respect of a step in production in such circumstances that it is explicable only on the footing that it is imposed in virtue and value of the hydrocarbons produced . . .". I.e, the fee was related to the value of the goods, even though not calculated by reference to their quantity.

In both *Air Caledonie*⁶⁴ and *Harper*,⁶⁵ the High Court's judgments appear at first sight to conflict with that of Mason CJ and Deane J in *Philip Morris*, quoted above. Thus in *Air Caledonie* (at 467), if an exaction "has no discernible relation with the value of what is acquired, the circumstances may be such that the exaction is, at least to the extent that it exceeds that value, properly to be seen as a tax". And in *Harper*,⁶⁶ one of the main reasons that the abalone licence fee was not considered a tax is that there is "a relationship between the amount paid and the value of the privilege conferred by the licence". This apparent discrepancy disappears, however, if it is presumed that the test of a discernible relation is not applicable to exactions which would not be considered taxes in any event since they are a "special type" of exaction, such as those listed in *Matthews*⁶⁷ and *Air Caledonie*. That is, that the test of exclusion as a special type of exaction must be applied before the test of a discernible relationship with the quantity or value of goods. In *Harper*, for example, since the fee was considered to be the price of a profit a prendre, it was therefore not a tax, and the discernible relationship test was therefore not relevant. This presumption of sequential testing would overcome the difficulty raised by Crawford⁶⁸ that "[i]t would be curious if [an] air emission licence was held to be a tax because it did not bear a close enough relationship to the value of the resource appropriated, but was then held to be an excise because it did bear a sufficiently close relationship to the value of the goods produced".

If an exaction qualifies as a tax because (a) it is not considered a special type, and (b) it satisfies the discernible relation test either through its size or by being calculated by reference to the quantity or value of goods, then the discernible relation test is also relevant in determining whether it is an excise. It is not, however, the only relevant test, as outlined in the general definition of excise as above.

62 Mason CJ and Deane J in *Philip Morris*, above n 21 at 525.

63 Mason J in *Hematite Petroleum*, above n 32.

64 Above n 28.

65 Above n 25.

66 Above n 25 per Dawson, Toohey and McHugh JJ at 693.

67 Above n 27.

68 Above n 11.

Environmental charges: taxes, levies and licence fees

Environmental damage charges

Definition. Charge for an activity, equal to the value of damage to the environment occasioned by that activity.

Basis. Compensation for environmental damage. Damage to the environment imposes costs on the public as owner of the environment, and provides corresponding private benefits for the waste producer. If set at an appropriate level, environmental damage charges transfer these costs from the public back to the private beneficiaries.

Examples. Used in many different forms which rely on different estimates of environmental damage costs, as outlined below. Charges imposed by the Environmental Restoration and Rehabilitation Trust Act 1990 (NSW), Environmental Research Trust Act 1990 (NSW), and Environmental Education Trust Act 1990 (NSW) might be considered conceptually as environmental damage charges, though as noted by Fowler,⁶⁹ they are phrased as charges for services rather than direct taxes.

Advantages. Socially equitable: compensation for damage to publicly owned environmental goods and services, providing investment capital to maintain intergenerational equity. Avoids economic distortions associated with so-called negative externalities.

Disadvantages. Accurate valuation of environmental damage is relatively complex, costly and uncertain.⁷⁰

Legal considerations. It would seem likely that environmental damage charges would be considered as a special type of exaction, probably a fee for the use of property, and hence neither a tax nor an excise. As such, they could be levied by any level of government.

Development taxes

Definition. Charges associated with development approvals for some or all types of development, proportional to or varying with the type, scale or construction cost of the development.

Basis. A form of environmental damage charge using development costs as a surrogate measure of environmental damage costs; based on the premise that all industrial or commercial development causes environmental damage, and that for any given type of development the damage is likely to be approximately proportional to the cost of the development.

⁶⁹ Fowler, above n 15, footnote 33.

⁷⁰ Buckley, "Environmental Accounting and National Policy. 1. Techniques and Limitations" in *Accounting for the Environment*, above n 10 (1991); Buckley, above n 10 (1991); Bojo, Maler and Unemo, *Environment and Development: an Economic Approach* (1990) Kluwer.

Examples. Development taxes are used in some States of the USA.⁷¹

Advantages. Easy to administer; provide funds for environmental management associated with specific developments.

Disadvantages. The ratio between the environmental impacts of a development and its overall cost is not fixed, but varies both with the type of development and with the skill and funds devoted to environmental planning and management. If this is not taken into account, then development costs will be poor estimates of environmental damage costs, and the mode of calculation will discourage expenditure on environmental protection. If it is taken into account, the advantage of simplicity is reduced.

Legal considerations. Though they would appear to be taxes *prima facie*, there are several arguments which might distinguish development charges from taxes within the meaning of s 90 of the Constitution, as follows. 1. As a type of environmental damage charge, they might be considered as charges for the use of public goods. 2. They might be considered as a fee for a privilege, namely the right to undertake a particular development, and hence a special type of exaction and not a tax. 3. Even if considered to be taxes, they might not be classified as excises since they are imposed for the right to carry on a business, rather than as a tax directly related to goods or commodities. 4. For developments which do not produce goods or commodities, such as those which provide services, infrastructure, accommodation, etc, development taxes would probably not be considered as excises; but this argument would not apply for charges imposed on developments in primary industries or manufacturing.

Rezoning charges

Definition. A charge imposed by a government planning authority for the rezoning of privately owned land to a more intensive use.

Basis. Such a rezoning corresponds to the grant of a valuable right to a private firm or individual, at a potential environmental cost to the public. A rezoning charge is a means to recover that cost in part or full.

Examples. Not currently used as such in Australia, but under serious consideration by State and local governments.

Advantages. Low administrative costs. Social equity.

Disadvantages. Because of the strong commercial incentives for rezoning, the market would probably bear rezoning charges at a relatively high level. This might lead to the imposition of unfairly high charges in already urbanised areas, where the marginal impacts of rezoning are minimal; and indeed, where higher density housing reduces the per capita environmental impacts of residential accommodation. It would be preferable, therefore, if rezoning charges were restricted to the conversion of either (a)

71 Westman, *Ecology, Impact Assessment and Environmental Planning* (1985) Wiley.

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land of high conservation value to land of lower value, or (b) rural land to residential allotments, resort developments, or urban or industrial use (including subdivision of acreage).

Legal considerations. Could potentially be considered an excise, but this is unlikely. Could probably be imposed by any level of government, notably by local government.

Emission charges

Definition. Charges imposed for permission to release wastes off-site, into air, water or landfill; often referred to as pollution taxes. There are many different variants. Most impose a charge per unit emission, either metered or estimated. The charge imposed may be a complex function of the amount, composition and timing of the discharge. Fees for waste discharge licences, either flat or stepped, are a special case which are usually distinguished under a separate name.

Basis. A type of environmental damage charge, with the quantity and composition of discharges used as an estimate of the environmental damage they produce.

