

## Ireland's Carbon Tax in the context of the Fiscal Crisis

Frank Convery, Louise Dunne\* and Deirdre Joyce

*School of Geography, Planning & Environmental Policy University College Dublin*

---

### Abstract

Beginning in late 2008, Ireland experienced a fiscal crisis. This resulted in November 2010 in agreement between the Irish government and the European Central Bank, the European Commission and the International Monetary Fund (IMF) whereby the latter provided substantial financial support, on condition that a number of revenue raising and expenditure reduction targets were met. Also in 2010, a carbon tax at a rate of EUR 15 per tonne of CO<sub>2</sub> was introduced, covering most CO<sub>2</sub> emissions from sectors such as transport, heat in buildings and heat and process emissions by small enterprises. This paper describes the features of the tax, recounts the story of its interplay between fiscal adjustment and helping meet the obligations to raise taxes, and implications for competitiveness and carbon leakage, environmental effectiveness and equity issues, and draws some conclusions regarding why it happened, and provides some tentative insights for other countries in a similar situation.

**Keywords:** Carbon tax, market-based instruments, Irish Fiscal policy, policy lessons.

### 1. Introduction

The School of Geography, Planning and Environmental Policy of the University College Dublin has a long research and networking history and expertise with market based instruments for environmental policy. The research is ex-ante and ex-post and feeds directly into national and European policy. The work described below follows the annual progress of the Irish Carbon tax since its introduction in 2010.

Beginning in late 2008, Ireland experienced a fiscal crisis. This resulted in November 2010 in agreement between the Irish government and the European Central Bank, the European Commission and the International Monetary Fund (IMF) – known collectively as ‘the Troika’ – whereby the latter provided substantial financial support, on condition that a number of

---

\* Corresponding author. Address: Geography, Planning & Environmental Policy, UCD Richview, Belfield, Dublin 4.

revenue raising and expenditure reduction targets were met, one of which was to be a carbon tax.

## 2. Features of the Irish Carbon Tax

The carbon tax applied to CO<sub>2</sub> emissions from the non-traded sectors (NETS). This in effect meant that it applied mainly to emissions from combustion for heat for the residential sector, emissions from transport, and from commercial buildings and small industry. Emissions from all of the sectors (power and heavy industry) in EU Emissions Trading System (EU ETS) were excluded, as were most emissions from agriculture (mainly methane and nitrous oxide emissions) which in 2011 accounted for over 44% of NETS. Emissions from waste (mainly methane) were likewise not covered. Emissions from agriculture were excluded on the basis of measurement difficulties (monitoring reporting and verification, MRV). Emissions from sectors in the ETS were excluded on economic efficiency grounds - participating firms already face an allowance price; the idea was that the NETS carbon tax would be calibrated close to the allowance price such that all emitters would face the same price incentive to abate. However, this proposition was predicated on the assumption that the EU ETS allowance price would stay in the EUR 15-30 per tonne range.

As regards the rates, a carbon tax was first introduced under the Irish Finance Act of 2010 at a rate of EUR 15 per tonne, lower than the rate recommended by the Irish Commission on Taxation (a body set up to investigate and advise on a potential carbon tax for Ireland). The tax applies to petrol, heavy oil, auto-diesel, kerosene, and liquid petroleum gas (LPG), fuel oil, natural gas, coal and peat (Department of Finance, 2010). It also applies to aviation gasoline, which is aligned to the petrol rate and the rates for heavy oil used for recreational flying and boating, and the auto-diesel rate (Finance Act, 2010). The charge applies, at reduced rate,<sup>1</sup> to heavy oil and LPG that is used for horticultural production in a glasshouse, or for the cultivation of mushrooms.

