Tithe an Oireachtais
Houses of the Oireachtas

An Oifig Buiséid Pharlaiminteach
Parliamentary Budget Office
Carbon Tax Series Part 1 of 3: What is the Carbon Tax?

Publication 13 of 2024

Séanadh

Is í an Oifig Buiséid Pharlaiminteach (OBP) a d'ullmhaigh an doiciméad seo mar áis do Chomhaltaí Thithe an Oireachtais ina gcuid dualgas parlaiminteach. Ní bheartaítear é a bheith uileghabhálach ná críochnúil. Féadfaidh an OBP aon fhaisnéis atá ann a bhaint as nó a leasú aon tráth gan fógra roimh ré. Níl an OBP freagrach as aon tagairtí d'aon fhaisnéis atá á cothabháil ag tríú páirtithe nó naisc chuig aon fhaisnéis den sórt sin ná as ábhar aon fhaisnéise den sórt sin. Tá baill foirne an OBP ar fáil chun ábhar na bpáipéar seo a phlé le Comhaltaí agus lena gcuid foirne ach ní féidir leo dul i mbun plé leis an mórphobal nó le heagraíochtaí seachtracha.

Is de chineál ginearálta í an Fhaisnéis. Baineann éiginnteacht le ráitis réamhbhreathnaitheacha agus d'fhéadfadh go dtiocfaidh nithe suntasacha chun cinn mar thoradh ar an bhFaisnéis. Ní sholáthraítear ráiteas cinntitheach leis an bhFaisnéis i ndáil le haon saincheist ar leith nó i ndáil le himthoisc phearsanta. Ní comhairle atá san Fhaisnéis. Ní mór a dheimhniú duit féin go bhfuil an Fhaisnéis a sholáthraímidne, an Oifig Buiséid Pharlaiminteach agus Coimisiún an Oireachtais (lena n-áirítear seirbhísigh, gníomhairí agus conraitheoirí na hOifige agus an Choimisiúin) oiriúnach agus iontaofa. Ní ghlacaimid aon fhreagracht as cruinneas ná oiriúnacht, ná eile, na Faisnéise agus ní thugaimid aon ráthaíocht ná aon ghealltanas ná aon bharánta i leith an chéanna; ná go mbeidh ár leathanaigh ghréasáin nó an Fhaisnéis nó ábhar eile saor ó earráidí, saor ó víris nó saor ó shárú. Ní ghlacaimid aon dliteanas (lena n-áirítear i leith éilimh maoine intleachtúla) a eascróidh as aon ábhar tríú páirtí nó aon suíomh gréasáin tríú páirtí a gcuirfimid nasc ar fáil chuige nó dá ndéanfaimid tagairt. Ní ghlactar le haon dliteanas ar bith, a mhéid is mó a cheadaítear faoin dlí is infheidhme nó (i) as aon iontaoibh a chuirfear san Fhaisnéis nó san ábhar ar ár leathanaigh ghréasáin nó (ii) as aon chaillteanas nó damáiste a eascróidh as an úsáid a bhainfidh tú as na leathanaigh ghréasáin sin nó i dtaca leis an úsáid sin. Féach ár *bhFógra Séanta cuimsitheach anseo*. I gcás aon easaontacht a bheith idir an Séanádh seo agus ár bhFógra Séanta cuimsitheach, is ag an gceann deireanach a bheidh an forlámhas.

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Key Messages

- A carbon tax directly sets a price on carbon by defining a tax rate on greenhouse gas (GHG) emissions or, on the carbon content of fossil fuels. In Ireland, the tax only relates to carbon ($C0_2$) emissions and no other forms of GHG emissions.
- In collaboration with the EU, Ireland has set legally binding targets to achieve carbon-neutrality by 2050, with an interim target of 51% reduction in GHG emissions over the 2018 levels by 2030.
- On current projections, Ireland is set to reach only a 29% reduction in emissions by 2030.
- Ireland introduced the carbon tax in December 2009 as part of Budget 2010, implementing it in 3 phases. The initial rate of carbon tax was set at €15 per tonne and raised to €20 the following year.
- The Finance Act 2020 legislated for annual increases to the carbon tax of approximately €7.50, up until 2029, and €6.50 in **2030** when the rate will reach **€100 per tonne of CO_2**.
- **The 2024 rate of carbon tax is €56 per tonne of CO_2**.
- Since Budget 2020, all carbon tax revenues above the €20 per tonne of CO_2 rate are hypothecated (ringfenced).
- Between 2010 and 2023, €5.288 billion in carbon tax revenues have been collected.
- **From 2020 to 2023, approximately €1.363 billion in hypothecated carbon tax revenues have been deposited in the Central Fund.** A further €788 million is forecast to be 'ringfenced' in 2024.
- These funds are used to finance green initiatives and other climate related policies such as home retrofits, addressing energy poverty etc.
- Some sectors which heavily rely on carbon-based fuels (i.e., heavy industry, haulage, commercial aviation, electricity generation, farming) are eligible for partial or full reliefs from the tax.