Examples. Used in many nations, but with considerable variation in their precise form; eg as regards thresholds, sliding charge scales, and coupling with statutory penalties.⁷² In the Federal Republic of Germany, for example, effluent charges were introduced in 1976 in addition to technology-based requirements.⁷³ Effluent discharge permits in the FRG specify baseline levels, discharge standards, monitoring procedures, and maximum permissible discharge concentrations. If standards are met, charges are discounted by 50 percent. If they are exceeded, the full charges are payable, plus fines. The actual charges are calculated from the expected discharge concentrations as specified by the corporations concerned, using damage-unit rates fixed by law: eg, 1 unit per cubic metre of organic settleable solids, 5 units per 100 gm mercury, etc. This gives a total expected number of damage units, and charges are then set at a certain fee per unit. The cost of these charges to the corporations concerned is less than 2 percent of sales for even the most heavily polluting industries, excepting only the pulp, yeast and tanning industries.⁷⁴ The standards are set by industry-government task forces. Municipalities are subject to the charges in the same way as private corporations. The revenues raised are used to subsidise investment in waste treatment technology.

72 Bressers, above n 7; OECD, above n 1 (1988); Bongaerts and Kraemer, "Permits and Effluent Charges in the Water Pollution Control Policies of France, West Germany and the Netherlands" (1989) 12 *Environ Monitor Assess* 127; Maler, "Incentives in International Environmental Problems" in *Economics of Environmental Policy* above n 4; Lindner, "Effectiveness of Environmental Policy Instruments", *ibid*.

73 Brown and Johnson, "Pollution Control by Effluent Charges: it Works in the Federal Republic of Germany, Why Not in the US?" (1984) 24 *Nat Res J* 929.

74 *Ibid*.

In the FRG, the introduction of emission charges was supported by sectors of industry which had already adopted improved effluent-control practices, as the charges gave them a financial edge over their competitors. In Holland, however, both industry and conservation groups opposed pollution charges initially, though both now support them in view of their success.⁷⁵

Except for emission licence fees (see below), emission charges as such do not yet appear to have been adopted by any of the States or the Commonwealth in Australia; but they are currently under very close consideration. Carbon taxes, as proposed to enable Australia to comply with international targets for the reduction of greenhouse gas emissions,⁷⁶ would fall into this category. Since carbon taxes would presumably be levied by the Commonwealth, however, s 90 would not be relevant.

Advantages. 1. The quantity and composition of emissions provide a relatively accurate measure of the environmental damage caused by waste discharges. 2. Emissions are already metered, measured or monitored to check compliance with standards, so additional metering and administrative costs are low. 3. The precise formulae used in calculating emission charges can be designed and modified to reflect changing scientific opinion on the relationship between discharges and environmental impacts: eg, thresholds corresponding to the level of discharge below which environmental damage is believed to be negligible. 4. The charging rates can be modified iteratively to achieve a predetermined ambient environmental quality or to reflect an increasing number of discharge points. 5. Emission charges can readily be integrated with existing regulatory standards and penalties. 6. In theory, emission charges can achieve a particular level of environmental quality at a lower total cost than regulatory discharge standards alone. 7. Emission charges seem to have worked well where they have been used overseas.

Disadvantages. 1. The conditions which are required for emission charges to achieve the high economic efficiency of which they are theoretically capable, seldom apply in practice: though note that this may not be a major disadvantage in reality. 2. The economic impacts of a given level of charges are generally not known in advance: though note that this also applies to regulatory and technological instruments.

Legal considerations. Whilst emission charges are generally imposed on processes which produce goods and commodities, and are generally have a defined relationship to the quantity of emissions and hence of goods produced, it is arguable that they are not taxes and hence not excises, for several different reasons. The most fundamental is that they are charges for the use of public property, namely for the use of the environment as a receptacle for wastes; and as such are a special type of exaction. According

⁷⁵ Bressers, above n 7.

⁷⁶ Bertram, "Tradeable Emission Permits and the Control of Greenhouse Gases" in *Economics of Environmental Policy*, above n 4.

to Fowler:⁷⁷ "It might be argued by analogy [with *Harper*]⁷⁸ that a State tax on air pollution constitutes a charge for the right to exploit air as a common good and therefore is also not an excise". It seems likely on current authority that this argument would be upheld by the High Court. It would be less clearcut where discharges were to private land or a privately owned waterbody, but even in those cases, governments generally retain legislative powers over land and water use, and this might be a sufficient criterion for *Harper* to apply. Note that *Harper* did not decide this last issue specifically.

For emission charges which incorporate a discharge threshold below which the charge is zero, it is conceivable that an alternative argument might apply: namely, that the charge is not a compulsory exaction, since it may be avoided entirely by reducing discharges below that threshold. Income tax is still a tax even though incomes below a threshold incur zero tax liability, however, so it seems unlikely that this argument would hold unless the threshold were so high that a zero charge were the norm rather than the exception.

If both these approaches were to fail, then the States could perhaps still impose emission charges by exploiting the current technical loophole in the definition of an excise, namely the use of a backdating formula in calculating the charge imposed. Since emission charges are not related to tobacco or liquor, however, nor to items of commerce rather than manufacture, there would be strong grounds for distinction from the majority judgments in *Philip Morris*,⁷⁹ and the High Court would probably not look with favour on such an artifice.

Hence it appears that the strongest approach for the States at present, and one likely to be successful, would be to rely on *Harper* and similar precedents, and ensure that any legislation imposing emission charges states explicitly that they are intended as a charge for the use of the environment as a public good.

Emission licence fees

Definition. Fixed or variable fee for a licence to discharge wastes.

Basis. Small fixed fees: imposed to recover government administrative costs. Larger and variable fees: a form of emission charge.

Examples. Fees for waste discharge licences are common worldwide. In Australia they are commonly imposed by State legislation regulating air and water quality. They were originally intended simply as a means for partial recovery of public sector administrative costs. If large enough, however, they might also be viewed as a special type of environmental damage charge.

⁷⁷ Fowler, above n 12 at 24.

⁷⁸ Above n 25.

⁷⁹ Above n 21.

Advantages. Already in common use, and accepted by industry. Modifications to formulae for calculating charges can generally be effected by regulation rather than requiring new legislation.

Disadvantages. 1. There is a significant risk of government overservicing if, as is often the case, (a) these licence fees they are collected by State government departments responsible for environmental management; (b) they are retained by those departments rather than passed to Treasury; and (c) those departments are under-funded and under increasing pressure to raise their own funds from so-called "users" or "clients". This risk exists for any form of green tax where all of (a), (b) and (c) apply, but in practice this is most common for emission licences. 2. At present, licence fees are rarely effective as environmental damage charges since (a) they are generally small relative to their value to the licensees, who would otherwise have to reprocess or recycle all wastes on site; and (b) they are very small relative to the cost of the environmental damage they permit, as measured by any of the standard environmental accounting techniques.⁸⁰

Legal considerations. Legal constraints on emission licence fees depend on the relative size of the fee. If it is small, then the courts will probably consider that it is not a tax for that reason alone.⁸¹ If large, however, then the arguments given above in relation to emission charges will apply.

