

COMHAR SUSTAINABLE DEVELOPMENT COUNCIL RECOMMENDATIONS TO GOVERNMENT FOR BUDGET 08

Key Conclusions

- A carbon levy is essential if the government's ambitious targets in the Agreed Programme are to be met.
- We should start immediately – delay will doom to failure the government's objective, because it takes 3-5 years to see real effects on the ground. And the 'announcement effect' will also be important in triggering action.
- Those firms and sectors in the trading scheme (EU ETS) should *not* be included.
- The levy should be phased in, and the revenues recycled. If this is done, there will be no negative impacts on the economy.
- The recycling should involve returning most of the money to the sectors paying it, but **ONLY** for purposes that further enhance CO₂ reduction.
- We should use the partnership model to engage with the sectors in identifying the packages that were most acceptable and most carbon effective.
- Require utilities – they are in the EUETS - to install smart (time of day) meters in every household and business. This can be financed from the unearned revenues they will be capturing from the pass through of the value of CO₂ allowances, even though they will receive two thirds of what they need for free.
- Adjust VRT and annual motor tax to favour CO₂ efficient cars, as a stage to shifting all of the tax onto fuel. The initial effects are modest, but it begins the process of changing the emissions trajectory.
- Information – clear, focused and timely – regulation, and research and development should be mobilised in tandem to re-enforce effectiveness.
- Carbon proof all new fiscal measures, support provision of biodiversity officers at local level, and the creation of a Sustainable Development Fund.

Benefits

- We will be **leaders in Europe** in addressing the climate change challenge, and the **government will meet its Agreed target**.
- We will reduce the **Exchequer bill by €15 million annually or €75 million over the 5 year Kyoto period (2008-12)** to pay others to reduce for us via the Kyoto mechanisms.
- We will **eliminate serious fuel poverty** (about 100,000 households) to zero over the life of the government.
- We will **reduce the risk** – using time of day metering and associated peak load pricing – of **brown outs**, and the environmental and financial costs of bringing expensive plant on line to meet peaks.
- We will get multiple benefits of **reduced air pollution, reduced vulnerability to price spikes and supply interruption**
- We will incentivise the **creation of a whole new generation of enterprises** focused on enhancing energy efficiency and the development of renewables.

SPECIFICS

1. **The focus is on mobilising markets – carbon levy, and VRT and Motor Tax – to change greenhouse gas emission trajectory as in the Agreed Programme**

Decisions in the Agreed Programme

- *Government will set a target for this administration of a reduction of 3% per year on average in our greenhouse gas emissions. We interpret this as reducing emissions so that by 2012 they are 86 per cent of emissions in 2007.*
- **Appropriate fiscal instruments, including a carbon levy, will be phased in on a revenue neutral basis (emphasis added) over the lifetime of this government.**
- **We will introduce measures to further weight VRT and motor tax in favour of cars with lower emissions.**

A. The Carbon Levy

2. **The proposal will not increase the overall tax burden, but will rebalance the tax base to promote a lower carbon economy.**

3. **Exclude from the levy those producers and consumers in the European Union Emissions Trading Scheme (EU ETS).**

The European Union Emissions Trading Scheme (EU ETS) ‘captures’ about one third of Ireland’s emissions, and the price per tonne of CO₂ for allowances in 2008 is in the range €15-25, and is expected to approach €30-35 in the third phase (2013-20); they already face a price incentive to reduce emissions¹. The value of these allowances will be passed through to electricity consumers in part in the form of higher electricity prices.²

4. **Require the utilities (exempt from the carbon levy) to fund the installation of smart - time of day – meters in all households and businesses, funded by the ‘rent’ they capture from the pass through of allowance value.**

A major difficulty facing electricity generators and consumers is demand peaks at certain times – notably early winter evenings – which requires that older plant be mobilised which is expensive and environmentally inefficient, runs the risk of ‘brown outs’, and creates incentives to build more plant than we need. The peak(s) can be smoothed out if consumers pay a premium rate for using electricity in the peak period, and pay much lower rates off peak. The payoff in reduced CO₂ emissions from electricity will be 3-15% per household³.

5. **Introduce the levy on all CO₂ emissions not in the trading scheme, starting at a rate of €5 per tonne in 2008, rising in €5 euro increments to €25 in 2012**

To allow business and households to adjust, the levy should be introduced at a low level, gradually but increasing over time. It should be implemented without waiting for the result of the proposed Commission for Taxation to complete its assessment. If the government decision to reduce emissions to 86 per cent of 2007 levels by 2012 is to be realised, we have to start now. It takes 3-5 years for most of the incentive effects of a carbon levy to be reflected on the ground and therefore the levy should be introduced now, even at a low level. The recommendations of the Commission for Taxation may be more important for the introduction of a higher carbon levy in a few years.

