

Environmental Taxes

Introduction and Possible Discussion points

1. Environmental Taxes are defined by the OECD as any compulsory, unrequited payment to general government levied on tax bases deemed to be of particular environmental relevance. In both an Irish and largely global context environmental taxes tend to centre around cars and transport fuels. There is a renewed focus in most countries, in light of the priorities attached to climate change, to assess the scope for moving environmental tax reform into the wider tax base in order that its influence on consumer decisions through prices can be magnified.
2. This paper is primarily meant to be a discussion document. It examines the current tax treatment of energy and fuel in Ireland and how this compares with total energy consumption in Ireland.
3. The paper sets out what are some of the key considerations for policy makers:
 - the implications of major environmental tax reform for sectoral competitiveness and income distribution;
 - climate change as an area where greater EU co-ordination may have a place;
 - environmental taxes should fall on people who have options to change behaviour.

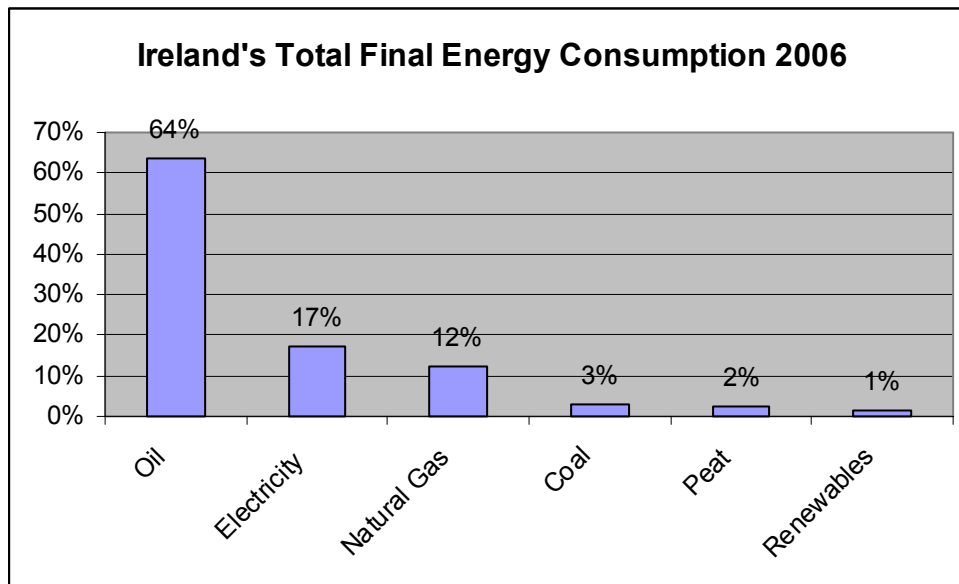
Some Background

4. The EU has committed to an ambitious climate change agenda; reduce carbon emissions by 20% from 1990 levels and increase the share of renewables in the energy mix to 20% by 2020. These targets were agreed at the EU Council in March 2007. In addition, the Programme for Government sets out a target of emission reductions of 3% per year on average. It also signals an intention to introduce appropriate fiscal measures, including a carbon levy, to be phased in on a revenue neutral basis over the lifetime of this Government and that the matter be investigated by the new Commission on Taxation. Reference is also made to continuing to use the tax system to encourage good environmental behaviour and discourage poor practice.
5. The Stern Review in the UK referred to the inability to deal with the growing problem of climate change as one big market failure. If the market worked efficiently it would price in to the cost of fuels and goods the long-term risks associated with climate change thus leading to appropriate behavioural change. The Review concludes that a carbon pricing policy is needed so that, through taxation, emissions trading or regulation, people are faced with the full social costs of their actions. The aim should be to build a common global carbon price across countries and sectors.

6. While the paper centres on possible options in the tax area, it should be noted that other options do exist and where used could have a significantly bigger impact on emissions than tax measures alone. However, one must be careful to ensure that the effectiveness of any particular measure is not undermined by the existence of another.

Energy and Fuel Consumption in Ireland and its relative Taxation

7. In this section we look at energy consumption in Ireland by source and at the relative taxation of all forms of energy (including transport fuels) in Ireland.



Data sourced from Sustainable Energy Ireland

8. The dependence on oil is clear from the above chart. Taxation of energy in Ireland revolves mainly around taxation of oil, and in that regard primarily on oil used as transport fuel.
9. Ireland is not unusual in this regard. Across the OECD motor fuels and vehicles dominate the picture with up to 90% of environmental taxes arising from this source. Typically, very little revenue is raised from heavy fuel oil and coal, which are typically used in large quantities by heavy industry. It can be assumed that countries have to date been, not unreasonably, fearful of a loss in sectoral international competitiveness and the negative impact on the broader economic performance and welfare if heavy fuel oil and coal were to be taxed heavily.

