IRELAND'S CARBON TAX: EQUITY AND REGRESSIVE ASPECTS

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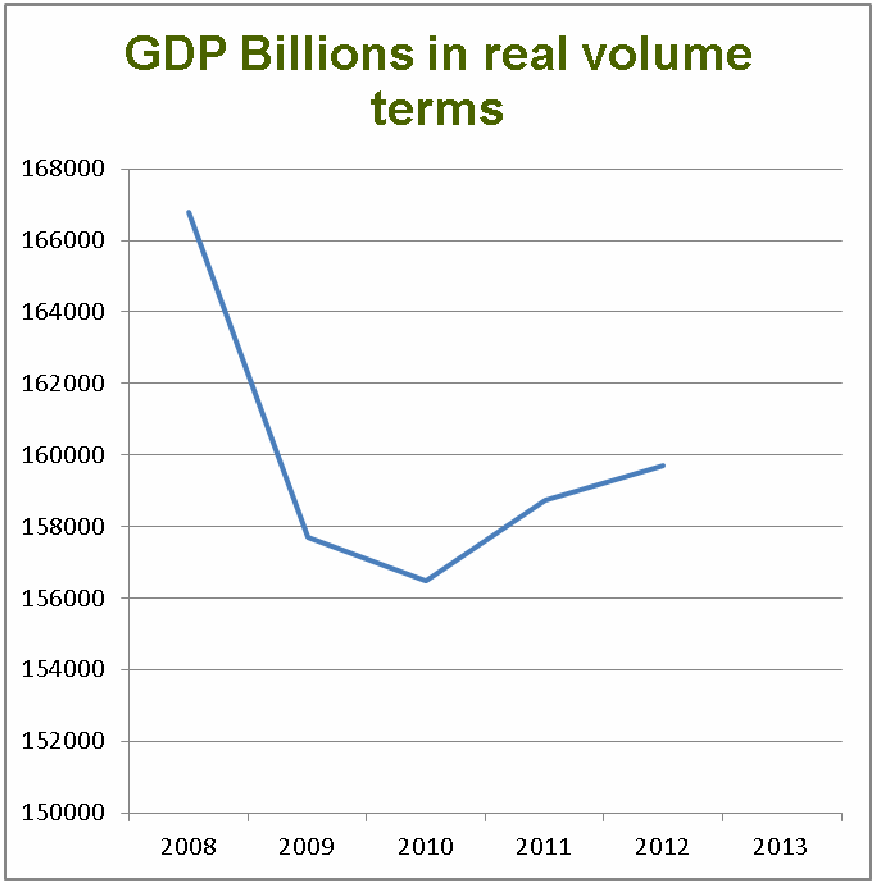
THE IRISH CARBON TAX –
Overview and Equity/Regressive issues

- **Context:** economic and emissions
- **Design:** Commission on Taxation Group (2009), considerations and consultations
- **Introduction of tax:** Scope, exclusions and exemptions
- **Impacts:** Transport emissions, equity and fuel tourism, distribution and regression
- **Future Considerations**

REPUBLIC OF IRELAND: SOME FACTS

- **Population:** 4.59m
- **Economy:** GDP €159.7 bn (expected 2012)
- **Car Fleet:** 90,000 new cars registered (2011) (approx. 10% of total fleet with new emissions standards)
- **CO_2 Emissions: currently at** 62MtCO_2 p.a. approximately – meeting Kyoto I but **Second highest per capita** emissions in EU in 2009 (CS0, 2012) (Annex 4)
- **Problematic emissions:**
  - Agriculture (48%)
  - Transport (27%) of NETS
  - Electricity consumption + 18% (1990-2010))
- **Carbon Tax: 2010** – revenue to date €638m (ex. VAT)

Figure 1: GDP



Economic Context

- **From Boom -** 1990-2008:
- fasted growing economy in Europe - GDP up 60%; emissions up 32.4% (1990-2009)

- **To Bust -** 2008-2009:
- real **GDP declined by 5%** (2008-2009): fall from €166.80bn to €157.69bn

