



Climate Related Spending 2023

Acknowledgement

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Key Messages

Context

- The *Climate Action and Low Carbon Development (Amendment) Act 2021* provides for a reduction in total emissions of 51% by 2030 compared to 2018 levels (68.3 Mt CO₂ eq). The target for 2030 is therefore for emissions not to exceed approximately 33.5 Mt CO₂ eq.
- Due to a subsequent revision of data, 2018 emissions were greater (70.2 Mt CO₂ eq); however, the 2030 target of reducing emissions to a maximum of 33.5 Mt CO₂ eq is unchanged.
- Achieving this 2030 target will therefore require a real reduction of 52.4% on 2018 levels.

Climate Related Spending & Green Budgeting

- Gross Voted spending (excluding the allocations for the Social Insurance Fund (SIF) and National Training Fund (NTF)) in 2023 is €77,243 million. The climate related expenditure within this is expected to reach €3,480 million (4.5%).
- When capital carryover is included within the above figures, climate related spending in 2023 rises to €3,587 million (4.6%) of gross spending of €77,930 million.
- Climate Related Expenditures are disproportionately significant within the capital carryover from 2022, comprising 15.6% of all capital carryover into 2023.
- While the amount of capital carryover of climate related spending is declining, being lower in 2023 than in either 2021 or 2022, it remains significant in 2023, exceeding €107 million.
- While the provision of climate related spending as an appendix to the Revised Estimates is valuable, more detailed spending and performance data are required if Green Budgeting is to be advanced. Additional information is due to be included in the Revised Estimates for Public Services 2024 which will represent a significant step forward in Green Budgeting in Ireland.
- The PBO commends the Courts Service (Vote 22) for its inclusion of climate related context and impact indicators since the Revised Estimates for Public Services 2022 (December 2021) and suggests that other Votes should adopt a similar approach to help progress Green Budgeting.
- Measuring and reporting on energy usage and emission are essential prerequisites to measuring the environmental impact of public services and of the measures implemented to reduce or offset that impact.



Carbon Tax Expenditure

- Carbon tax expenditures are not tax expenditures (forgone tax revenue). Instead, carbon tax expenditures refer to how hypothecated carbon tax revenue is spent.
- Carbon tax expenditures have grown steadily, from €90 million in 2020 to a projected €623 million in 2023.
- The relationship between carbon tax spending in the Revised Estimates for Public Services and the more detailed presentation in [Budget 2023: The Use of Carbon Tax Funds 2023](#) (2022) could be strengthened.
 - The PBO has attempted to present greater reconciliation of Carbon Tax spending across years in Table 1 (see page 3).
 - The PBO notes that the addition of a table specifying specific allocations, by subhead, within the 'The Use of Carbon Tax Funds' publications would present a clear link between core budgetary allocations in the Revised Estimates for Public Services and the supplementary 'The Use of Carbon Tax Funds' publications.

Context

Ireland has committed to reducing its greenhouse gas emissions as part of international efforts to combat climate change. Ireland's target for 2030 is legislated for in the [Climate Action and Low Carbon Development \(Amendment\) Act 2021](#). This act provides for a reduction in annual greenhouse gas emissions to a level 51% lower than 2018 emissions by 2030. The Act provides in part 1, section 6:

The first two carbon budgets proposed by the Advisory Council shall provide for a reduction in greenhouse gas emissions such that the total amount of annual greenhouse gas emissions in the year ending on 31 December 2030 is 51 per cent less than the annual greenhouse gas emissions reported for the year ending on 31 December 2018, as set out in the national greenhouse gas emissions inventory prepared by the Agency.