Excise Receipts from Mineral Oil Products for selected years (€Million)								
Year	All products	petrol	diesel	MGO	Kerosene	Heavy Fuel Oil	LPG	Coal
1997	1136.94	601.99	428.72	86.45	*	14.65	5.13	N/A
2002	1631.28	854.23	660.22	65.99	29.81	16.16	4.88	N/A
2007 (est.)	2227.35	1052.90	1088.43	72.88	0.00	13.04	0.10	0.00

Excise Receipts from Mineral Oil Products; % Breakdown by product								
Year	All products	petrol	diesel	MGO	Kerosene	Heavy Fuel Oil	LPG	Coal
1997	100%	52.95%	37.71	7.6%	*	1.29%	0.45%	N/A
2002	100%	52.37%	40.47%	4%	1.8%	1%	0.3%	N/A
2007 (est.)	100%	47.27%	48.87%	3.27%	0%	0.59%	0%	0%

Excise Receipts Breakdown between Transport & Non-Transport Energy Products		
	<u>Transport</u>	<u>non-Transport</u>
1997	90.66%	9.34%
2002	92.84%	7.16%
2007(est.)	96.14%	3.86%

**Kerosene figures pre 1999 included with MGO*

Carbon Energy Tax

10. The Government decided in September 2004 not to introduce a carbon tax following an extensive public consultation on the basis that
- i. the environmental benefits of a carbon tax would not justify the difficulties that would arise, particularly for households
 - ii. the tax would have imposed increases on products already suffering sharp price increases, primarily due to increases in international oil prices, and
 - iii. compensatory measures could not fully address the adverse economic and social effects arising.
11. A carbon tax would have the greatest price impact (increase on taxation) on fuel products which have only a low excise duty rate or no excise duty currently applied to them, e.g. peat/peat briquettes, coal, gasoil (heating and agriculture, etc.), kerosene

(heating) and natural gas. Many of these have a high weighting in the CPI and could be expected to push up inflation in the short term.

12. The Programme for Government has indicated that the Commission on Taxation should explore a carbon tax option; consequently it is not intended to explore it further here. However, any Budgetary decisions regarding environmental fiscal measures in the meantime should bear in mind the policy context set out by the Programme for Government and not impede the Government's policy options in this area.

Relevant Considerations for Environmental Tax Initiatives

13. It appears that the issue receiving most attention across countries is the **regressive distributional impact** across household categories from environmental taxes. Such taxes are seen as potentially regressive as it is likely that a higher proportion of a low income household's income will be spent on energy.
14. There are two possible ways of addressing this problem. Firstly exempt certain segments of the population or operate a dual-rate structure. Secondly, put in place appropriate compensation mechanisms. Compensation mechanisms are generally favoured over exemption/mitigation as they involve a lower risk of defeating the environmental purpose of the tax, however either of these options would not be easy and give rise to public expenditure and operational issues.
15. The other major consideration concerns the impact on economic **competitiveness**. Any possible environmental tax initiative must be careful not to advance any measures that promote energy saving but adversely affect international competitiveness. This would be particularly the case in relation to countries which compete with us and which may have very low taxes or non-existent taxes on energy. Logic then dictates that it may be unwise to be a 'first mover' in this area because of cost-competitiveness repercussions. However, in an Irish context it should be noted that Ireland is more dependent on imported oil than any other Member State in the EU which makes it potentially more vulnerable than most in the medium to long term. Moreover, Ireland may also have greater challenges in meeting Kyoto targets than some competitors
16. The **EU Energy Tax Directive** adopted in 2003 established common rules applying to almost all energy products including electricity. The common rules lay down those products which are taxable, the relevant conditions and minimum rates. These rules set minimum common standards throughout the EU but leave a wide margin of manoeuvre to Member State to pursue national approaches.
17. The view emerging from the EU Commission's Tax Directorate is that the climate energy agenda which the EU has set itself requires a more coherent and more targeted use of taxation in general. Their view is that the full internalisation of external costs related to the consumption of fossil energy is the cheapest way of promoting more eco-friendly energy sources and of creating an incentive for more efficient

consumption of energy. The upcoming review of the Energy Tax Directive could see proposals emerge which will attempt to structure energy taxation better, i.e. splitting the tax into energy and environmental components.