Following its introduction, there have been phased increases of the tax to EUR 20 per tonne on different fuels (Department of Finance, 2012). The first increase of December 2011 raised the tax on petrol, aviation gasoline and heavy oil as a propellant, in air navigation or private pleasure navigation to EUR 20 per tonne (Finance Act, 2012). The tax increase was then extended to kerosene, fuel oil, other fuel oil and LPG used as a

---

1. S. 64(1) (h) Finance Act 2010.

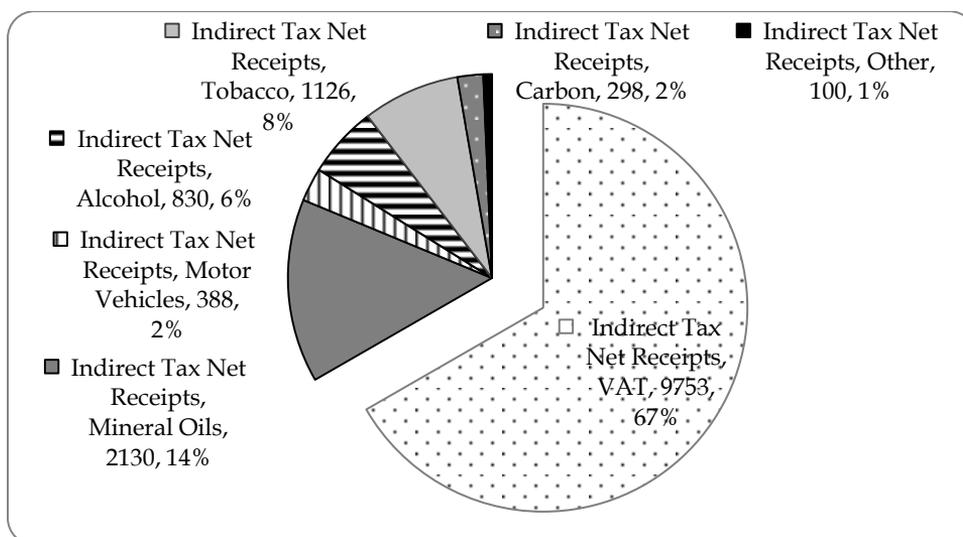
propellant and other LPG in May 2012. The natural gas carbon tax was also increased from EUR 3.07 per MWh to EUR 4.10 per MWh.

The circumstances that resulted in a carbon tax being proposed and subsequently introduced in Ireland include: Leadership by the Green Party; limited public opposition; Government need for the income; supporting the Green Economy; support from the academic and wider policy population; exemptions for large emitters (many in EU ETS) and agriculture; effective engagement and good planning.

From a fiscal perspective, it is clear that the revenue raised makes a relatively small contribution to the total tax take; in 2012, it amounted to just under 1% of the total tax take, and 2.25% of the revenue raised by the income tax. Thus, the scope for the classic form of tax reform – whereby a tax on environmental bads is recycled to reduce labour costs – was modest in scale. However, at the margin, its effect is much more significant. From 2010 to 2012, it contributed between 21.5 and 24.6% of the tax increases required by the Troika. However, the total *cumulative* tax increases required in the 2010 to 2012 period amounted to 7,400 million EUR, while the cumulative carbon tax imposed amount to 919 million EUR, contributing 12.4% of the cumulative total.

FIGURE 1

*Indirect tax receipts 2011*  
*EUR million, excluding VAT*



Source: Revenue Commissioners (2011)

### 3. Implication of the carbon tax for competitiveness

The OECD (2009) concludes as follows: “Corporate taxes are found to be the most harmful for growth, followed by personal income taxes, and then consumption taxes. Recurrent taxes on immovable property appear to have the least impact. A revenue-neutral growth oriented tax reform would, therefore, be to shift part of the revenue base from income taxes to less distortive taxes such as recurrent taxes on immovable property or consumption.”

Since the economic crash, Ireland has not increased its corporate tax rate, but the tax share from the income of workers and others has risen over the course of the recession. The headline rates have remained unchanged, but tax credits and tax bands have been reduced. A health levy and an income levy, which were eventually combined into the Universal Social Charge (USC) have been introduced, which is essentially a second income tax. For the bulk of workers, the USC currently stands at 7%, meaning for most people income taxes are at least 7% higher than before the recession. On top of this, Pay Related Social Insurance (PRSI) contributions have also been increased.

Given that taxes had to be raised somehow, it seems plausible that the negative economic impact in terms of jobs and employment would have been more severe if, instead of the carbon tax, income taxes had been raised further, albeit by only 2.5%.