Overview

The effort to tackle climate change and to limit global average temperature increases to 1.5 ^{0}C above pre-industrial levels requires significant cooperation and collaboration at the international level to agree definitive goals, set binding targets, and to develop clear pathways to achieving these aims.[1] The task of implementing the policies necessary to meeting these targets, however, requires commitment at the national level. To limit climate change – and the devastating impacts resulting from breaching this temperature rise - the UN's Intergovernmental Panel on Climate Change (IPCC) has stated that greenhouse gas emissions must peak before 2025 at the latest and decline 43% by 2030.[2]

A carbon tax is a method of directly setting a price on carbon by defining a tax rate on greenhouse gas emissions or, on the carbon content of fossil fuels.[3] The intention is to capture the damaging external costs of emitting $C0_2$ into the atmosphere, while also incentivising the transition to a decarbonised economy. By setting a price on carbon, policy makers can *"shift the burden for the damage back to those who are responsible for it, and who can reduce it"*.[4] The effectiveness of a carbon tax in reducing emissions and aiding the fight against climate change is dependent on:

- The method of carbon pricing employed (i.e., 'cap-and-trade'/Emissions Trading Scheme, or Carbon Tax/Levy).
- The price applied to the carbon emissions.
- The range of fuel types included – or exempted – from the tax.
- The complementary policies employed by governments to utilise revenues and incentivise the desired behaviours.[5,6]

To achieve the desired effects, the pricing strategy must be designed so that the carbon tax is set at least equal to the social cost of carbon i.e., the anticipated environmental damages that will be caused by emitting an additional tonne of $C0_2$. As the cost of these environmental damages increases, so too must the price placed on emitting.[7]

[1] Intergovernmental Panel on Climate Change, Global Warming of 1.5 °C, 2019.
[2] United Nations Climate Change, The Paris Agreement.
[3] World Bank, Carbon Pricing.
[4] Ibid.
[5] Our World In Data, The Argument for a Carbon Price, 2021.
[6] World Bank, Carbon Pricing Dashboard
[7] Centre for Climate and Energy Solutions, Carbon Tax Basics

Targeting Emissions Reduction

Stemming from commitments made in the Paris Agreement, in 2019 the EU developed the 'Green New Deal' aiming to *"transform the EU into a modern, resource-efficient and competitive economy"*. This included a commitment to achieving carbon-neutrality by 2050.[8] In the interim, to reach this goal, it was agreed that net greenhouse gas (GHG) emissions would need to be reduced across the bloc by at least 55% by 2030, compared to 1990 levels.[9] In 2020, these targets became legally binding for member states following the enactment of the European Climate Law.[10]

Through the commencement of the Climate Action and Low Carbon Development Act 2021 (the Climate Act), Ireland transposed commitments made at an EU level into Irish law. This included both the legal commitment to achieving *"by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy"* and the interim targeted reduction of GHG emissions of 51% by 2030 (compared to 2018 levels).[11]

In 2022, the Houses of the Oireachtas adopted three successive 5-year carbon budgets (out to 2035) which would set out the total amount of emissions, measured in tonnes of CO_2 equivalent, that may be emitted by the state, across all sectors of society. A carbon budget represents the total amount of emissions that may be released during an agreed budget period, measured in tonnes of $C0_2$ equivalent. It is calculated on an economy-wide basis with deficits from missing targeted reductions in one period needing to be made up in the next budget period. The carbon budgets out to 2030 provided for:

- 2021-2025: 295 Mt CO_2 eq. or an average reduction in emissions of 4.8% *per annum* for the first budget period.
- 2026-2030: 200 Mt CO_2 eq. or an average reduction in emissions of 8.3% per annum for the second budget period.[12]

To further support the carbon budget process, sectoral emissions ceilings (SEC) were agreed by Government in July 2022. These sectoral ceilings

[8] Climate neutrality by 2050 means achieving net zero greenhouse gas emissions for EU countries as a whole, mainly by cutting emissions, investing in green technologies and protecting the natural environment.
[9] European Commission, *The European Green Deal,* 2023.
[10] European Commission, *European Climate Law*, 2024.
[11] Irish Statute Book, *Climate Action and Low Carbon Development (Amendment) Act 2021*.
[12] Department of the Environment, Climate and Communications *Carbon Budgets,* 2022.

aimed to further cement the emissions targets for each sector as Ireland works toward the 2030 emissions target.[13]

According to provisional GHG emissions figures, **Ireland's overall reduction in emissions from 2021-2022 was only 1.8%**.[14] Based on current trends, **Ireland is on course to achieve a 29% reduction in total emissions by 2030 – far below the legally binding 51% target**.

Given the direction of travel round international cooperation on the urgent need to tackle climate change, it appears that carbon pricing, in one form or another, is likely to be an essential element within a suite of mitigation measures, policies and strategies as the world transitions to net zero over the next three decades.[15]

Carbon Tax in Ireland

As part of Budget 2010 (December 2009), Ireland introduced a **carbon tax** on the emissions from burning petrol, auto-diesel, kerosene, marked gas oil, liquid petroleum gas, fuel oil, natural gas, and solid fuels (including peat and coal). This tax aims to make businesses and individuals consider the knock-on effects of generating CO_2 emissions, by putting a price on each unit of pollution generated. To ease the administrative burden of applying the tax, the appropriate tax rates are applied to the supplier of fossil fuels, with these taxes then passed onto customers through higher prices. The carbon tax is intended to quantify the costs of environmental damage incurred from the releasing of CO_2 emissions while at the same time encouraging investment in alternative non-carbon fuelled technologies.[16]

While changes to the fuel types captured under the carbon tax were made, the carbon tax rate itself saw only a relatively minor change from its introduction in 2010 to the first legislated rate in 2020 – increasing from €15 to €20 per tonne of $C0_2$ across the decade. The 2018 Citizen's Assembly on climate change gave unequivocal support to the implementation of a gradually rising carbon tax, with 80 percent of participants indicating their willingness to pay higher taxes on carbon intensive activities.[17] This reflects