Environmental protection charges

Definition. A charge equal to the profit made by breaking or disregarding an environmental standard, and applying in addition to any fines or penalties.

Basis. Essentially an instrument to recover illegal gains. If the profit a firm can make by disregarding environmental standards is greater than the penalty applied, it will be to the firm's commercial advantage to ignore the standard. Environmental protection charges are designed to remove this incentive.

Examples. Used in Scandinavia⁸² and the USA.⁸³

Advantages. Removes any commercial incentive to breach standards and recovers private gains from doing so.

Disadvantages. High monitoring and enforcement costs.

Legal considerations. Since environmental protection charges are penalties imposed for breaching statutory obligations, they are not taxes,⁸⁴

80 Above n 70.

81 *Philip Morris*, above n 21 at 525.

82 Ware, *Fiscal Measures and the Attainment of Environment Objectives: Scandinavian Initiatives and their Applicability to Australia* (1985) AGPS.

83 Westman, above n 71.

84 *Air Caledonie*, above n 28 at 466-467.

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and could hence be imposed by either State or Commonwealth governments. The basis of calculation, however, might be subject to challenge under common law.

Input taxes

Definition. Charge levied on inputs to environmentally damaging processes, rather than outputs or actual damage.

Basis. A form of environmental damage charge, which attempts to avoid the metering costs associated with emission charges.

Examples. In some European countries, industries are taxed on their petroleum consumption, with revenues being used to subsidise various environmental projects. Fuels containing over 1 percent sulphur are also subject to a sliding tax on sulphur content, to encourage the use of low-sulphur fuels.⁸⁵

Advantages. Few. Outputs from environmentally damaging processes are generally monitored to check compliance. Inputs may be measured more precisely, but they are one step further removed from actual environmental damage.

Disadvantages. 1. No incentive to improve processes or pollution control to reduce emissions and environmental damage per unit productive output, unless the taxes are related to input quantities by a factor which varies with the ratio between input and pollution generated. 2. Liable to introduce economic distortions caused by attempts at input substitution.

There may well be good environmental and economic reasons to impose charges on publicly owned resources, such as raw materials and energy, which are inputs to industrial processes. However, it will almost always be preferable to include such charges in the prices demanded by government for the use of the resources concerned, since that will reduce economic distortions associated with negative externalities, rather than introducing new distortions by means of input taxes.

Legal considerations. Even if intended as a form of environmental protection charge, input charges would appear to be taxes both in form and substance and are likely to fall within the compass of s 90.

Resource rents and royalties

Definition. In practice, resource rents are charges related to the quantity or value of the resource before extraction or use, whereas royalties are determined by the quantity or value of the primary commodity after extraction: crude oil, condensate, sawlogs, etc. In legal terms, however, a

85 Ware 1985, above n 82; OECD, above n 1 (1991a, b).

royalty is "a payment made to the owner of land for the right to take away things which are part of or naturally attached to the soil".⁸⁶

Basis. Both resource rents and royalties represent prices extracted by the public owners of public natural resources for their use by private interests.

Examples. Widely used in mineral, petroleum and forestry industries in Australia and overseas.⁸⁷ Rents, royalties and licence fees for the Australian mineral and petroleum industries in 1989/90 totalled \$627 million, for example.⁸⁸

Advantages. 1. Mechanism whereby government custodians of publicly owned resources can obtain a fair return to the public for their use. 2. Avoids economic distortions associated with provision of subsidised raw materials. 3. Encourages development of value-adding industry:

Disadvantages. Limited in application by the competitive effects, on domestic industry, of fluctuations in global commodity markets.

Legal considerations. Royalties and rents can generally only be charged by the owners of the resource concerned or the land on which it is found. This does not present a significant limitation in practice.

Sliding charges for utilities

Definition. A utility, in this sense, is a resource which is delivered to industrial and domestic consumers as a continuous metered supply according to demand. Water, gas and electricity are the most common examples. A sliding charge for such a utility is one where the charge per unit resource increases with the number of units consumed in a given charging period: a basic supply would be cheap, but heavy demand would attract higher unit prices.

Basis. Infrastructure for supply of reticulated water, gas and electricity is generally large-scale and capital intensive, so differential allocation of costs to individual small consumers is economically difficult and inefficient. In addition, social policy considerations generally dictate that basic supplies of power and water should be available throughout densely populated areas. A small basic supply, therefore, should be made available at low cost. Heavy and wasteful consumption, however, incurs unnecessary public expenditure and environmental damage, and it is reasonable to recover such costs from individual heavy consumers.⁸⁹

Examples. Not currently used in Australia, where the most common charging systems are either fixed unit rates, or fixed total charges which do not vary with the quantity consumed. At present, most differential tariffs for

86 *Stanton v Federal Commissioner of Taxation* (1955) 92 CLR 630, 641.

87 Cameron, above n 4; OECD, above n 1 (1988, 1991c).

88 AMIC, *Minerals Industry Survey* (1990) Australian Mining Industry Council; Gillies, "Developments in Mining Resource Rent Taxation" (1990) 2 Proc Pac Rim 90 Congr 651.

89 Coombs, *The Return of Scarcity* (1990) Cambridge.

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utilities operate in the opposite direction: large industries typically pay lower unit prices than domestic consumers. In addition, power and water supplies are subsidised from general revenue in most areas.

Advantages. Provides economic incentives for resource and energy conservation; allocates costs of environmental damage to those ultimately responsible. Low administrative costs since supplies to individual consumers are already metered. Precise charging scale can be modified iteratively to establish effects on consumption. Avoids economic distortions associated with subsidisation.

Disadvantages. 1. Special concessions may be required for particular heavy consumers such as hospitals and schools. 2. Sliding charges would need to be introduced simultaneously throughout a large region, to avoid competition between local areas.

Legal considerations. Few. In Australia, electricity supplies are generally controlled by statutory authorities of State governments, and water supplies by State and local governments. In either case, those authorities are largely free to determine charges.

Product levies

Definition. A charge imposed per item or per unit value on retail sale of products.

Basis. Where resources and energy used in manufacture and distribution of the products concerned, or the use or final disposal of those products, are environmentally damaging, and the prices paid by consumers do not fully reflect those environmental costs, product levies are a means of recovering the costs of environmental damage from consumers.

Examples. Used overseas.⁹⁰ Australian State governments have considered or are currently considering levies on products such as car tyres, motor fuels, batteries, newspapers, fertilisers, pesticides and so on. Levies on motor vehicle registration have also been considered.

Advantages. 1. Reduces consumption of products whose manufacture and distribution wastes resources and energy or uses subsidised resources and energy. 2. Provides additional commercial incentives for recycling and resource recovery. 3. General consumer acceptance. 4. Could be combined with sales tax system if levied by Commonwealth.