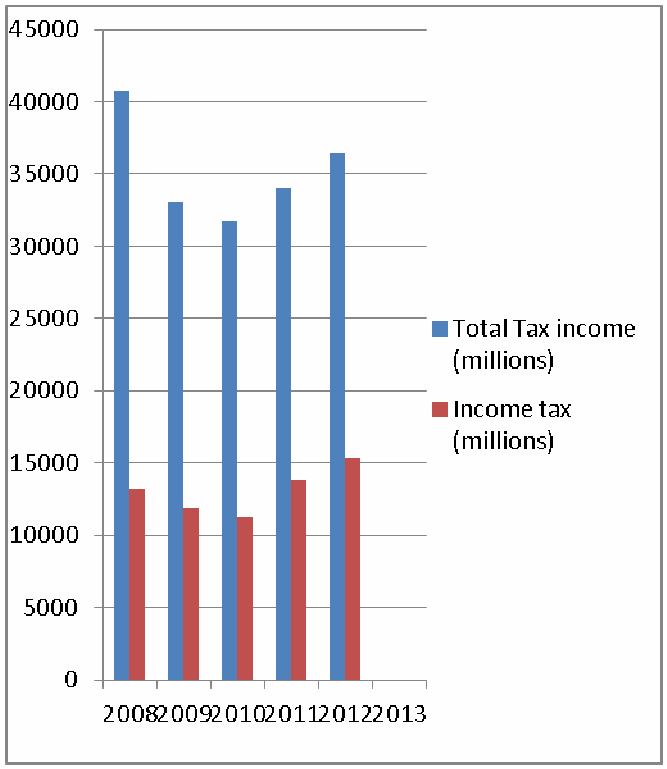
- **Tax income down 23%** massive fall off from €40.78bn to €33.0bn

- **Unemployment** increased by 10% to 14.4% (2011)

- **Property prices fall** by 47% from peak (2007-2011)

- **Overall tax take up in 2012 - €36.4bn** expected, still below 2008 level – increased recently - due to higher capture of taxes and social charges (up €2bn 2008-2011)

Figure 2: Tax Income 2008-2013



Design of Tax: Commission on Taxation

- A key part of the design of the Irish carbon tax was the setting up of a **Commission on Taxation consisting of experts and accepting submissions from all stakeholders across economic and societal sectors**

- **Terms of Reference: introduce a measure to modify behaviour and tackle emissions production at source**

- **2009:** CoT reviewed the whole tax system (including carbon tax), wide consultation process(170 submissions)

- **CoT proposed a Carbon Tax at €20 per tonne CO_2 eq, linked to carbon market price in future years:**
- **Design considerations – proposals from the CoT:**
  - Revenue neutral basis (no new net taxation) to ease competitiveness issues
  - Revenue recycling for direct mission reduction
  - Exemptions for ETS and voluntary emission reduction agreements

Business equity considerations (1)

Submissions to Commission – competitiveness issues

- **The submission from IBEC**, the business representative group:

➢ recommended that any carbon tax should be fully hypothecated as reduced labour taxes and energy efficient incentives, and that there should be consideration of voluntary agreements for industry in place of or in addition to such a tax (IBEC, 2009).

- The **Department of Enterprise, Trade and Employment** and its enterprise development agencies – proposed that a number of principles should underpin it to minimise adverse competiveness impacts:

➢ The tax should be revenue neutral (not a seen as new tax raising scheme) as far as possible

➢ At least part of the revenue raised should be used to promote emissions reductions in business - to ameliorate the competitiveness impacts on those sectors most adversely affected.