The Carbon Budgets set out targeted average levels of emissions for 5-year blocks from 2021 through to 2035. The primary constraint on carbon budgets over the course of the first two budget periods ending in 2030 was a reduction of 51% by 2030 with reference to 2018 levels (68.3 Mt CO₂ eq), informing a target of approximately 33.5 Mt CO₂ eq in 2030.¹ Total emissions in the first budget period are 295 Mt CO₂ eq (an annual average of 59 Mt CO₂ eq) falling to 200 CO₂ eq for the second budget period (annual average of 40 CO₂ eq).²

However, a subsequent revisions to the emissions inventory resulted in an upward revision to 2018 emissions to 70.2 Mt CO₂ eq; however, this revision does not impact on the carbon budget automatically i.e. emissions are still cannot exceed a total of 33.5 Mt CO₂ eq for the second carbon budget period.³ **Achieving emissions of 33.5 Mt CO₂ eq by 2030 would thus require a reduction of 52.4% on 2018 levels.**

Figure 1 shows the 2030 target as well as the average annual output of Ghg emissions for each of the first two carbon budget periods (2021 to 2025, and 2025 to 2030) as set out in the [Carbon Budget Technical Report](#) (October 2021, p.5). The PBO has modified the figures for the remainder of the first budget period (reflecting that 2021 data has been published) to be consistent with total Ghg emissions of 295 Mt CO₂ eq for the period.⁴ Figure 1 shows:

- Greenhouse gas (Ghg) emissions for the period 1990 to 2021;
- The average output of Ghg in the first and second carbon budget periods;⁵ and
- The legislated targeted level of greenhouse gas emissions by 2030.

¹ For more detail please see the [Carbon Budget Technical Report](#) (October 2021) and the associated [Carbon Budget Scenario Digest](#).

² Climate Change Advisory Council, [Carbon Budget Technical Report](#) (October 2021) p.30.

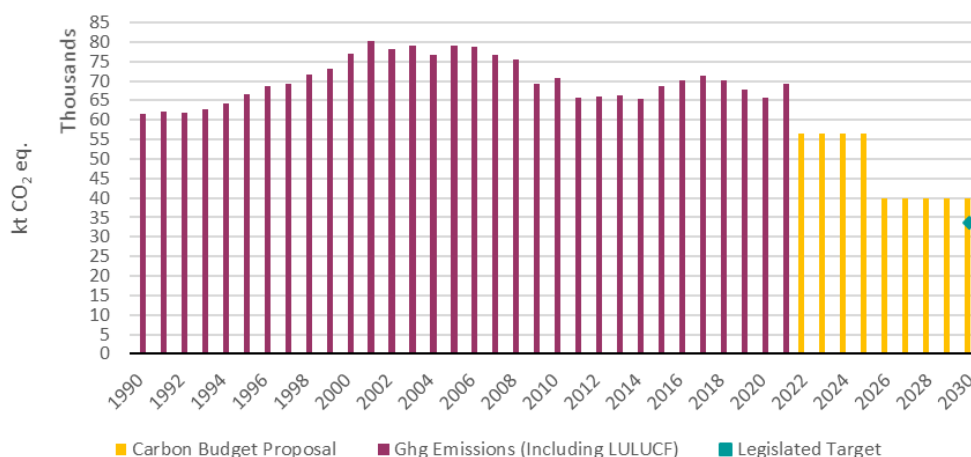
³ Correspondence from the Environmental Protection Agency (30 January 2023).

⁴ Based on Environmental Protection Agency, '[Summary by gas](#)' (July 2022); and Environmental Protection Agency, '[LULUCF](#)' (July 2022).

⁵ The PBO has modified the annual average for the remainder of the first budget period reflecting emissions data for 2021. The 2022-2025 average emissions are approximately 56.4 Mt CO₂ eq to meet the 295 Mt CO₂ eq emissions for the first carbon budget period.



Figure 1: Greenhouse Gas Emissions (Ghg) (1990-2021) and Carbon Budget (2022-2023)



Source: PBO based on Environmental Protection Agency, ‘*Summary by gas*’ (October 2021) p.23; Environmental Protection Agency, ‘*EPA data shows Ireland’s 2021 Greenhouse Gas Emissions above pre-Covid levels*’ (July 2022); and *Climate Action and Low Carbon Development (Amendment) Act 2021*; Climate Change Advisory Council, Carbon Budget Technical Report (October 2021).