18. However, EU Commission tax policies are not in all cases sufficiently oriented towards subsidiarity and mindful of national fiscal sovereignty. Ireland does not support moves towards greater tax approximation or harmonization at EU level. This is clearly restated in the Programme for Government in respect of corporate tax issues. While climate change is an issue without borders and may in principle benefit from EU co-ordination, it carries with it the risk of undermining fiscal sovereignty in taxation which has and continues to be a cornerstone of Government economic policy.
19. The environmental effectiveness of a tax can be measured as the extent to which it delivers a reduction in emissions or pollution. This is closely connected to the price elasticities of the tax bases to which the tax applies. Summarising the significant but extremely varied work undertaken in this area is not easy as very different results are delivered depending on the nature of the study. Moreover, the experience differs vastly between different Member States and different types of taxes. Historically it appears that there has been a generally accepted view that environmental taxes can yield a relatively poor response, reflecting inelasticity of demand for energy products, particularly in the short term. More recent studies are showing an improvement in the effectiveness of taxes perhaps reflecting a greater public awareness of climate change issues. Of course, this raises the question whether it is education/awareness that is delivering change rather than the fiscal measures themselves.
20. One example of an environmental initiative that is often cited by both the OECD and the EU is the Irish plastic bag levy. It has led to a fall in consumption of plastic bags of the order of 90%, and revenue from the residual use of these bags has reached €85 million since the introduction of the levy in 2002. Plastic bags used to constitute 5% of litter, now it accounts for 0.22% and use of plastic bags has dropped from 328 to 21 bags per capita per annum. The levy system is also characterised by regulatory rules and its introduction was accompanied by awareness campaigns. However, substitutes for disposable plastic bags allowed consumers to change behaviours without large lifestyle changes.
21. Environmental taxes tend to be effective, if they are framed in such a way that consumers and business can make choices between goods/services that have differing impacts on the environment. Where real options exist, it makes sense for policy makers to move to bring about behavioural change by sending clear price signals. An example here could be cars where the propensity to own a car is unlikely to decline but within the car market, significantly cleaner options are available.

Environmental Reforms outside of the Indirect Tax area

22. The preceding text largely looks at tax strategy in the indirect tax area and how this might be reviewed in light of the issues emerging as a result of climate change. This is obvious given indirect taxes involve taxes on consumption and almost centre exclusively on transport fuel and cars while tax on energy consumed by households and business is almost negligible.
23. Ideally a shift in policy should start with an environmental audit of both tax rules and expenditures. Measures harmful to the environment might at the very least be identified and examined to see if they can be corrected or adjusted.
24. Given the repeated comments by climate change experts that measures aimed at increasing energy efficiency are likely to yield the speediest emission reductions, it seems appropriate for example to explore whether the interaction of tax and residential property can integrate an environmental element.
25. On the income tax side, it is worth noting that since 1999 tax law has provided an exemption for employees from taxation as a benefit-in-kind of certain free monthly/annual public transport travel passes given to them by their employers. The main reason for introducing this exemption was to underpin Government policy on the wider use of public transport and it was hoped these exemptions would encourage commuters who travelled to and from work by car to switch to public transport thereby easing traffic congestion at peak times. Subsequent to this initial move, provision has been made that where employees do wish to purchase travel tickets, their employers can create an arrangement whereby the cost of the commuter ticket can be deducted from the employee's salary before tax. This can have the effect of reducing the cost to the employee of up to 47% (income tax and PRSI). For the year 2005, the total number availing of this scheme amounted to over 47,000 employees with the cost to the Exchequer amounting to approx €10m. Other areas on the income tax side that could be reviewed might include the BIK treatment of company cars and how this can be restructured to favour or penalise drivers of low and high emissions cars.
26. However, it has to be highlighted that where we move, on a large scale, to pricing differentiations, through taxation, between types of activity and products, or through subsidies, there is a threat to the Exchequer and the Government's capacity to fund services arising from a successful shift in behavioural change. Consequently opportunities to promote the environment within existing Government spending, which are not complicated by the conflicting elements that arise in the context of environmental taxation, should also be explored.

Priorities for Budget 2008

27. It is the aim to make early progress through the reform of **VRT** and company car allowances, which were dealt with in a separate TSG paper (TSG 07/12).
28. **Excise taxes** on motor fuels have not been increased in the last three Budgets (last increase announced in December 2003). This period coincided with a strong upward drift in world oil prices so that the CPI concerns made it difficult to do otherwise. However, not increasing excises on motor fuels can serve to increase our dependencies on a resource that is likely to be limited in future years. The tables below set out the Budgetary changes since 2000 and the yield and CPI implications from a variety of increases in excise on petrol and diesel if implemented in Budget 2008. Demand responses to fuel prices increases are low in this sector so these projections do not allow for any significant reduction in consumption. The second table shows that, for example, a 5 cent increase in petrol and diesel would yield €220m but increase CPI by 0.151%. However, with inflation remaining high, such a move could threaten outcomes in relation to pay issues. Consequently, any increases would of course have to consider the possible implications for the next payround under *Towards 2016*.