¹ Convery F. 2007. “Emissions Trading in the EU after 2012 - some positive predictions and normative reflections” Presented at the FEEM and TranSust.Scan Conference on the Economics of Climate Change and Sustainable Development, Chia Laguna, Sardinia, September 27 and 28 2007

² See: Comhar SDC Commentary 5 for further details on EU ETS and Ireland and pass through of allowance (opportunity) costs. Available at

<http://www.comharsdc.ie/files/Sustainability%20and%20Trading%20-%20final%20version.doc>

³ “Smart meters turn up the heat on those with money to burn”, The Guardian, 7 June 2007. Available at <http://www.guardian.co.uk/environment/2007/jun/14/energy.utilities>. We will continue researching the likely effects of this instrument with a view to providing a more accurate estimate.

6. The revenues from the levy should be returned to the citizens – this is what revenue neutrality means.

How revenues from a carbon levy are recycled is a key determinant of (a) environmental performance, (b) public acceptability, and (c) cost effectiveness. There are **two broad options** for recycling:

(i) *Macro economic re-cycling*: The first option is to use the funds to reduce other taxes and charges, e.g. PRSI, or to provide a lump sum rebate to households. ESRI have found that if the revenue from a carbon levy is not recycled then there is a reduction in GNP of 0.29% compared with no carbon levy. However the results are quite different if the revenue is recycled using three options that have been estimated by ESRI as follows (assuming a levy of 20€ per tonne CO₂):

Table 1: Impact on economy through recycling carbon levy using 3 options, change compared to business as usual after one year, %⁴

Recycling options	Social insurance reductions	VAT reductions	Lump sum to households
GNP	0.19	0.24	0.02
Employment	0.49	0.07	0.09
Consumer prices	-0.33	-1.49	0.57

All three options increase GNP and employment, while social insurance and VAT reductions cause consumer prices to fall. The same study shows that when 23% of the revenue is used to compensate low-income families and the rest is used for social insurance reductions, that there is virtually no change in GNP and employment compared with when no compensation takes place.

(ii) *Sectoral Recycling to further enhance environmental performance and public acceptability*:

In the second option revenues are re-cycled to the different sectors – households, commerce, industry, transport etc in approximate proportion to their payments, and in manners that further intensify and incentivise actions to reduce emissions. This is described in the next point.

7. Engage with each sector to identify how best to recycle revenue within the sector that will further reduce emissions.

This is consistent with the partnership model that has worked well for Ireland, and should encourage ‘buy in’ as well as doubling the effect on emissions reduction yielded by the incentive effects of the levy alone. The key requirement of any sectoral agreement is that it significantly further reduces emissions. Some examples are provided in Table 2.

4 See: Bergin, A., J. Fitz Gerald and I. Kearney, 2004. *The Macro-economic Effects of Using Fiscal Instruments to Reduce Greenhouse Gas Emissions*, Report prepared in the Economic and Social Research Institute for the Environmental Protection Agency. Available at http://www.epa.ie/downloads/pubs/research/econ/epa_reducing_greenhouse_gas.pdf

Table 2: Impact of carbon levy on sectoral (non-ETS) CO₂ emissions, including impact of sectoral rebate programmes.

Sector	Emissions (latest year) Mt CO ₂	Possible Partnership engagement	Possible actions	CO ₂ reduction Impacts Mt		Other Benefits
				First round ⁴	Second round ⁵	
Road Haulage	3.641 ¹	Irish Road Haulage association	Rebate in return for efficiency agreements- including driver training, energy advice; Capital grants/tax credits for logistics hub, efficiency technology	0.022	0.044	Modern fleet – better air quality; less congestion
Industry not in EU ETS	1.475 ²	SFA, ISME and IBEC	Financial mechanisms include enhanced capital allowances, tax credits or direct grants - linked to audits or investments in efficient equipment. Efficiency agreements – rebate linked to CO ₂ savings	0.063	0.126	Energy cost savings in long run
Tourism (hotels, guest houses etc) ⁶		ITIC, Fáilte Ireland	Financial mechanisms include enhanced capital allowances, tax credits or direct grants - linked to audits or investments in efficient equipment. Efficiency agreements – rebate linked to CO ₂ savings			
Households (excluding electricity)	6.859 ³	Combat Poverty Agency, SEI, NCA	Energy efficiency improvement retrofits, fuel allowances.	0.213	0.426	Rising awareness for next generation
Road Transport (cars)	6.006 ¹	AAIreland SIMI, Irish Drivers Association	Expanded rural transport programme, public transport supports, non-road infrastructure etc	0.101	0.202	Modern fleet – better air quality; less congestion,
Service premises (commercial and public services)	2.862 ³	ISME, SFA, IUA	Similar to industry – energy agreements.	0.123	0.246	Energy cost savings in long run
Total	20.843			0.521	1.042	