Business equity considerations (2)

Submissions to Commission – competitiveness issues

- Exemptions for **Emissions Trading Scheme** (ETS) participants and companies signed up to legally binding carbon reducing measures
- Proposed **lower cost alternatives** should be put in place simultaneously, including continued support for energy efficiency for industry.
- **Timing** is important, and the tax should be introduced on a phased basis.
- **Irish Taxation Institute** (2008) reiterated that a tax should be revenue neutral and **be set at a level comparable** to other countries (particularly the UK), for competitiveness reasons.
- **Streamlining with existing excise** provisions, possible accommodation of businesses with **special emission reduction agreements** to reduce their carbon footprint, are other components of the CoT's recommendations (p.12)

Poverty & Equity Considerations

- **Commission on Taxation** - **impact of the tax on prices would be insignificant**, and **if adequate safeguards** were put in place to deal with fuel poverty, and then a phase in of the tax would not be necessary.

- The **Department of Social and Family Affairs** anticipated that the carbon tax would increase heating costs and would have implications for the Department:

1) There would be an increase in the **cost of welfare supports for fuel (free electricity allowance)** where claimants receive the allowance by way of units allocation and the Department directly pays utilities for the lost units used.
2) There would be pressure to **introduce a scheme to compensate low income families** for the cost of increased heating costs.

- Poverty charity **Society of St. Vincent de Paul** expressed concern about an issue affecting a small population but complex in Ireland - **rural consumers of peat** / **turf**, some of which are among the poorest and most isolated households in the west of Ireland.
- These consumers would pay substantially more for peat this group more than any other type of carbon consumption. This may incentivize people to extract from EU protected bogs in Ireland.
- Mechanisms to incentivize turf cutters to reduce their extraction levels may be required (Scott and Eakins, 2002)

INTRODUCTION OF THE TAX: RATE, SCOPE

- **December Budget of 2009** finally introduced the tax, translated into law:
- **Irish Finance Act 2010** carbon tax at a rate of €15/tonne - Finance Act of 2010.
- **Finance Act 2012**S increased to €20/tonne - Finance Act 2012.
- **2011 Government Manifestos**
  - Commitment of the current governing coalition parties to raise the tax to €25/tonne (Department of Finance/National, Economic and Social Research Council (2012)).
- ***Rate of tax has been rising over time.***

- **Scope:**
  - Petrol
  - Aviation gasoline
  - Heavy oils
  - Fuel oil for generating electricity (with full relief/ ETS, partial relief/ GHG permits)
  - Liquefied Petroleum gas
  - Substitute Fuels
  - Biofuels (Full relief/partial relief for blended fuels)
  - CHP: partial relief

Exclusions, Exemptions, Agreements

- **Exclusions: solid fuel (peat, coal, peat products**) – subject to "Commencement Order" of 2010 Finance Act – this has not been activated
- **Why?** Political sensitivity, domestic and production fuel mix (coal power generation, State peat production company (Bord na Mona) supplying main power plant), movement of coal between border (different pricing), sulphur content issues.

- **Exemptions:** Exemption from the tax applies to participants in the **EU Emissions Trading Scheme (ETS)** in respect of fuels so covered. On that basis, electricity is not covered by this tax.
- There is a full relief from the tax for gas and solid fuel which is shown to the satisfaction of the Revenue Commissioners to have been supplied for use in the generation of electricity, and for a partial relief from the tax for any gas delivered for use in an installation that is covered by a greenhouse gas emissions permit.

Voluntary Emissions Agreements

- In addition to the exemptions, negotiations took place to allow full or partial exemptions/rebates on the tax to companies with strong binding emissions reduction agreements.
- The Commission on Taxation (2009) report suggested the carbon tax design should allow for the possibility that companies with legally binding action-based and/or target-based emissions reduction agreements with Sustainable Energy Ireland (SEI) could be accommodated. SEI supported this principle for two reasons.

1) The evidence suggested that agreements-based tax exemptions could achieve enhanced environmental impact, effectively stimulating more emissions abatement than a carbon tax alone could achieve.
2) Such exemptions could provide for a more consistent treatment for both non-ETS and ETS firms.

- **Sustainable Energy Ireland** considered that the certification would need to be linked to a company-specific agreement that would bind each participant to measurable emissions reduction actions. However, it need not necessarily include absolute annual emissions reduction targets.
- **Voluntary Emissions Agreements for businesses:** exemptions considered but not yet applied.