Disadvantages. Confusion with sales taxes if levied by States; high administrative costs.

Legal considerations. It would appear that most product levies would almost certainly be classed as excises and so would be subject to challenge if imposed by State or local government.

90 OECD, above n 1 (1988, 1991b,c).

Environmental rights and credits

Environmental damage rights and credits

Definition. Rights to carry out a prescribed level of an environmentally damaging activity, which are initially granted by government and may then, depending on the conditions of the right, be either (a) held in credit for future use, (b) transferred to or traded with other firms carrying out the same or related activities, or (c) marketed for cash.

Basis. Regulatory or technological instruments give firms the right to produce a certain level of environmental damage. These rights are non-rival and do not limit the total level of environmental damage which can be produced by all firms. An alternative approach is to create damage rights which can be owned and which have a fixed and finite total. Depending on the precise form of instrument, these rights may either be bankable by individual firms only, tradeable between firms under various conditions, or marketable for cash. Options and futures in such rights may also be created and traded.⁹¹

Examples. The main examples are emission or pollution rights, and transferable development credits. Both of these are currently used in the USA. They are considered in more detail below.

Advantages. Transferable or bankable environmental damage rights allow considerable commercial freedom of choice in environmental management by individual firms, whilst allowing regulatory agencies to control the overall level of environmental damage in a given area. Neither regulated standards nor environmental damage charges have the latter advantage. In addition, by controlling the period for which rights apply, regulatory agencies can use tradeable rights to produce smooth transitions in the effective price and degree of environmental damage associated with particular industry sectors.

Disadvantages. One of the most serious difficulties with tradeable environmental damage rights is how they should be allocated initially. They may be sold to private interests by the State, for example by auction or tender, or they may be distributed gratis to existing industries in proportion to actual past levels of activity, a process known as grandfathering. The former means that firms which were using rights provided by regulatory instruments effectively have those rights cancelled and have to buy new ones. This may be viewed as unjust, since there was a reasonable expectation that these rights would continue. Grandfathering, however, gives an unfair advantage to firms with poor environmental management or outdated equipment, since it gives them the right to continue high levels of environmental damage, to the detriment of their competitors as well as the community. Some combination of short-term free rights and longer-term purchased rights with a transition period for adjustment seems optimal.

91 Raufer, Feldman and Jaksch, "Emissions Trading and Acid Deposition Control: the Need for ERC Leasing" (1986) 36 J Air Pollut Contr Assoc 574.

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Another difficulty with tradeable environmental damage rights is that they could be used to corner the market for a particular product, by preventing competing manufacturers from operating. This does not yet seem to have occurred in practice.

A third disadvantage is that tradeable rights will only be effective when there is a well informed, rapidly clearing and competitive market for them. This will only occur when (a) the total amount of environmental damage which firms would produce in a given area if unrestricted exceeds the total damage rights granted for that area, creating a commercial demand for such rights; and (b) there are enough firms competing for those rights to avoid monopolistic and oligopolistic market behaviour.

Legal considerations. It would appear that unless the Commonwealth were to enact conflicting legislation, there is currently no constitutional or other legal barrier to the States erecting systems of tradeable rights. The most likely avenue for legal challenge would be from holders of existing regulatory licences, if their rights under these licences were reduced or abrogated. In practice, however, the main barriers to the use of tradeable rights in Australia are more likely to be economic and political than legal.

Tradeable emission rights and emission reduction credits

Definition. These are environmental damage rights related specifically to waste discharges. Different terminologies are used to distinguish (a) the conditions under which an emission right is granted initially, and (b) the conditions under which it may subsequently be banked, traded or sold. The term emission reduction credit (ERC) refers to a right which is granted to a firm which has reduced emissions from existing operations, and which can be banked by that firm for use in future operations. Different types of emission rights have different generic names, depending on the degree of trading permitted. Trading between discharge points within one plant is called netting. Rights tradeable between plants and discharge points but within one site are called bubbles. Those tradeable between plants, sites and operations, but within one firm, are called internal offsets; and those tradeable between firms, within a regional airshed or water catchment, are called external offsets.

Basis. Nets and bubbles were introduced to enable a company to cut pollution control costs by reducing emissions from sources where it is cheapest to do so, provided the overall net reduction is more than would have been achieved by reducing emissions from each source equally, as required to meet overall emission standards. Higher emission rates from one source are offset by low emissions from another. Broader trading opportunities, including internal and external offsets, were introduced as an extension. In an internal offset, a single corporation is permitted to construct a new plant if it reduces emissions in existing plants by more than the total new emissions from the new plant. The number of times this reduction must exceed the new emission is called the offset factor, and is often high: eg,

10:1. In an external offset, one company reduces its emissions, giving it an emission-right credit which it can then trade with or sell to another company in the same region. A similar offset ratio applies. Evidently this approach works best where administrative boundaries coincide with airshed or watershed boundaries: otherwise emissions released in one administrative region would affect environmental quality in a second, irrespective of the controls applied in the second.

Examples. Tradeable emission rights are most widely used in the USA and West Germany, particularly in regard to air quality.⁹² They are also used in Japan. In the USA, 94 air-quality bubbles and ~3000 offsets had been approved up to January 1986, with an average cost saving of US\$2 million per bubble.⁹³ In the USA at present, both internal and external offsets are permitted. In either case, new plants must also use best practicable technology. All States within a given airshed impose uniform rules.

Advantages. As for tradeable environmental damage rights in general.

Disadvantages. As for tradeable environmental damage rights in general. For emission rights in the USA, the initial allocation problem has been overcome by a gradual transition from initial free rights to auctioned tradeable rights.⁹⁴ The requirement for a competitive market means that in practice, tradeable emission rights are most useful as a policy instrument in heavily industrialised airsheds and watersheds with uniform legislation. Such conditions are common in Europe and North America. In Australia, they would apply widely for liquid effluents and hazardous wastes where disposal sites are limited, but for atmospheric emissions they would apply only in the larger capital cities and in areas such as the Latrobe and Hunter Valleys.

It is worth noting that whilst marketable emission rights can in theory produce the same economically efficient reduction in total pollution that could be achieved with emission charges, they have very different social implications.⁹⁵ Emission charges imply that all repositories for pollution – air, water, soil and biota – are in full public ownership, and the State therefore has the right to charge private interests to use them. Marketable discharge permits, on the other hand, establish private ownership of pollution rights, at least up to a predefined pollution level.

Transferable development credits

Definition. The right to undertake an environmentally damaging development, granted in return for environmental improvement works

92 Westman, above n 71; OECD, above n 1 (1991a); Bertram, above n 76.

93 Ibid.

94 Chisholm, "The Choice of Pollution Control Policies Under Uncertainty" (1985) 15 Aust Nat Univ Centre Resource Environ Stud Monog 1.

95 Nelson, "The Economics Profession and the Making of Public Policy" (1987) 25 J Econ Lit 44; Common, above n 6 (1988, 1990).