Green Budgeting

Ireland’s participation in the Paris Collaborative on Green Budgeting (launched by the OECD in 2017) was announced by Government in Budget 2019 (October 2018).⁶ Green Budgeting was introduced in the *Revised Estimates for Public Services 2019* (December 2018) in the form of an appendix to the Revised Estimates Volume (REV). For more information on Green Budgeting see the Parliamentary Budget Office’s publications *An Approach to Better Incorporate Climate-related Considerations* into the Budget Process (September 2018); and *An Overview of the Green Budgeting Initiative* (November 2018).

Green Budgeting highlights the role of the budgetary system in improving environmental outcomes and is:⁷

[A]n explicit recognition that the budgetary process is not a neutral process, but reflects long standing societal choices about how resources are deployed.

Climate related expenditure is defined as:⁸

Any expenditure which promotes, in whole or in part and whether directly or indirectly, Ireland’s transition to a low carbon, climate-resilient and environmentally sustainable economy.

The approach to Green Budgeting taken by the Department of Public Expenditure and Reform was precautionary in nature, excluding certain spending in the Climate Related Expenditure Appendix to the Revised Estimates where its view was that the inclusion of such spending overstated the actual climate-related spending undertaken. This precautionary approach excludes subheads which are partially climate-related i.e., where the spending has multiple objectives and outcomes of which climate goals are only part.⁹ Accordingly, the approach taken “likely significantly underestimates the level of climate-related expenditure taking place across Government”.¹⁰

6 Minister for Finance (2018). *Budget Speech 2019*.

7 Anna Cremins & Laura Kearney, *An Introduction to the Implementation of Green Budgeting in Ireland* (Irish Government Economic & Evaluation Service, December 2018) p.2.

8 Ibid. p.14.

9 Ibid. pp.15-16.

10 Ibid. p.16.



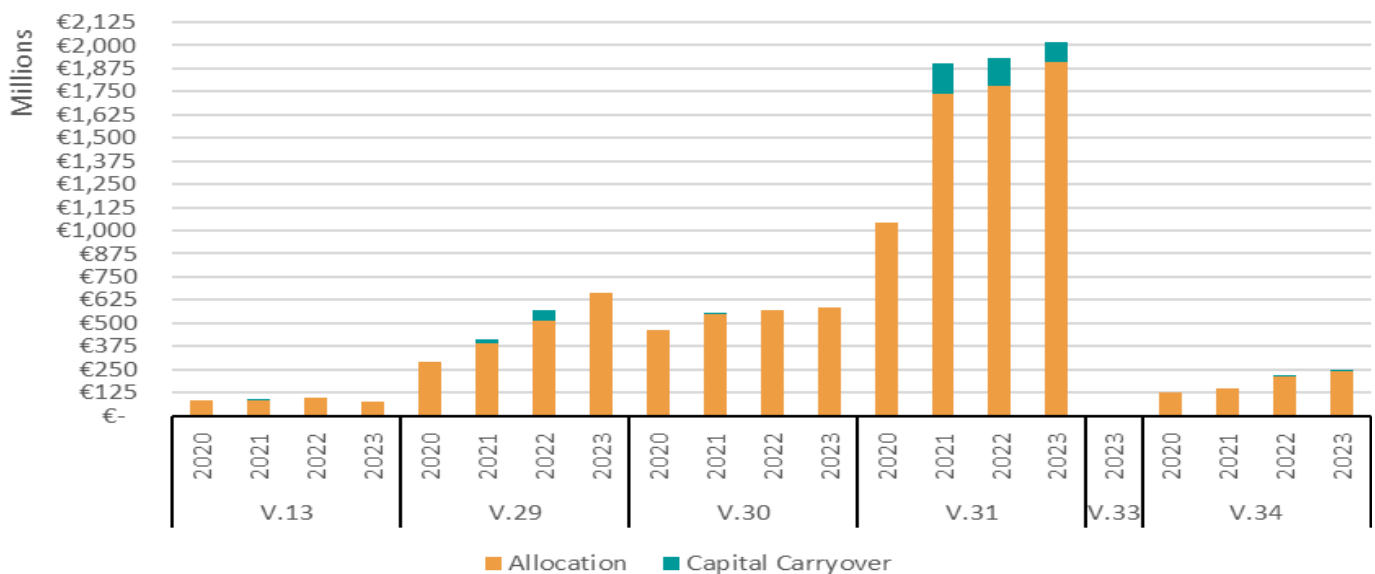
The Climate Related Expenditure data presented within the *Revised Estimates for Public Services 2023* (December 2022) does not present any significant development on its initial implementation in the Revised Estimates for Public Services 2019 (December 2018). The PBO wishes to acknowledge that the Department of Public Expenditure and Reform has outlined changes to be implemented in the Revised Estimates for Public Services 2024.¹¹ This additional information tracks Voted spending that is “likely to lead to increased greenhouse gas emissions in an Irish context”. This is a significant and welcome development.