  In the end there was no provision for exemptions for emission agreements within the carbon tax system due to cost implications for SEI and management issues (might be huge demand)

EQUITY BALANCING MEASURES

- **Fuel poverty** – 317,000 households at risk of energy poverty (20.5%) (Dept. of Communications, Energy and Natural Resources (2011)
- **Estimate19% of households** spend 10% of income in 2010 on heat (Economic and Social Research Institute, 2008)
- **Additional costs to households** of the carbon tax had also been estimated and indicated additional costs of between €3 and €4 per week (Callan *et al* 2009).

- **Minister for Finance** announced that **Accompanying Measures** would also be introduced in the Budget for 2010 to improve, amongst other things, energy efficiency in low-income houses.

1. **€50m of carbon tax yield** was set aside to part-fund the sustainable energy management programmes including a **Warmer Home Scheme (€12m**); and a **Home Energy Savings Scheme (€28m)**
2. A **vouched National Fuel Allowance fuel allowance scheme** would be introduced to help those at risk of fuel poverty an Inter-Departmental/Agency Group on Affordable Energy reported in 2011 and published the Warmer Home Scheme which includes a range of energy efficiency measures. **Scheme extended from 30-32** weeks and payments increased from €18-20 per week following introduction of tax

- **But….Budget 2012:** cut in National Fuel Scheme - back by 6 weeks to 26 weeks - Department of Social Welfare – cite **200% increase in costs for NFA, spend of €250m** "unsustainable" going forward (Min. Joan Burton, 2011).

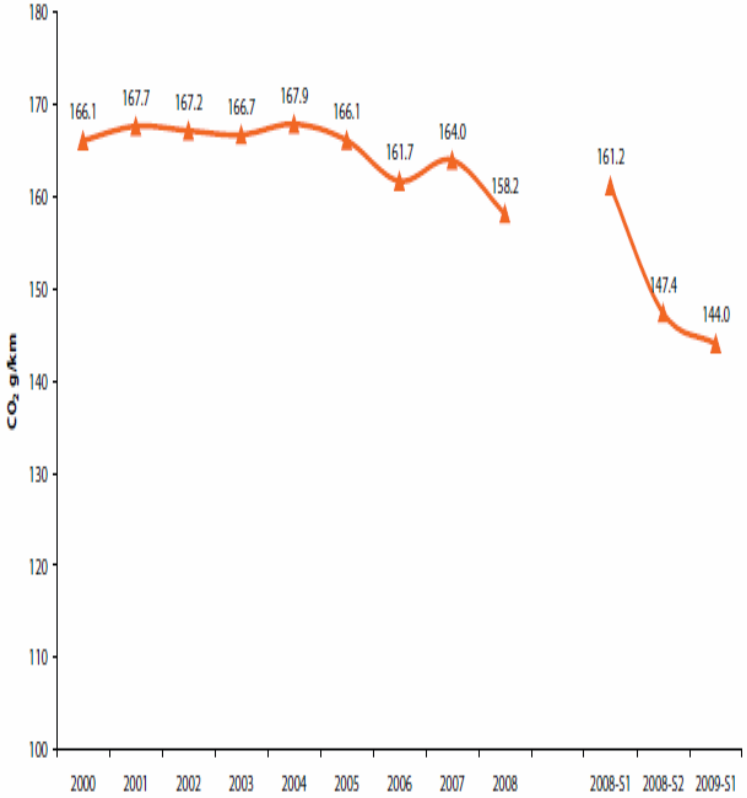
IMPACTS OF TAX – TRANSPORT EMISSIONS

- **Transport: 36%** of CO_2 emissions (SEI, 2009) – needed to be addressed
  - **July 2008** (prior to the introduction of the carbon tax) the Irish government changed both vehicle taxation and annual motor tax and shifted the basis of taxation from engine size to level of CO_2 emissions, with seven emission bands.
- **VRT** now charged as a percentage of Open Market Selling Price (OMSP) and emissions per kilometer.