Notes:

1. 2006 values. Source: SEI Energy Policy Statistical Support Unit.
2. 2005 value. Source: SEI Energy Policy Statistical Support Unit.
3. 2005 values. Source: EPA (2007) National Inventory Report published by the EPA in 2007. See <http://coe.epa.ie/ghg/nirdownloads.jsp>. Due to uncertainties in the datasets available, the value for service premises may include a small amount of emissions incorporated in the ETS. However, it is likely the amount is very small and would not affect the calculation significantly.
4. Reductions estimated using long run (3-5 years) elasticities and resulting CO₂ percentage changes for households (-3.1%) and industry (-4.3%) from ESRI, road haulage transport using elasticities from Bjørner (1999) (-0.1)⁵, road transport (cars) (-0.35) from Ryan et al. (2007)⁶ and it is assumed that the elasticity for service premises is equal to that of industry.
5. Second round benefits are estimated to be twice first round benefits. This is a conservative assumption based on the experience of SEI through the pilot negotiated agreements programme in 2002 where it was found that the effectiveness was more than doubled if a tax was linked to an agreement. It is their view that similar and indeed greater multipliers could be expected in all parts of the market.
6. It was not possible to separate out CO₂ emissions from tourism, however it is noted that Fáilte Ireland estimate that 11% of SMEs in Ireland are related to tourism. We plan to pursue these data further.

⁵ Bjørner, T.B. (1999), “Environmental Benefits from Better Freight Transport Management: Freight Traffic in a VAR Model,” *Transportation Research D*, Vol. 4, No. 1, January 1999, pp. 45-64.

⁶ Ryan, L., S. Ferreira, and F. Convery (2007) “The impact of fiscal and other measures on new passenger car sales and CO₂ emissions intensity: Evidence from Europe”, ongoing research.

The estimated effect of the carbon levy and recycling will be to:

- Reduce emissions from the non-trading sectors by approximately 5 per cent⁷ below current emissions.
- Reduce to 2.6 million the 3.6 million tonnes of CO₂ which in the absence of the levy and recycling will have to be purchased abroad using the Kyoto mechanisms. Assuming a purchase price averaging €15 per tonne and a 1 million tonne reduction, this will save the Exchequer €15 million annually.
- Reduce energy consumption pro rata by about 5 per cent in the non-trading sectors and more than 2 per cent overall, which in turn will reduce vulnerability to price spikes and interruptions in supply. Air pollution will be reduced, including SO_x, NO_x (we are having difficulty in meeting our EU mandatory target) and particulates, all of which will improve our health.

8. A key priority for households is to use some of the revenues to support those who suffer from fuel poverty

Prioritise conversion of their dwellings to ensure high levels of comfort. There were an estimated 100,000 households or 6.5% of the population in 2005, who went “without heating at some stage during the year” because they could not afford it⁸. It costs on average €1,000 to install attic or wall cavity insulation in a home (which improves energy efficiency by 20%); therefore a significant budget is required to perform this task in all homes classified as at risk of fuel poverty.

9. Mobilise other policies in tandem with the levy to further intensify performance and benefits.

Examples include:

- *Regulation* to ensure that all new buildings – residential, commercial – meet highest standards.
- *Research Development and Demonstration* to ensure that innovation and new knowledge led business prospects are maximised.
- *Information* to ensure that everyone has clear and timely information on performance.
- *Direct investment* in carbon reducing transport infrastructure and management.

B. VRT and Motor Tax

CO₂ emissions can be reduced from passenger cars by the replacement of the passenger car fleet with more fuel-efficient vehicles and the reduction of vehicle miles travelled. Vehicle taxes represent fixed costs to vehicle owners and can be used to influence consumers to purchase fuel-efficient vehicles; however they have no effect on driving behaviour. Therefore Comhar SDC proposes in the long-term that VRT be abolished and the revenue collected as a distance-based charge instead, while annual motor tax continue to be applied as a function of vehicle emissions. In the short-term both VRT and motor tax should be restructured and levied on the basis of CO₂ emissions and advanced emissions performance. The following table provides an example of the levels of tax rates based on vehicle CO₂ emissions. An additional discount of, for example, 10% could be provided on vehicles, which meet the next Euro pollutant emissions standards more than two years ahead of schedule.