Budget	Petrol	Diesel
2000	no change	no change
2001	reduced by 3.8 cent	reduced by 9.9 cent
2002	increased by 6.4 cent	increased by 6.4 cent
2003	no change	increased by 3 cent
2004	increased by 5 cent	increased by 5 cent
2005	no change	no change
2006	no change	no change
2007	no change	no change

Cost of Increases (VAT inclusive)	1 cent	2 cent	3 cent	4 cent	5 cent	10 cent
Petrol: Cost €m	21.9m	43.4m	64.7m	86.0m	107.2m	212.1m
CPI	.025	.050	.075	.101	.126	.252
Diesel: Cost €m	22.8m	45.5m	68.1m	90.6m	113.0m	223.8m
CPI	.005	.010	.015	.020	.025	.049

29. It should however be noted that duties tend to be lower in the Member States at the periphery of the EU and have higher underlying transport costs. Annex 1 details excise rates on petrol and diesel in all EU Member States, and shows Ireland around the EU norm and considerably lower than a number of our main trading partners, particularly in the case of petrol.

30. Details were announced in Budget 2006 of a five year €205m excise relief scheme for **Biofuels**. The impact of the scheme is only now beginning to emerge. The five-year allocations of excise relief were only granted in the second half of 2006 because of the time involved in seeking project applications and the subsequent selection process. In addition, the scheme required the necessary EU State Aid approval. The scheme is aimed at reaching a 2% target for biofuels penetration of the transport fuels market and when fully operational the Scheme will result in CO₂ savings of over 250,000 tonnes per annum. The 2% target is consistent with Ireland's full potential for indigenous production of biofuels, under current land-use patterns. In order to provide further market certainty, encourage projects of scale, the previous Minister for Communications, Marine and Natural Resources announced earlier this year an intention to move to a Biofuels Obligation by 2009, with targets for market penetration for biofuels of 5.75% in 2009 and 10% by 2020. This obligation is also contained in the Programme for Government. At this time, the Department of Finance has not received any further requests with respect to additional tax reliefs for biofuels in respect of Budget 2008.
31. Budget 2007 provided that **recycling companies** which have had a grant or financial assistance made available to them by an industrial development agency are now included in the BES and Seed Capital Schemes; windfarms are already covered by the schemes under the manufacturing category. In addition, the scheme for tax relief for **corporate investment in renewable energy products** in the solar, wind, hydro or biomass technology categories was extended beyond 2006. The extent to which these schemes can be further amended, or be accompanied by new measures, with respect to assisting private sector investment in alternative energy, could be examined.
32. Under the EU Energy Tax Directive, Ireland is obliged to apply excise to **electricity** from 1 January 2008. Separate minimum rates are specified in the Directive for business use (50 cents per MWh) and for non-business use (€1 per MWh). Household use, which accounts for the vast bulk of non-business use may however be exempted under EU law and most countries avail of this exemption. The EU Directive also allows for other exemptions including exemptions for renewables. Some initial discussions have taken place with the Commission for Energy Regulation with regard to the practicalities associated with the operation, imposition and collection of the tax. The capacity to differentiate, in pricing terms, between supplies of green energy to the Grid and non-green supplies is problematic. Some more work is required in this area to tease out how a particular tax might operate in practice.
33. The views of the Group are invited.

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Comparison of Excise Tax Rates for Petrol and Diesel in EU Member States

Unleaded Petrol

Member State	€ per 1,000 Litres
UK	713.23
Netherlands	678.79
Germany	654.50
France	606.90
Belgium	592.19
Finland	587.60
Portugal	582.95
Italy	564.00
Sweden	542.24
Denmark	537.60
Malta	474.26
Luxemburg	462.09
Austria	447.00
Ireland	442.68
Czech Rep	418.55
Poland	415.83
Slovakia	414.60
Hungary	406.55
Slovenia	400.03
Spain	395.69
Greece	331.00
Romania	327.29
Bulgaria	322.12
Cyprus	303.10
Latvia	300.29
Estonia	287.54
Lithuania	287.01
EU Average	462.80

EU Minimum Rate 359

Diesel

Member State	€ per 1,000 Litres
UK	713.23
Germany	470.40
France	428.40
Italy	423.00
Sweden	398.64
Slovakia	387.86
Austria	375.00
Netherlands	370.75
Ireland	368.05
Portugal	364.41
Denmark	364.08
Czech Rep	351.74
Malta	332.40
Belgium	331.11
Slovenia	323.30
Finland	319.40
Hungary	309.09
Spain	302.00
Luxemburg	290.35
Poland	287.82
Greece	276.00
Bulgaria	273.55
Romania	259.91
Latvia	255.75
Cyprus	247.96
Estonia	245.42
Lithuania	245.22
EU Average	344.99

EU Minimum Rate 302

Source: EU Excise Duty Table July 2007