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undertaken elsewhere or for the designation of privately owned land as a public conservation reserve.

Basis. The granting of development approval for developments involving environmental damage imposes a public cost. Transferable development credits provide a means to recoup or reduce this cost from the developer who benefits from the approval.

Examples. Transferable development credits are used in a number of States in the USA.⁹⁶ Many developments, especially those associated with infrastructure or accommodation, involve vegetation clearance, wetland drainage and similar impacts. In areas where there is little such land in conservation reserves and few areas of native vegetation remaining, transferable development credits provide a means to prevent these areas being continually reduced. Similar considerations apply in Australia. As yet none of the Australian States has a formal system of transferable development credits, but there have been a number of development applications which have incorporated proposals to buy private land and make it over to the State as a conservation reserve, in return for approval to construct private developments in publicly owned conservation areas.

Advantages. 1. Improved flexibility in planning. 2. Social equity. 3. For developments which cannot completely mitigate their environmental impacts, transferable development credits provide a means for them to compensate for those impacts instead.

Disadvantages. There is a risk that transferable development credits may be used to permit development in environments which are not represented elsewhere and cannot be restored, and hence cannot be replaced by a transferable development credit. Such risks, however, apply in any development approval process.

Legal considerations. There would appear to be no legal barriers to the use of transferable development credits by any level of government in Australia.

Tradeable resource quotas

Definition. A tradeable right to take a predetermined amount of a publicly owned natural resource from a given area in a given period of time.

Basis. Just as policy instruments can create tradeable rights to reduce the value of public environmental resources by using them as recipients for wastes, they can also create tradeable rights to reduce the value of public environmental resources by consuming them. Tradeable quotas are directly analogous to tradeable damage rights.

⁹⁶ Westman, above n 71.

Examples. Tradeable quotas are used extensively overseas, and to a limited degree in Australia, in fisheries, forestry and water supply.⁹⁷ Tradeable quotas are used in the southern bluefin tuna fishery, for example, and for irrigation water in citrus and cotton growing areas.

Advantages. Tradeable quotas provide a means of limiting the total rate of consumption of a publicly owned resource to a sustainable level, whilst allowing a competitive market to allocate consumption of that resource efficiently.

Disadvantages. 1. A system of tradeable quotas cannot determine an appropriate total rate of consumption of the resource concerned; it affects only the allocation of that total amongst consumers. 2. Where the government agency allocating quotas has a long association with the industry concerned, it is likely that it may allocate total quotas equal to historical consumption rates, which in most countries and sectors have been well above sustainable rates. 3. In addition, if the government agency concerned is permitted to retain funds raised by selling quotas, it will be under pressure to sell a higher total quota than the resource can sustain. 4. In an industry such as fisheries, where catches vary with factors beyond the control of the individual operators who hold the catch quotas, there is a danger of wastage if the quotas are set for relatively short time periods. In such circumstances, if an individual operator catches more than its quota, it will be forced either to discard part of its catch or to buy additional quota from its competitors, who will then be able to demand a very high price for that quota. This disadvantage, however, applies principally in fisheries and can be overcome by allocating quotas over entire seasons.

Legal considerations. In Australia, the exploitation of publicly owned natural resources is controlled principally by the State governments, though the Commonwealth has a considerable suite of restrictive powers it may deploy at its discretion. To date, tradeable quotas have generally been set by agreement between the industry affected and the State or local government agencies responsible. There would presumably be no legal barrier to State governments making much wider use of tradeable quotas. They would, however, remain subject to overriding control by Commonwealth legislation if the Federal Government considered that the total quotas set were too high.

Tradeable emission leases

Rather than a pollution tax or a system of tradeable freehold emission rights, one option which might reduce uncertainty for industry whilst satisfying economic criteria for instruments of environmental policy, would be to use a system of annual emission-right leases which could be bought ahead of time at a fixed price during an initial transition period of say 5-10 years; and subsequently traded freely. In economic terms, such tradeable

97 Lindner, above n 72; Cameron, above n 4; Synnott, "Market Mechanisms and the Resolution of Conflict in Water Management" in *ANU Conference, Resolution of Conflict in Australian Water Management* (1989) Australian National University.

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emission leases would be equivalent to rights which apply for a fixed and limited time period. They have been proposed both within Australia and overseas, notably in Japan. Such an approach has not yet been adopted in any country, but deserves closer analysis.

Other economic instruments of environmental policy

Refundable deposits

Definition. A deposit payable as part of the retail sale price of an item, imposed by government and collected by retailers, which is refunded if the used or spent item is returned either to the retailer or in some cases to a specific collection depot.

Basis. Incentive to return consumer items for reuse, recycling or resource recovery

Examples. Deposit-refund systems are common policy instruments, applied particularly to containers of various types, but also to goods such as car bodies and refrigeration units, lubricating oils and various hazardous materials.⁹⁸ They have been used for at least a century, eg for wine barrels in the days of sail. In recent decades they have been used in many countries.⁹⁹ Deposits have ranged from a small proportion of the retail sale price of the filled container, to many times that value. Deposit-refund systems have proved highly successful in promoting reuse and recycling of glass and aluminium drink containers, and are used widely in Australia for that purpose.

Advantages. Sharply focussed policy instruments which reduce both resource and energy consumption, and waste generation. Shown to be effective in many applications. General community acceptance.

Disadvantages. May impose additional handling and accounting costs on retailers.

Legal considerations. Considerable concern was generated recently when the High Court held¹⁰⁰ that a deposit-refund system for beer bottles in SA contravened s 92 of the Australian Constitution. The system, established by regulation under the Beverage Container Act 1975 (SA) and the Beverage Container Act Amendment Act 1986 (SA), effectively required a refund of 4 cents per bottle for refillable bottles and 15 cents per bottle for non-refillable ones. In addition, collection depots were established for refillable bottles, and refunds could be obtained at these depots. There were no depots for non-refillable bottles, and retailers were required to accept these and pay the refund, even if the bottles had been purchased elsewhere. In consequence, retailers tended not to stock beer sold in non-refillable bottles with low sales

98 OECD, above n 1 (1988); Cucovich and Schwartz, "Deposit-Refund Systems for Managing Hazardous Wastes Produced by Small Businesses" (1989) 29 J Environ Manage 145.

99 OECD, above n 1 (1988).

100 *Castlemaine Tooheys Ltd and Others v State of South Australia* [1990] ALR 371.

volume. The Court held that although the Acts and regulations purported to be for environmental protection, they were actually intended to discriminate against a particular corporate brewing group which brewed interstate, sold beer mostly in non-refillable bottles, and had been increasing its market share in SA. In other words, they were intended to protect the SA beer industry under the guise of protecting the environment.

The State's defence was weak. It admitted that a much lower deposit would probably have achieved the same return rate. It also argued that one of the main aims of the regulation was to reduce the use of SA natural gas in manufacturing bottles, to which the Court responded that bottles imported from interstate don't use any SA gas at all.