- **90% of the 90,000 new vehicles** purchased in 2011 were in Bands A and B (CSO, 2012).

- **Emissions fell by 9%** for petrol and by **14%** for diesel cars;
- **Transport emissions fell of 13.7 Mt** CO_2eq to 11.6 Mt CO_2 eq. (2008-2010);
- **Petrol consumption: 21% drop**; auto diesel down13%
- **New Car sales down** from high 186,540 (2007) to 90,000 (2011) – emissions reduced by less cars – overall average **emissions down by 8.6%** and further 2.3% in first semester 2009.

Figure 3:
Specific CO_2 emissions of new cars, 2000-2009 (S-1) (SEI (2009))



IMPACTS OF TAX – TRANSPORT COSTS RISING (Dept. Finance/NESC (2012))

Figure 4: Fuel Costs since the Tax

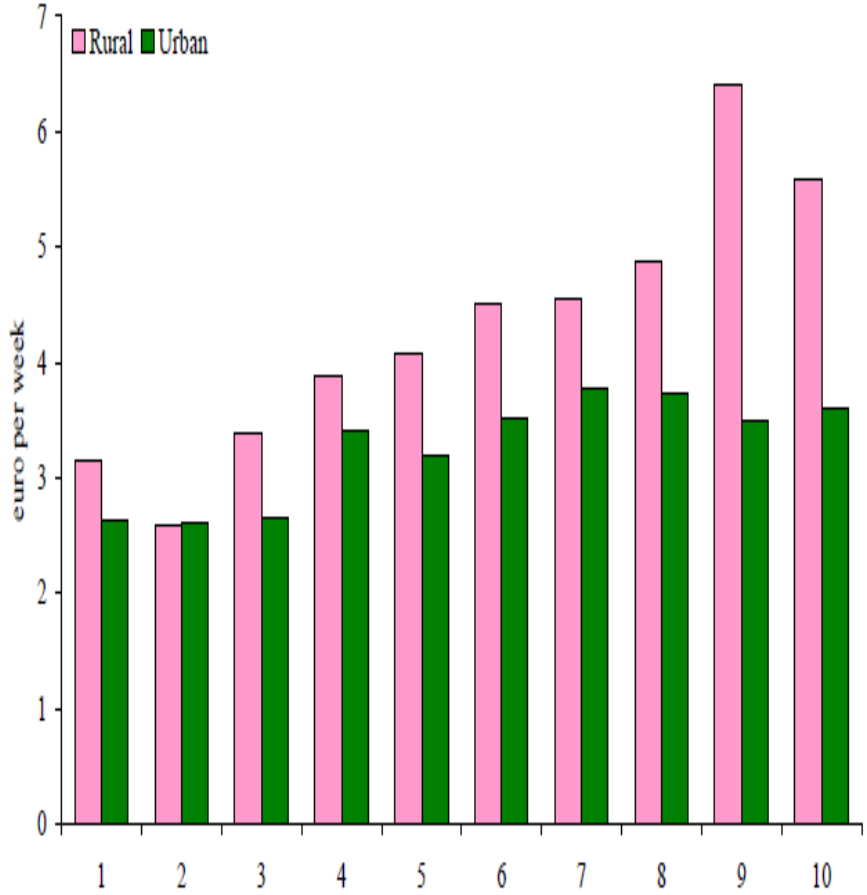
Budgetary Excise Changes on Motor Fuels (VAT inclusive) since 2007		
Budget	**Petrol**	**Auto-diesel**
2007	no change	no change
2008	no change	no change
2009 (emergency and supplementary)	increased by 8 cents (Oct. 08)	increased by 5 cents (Apr. 09)
2010 (**via carbon tax**)	Increased by 4.2 cents	Increased by 4.9 cents
2011	Increased by 4 cents	Increased by 2 cents
2012 (**via carbon tax**)	Increase by just under 1.5 cents	Increase by just over 1.5 cents
Total increase per litre	17.7 cents	13.4 cents

REGRESSION ISSUES

- **Transport – Regressive impacts**
  - **ESRI** submission to CoT estimated impact on €20/t on income distribution – highest impact - motor fuel carbon tax
- **Urban / rural / commuter belt motorists:** higher spend in rural areas (limited transport substitution available)
- **Heating** - National Fuel Allowance scheme to tackle fuel poverty issues.