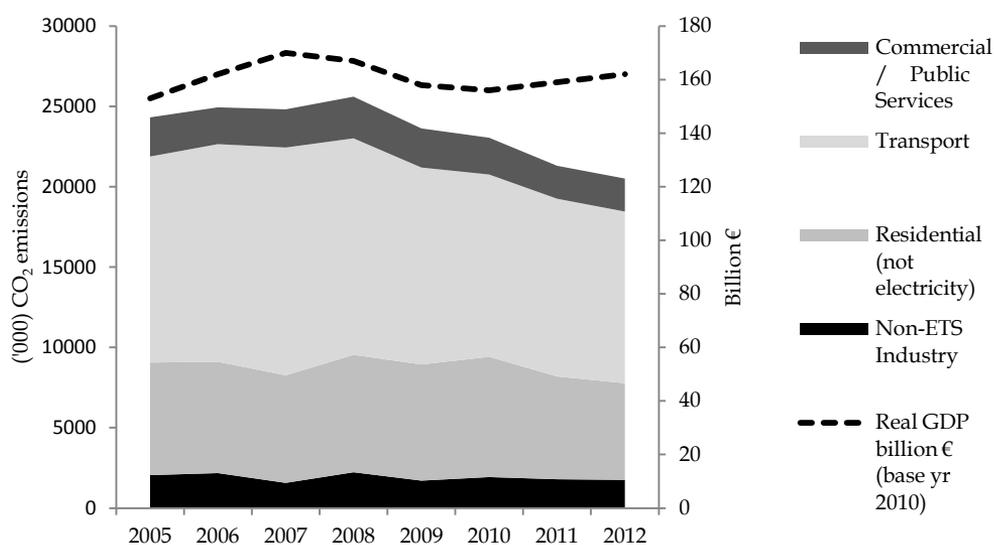
The 2009 Commission on Taxation report suggested the carbon tax design should allow for an exemption for companies with legally binding action-based and/or target-based emissions reduction agreements with the Sustainable Energy (Authority) of Ireland (SEAI). SEAI supported this principle for two reasons (Walker, 2010). First, 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. Second, such exemptions could provide for a more consistent treatment for across both non-ETS and ETS firms. SEAI believed that there was a feasible basis for offering some form of carbon tax rebate or exemption to energy users that were outside of EU ETS. The measure would best be suited to large energy-using installations which fall just below the ETS threshold, rather than on large numbers of small users. Also there was a question of resources available to SEAI should there be a significant increase in demand for agreement participation. In the end, voluntary agreements exemptions were not included in the final design of the tax.

#### 4. Environmental effectiveness

Energy consumption and its composition are influenced by many factors, including economic activity and disposable income, weather (especially salient in regard to heating of buildings) and prices. The economic environment in Ireland has been turbulent in the extreme and influences ability and willingness to consume and invest now, but also affects expectations. The weather in 2010 was extremely cold, and this shaped heating behaviour. Finally, independent of the carbon tax, energy prices have been volatile, but generally rising in Ireland since 2009.

FIGURE 2

*Real GDP and CO<sub>2</sub> emissions by sectors subject to carbon tax  
EUR billion and 1000 tonnes, not including electricity usage*



Sources: SEAI (2012) and IMF (2013)