[13] Department of Finance, *Climate Action and Tax Strategy Group*, July 2023.
[14] Environmental Protection Agency, *Greenhouse Gas Emissions (GHG) Latest Emissions Data*, 2023.
[15] International Monetary Fund, *More Countries Are Pricing Carbon, but Emissions Are Still Too Cheap*, 2022.
[16] PBO, *An Overview of Carbon Pricing*, 2019.
[17] Citizens Assembly, *How the State Can Make Ireland A Leader In Tackling Climate Change*, 2018.

the economic rationale that the price of carbon must be set at an equivalent value to the cost of damage caused by emitting that same tonne of emissions.

A History of the Carbon Tax

The concept of a carbon tax was proposed in the United States in the early 1970s as a means of reducing consumption of petroleum-based energy sources during the energy crisis.[18] However, as the understanding and acceptance of human-caused climate change grew throughout the 1980s,[19] economists saw carbon tax as a way to disincentivise the use of carbon-based fuels, and put alternative, cleaner energy sources on a more cost competitive footing. As a result, the implementation of carbon taxes has seen steady growth internationally since Finland, Denmark and Sweden introduced the indirect taxation model in 1990/91.[20]

The introduction of Ireland's own form of carbon 'levy' was committed to in the Programme for Government 2007-2012.[21] Budget 2010 (December 2009) outlined the introduction of a carbon tax on fossil fuels in Ireland, with this new tax to be implemented in three phases.

- Phase 1, saw the tax imposed on petrol and auto diesel, with effect from 10 December 2009.
- Phase 2 saw an extension of the tax to include Kerosene, marked gas oil (green diesel), liquified petroleum gas fuel oil and natural gas, from 1 May 2010.
- Phase 3 extended the application of the tax further to include coal and commercial peat in Budget 2013.

Phase 3 was introduced in two stages, the first of which commenced on 1 May 2013 at a rate of €10 per tonne and the second phase on 1 May 2014 with an increase to €20 per tonne, thus bringing the rate of carbon tax on solid fuels into line with that of other fossil fuels.

Initially, the carbon tax was applied at a rate of €15 per tonne of CO_2 emissions generated, with this rate increasing significantly overtime. In Budget 2024, it was increased to €56 per tonne of CO_2.

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[18] MIT, *'Emeritus: David Wilson was an early proponent of the concept of energy-use fees'* 2013.
[19] The Intergovernmental Panel on Climate Change (IPCC), *First Assessment Report*.
[20] Tax Foundation, *'Carbon Taxes in Europe'*, 2023.
[21] ESRI, *'A Carbon Tax for Ireland'*, 2008.

Certain partial reliefs and full exemptions to the carbon tax have been introduced since 2009. These included the full exemption of natural gas used for the generation of electricity and reliefs for large scale installations who participate in the EU-wide Emissions Trading Scheme (ETS).[22] In 2012, reliefs were introduced to offset the additional increases in carbon tax on farm diesel, effectively allowing farmers to recoup any additional carbon tax paid above the 2010 rate of €41.30 per 1,000 litres.[23]

The intention of the carbon tax was to assist the reduction of carbon emissions by increasing the cost of energy-intensive goods and incentivising the development and adoption of low-carbon technologies. The carbon tax is estimated to reduce emissions by about 0.3 million tonnes CO_2 equivalent per annum.[24]

While the carbon tax only covers fuels which release CO_2, these fuels are the primary cause of emissions in the Transport, Residential, and Energy Industry sectors, which combined accounted for approximately 45% of all GHG emissions in 2022.[25]