Table 3 shows that approximately 100,000t CO₂ emissions could be saved per year if the current vehicle taxes- VRT and motor tax were restructured to be based on CO₂ emissions rather than engine size. The values in the table provide a rough estimate or a snapshot of the CO₂ emissions that could be reduced if current VRT and motor tax were differentiated according to vehicle CO₂ emissions. The effect of changing the VRT would increase over time as more fuel efficient vehicles would enter the fleet each year as a result of the CO₂ emissions-differentiated VRT. As noted above with the carbon levy there can be an even greater effect if this measure is combined with other policy instruments such as CO₂ emissions labelling of vehicles, ecodriving, and a carbon levy. All these measures can combine to raise awareness and provide an announcement effect, which can cause the CO₂ emissions savings to multiply. Because road transport is the main source in growth of emissions, it is important to begin the process of slowing the emissions growth trajectory. Note that the affordability of very low emission vehicles will be substantially enhanced.

⁷ Estimated from $(1.0/20.8)*100\%$. Again we consider these estimates to be conservative, based on the experiences of SEI with industry agreements.

⁸ CSO (2006) EU Survey on Income and Living Conditions (EU-SILC) 2005.

Table 3: Proposed revised vehicle tax rates by CO₂ emissions bands and resulting CO₂ emissions reductions.

CO ₂ band	VRT rate (%)	2005 New vehicles (No)	CO ₂ savings (kt/yr)	2005 Vehicle stock (No)	Motor tax (€/annum)	CO ₂ savings (kt/yr)	Total CO ₂ change (Mt/yr)
0-100	0	0	0.0	0	0	0.0	0.000
101-120	10	928	0.1	0	50	0.0	0.000
121-135	12	11485	1.2	204266	100	25.8	0.027
136-150	17	28865	1.9	317014	200	9.8	0.011
151-165	25	51065	-1.4	566064	400	-47.0	-0.048
166-185	30	42394	-2.7	313393	500	-17.5	-0.020
186-225	40	17755	-2.4	200786	900	-56.7	-0.059
226-above	45	6455	-1.9	35786	1500	-6.5	-0.0083
Total		158017	-5.1	1637309		-92.0	-0.097

Notes:

1. Estimated vehicle tax revenue (VRT + motor tax) from passenger cars in 2005 = €1.73 billion
2. Estimated revenue from new CO₂ –differentiated vehicle taxes = €1.87 billion.
3. Assumed elasticity of CO₂ emissions intensity of the fleet with respect to vehicle taxes -0.11⁹.
4. Vehicle emissions and number data from Fergal O’Leary and Amanda Barriscale (EPSSU, Sustainable Energy Ireland) are gratefully acknowledged.

C. Wider Recommendations

- **Carbon proof** all new fiscal measures to ensure that they do not incentivise a rise in greenhouse gas emissions and other pressures on the environment, and ideally encourage reduction.
- **If stamp duty is to be reduced, such a reduction should be contingent on meeting the highest energy efficiency standards**, as validated independently via the implementation of the *Energy Performance in Buildings Directive (EPBD)*.
- **Ensure** local governments have sufficient funding to employ officers responsible for **biodiversity and sustainable development**.
- Creation of a **Sustainable Development Fund (SDF)** to finance projects and activities that advance competitiveness, reduce pressure on environment, and support social cohesion.

The ideal projects would involve a combination of local and national government, private enterprise and local community engagement and support, all professionally and coherently managed. Projects would be selected competitively by independent assessment, based on credible estimates of the net social, economic and environmental impact, the quality of the plan and of the individuals and organisations involved, and the ability to continue indefinitely after the initial investment injection.

- **All government investments and other purchases should encourage sustainability objectives.**
 - a. All *publicly funded and leased buildings* – housing, education, health and office - should meet the highest standards of energy and resource efficiency and use of renewables.
 - b. All *government owned vehicles* should meet a demanding standard of energy and carbon efficiency, and travel payments to public servants for official travel in their own vehicles should differentially favour fuel and carbon efficiency, and provide a premium for travel by public transport.

⁹ Johansson & Schipper (1997) ‘Measuring long run fuel demand of cars’, Journal of Transport Economics and Policy, 31:277-292.