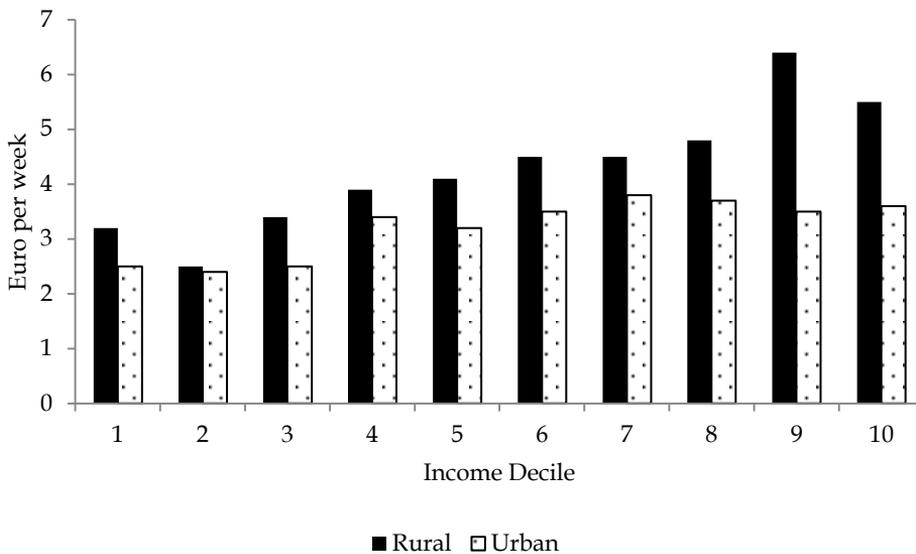
#### 5. Equity Issues

In 2005, it was estimated that 15% of Irish households spent over 10% of their income on energy and this was expected to rise to 19% of households in 2010 (due to energy prices rising faster than incomes) (Tol et al., 2008). Studies by the Economic and Social Research Institute (ESRI) on the distributional impact of the tax in Ireland were carried out prior to its introduction in 2010. They showed that there were likely to be some regressive impacts, across different income groups, and between urban

and rural households. Indeed many submissions to the Commission on Taxation referred to this issue and were concerned about the impact of the tax, particularly for those on lower incomes (Society of St. Vincent de Paul, 2008).

FIGURE 3

*Estimated impact of a EUR 20 per tonne CO<sub>2</sub> carbon tax per income decile  
EUR per household per week, split between urban and rural households, non-  
electric energy only*



Source: Tol et al. (2008)

### 5.1 Addressing Equity

- Prior to the introduction of the carbon tax in 2010 there were a number of schemes in place to tackle fuel and energy poverty of low-income householders.
- According to the budget statement “The yield from the Carbon Tax will be used to boost energy efficiency, to support rural transport and to alleviate fuel poverty. The Carbon Tax will also allow us to maintain or reduce payroll taxes”
- The key priority will be to fund sustainable energy programmes for which €98m will be available – including €50 million from the proceeds of the Carbon Tax”

- As anticipated, costs for fuel-related assistance in Ireland indeed increased since the introduction of the tax and the Department of Social Protection took action to reduce it. The duration of the scheme as it applies in 2013 has since been cut from 32 to 26 weeks. At present, the rate is EUR 20 per week, or EUR 520 in total. Only one Fuel Allowance is paid to a household.

## 6. Conclusions

It is difficult, and dangerous, to draw generalisable conclusions for other countries from one small case study. Every country's culture and circumstances are particular and unique. However, below are some tentative implications for other countries in fiscal crisis considering introducing a carbon tax:

1. Crisis does indeed create opportunity; and the more severe, the better;
2. The income can play a valuable role *at the margin* in meeting obligations for tax increases;
3. There is a trade-off between scope and effective rate of tax;
4. There is a need to revisit the analytics of recycling and the double dividend;
5. The imperative to raise income and reduce debt limits the extent to which equity issues can be addressed;
6. Pay attention to the 'green economy' performance and issues relating to the tax – an important rationale for the Irish carbon tax was that it would stimulate new enterprise in renewables and energy efficiency, encourage innovation and generally drive 'the smart economy';
7. Where the alternative is to raise taxes on labour, a carbon tax in general will not damage competitiveness;
8. With any environmentally salient carbon tax, over the 2014 to 2016 period, the rate is likely to be higher than the equivalent allowance price in the European Union Emissions Trading Scheme (EU ETS).

Eventually, crises pass; Europe will once again experience growth and rising employment. Unless the points noted above are credibly addressed, there is some prospect that the carbon tax will be 'unwound'.

## Acknowledgements

Thank you to the OECD who encouraged the development of this paper from a working paper to an OECD working paper (Convery, Dunne and Joyce, 2013. Ireland's Carbon Tax. OECD Working papers no. 59). The authors also gratefully acknowledge help from a number of sources: They have benefitted from insights from ENTRACTE, which is a European Commission funded (FP7) multi-group research endeavour, Paul Duffy of the Environmental Protection Agency (EPA), Martin Howley of the Sustainable Energy Authority of Ireland (SEAI) and Eric Gargan of the Department of Finance. For background on the politics of bringing in green taxes, the authors are grateful for the time afforded to them by the former Green Party Ministers and their Advisors, Eamon Ryan, former Minister for Communications, Energy and Natural Resources; John Gormley, former Minister for Environment Heritage and Local Government; Dan Boyle, former Chairperson of the Green Party and Donall Geoghegan, former Chef de Cabinet. Researchers in the Economic and Social Research Institute, including Tim Callan, Thomas Conefrey, John Fitz Gerald, Sue Scott and Richard Tol, amongst many others, have over many years studied the economic and social implications of a carbon tax, including especially the implications of alternative ways of using the revenue. The authors are deeply grateful to them all. The usual disclaimer applies.