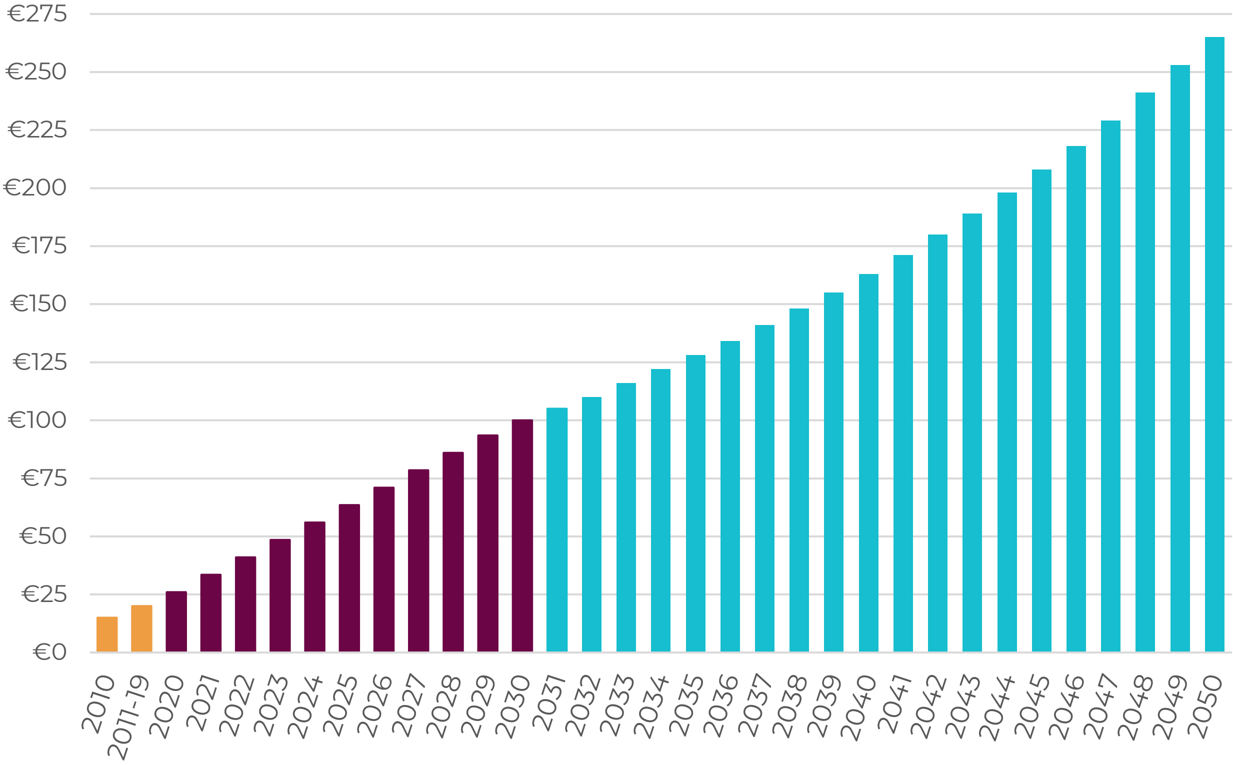
The tax is not applied to other greenhouse gases like methane or nitrous oxide. Broadly speaking carbon tax is not applied to the Emissions Trading System (ETS) sector, however certain fuels used in the ETS sector pay a level of carbon tax including coal and natural gas.[26] **In 2021, it was estimated that 33.9% of carbon emissions were covered by the carbon tax**.[27]

Analysis of Rates

Section 27, 28 and 29 of the Finance Act 2020 set out the future rates of carbon tax up to 2030. Since 2020, carbon tax rates have gone up by €7.50 in each Budgetary Cycle and will continue to do so until 2029 (Budget 2030 will see the tax increase by only €6.50). **By 2030, carbon tax will be at the rate of €100 per tonne of CO_2**, informed by the findings of an ESRI study on how best to prevent fuel poverty.[28] Figure 1 (below) shows the changes in the rate of carbon tax each year since the Finance Act 2020.

[22] Tax Strategy Group, *Energy and Environmental Taxes*, 2014.
[23] Revenue, *Tax reliefs related to farming*, 2023.
[24] Environmental Protection Agency, *'What's being done climate'*.
[25] Environmental Protection Agency, *Greenhouse Gas Emissions (GHG)*, 2023.
[26] Department of Finance, *Climate Action and Tax Strategy Group*, July 2023.
[27] OECD, Carbon Pricing Ireland, 2022.
[28] ESRI, *Carbon Taxes, Poverty and Compensation Options*, October 2020.

Figure 1: Carbon Tax Rates 2010-2050



Source: Department of Finance's Tax Strategy Group (TSG) and *Infrastructure Guidelines*.

Other than the initial increase from €15 to €20 per tonne in 2011 and the inclusion of solid fuels in 2013, the carbon tax rate had not risen until it was written into legislation in 2019, taking effect on budget night that year. The period of pre legislated rates are shown above in orange and the period of legislated rates are represented by the purple bars in Figure 1.

For the years 2031 to 2050, no rates are at present set out in legislation. Indicative rates are provided in the Infrastructure Guidelines (which replaced the Public Spending Code) for use as shadow carbon prices when estimating the future costs of infrastructure projects. These rates, shown in blue in figure 1, are included for illustrative purposes only and do not represent planned increases in carbon tax rates post-2030. The shadow price is used to account for the external costs associated with CO_2 emissions.

The shadow price of carbon for non-ETS emissions is based on the estimated cost to Ireland of removing emissions from the atmosphere, i.e., the 'abatement cost'.[29] The abatement cost is the monetary cost of an intervention that will reduce greenhouse gas emissions by one tonne.[30]

[29] DPENDR, *Infrastructure Guidelines*, 2019.
[30] World Bank, *'Climate Explainer: Abatement costs and Decarbonization'*, 2023.

Table 1 shows how the increased rate of €56 from Budget 2024 will impact people day-to-day. For example, for a 60-litre fill of petrol the consumer and/or supplier will pay €1.04 more in carbon tax in 2024, than they did in 2023.

Table 1: Impact of Budget 2024 Carbon Tax Increase (ex-VAT)

Fuel Type	Typical Fuel Bundle	2023 Rate	2024 Rate	Impact of the €7.50 Increase
Petrol	60 litre fill	€6.73	€7.77	+€1.04
Auto Diesel	60 litre fill	€7.79	€8.99	+€1.20
Kerosene	900 litre tank	€102.01	€117.78	+€15.77
Peat	12.5kg bale	€1.02	€1.19	+€0.16
Coal	40kg bag	€4.72	€5.45	+€0.73
Gas	11,000kWh	€89.02	€102.82	+€13.80

Source: PBO calculations based on Budget 2024 *'Use of Carbon Tax Funds'* (2023).
Note 1: These rates are then subject to VAT of 23%.
Note 2: The Commission for Regulation of Utilities (CRU) estimates the annual average household usage of natural gas at 11,000 kWh.