Figure 2 shows gross climate related spending for the period 2020 to 2023 as per the Revised Estimates for Public Services of the given year and including capital carryover from the preceding year. These figures can differ considerably from the end-year allocation to these Votes.

Total climate related expenditure in 2023 is expected to reach €3,480 million. This represents 4.5% of Gross Voted spending in 2023 (€77,243 million) (excluding the non-Voted Social Insurance Fund (SIF) and National Training Fund (NTF)). This rises to €3,587 million (4.6%) of gross spending in 2023 of €77,930 million (exclusive of SIF and NTF but inclusive of capital carryover).

At year commencement, Climate Related Spending allocations have risen from €2,006 million in 2020 to €3,480 million in 2023, an increase of 73.4%.¹²

Figure 2: Climate Related Expenditure 2021-2023



Source: PBO based on Department of Public Expenditure and Reform, *‘Revised Estimates for Public Services 2021 to 2023’*

11 Laura Kevany and Niamh Foley, *Review of Fossil Fuel Subsidies and other Potentially Climate Harmful Supports* (Staff Paper, February 2023) p.16.

12 This is a comparison at a point in time but does not reflect on changes to allocation which may have arisen during the course of the budget years in question.



Figure 3 : Significance of Climate Related Expenditure in 2023 (by Voted Allocation and Capital Carryover)

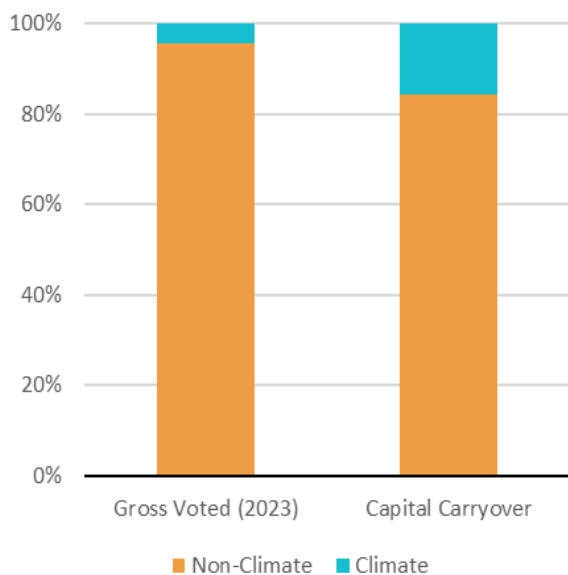
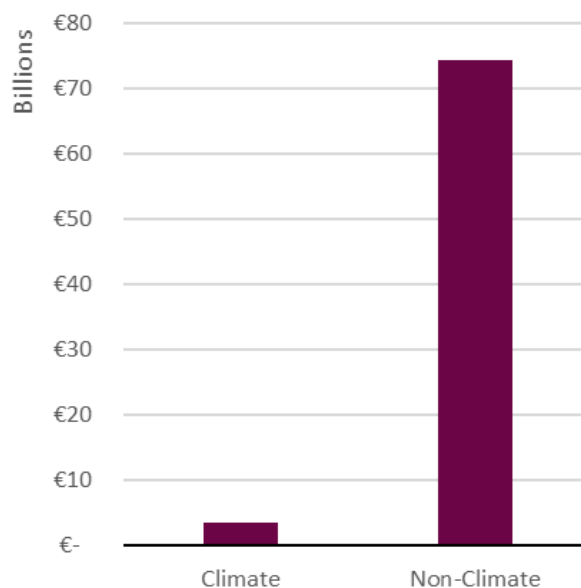


Figure 4: Voted Allocation in 2023 (including Capital Carryover)



Source: *PBO based on Revised Estimates for Public Services 2022* (December 2021).