## References

- Commission on Taxation, (2009) *Commission on Taxation Report*, Government Publications. The Stationery Office, Dublin.  
[www.commissionontaxation.ie/downloads/Commission%20on%20Taxation%20Report%202009.pdf](http://www.commissionontaxation.ie/downloads/Commission%20on%20Taxation%20Report%202009.pdf).
- Convery, F.J., Dunne, L., and Joyce, D. 2013. Ireland's Carbon Tax and the Fiscal Crisis. Issues in Fiscal adjustment, environmental effectiveness, competitiveness, leakage and equity implications. OECD working papers, no. 59. OECD, Paris
- Department of Finance, (2010) *Annexes to Summary of 2010 Budgetary Measures*, <http://budget.gov.ie/budgets/2010/Documents/Annexes%20to%20the%20Summary%20of%20Budget%20Measures%20Final.pdf>.
- Department of Finance, (2010) *EU/IMF Programme of Financial Support*, December 2010, <http://www.finance.gov.ie/viewdoc.asp?DocID=6856>
- Department of Finance, (2012) *Taxation Annexes to the Summary of 2012 Budget and Estimate of Measures: Annex B*, <http://budget.gov.ie/budgets/2012/Documents/Taxation%20Annexes%20to%20the%20Summary%20of%202012%20Budget%20and%20Estimates%20Measures.pdf>
- International Monetary Fund (IMF), (2013) *Report for Selected Countries and Subjects*, [www.imf.org/external/pubs/ft/weo/2012/02/weodata/weorept.aspx?sy=1990&ey=2007&scsm=1&ssd=1&sort=country&ds=.&br=1&pr1.x=57&pr1.y=12&c=178&s=NGDP\\_R%2CLUR%2CLE%2CGGXWDN\\_NGDP&grp=0&a=](http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/weorept.aspx?sy=1990&ey=2007&scsm=1&ssd=1&sort=country&ds=.&br=1&pr1.x=57&pr1.y=12&c=178&s=NGDP_R%2CLUR%2CLE%2CGGXWDN_NGDP&grp=0&a=).

OECD, (2009) *Taxation and Economic Growth*, OECD, Paris. [www.oecd-ilibrary.org/docserver/download/1209011ec006.pdf?expires=1379419818&id=id&accname=ocid84004878&checksum=6574502A9C8AC719DBB2BC964C556CC5](http://www.oecd-ilibrary.org/docserver/download/1209011ec006.pdf?expires=1379419818&id=id&accname=ocid84004878&checksum=6574502A9C8AC719DBB2BC964C556CC5).

Revenue Commissioners, (2011) *Annual Report 2011*, [www.revenue.ie/en/about/publications/annual-reports/2011/ar2011.pdf](http://www.revenue.ie/en/about/publications/annual-reports/2011/ar2011.pdf).

Saint Vincent de Paul, (2008) *Society of St Vincent de Paul Submission to the Commission on Taxation*. [www.commissionontaxation.ie/VoluntarySector.asp](http://www.commissionontaxation.ie/VoluntarySector.asp).

SEAI, (2012) *National Energy Balance 2006, 2007, 2008, 2009, 2010, 2011*. [www.seai.ie/Publications/Statistics\\_Publications/Energy\\_Balance/](http://www.seai.ie/Publications/Statistics_Publications/Energy_Balance/)

Tol, R. S. J., (2008) *A Carbon Tax for Ireland*, ESRI Submission to the Commission on Taxation, [www.commissionontaxation.ie/submissions/State%20Bodies//L01%20-%20ESRI.pdf](http://www.commissionontaxation.ie/submissions/State%20Bodies//L01%20-%20ESRI.pdf)

Walker, N., (2010) Personal Communication, 4 March 2010