- In 2011, after the first increase of the carbon tax from €15 to €20, a consumer would have paid **€2.78** in Carbon Tax on a 60-litre fill of petrol.
- In 2030, when the carbon tax rate will be €100 per tonne of CO_2, the same fill of petrol will cost the consumer **€13.89** in carbon tax – more than double the amount paid in 2023.
- If the shadow prices for carbon set out in the Infrastructure Guidelines are in future codified, the carbon tax rate of €265 per tonne of CO_2 in 2050 would equate to **€36.80** in carbon tax being applied to that same 60-litre tank of petrol.

Carbon Tax Revenues and Hypothecation

From 2010 to end-2023, the carbon tax has generated total revenues of €5.288 billion. More than half of this total - €2.872 billion – has been collected since 2020 when the legislated annual increases in the carbon tax rates were introduced. Up to this point, all revenues collected were transferred to the central fund for disbursement. However, from 2020 onwards an ever-increasing proportion of these revenues have been hypothecated.

Tax hypothecation – also referred to as 'ringfencing' – is the process by which specific tax revenues are earmarked and dedicated for use on specific expenditure purposes. Tax revenues can either be deposited in a central fund, from which government spending is drawn down or debited, or allocated to a separate fund from which the specific revenues are used to fund policy goals,[31] such as the provision of subsidies. The Programme for Government in 2020 set out the intention to hypothecate all additional carbon tax revenues raised from increases in the rates. It is estimated that this hypothecation would raise revenues of €9.5 billion over the 10 years from 2020 to 2030.

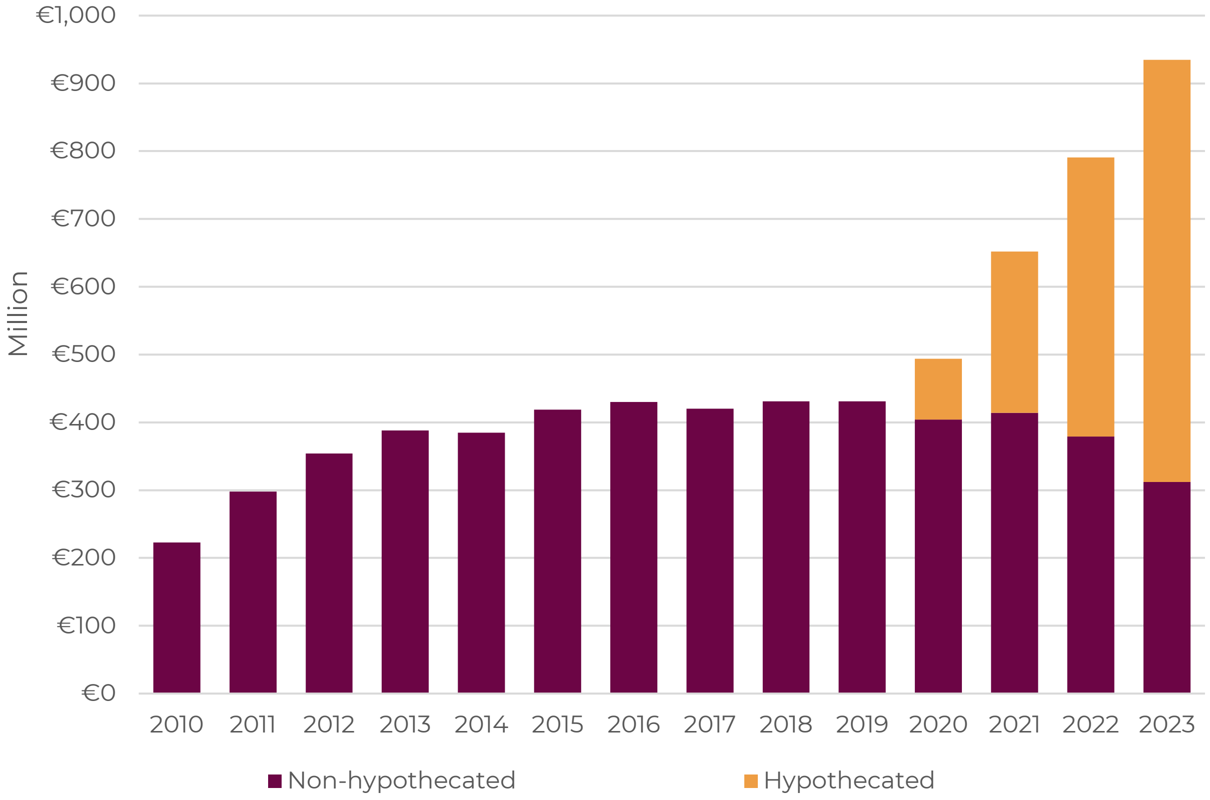
Therefore, every euro collected over the 2019 rate of carbon tax (€20 per tonne) is to be added to the fund and 'ringfenced' to fund a variety of 'green' programmes and social welfare schemes. In particular, the social welfare schemes funded through the tax are intended to mitigate against the financial impact of the carbon tax on specific cohorts of society e.g., lower income families. However, research conducted by the PBO suggests that while the revenue recycling measures themselves were progressive - leaving low-income households better off on average - they were highly concentrated, with just 31% of the poorest 10% of households receiving recycled revenues.[32]

In terms of 'green' policies, €5 billion from this fund will partially fund a national retrofitting programme targeting all homes, but with a particular emphasis on the Midlands region and on social and low-income tenancies.[33]

Figure 2 below shows the total revenues collected each year and how much of the total yield in each year since 2020 has been hypothecated, or 'ringfenced'.