Note: These figures reflect the gross allocation in 2023 exclusive of the SIF and the NTF.

Figure 3 and Figure 4 place the Climate related allocation in 2023 in context. Figure shows that:

- Climate related expenditures are only a small proportion (4.5%) of the Voted Allocation (exclusive of the Social Insurance Fund and the National Training Fund); and
- Climate Related Expenditures are disproportionately significant within the capital carryover from 2022 (15.6%).

Figure 4 illustrates the gross Voted spending allocation in 2023 of €77.96 billion. This figure includes capital carryover of €687 million and excludes spending on the Social Insurance Fund and the National Training Fund as these are non-Voted. €3,586 million (4.6%) of this €77.96 billion is climate related. As shown by the **significant climate related component of capital carryover**, it would be a cause for concern if the trend continued as this would suggest ongoing difficulties in spending on climate related matters and therefore difficulties on delivering climate objectives.

Climate Related Spending and Performance

Climate related spending as outlined in Appendix 8 of the Revised Estimates for Public Services only demonstrates the allocations of spending deemed to be explicitly climate related. This information, while helpful, is insufficient. Performance budgeting in its simplest form requires information about resourcing (inputs) and results (outputs). As such data should be tracked on:

- I. Actual spending versus allocation to identify trends in real spending.
- II. Tangible outputs associated with specific resources to link spending and performance.

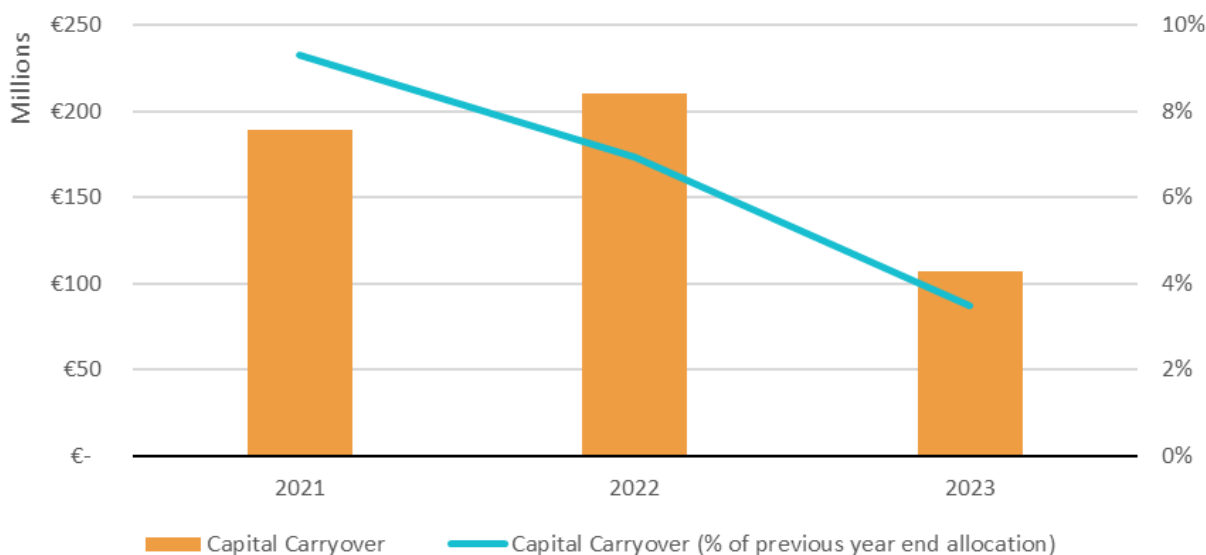


At present only allocated monies are tracked in Appendix 8. Figure shows capital carryover as:

- I. the monetary amount carried into the named year; and
- II. the capital carryover as a percentage of the end-year allocation of the preceding year.