Drawing on *Cole v Whitfield*,¹⁰¹ the Court held¹⁰² that: "(i) The fact that a law imposes a burden upon interstate trade and commerce that is not incidental or that is disproportionate to the attainment of the legitimate object of the law shows that the true purpose of the law is not to attain that object but to impose the impermissible burden. (ii) Neither the need to protect the environment from the litter problem nor the need to conserve energy resources offers an acceptable explanation or justification for the differential treatment - the higher refund amount and the unavailability of collection depots - given to the products of the Bond brewing companies".

This judgment suggests that if, in the Court's view, (a) the principal purpose of the Acts and regulations had really been to protect the environment, and (b) the means used had not been disproportionate to the ends, but (c) discrimination against interstate trade had occurred as an incidental effect, then the legislation would have been constitutionally valid. One may conclude that s 92 does not provide a constitutional barrier to deposit-refund systems in general, as long as they are not used as a disguised attempt at protectionism. It is interesting to note that a comparable debate occurred in the USA a decade ago with respect to the so-called commerce clause of the US Constitution.¹⁰³

Performance bonds and guarantees

Definition. A bond or bank guarantee lodged with a regulatory agency by a project proponent or operator, which becomes payable to government if the corporation concerned defaults on its environmental management obligations, or breaches environmental regulations.

Basis. Performance bonds are used both to provide a commercial incentive for operating corporations to comply with environmental

101 Above n 59.

102 *per* Mason CJ, Brennan, Deane, Dawson and Toohey JJ (Gaudron and McHugh JJ concurring).

103 Hellerstein, "State Taxation in the Federal System: Perspectives on Louisiana's First Use Tax on Natural Gas" (1981) 55 Tulane Law Review 601.

requirements, and as a means to ensure that funds for clean-up, decommissioning, rehabilitation or remediation would be available if the corporation defaulted or went bankrupt.

Examples. Rehabilitation bonds are commonplace in the mineral and energy sectors in Australia and overseas, and waste management performance bonds in the manufacturing, chemical, and mineral processing industries.

Advantages. Performance bonds are one of the few means available to regulatory agencies to ensure that operating corporations set aside funds for post-operational environmental management works. They also provide a financial deterrent to breaching environmental standards which avoids the adverse political ramifications of other remedies such as a temporary close-down.

Disadvantages. If bonds have to be lodged in cash, they impose an additional cost on the operating corporation concerned before it has developed a cash flow from the project. This difficulty can generally be overcome either by using a bank guarantee or by insuring the bond.

Legal considerations. There is a growing trend for performance bonds to be covered as one sector of corporate environmental insurance: operating corporations pay premiums to underwriters, which provide regulatory agencies with a guarantee of payment if the operating corporation defaults on its obligations. In many cases, however, the bonds become payable only if a regulation has been breached: ie, a statutory offence has been committed by the operating corporation. It is one of the basis principles of insurance law that corporations cannot insure themselves against fines and associated penalties imposed as a punishment for a criminal or statutory offence. It is therefore important for regulatory agencies to ensure that the conditions of the bond specify clearly that forfeiture of the bond does not itself represent a fine or penalty for the breach. Even with such a stipulation, this might still provide an avenue for an insurance corporation to mount a challenge to a demand by government for payment of the bond.

Subsidies and Bounties

Basis. Rather than penalise poor environmental performance, governments sometimes elect to reward good performance by means of subsidies and bounties. Other subsidies and bounties, not intended specifically as instruments of environmental policy, have had significant adverse environmental effects.

Examples. In the past, the most common use of subsidies as instruments of environmental policy is to encourage environmental R&D. Improved environmental management by operating firms has also been subsidised on occasion, but such subsidies have often been misused.¹⁰⁴ Where public

104 Hollick, "The Design of Environmental Management Policies" (1984) 1 Environ Plan Law J 58.

resources are delivered to consumers by public agencies and charges do not cover the full costs, that too is a subsidy.¹⁰⁵ Water reticulation provides a common example.

Disadvantages. Some subsidies and bounties lead indirectly to adverse environmental impacts. Drought relief subsidies for the pastoral industry tended to reward graziers whose properties were overstocked rather than those who had managed their herd well. Fertiliser subsidies have led to over-use. Clearance subsidies have converted wooded areas of high conservation value into marginal agricultural land with neither economic nor conservation value.

Legal considerations. In Australia, subsidies have generally been granted by the Commonwealth. Bounties, however, have also been granted by State governments.

Special purpose grants

One of the most straightforward ways for government to encourage particular environmental management practices is simply to provide special grants for that purpose. These are costly, however, and rarely used except where they can provide substantial savings on administrative costs.

Environmental implications of general tax provisions

Income tax

In Australia to date, income tax provisions have generally not been used as instruments of environmental policy. Sections 75B, 75D and 51(1) of the Income Tax Assessment Act 1936 provide exceptions.¹⁰⁶ Many provisions of income tax legislation, however, modify taxpayer behaviour in a way which affects the environment (eg s 124J). Such effects, even if inadvertent, are often large and cannot be ignored. Some such provisions, notably those related to agriculture, have applied for decades. In addition, there are a few recent provisions related specifically to deductibility of environmental management expenditure.

In Australia as in the USA, "[t]ax incentives have a huge impact on whether land is farmed, what commodities are grown, with what intensity, and with what consequences for the resource base . . . they have also led to significant environmental damage on the nation's farms" . . . "the Internal Revenue Code has blindly subsidized soil erosion, wetland destruction, and water pollution".¹⁰⁷

105 OECD, above n 1 (1991c) for examples.

106 Taxation Institute of Australia, *Taxation and the Environment* (1990) TIA.

107 Benfield, Ward and Kinsinger, "Conservation Gains in the Tax Reform Act: an Analysis of the Implications of Tax Reform for Farmers and Natural Resources in Rural America, with a Policy Agenda for the Future" (1987) 11 *Harvard Environ Law Rev* 415.

In the USA, tax concessions are far more widely used. Sections 46B, 169, 175, 194, 280B, 468, 468A and 1033 of the *Internal Revenue Code* all have environmental implications, for example.¹⁰⁸ It is interesting to note that concessions such as the so-called sodbuster and swampbuster provisions provided relatively little assistance to existing farmers, because they led to major distortions in the market for agricultural land. As a result of agricultural tax concessions, farms became a very effective tax haven. This led to a strong increase for the demand for farm land by investors, who bid up prices considerably. As a result, farms became an avenue for property speculation rather than food production, with most of the profits from farm ownership being derived from capital gains on land values rather than sales of produce. In addition, the tax rules encouraged capital-intensive high-volume commodity production, leading to oversupply of the farm commodities concerned. This reduced the prices received by farmers for those commodities, and hence their incomes.¹⁰⁹

Prior to the Tax Reform Act 1986 (USA), income from land sales was subject to a differentially low rate of capital gains tax. This led investors to buy marginal agricultural land at low prices, use the sodbuster and swampbuster provisions to clear it as "cropland", sell it as improved pasture at a high price, and pay little or no tax on the capital gains; whilst the land concerned lost its conservation values and produced only a short term crop yield. These concessions hence provided a federal government subsidy for "destructive crop production on marginal or ecologically sensitive rural land".¹¹⁰ Recognising this, the Tax Reform Act 1986 (USA) removed tax incentives for cropping erodible land and swampland and for clearing timber. It also provided tax incentives for private sector afforestation. Tax incentives for logging public forests, however, still remain.