[31] Parliamentary Budget Office, *'Tax Hypothecation'*, 2022.
[32] Parliamentary Budget Office, *EVE: a model of indirect taxes using household micro-data*, Working Paper Series No.1 of 2024.
[33] Department of the Taoiseach, *'Programme for Government: Our Shared Future'*, 2020.

Figure 2: Total and Hypothecated Carbon Tax Revenues 2010-2023



Source: Revenue for total carbon tax yield years 2010 to 2022 and Parliamentary Question 328 'Tax Yield' for 2023 (purple), and Parliamentary Question 500 'Tax Data' for the increases in the hypothecated amounts (orange).

The orange bars in figure 2 illustrate the amount of the total yield that was hypothecated in each year from 2020 onwards. The purple bars illustrate how much of the total yield it put back into the exchequer account (central fund).

As indicated in figure 2, the hypothecated allocation and the ratio of the allocation has increased year-on-year:

- In 2020, €90 million of carbon tax revenue was ringfenced (18.2% of total carbon tax revenue)
- In 2021, €238 million of carbon tax revenue was ringfenced (36.5% of total carbon tax revenue
- In 2022, €412 million of carbon tax revenue was ringfenced (52.1% of total carbon tax revenue)
- In 2023, €623 million of carbon tax revenue was ringfenced (66.6% of total carbon tax revenue)

In 2024, it is estimated that a further €788 million of revenue will be ringfenced.

In the Revised Estimates Volumes (REV) for Public Services 2020, the expenditure was categorised under 3 headings.

- Protecting the Vulnerable (€34 million)
- A Just Transition (€31 million)
- Investing in the Low Carbon Transition €25 million)

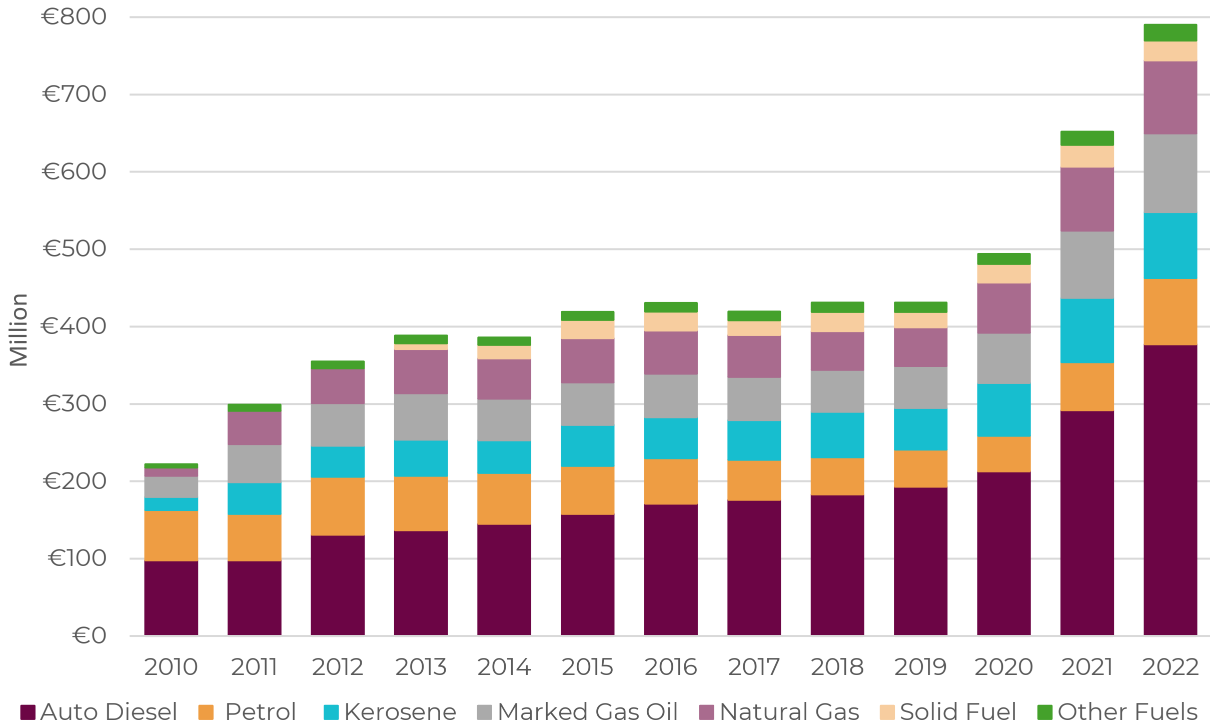
Whilst the core policies included in these initiatives are ongoing, revisions to presentation of expenditure in the REV have been made. This includes the introduction of several new measures and subheads to manage the allocation of funds, changes to the headings of some programme subheads, and a standalone appendix within the REV detailing the new programme/scheme headings, the responsible department, relevant subhead, and allocation. In total, the REV 2024 sets out 10 programme headings across five departments where carbon tax revenues are distributed. More details can be found in the PBO's review of Climate Related Spending 2024.

Carbon Tax Revenues

The revenue earned from the carbon tax has increased significantly over the last decade (see figure 3). From 2014 when solid fuels were first included at the same rate as other fuels, the overall annual carbon tax yield saw growth of 105%, increasing from €385 million in 2014 to €791 million in 2022. To end-2023, a total of €5.288 billion in carbon tax revenue had been collected.