Figure 5: Forecasted Impact (€/per household per/week) of €20/tCO_2 income decile, urban/rural households; non-electric energy.

(Source: ESRI/Toll et al 2008)

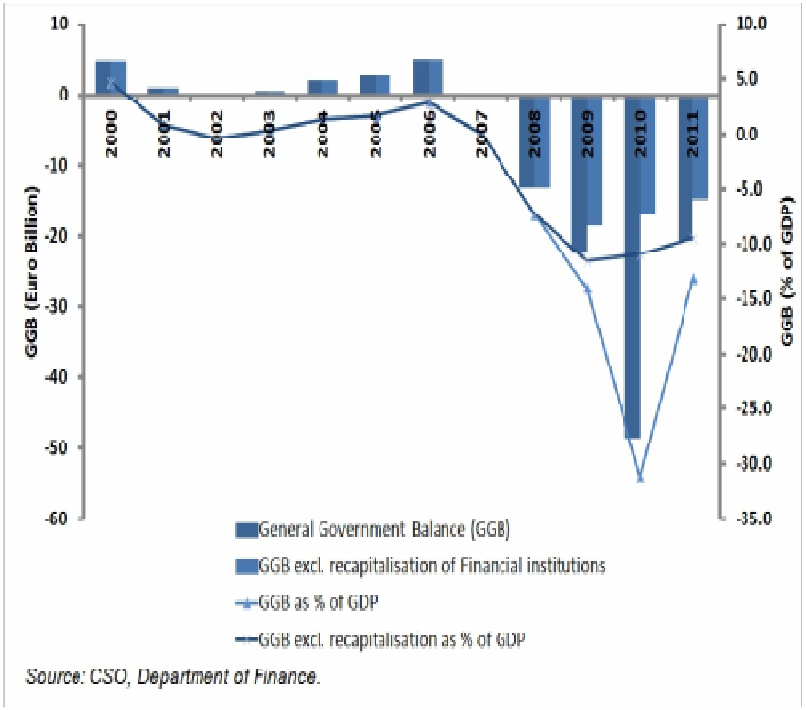


DISTRIBUTION ISSUES

- **2009:** ESRI submission to Commission did not fully support hypothecation but proposed 25% of tax allocated for welfare increases, 55% for lowering income taxes –
- **No ring fencing to tackle distribution issues -** tax was not used to reduce labour costs or increase welfare rates
- **2012: Unemployment at 14.7%,** fewer people paying income tax, high welfare costs to balance high fuel costs (€250m NFA) – seems unlikely that it will be used to reduce income taxes/raise welfare as public sector deficit is so high, all revenue is needed
- The tax would have less of a dampening effect on the economy if labour taxes were simultaneously lowered – Fitzgerald et al, (2008) found the economic stimulus of lower income taxes would be greater than the drag on the economy of higher energy prices.
- **Revenue yield:** €638m (three years)
- **Economic uncertainty:** will Government look to CO_2 and other environmental taxes to raise revenues – general government deficit now at 107% of GDP (ESRI, 2011)

Figure 6: General Government Balance 2000-2011

Source: Economic and Social Research Institute (2011)



CONCLUSION: IMPACT OF TAX

Economy, Consumption, Emissions, Equity : Correlation not Causation ?

- GDP decline 5% within same timeframe
- Carbon tax raised €638m in first 3 years
- Overall tax income decline 23%
- Petrol consumption down 21%
- Auto diesel down 3%
- Emissions collapse in 2008: overall down by 8.6% in first year of recession
- Equity impacts – austerity - declining household income and increasing costs per household (from income, stealth and environmental taxes since Troika bailout of 2010)
- Time series too short to establish links between emissions reduction and tax (and the recession kicked in at the same time as application of Carbon Tax). More data and research required.