There have been similar environmentally destructive subsidies in Australia. Some have encouraged clearance of marginal and uneconomic agricultural land, and drainage of wetlands. Others have encouraged wasteful and environmentally damaging overuse of fertilisers and pesticides. Others have led to poor stock management practices during drought in pastoral areas. On the positive side, most expenditure incurred primarily and principally for the prevention of land degradation is now deductible for all rural businesses earning income from the land.

Also relevant in environmental management, though more limited in scope, are tax concessions and rebates which apply either to plant and equipment, such as accelerated depreciation provisions for new pollution control technology; or to operating costs and practices; or to encourage research and development.

There has been a significant area of uncertainty in the tax treatment of environmental expenditures incurred either before a project starts earning

108 TIA, above n 106.

109 Benfield *et al*, above n 107.

110 Ibid.

assessable income, notably the costs of preparing environmental impact statements; or after the income stream has ceased, notably the costs of rehabilitation works. As pointed out by the Taxation Institute of Australia (1990), such expenditures have generally not been deductible. In addition, tax treatment of expenditure on plant and equipment for improved environmental management has been very uncertain. Firms have been unable to determine whether such expenditure would be deductible as repair costs, depreciable over a period, included in the cost base of an asset, or never recoverable.¹¹¹

Recent announcements by the Federal Government have reduced this uncertainty. Expenditure on mine site rehabilitation, other than capital expenditure on plant and equipment and housing and welfare, is now fully deductible in the year incurred, and all capital expenditure is deductible in accordance with normal depreciation rates. Since 12 March 1991, expenditure on environmental impact statements is now also deductible over a period of 10 years, whether the projects concerned go ahead or not. Expenditure on plant and equipment used in environmental impact assessment is also deductible, under the same conditions and rates as if they were used directly in producing assessable income.

Sales taxes

Differential sales taxes can be used to modify both waste treatment and resource consumption. One recent Australian example is provided by differential sales tax for recycled materials.

Payroll and capital gains taxes

Even very broad tax instruments can have environmental impacts, though this is not their primary aim. In Australia, for example, the present tax regime discourages the use of labour by imposing a payroll tax, and good industrial environmental management is often labour-intensive. Given that Australian domestic industries have to be protected by trade barriers because their labour costs are higher than those of their Asian competitors, and given that Australian government policy is purportedly intended to increase employment and keep labour-intensive value-adding manufacturing processes in Australia, a tax that penalises high staffing levels seems remarkably illogical. Equally illogical is government policy which is purportedly intended to decrease inflation by increasing savings, but penalises domestic saving by taxing it. Given that environmental deterioration locally, nationally, and globally is largely determined by industrial activity and investment in environmental management, and that these are strongly influenced by financial systems, it is clear that factors such as inflation rates, or broad tax instruments such as capital gains or

111 TIA, above n 106.

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consumption taxes, can affect environmental quality. The effects of such blunt instruments are unpredictable, but they may be large and cannot be ignored.¹¹²

Excise, customs and import duties

Similar considerations apply to differential tariffs and tariff protection. These are also relatively blunt instruments that tend to affect entire industry sectors rather than particular activities. Of particular relevance is the possibility that import restrictions or differentially high import duties could be imposed on goods and commodities whose production causes undue environmental damage: for example, rainforest timbers from countries which engage in unsustainable logging operations. The critical legal issue is whether such provisions would conflict with the General Agreement on Tariffs and Trade, GATT.¹¹³ It appears that such restrictions on environmental grounds would be permitted under GATT,¹¹⁴ specifically s 20(b), but this is yet to be tested.

The choice between green tax instruments

Levels of government and legal issues

There is an increasingly widespread view that the Commonwealth government should make much greater use of its constitutional powers in order to establish uniform environmental standards, regulations and planning processes across the nation. This view has long been espoused by conservation groups. More recently, national uniformity in standards and processes, though not necessarily through Commonwealth control, has been endorsed by various sectors of industry and commerce, particularly the mining industry.

According to Fowler,¹¹⁵ for example, "the Federal government has exercised its constitutional powers in the field of environment protection to a much greater extent in recent years than is widely recognised" ... "The long-standing view that the States have primary responsibility for environment protection under the Australian Constitution is misconceived in view of constitutional interpretation by the High Court over the past 15 years ... Given recent constitutional interpretation, proposals to vest an 'environment' power in the Federal government are more symbolic than practical".

Almost all of the green taxes and related instruments outlined in preceding sections could be imposed by the Commonwealth, and some of them could be imposed only by the Commonwealth. From the industry

112 Above n 8.

113 Whalley, "The Interface Between Environmental and Trade Policies" in *Economics of Environmental Policy*, above n 4.

114 OECD, above n 1 (1991c).

115 Fowler, above n 12 at v, viii.

viewpoint, green taxes of any form would be much simpler if they were set at uniform levels with a uniform system of administration.

At present, however, it appears that whilst the Commonwealth may be debating the formation of a national Environment Protection Agency, it is likely to be some time before it is operational; and even then it may be only a Ministerial Council with few practical powers and even fewer skilled technical staff. Meanwhile it is the States which are actively considering the practical details of designing and implementing green taxes of various kinds. This review has therefore emphasised those instruments which would be available to State governments as well as the Commonwealth.

Economic Issues

The economic advantages and disadvantages of particular green taxes and related instruments have been summarised above. There are, however, a number of general considerations which apply to most economic instruments of environmental policy, and these are reviewed briefly below.

Economic instruments of environmental policy will rarely be effective alone, but they could be very effective as part of an integrated strategy that also uses regulatory and technological instruments. The US strategy for air quality management, for example, contains planning and zoning controls, emission control regulations and penalties, stipulations for the use of best practicable technology, and economic instruments such as bubbles and regional offsets.

Given the many theoretical advantages of economic policy instruments why are they so rarely used in practice? The main reasons¹¹⁶ seem to be uncertainty as to their outcome, and high information costs associated with monitoring and enforcement. In theory, economic incentives should be preferable to regulation because they should be able to achieve a given environmental protection budget at the lowest aggregate cost to society and with the lowest initial information cost for regulatory agencies. In practice, however: (a) we generally do not know what savings are likely to be achieved, although overseas experience suggests they could be substantial; (b) initial information costs are lower for regulatory instruments since we can simply adopt or adapt information from overseas; and (c) operational information costs for regulatory instruments tend to be lower. In addition, the theoretical argument relies on two assumptions: (a) that both regulating agencies and regulated corporations are well informed as to the costs and benefits of different operational practices; and (b) that discharge levels are continuously variable. Neither of these is true. Major reductions in emissions generally require large capital investment by industry. Since economic uncertainty is always a prevailing aspect of commerce, private corporations will generally seek to minimise capital investment even at the cost of higher operating costs, if this maintains flexibility in financial management.