The annual yields saw only relatively modest increases from 2013 to 2019, rising from €388 million to €431 million *per annum* over the 6 years. Far more significant increases have been seen since 2020 due to the legislated annual increases in the rates announced in Budget 2020 (October 2019).

Figure 3: Carbon Tax Yield by Fuel Type 2010-2022



Source: Department of Finance's Tax Strategy Group (TSG) 2018 and 2023.

Available Reliefs

Not all sectors are liable for the carbon tax and may be entitled to either partial or full reliefs. This is particularly the case for business sectors which are heavily reliant on fuel as a business input, such as haulage and agriculture, or in electricity generation.

Natural Gas

Under **Natural Gas Carbon Tax** (NGCT) legislation the supplier of natural gas is liable for the payment of the tax. A liability to the tax arises when natural gas is supplied in the State by a supplier to a consumer. A full relief from the tax is granted for natural gas when it is used solely for:

- The generation of electricity (excluding combined heat and power cogeneration)
- For chemical reduction.
- In electrolytic or metallurgical processes.

A partial relief from NGCT is available for greenhouse gas emissions permit holders. The relief is granted for natural gas delivered for use in an installation covered by a greenhouse gas emissions permit.[34]

[34] Revenue, *Natural Gas Carbon Tax (NGCT)*, September 2023.

Solid Fuel

Biomass is defined as a renewable energy source from living or recently living plant and animal materials which can be used as fuel. Since November 2016 a partial relief from Solid Fuel Carbon Tax (SFCT) has applied to biomass products. Biomass products are defined as "any solid fuel product with a biomass content of 30 per cent or more". The rate of relief that applies to a biomass product depends on the biomass proportion of the product. A **full relief** from SFCT applies to:

- Solid fuel supplied for use solely in the generation of electricity (excluding combined heat and power cogeneration (CHP)).
- Peat delivered for use in an installation covered by a greenhouse gas emissions permit.
- Solid fuel (including peat) used in environmentally friendly High Efficiency CHP.

CHP also known as "Co-generation", is the simultaneous production of electricity and heat usually in the form of hot water or steam from a primary fuel such as natural gas or solid fuel.[35]

A **partial relief** applies for coal delivered for use in an installation covered by a greenhouse gas emissions permit.[36]

Farm Diesel

Carbon tax on farm diesel refers to the carbon component of Mineral Oil Tax for farm diesel. The relief for increases in carbon tax on farm diesel allows farmers to claim a tax deduction equal to the difference between:

- The amount of carbon tax paid on farm diesel;

  and

- The amount of carbon tax that would have been paid had the rate stayed at €41.30 per 1,000 litres.

To qualify, the farm diesel must be used by a person carrying on a trade of farming.[37]

[35] Gas Networks Ireland, *Combined Heat and Power*.
[36] Revenue, *Solid Fuel Carbon Tax (SFCT)*, September 2023.
[37] Revenue, *Relief for increase in carbon tax on farm diesel*, May 2023.

Mineral Oil Tax on Vehicle Gas (MOT VG)

A liability to MOT arises when vehicle gas is supplied by a vehicle gas supplier to a vehicle gas dispenser (Circle K, Applegreen etc.) The vehicle gas supplier is liable for the payment of the tax.

A relief from the carbon component of MOT VG is available for the portion of vehicle gas that is composed of biogas. This means that biogas supplied for use as a vehicle fuel is subject to the non-carbon component of MOT VG only. The relief from the carbon component of MOT VG for biogas is applied at source by the supplier.[38]

Light oil (aviation gasoline) used for commercial aviation is currently subject to a partial relief with an effective rate of €374.12 per 1,000 litres being applied. Heavy oil (jet fuel/Jet A1/jet kerosene) – which is the most commonly used fuel type in commercial aviation – is fully exempt from the carbon tax.[39]