This figure shows that capital carryover of over €107 million in 2023 represents about 3.5% of the climate related spending allocation for 2022. This is a significant improvement on previous years – suggesting that there may have been a pandemic-related impact on the ability to utilise climate related allocations. This capital carryover is applied across 5 subheads, 4 of which are in Vote 31 Transport (totalling almost €103 million). The balance (€4.2 million) is associated with Vote 34 Housing, Local Government and Heritage.

Figure 5: Capital Carryover in Climate Related Spending (€ and % of previous year allocation)



Source: Department of Public Expenditure and Reform, *'The Revised Estimates Volumes for the Public Service'* (various).

It is important to note that allocation (at end-year) is not necessarily what will be spent. It is helpful that climate related spending is described at subhead level. This will allow a historical analysis of spending by comparing the end-year allocations with actual spending.

Table 1 shows the final climate related allocations for 2021 (as per the Revised Estimates for Public Services 2022 (December 2021)) and compares these allocations to the outturn spending on the subheads in question. Due to changes in the structure of the Revised Estimates for Public Services at this time, the PBO has not recorded outturn spending for subheads unless it was certain the link was appropriate.

For the subheads where allocation can be directly compared to outturn spending, we show that spending of €608.7 million took place, compared to an allocation of €752.2 million. For the subheads where comparisons can be made with confidence, spending was 19.1% below the level allocated.



Table 1: Climate Related Spending 2021 (€ millions)

Vote (Subhead)	Allocation (at end-year)	Actual Spend	Variance	Variance (%)
13. Office of Public Works				
(A.5)	€85.922	€55.666	-€30.256	-35%
29. Environment, Climate and Communications				
(B.3)	€18.373	€16.098	-€2.275	-12%
(B.4 & B.5)	€283.276			
(B.7)	€18.36			
(A.3)	€50.177			
(A.5)	€1.8			
(A.6)	€15			
(C.6)	€26.25			
(A.7)	€8.077			
(A.8)	€11			
30. Agriculture, Food and the Marine				
(B.3)	€268.739	€226.659	-€42.08	-16%
(B.6)	€85.35	€76.035	-€9.315	-11%
(B.10)	€96.243	€69.567	-€26.676	-28%
(B.13)	€23	€14.215	-€8.785	-38%
(D.4)	€48.99	€48.35	-€0.64	-1%
31. Transport				
(B.3)	€94.100			
(B.4)	€673.563			
(A.3, A.4 & B.5)	€1,076.88			
34. Housing, Local Government & Heritage				
(A.16)	€25			
(B.3)	€26.213	€21.424	-€4.789	-18%
(B.4)	€56.5	€48.056	-€8.444	-15%
(F.5)	€28.882	€25.798	-€3.084	-11%
(F.8)	€14	€6.875	-€7.125	-51%

Source: PBO based on Department of Public Expenditure and Reform, *The Revised Estimates for Public Services 2022* (December 2021); and DPER, *Databank* (Accessed 24 January 2023).



Performance

In order for climate related spending to be meaningful it must be associated with performance metrics. These metrics would measure the outputs produced by the spending. For example, an energy retrofit scheme could have metrics for the square meterage of solar panels installed. Metrics are required to track the tangible outputs from spending of public monies.

In addition to metrics, context and impact indicators can be used to track important relevant information. In this regard, the PBO commends the Courts Service (Vote 22) for its inclusion of climate related context and impact indicators since the *Revised Estimates for Public Services 2022* (December 2021). These context and impact indicators track the energy usage of the Courts Service, specifically:

- Electricity consumption(kWh);
- Thermal fuel consumption (kWh);
- Total primary energy requirement (kWh); and
- Carbon emissions (kg CO2).

If green budgeting is to be progressed in Ireland it is essential that more Votes incorporate similar measures of their energy use and climate impact urgently. Performance metrics must also be developed for climate related spending. The provision of hot water and heating to the public service are a significant contributor to Ireland's total greenhouse gas emissions as noted in the *Review of Fossil Fuel Subsidies and Other Potentially Climate Harmful Supports*. Measuring and reporting on energy usage and emission are thus essential prerequisites to measuring the environmental impact of public services and of the measures implemented to reduce or offset that impact.