116 Common, above n 6 (1988, 1990).

Policy Issues

As with any other policy instrument, criteria for the choice, design and evaluation of economic instruments or environmental policy¹¹⁷ include: effectiveness, allocative efficiency, equity, cost-effectiveness, reliability, adaptability, ease of administration, maximum incentive for individual effort, minimal interference with private decisions, robustness in the face of uncertainty, and economy in operation, information gathering, monitoring and enforcement (Table 1).

As an example of equity considerations, it might seem at first sight that since air and water are in public ownership, improvements in air and water quality would benefit everyone equally. However, the sources of air and water pollution are not uniformly distributed. Ambient air and water quality differ from one place to another, and changes in air and water quality are concentrated in particular areas. Such changes therefore have greatest impact on people who live, work or play in those areas. As a common example, reductions in smokestack emissions or transport noise in urban industrial areas tend to benefit low income earners who live in those industrial areas more than higher income earners who commute from wealthier suburbs. Similarly, reductions in point discharges into a river will generally only benefit those downstream.

Green taxes have a number of advantages as instruments of environmental policy. They are adaptable, they can be improved iteratively, and they can be both efficient and equitable. They can provide a social mechanism by which those who reduce the value of public assets are charged an amount corresponding to the value of the damage. They can act as a deterrent to environmental damage and as a means of recovering the public costs of monitoring and enforcing environmental protection legislation. They can provide incentives for operating corporations to improve environmental management practices, by imposing a charge on environmental damage such that the marginal cost of paying the charge is greater than the marginal cost of improving equipment or procedures for environmental protection. This provides an incentive for operators to upgrade equipment by subjecting them to a financial penalty if they do not, rather than threatening them with immediate closedown. Green taxes and related instruments will be most effective, however, if they are highly selective and carefully focussed. Broad blunt tax instruments have broad and unpredictable effects.

If green taxes and related instruments are to be used in environmental policy, it is important that instruments controlling use of the environment as a reservoir for wastes are integrated with those controlling its use as a source of materials. Instruments administered by government agencies specifically responsible for environmental protection must be distinguished from those

117 Baumol and Oates, *Economics, Environmental Policy and the Quality of Life* (1979), Prentice Hall; Yapp and Upstill, *Fiscal Measures and the Environment: Impacts and Potential* (1985) AGPS; Common above n 6 (1988, 1990); Preston, above n 8 (1990).

administered by other departments and agencies. Likely impacts on target industries must be assessed, including additional staff requirements as well as direct charges payable. This requires estimates for the elasticities of demand for licences to conduct environmentally damaging activities, including all forms of waste discharge. Besides acceptability to industry, acceptability to the electorate must also be considered. Charging for normal regulatory functions of government departments is seen as "double-dipping" and resented. In addition, instruments such as product levies, which have a broad revenue base, also have high administrative overheads. Instruments which are based on charging for use of the environment will generally be preferable to those based on charging for government administrative services, since the latter tend to lead to over-servicing by government, growth in the size of government, and reduction in service received per unit cost.

Conclusions

Worldwide, the use of economic instruments of environmental policy is increasing. Sixteen environmental tax bills were put before the 101st US Congress, for example,¹¹⁸ and there are similar trends in Japan and in Western Europe.

In Australia, instruments such as performance bonds, deposit-refund systems, emission licence fees, resource rents and royalties, tradeable resource quotas and environmental levies are already in common use, and there has been limited use of sales and income taxes in environmental policy.

Much broader application of instruments such as emission charges and tradeable rights is currently on the agendas of both State and Commonwealth governments, and wider use of rezoning and development charges by local authorities is also likely.

Economic instruments have a significant role to play in environmental policy, but not to the exclusion of regulatory and technological instruments. Effective, efficient and equitable environmental policy is likely to require all three types of instrument and all three levels of government.¹¹⁹

The different environmental standards and planning procedures in different States have plagued Australian industry for many years, and there is currently a strong lobby for national uniformity. Political and economic competition between States has also been a major cause of poor environmental management in the resource industries. There is hence a strong argument that green taxes should be introduced by the

118 Hoerner, "Future Bright but Hazy for Pollution Taxes" [1990] (April 2) Tax Notes.

119 Fowler, above n 15; Wiltshire, "Barriers to Rationalising Commonwealth/State Overlap" in Economic Planning Advisory Council, *Towards a More Cooperative Federalism* (1990) 90/04 EPAC Discussion Paper. AGPS.

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Commonwealth as far as possible; particularly in relation to air and water quality, hazardous waste, toxic substances and radionuclides.

Whether or not the Commonwealth elects to use its Constitutional powers to a greater degree than hitherto, however, there will still be a major and probably more immediate role for the State governments. Whilst there are constitutional restrictions on the use of some specific instruments by the States, it is clear that they would have the power to impose a considerable suite of green taxes and to delegate some of those powers to local authorities.

It is likely that the States will indeed introduce a number of additional green taxes in the near future, and some of these are likely to be subject to legal challenge by the industries affected. I shall wait with interest to see if my analysis of High Court authority to date proves correct.¹²⁰

120 I thank Rob Fowler, Gerard Carney and most particularly Janet McDonald for advice on legal issues and assistance in locating relevant cases and publications.

Table 1: Criteria for evaluating fiscal instruments*

Objective:

- primary
- secondary

Application:

- preventive
- curative
- remedial
- restorative

Operation:

- incentives
- disincentives

Consistency with other policy objections

Individual freedom: effects on

- individuals
- private organisations
- social groups
- public organisations?

Timeframe:

- short or long-term problem?
- appropriate timeframe for instrument?
- will it be overtaken by technological change?
- will it influence the planning horizon of decision makers?

Market system:

- is the problem within or outside the market system?
- is it a market or non-market instrument?

Institutional responsibility:

- federal
- State
- local
- private

Focus:

- inputs, outputs or infrastructure?
- buyers, sellers or owners?
- extraction, production, storage, sale or disposal?
- physical resources or human activity?

Administrative efficiency:

- cost of regulation
- opportunities for avoidance
- understandability to those affected
- adaptability

Fiscal impact: on Treasury

- debits?
- credits?

Uncertainty:

- how confidently can effects be forecast?
- economic and structural data
- forecasting tools and models
- speed of social change

Cash flow

- implications: one-off, annual or frequent transactions
- Treasury
 - affected groups

Property rights: impacts

Income stability: impacts

Environmental effects:

- intended
- potential unintended

* Adapted from Yapp and Upstill, above n 117, and Buckley, above n 10 (1990a).