Figure 7: Vehicle Fuel Consumption (Dept. Finance/NESC (2012))

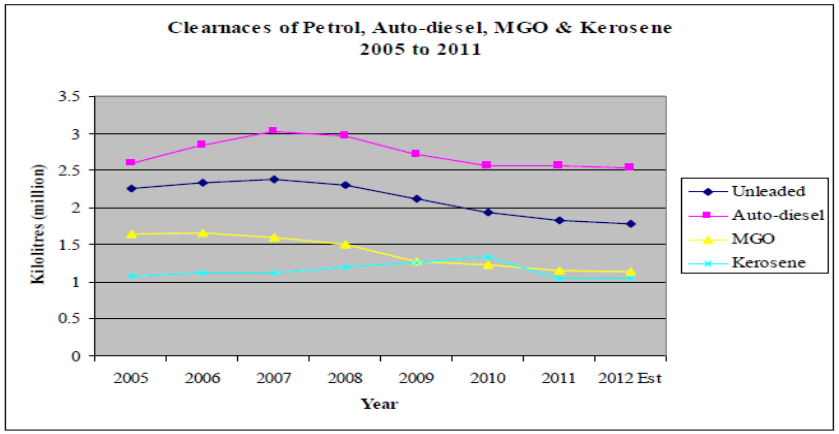


Table 1: Emissions Production

Year	Transport Emissions (Mt CO2 from petrol, auto diesel & auto LPG)	Heat Emissions (MtCO2 from kerosene, MGO, Fuel Oil, LPG, Natural Gas)
2008	13.7	5.16
2009	12.5	4.06
2010	11.6	4.03

CONCLUSION: FUTURE ISSUES FOR IRELAND

1. Agriculture (Competitiveness)

- **Not currently included in tax** – very political, high growth sector, emissions measurement is very complex, competitiveness issues with Brazilian beef exports to the EU, per head management required
- **Food Harvest 2020 strategy** (Dept. Agriculture Food and Fisheries, 2010) – increasing export growth by 42%, increase national herd with emissions from herd up by 12%
- **EU 20-20-20 targets** – a 30% emissions decline for agriculture required - damaging to sector (Teagasc 2011) with suckler cow herd reduction required from 1.15m (2011) to 190,000 cattle
- Emissions management research critical to the future
- Political support for sector (Commitment from Fine Gael governing party that farm diesel will be exempt from carbon tax).

2. Non-Emissions Trading Sectors (Equity)

- **EU 20-20-20 targets – transport, energy, residential, waste, industry/commercial**. Ireland met Kyoto obligations during the recession but emissions management through increased renewables penetration, electric vehicle roll out and home energy efficiency difficult due to capital intensity of investments (both state, private and domestic)

FINAL CONSIDERATIONS

1. **Correlation is not causation** – economy went over the cliff at the same time horizon as the tax was introduced and emission also declined rapidly. Data on real time equity and regressive impacts yet to be analysed.
2. **Tax coverage is currently limited** and does not capture all NETS in Ireland (agriculture, and some industrial sector emissions are excluded), also does not apply to coal and peat, significantly Ireland's most used fuel source for electricity generation and indigenous form of fuel (peat))
3. **Transitioning to low carbon economy will be challenging** for Ireland given energy mix, growth industries, domestic fuel and transport reliance.
4. **Double dividend:** Carbon Tax revenue €638m (on €15-20/t CO_2eq) but has not been used to reduce labour costs but could help prevent future increases.
5. **Regressive effects have most impact for heating and transport** fuels where substitutes are not available in Ireland and where domestic heat efficiency is low – difficult to compensate for this in current climate in Ireland. Breakdown of data between domestic and commercial heat fuel consumption required to evaluate impacts further.
6. **Carbon Tax rates:** ETS €7 approx. and Non ETS: €20 (and rising) – how high will price go in the future? Amendment to Energy Tax Directive concerns. Can Ireland continue to purchase credits in the ETS market (€270m) into the future to meet targets