Expenditure of Carbon Tax revenue

Details of the spending of certain carbon tax revenue is set out in Appendix 9 to the *Revised Estimates for Public Services 2023*. Carbon tax expenditures refers to use of the hypothecated carbon tax take for spending in certain areas.¹² Carbon tax expenditures are not tax expenditures (forgone tax revenue).¹³ Instead, carbon tax expenditures refer to spending of hypothecated carbon tax revenue.

Figure 6 shows that carbon tax expenditures have grown steadily, from €90 million in 2020 to a projected €623 million in 2023. The details of how this allocation is to be spent in 2023 can be found [here](#).¹⁴ Carbon tax spending had been categorised under four areas, these are:

- o Total Investment in Residential Energy Efficiency (Vote 29 Environment, Climate and Communications).
 - Receives an allocation of €291 million in 2023
 - An increase of €89 million on 2022 (an increase of 44%).

12 PBO, *Tax Hypothecation* (2022).

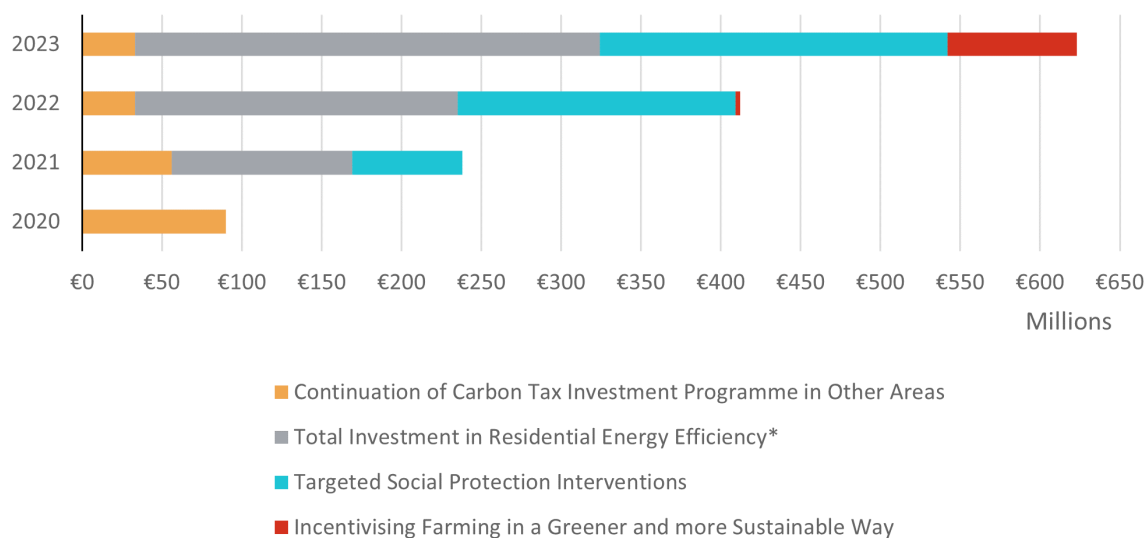
13 PBO, *Tax Expenditures in Ireland: Key Issues for Consideration* (2018).

14 Department of Public Expenditure and Reform, *Budget 2022: The Use of Carbon Tax Funds 2022* (2021).



- o Targeted Social Protection Interventions (Vote 37 Social Protection).
 - Receives an allocation of €218 million in 2023
 - An increase of €44 million on 2022 (an increase of 25%).
- o Continuation of 2020, 2021 & 2022 Carbon Tax Investment Programme in Other Areas (Various Votes).
 - Receives an allocation of €33 million in 2023.
 - Unchanged from the 2022 allocation.
- o Incentivising Farming in a Greener and more Sustainable Way (Vote 30 Agriculture, Food and the Marine).¹⁵
 - Receives an allocation of €81 million in 2023.
 - An increase of €78 million on the 2022 allocation (an increase of 2600%).
- o Overall Carbon Tax revenue allocation in 2023 is up €211 million (51% on 2022).