Where the Carbon Tax Revenues are Spent

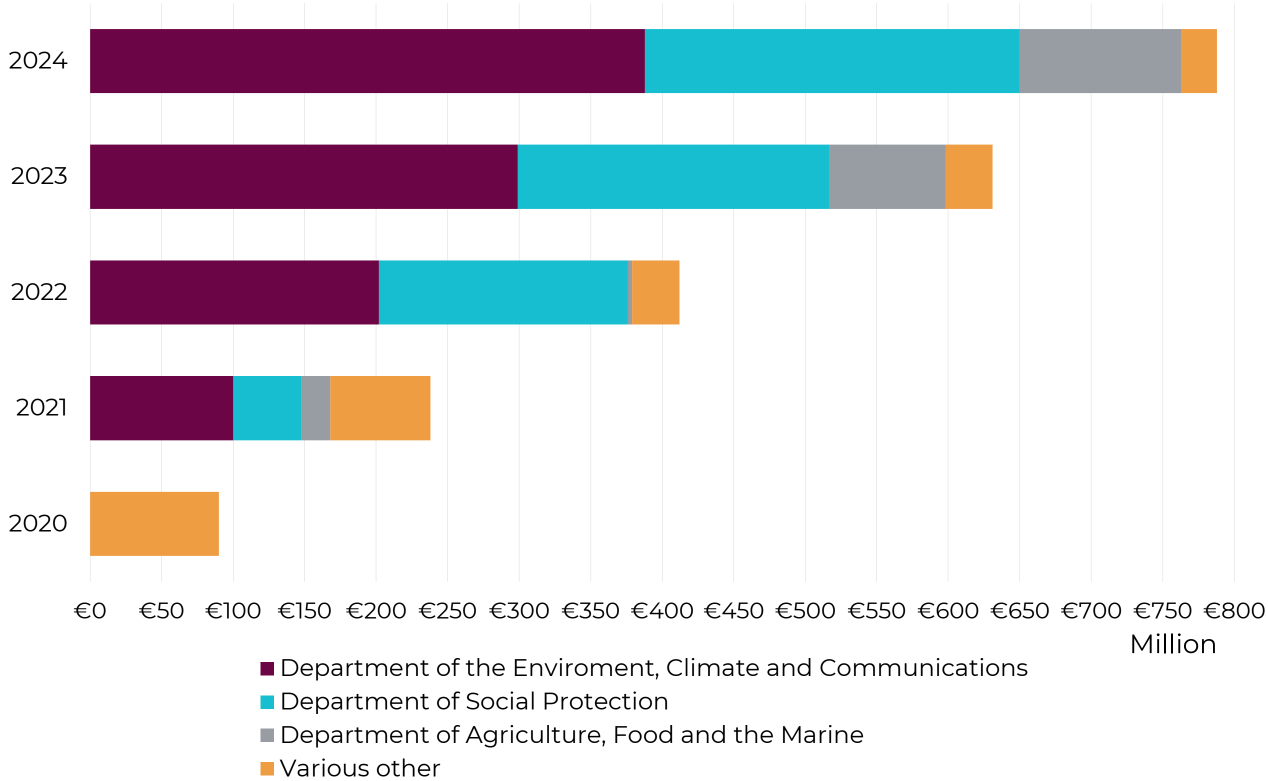
Carbon tax expenditures are not tax expenditures (foregone tax revenue). Instead, carbon tax expenditures refer to how hypothecated tax revenue is spent. Hypothecated carbon tax expenditures have grown steadily from €90 million in 2020 to a projected €788 million in 2024.[40]

The Programme for Government commits to additional spending of €9.5 billion using the revenue raised by the planned increases in the carbon tax from 2021-2023. €5 billion of that will be invested in energy efficiency initiatives in residential and community sectors. The remaining €4.5 billion in additional carbon tax receipts will be used to boost the Government's current spending on public services.

Again, as per the Programme for Government, €1.5 billion of additional current funding will be made available between 2021 – 2030 for new schemes that will assist farmers to address the climate and environmental challenges in the agricultural sector.[41]

[38] Revenue, Mineral Oil Tax on vehicle gas (MOT VG), September 2023.
[39] Parliamentary Question 44476/23, Dáil Eireann, 12 October 2023.
[40] Budget 2024, *'The Use of Carbon Tax Funds 2024'*, 2023.
[41] Ibid.

Figure 4: Carbon Tax Expenditure by Government Department



Source: DPENDR, '*The Use of Carbon Tax Funds*' 2020, 2021, 2022, 2023 and 2024

Carbon tax spending has been categorised under four areas; these are:

1. Total Investment in Residential Energy Efficiency (Vote 29 *Environment, Climate and Communications*).
- Recieves an allocation of €388 million in 2024.
- An increase of €89 million from 2023.

2. Targeted Social Protection Interventions (vote 37 *Social Protection*).[42]
- Recieves an allocation of €262 million in 2024.
- An increase of €44 million from 2023.

3. Incentivising Farming in a Greener and more Sustainable Way (Vote 30 *Agriculture, Food and the Marine*).
- Receives an allocation of €113 million in 2024.
- An increase of €32 million from 2023.[43]

4. Continuation of 2020, 2021 & 2022 Carbon Tax Investment Programme in Other Areas (Various Votes).
- Receives an allocation of €25 million in 2024.
- A decrease of €8 million from 2023.

[42] The allocation of additional carbon tax funding in Budget 2024 part-funds a package of targeted social protection measures, including increases to the Qualified Child Payment and an increase to the income eligibility threshold for the Working Family Payment.
[43] Budget 2024, *'The Use of Carbon Tax Funds 2024'*, 2023.

In Budget 2024, the 'Just Transition Fund' and the 'Green Climate Fund' have been taken out of *'Continuation of 2020, 2021 & 2022 Carbon Tax Investment Programme in Other Areas'* and now come under the Department of the Environment, Climate and Communications (DECC).

The *'Continuation of 2020, 2021 & 2022 Carbon Tax Investment Programme in Other Areas'* category funds various projects that contribute to reducing Ireland's carbon emissions, it includes projects like:

Table 2: Continuation of 2020, 2021 & 2022 Carbon Tax Investment Programme in Other Areas

Department	Measure Funded	2024 Allocation
Transport	Greenways and Urban Cycling	€9 million
Transport	EV Charging Infrastructure	€3 million
Transport	Providing Grants for EVs	€8 million
DHLGH	Peatlands Rehabilitation	€5 million

Source: DPENDR, *'The Use of Carbon Tax Funds 2024'* (2023)

More about this series

Across the three-part carbon tax series, the PBO intends to provide contextual analysis of the carbon tax in Ireland, to support the readers understanding of this complex policy area.

Part two of this three-part series will set out carbon taxes at an international level, the models employed in other jurisdictions, the rates applied, complementary policies in place, and how Ireland's system compares.

Part three will then assess carbon tax in Ireland in terms of what is achieved with the revenue collected – and are these policies the most efficient and impactful use of funds.

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Publication Date: 21 March 2024