Figure 6: Carbon Tax Expenditures 2020 - 2023



Source: PBO based on Appendix 8: Climate Related Expenditure, *Revised Estimates for Public Services 2023* (December 2022).

Note: 'Investment in Residential & Community Energy Efficiency' was renamed to 'Total Investment in Residential Energy Efficiency' in the Revised Estimates for Public Services 2023 (December 2022).

Table 2 describes the various Carbon Tax spending over the period 2020 to 2022. The figures shown are the allocation to these measures and do not necessarily reflect the end-year spend on same. Carbon Tax spending has seen significant annual increases compared to the 2020 levels. Many core measures remain unchanged, except one, continued from 2020. The allocations to each measure remaining unchanged.

¹⁵ This area was added for 2023 and retrospectively for 2022.



The carbon tax funding allocated to Votes is not distinct from the ordinary Voted allocation to these Votes. It is unclear if this funding is used to provide additionality i.e., it is not possible to determine if these subheads would be funded to a lesser extent in the absence of carbon tax hypothecation.

Presentation of Carbon Tax Expenditures

Initially (in the Revised Estimates for Public Services 2020) carbon tax expenditures of €90 million were categorised under three headings:

- I. Protecting the vulnerable (€34 million);
- II. A Just Transition (€31 million); and
- III. Investing in the low carbon transition (€25 million)

All 2020 measures, with the exception of the 'Aggregated Housing Upgrade Scheme' (€20 million) have been continued and their allocations are unchanged. Subsequent to 2020, various new measures have been introduced and these headings are no longer used. A simplified presentation of the data is provided in the Revised Estimates for Public Services, with supplementary detail provided earlier in a separate publication alongside the Budget. Table 3 (below) reconciles the different presentations of this information for the period 2020 to 2023. The PBO is grateful to the Department of Public Expenditure for its assistance in verifying the contents of the table below.

The PBO notes that it is complex, even with reference to [Budget 2023: The Use of Carbon Tax Funds 2023](#) (2022), to easily understand and track carbon tax expenditures over the period. In particular, as carbon tax spending will continue to grow, the new simplified structure may result in a lack of clarity as to the Votes and subheads where this money is ultimately allocated (where more than one subhead is concerned the current structure simply states 'various' subheads are funded).

The PBO welcomes the proactive approach of the Department in trying to streamline and simplify the presentation of this information within the Revised Estimates but suggests that some additional detail may be helpful within the 'The Use of Carbon Tax Funds' publications when presenting this information in future. This is highlighted by the high degree of concentration of spending on 'New Measures' such as the €197 million for Targeted Social Protection Interventions for 2023 that relates to a number of schemes under Vote 37.

The simplified structure presented in the Revised Estimates may better be supplemented within the 'The use of Carbon Tax Funds' publications by the inclusion of a table specifying the amounts allocated to each specific Vote subhead annually. This would present a clearer link between the detailed allocations set out in the Revised Estimates and the detailed supplementary information published in the 'The Use of Carbon Tax Funds' publications.



Table 2: Carbon Tax Spending 2020 to 2023 (€millions)

Post-2020 Categorisation	Categorisation in 2020	2020	2021	2022	2023
Category	Protecting the Vulnerable				
Targeted Social Protection Intervention	Fuel Allowance	€21	€21	€21	€21
Total Investment in Residential Energy Efficiency	Energy Poverty Efficiency Upgrades	€13	€13	€13	€13
	A Just Transition				
Other	Aggregated Housing Upgrade Scheme	€20	€0	€0	€0
Other	Peatland Rehabilitation	€5	€5	€5	€5
Other	Just Transition Fund	€6	€6	€6	€6
	Investing in the Low Carbon Transition				
Other	Greenways/Urban Cycling	€9	€9	€9	€9
Other	Continuation of Electric Vehicle Grants	€8	€8	€8	€8
Other	Further Investment in EV Charging Infrastructure	€3	€3	€3	€3
Other	ODA – Green Climate Fund	€2	€2	€2	€2
Incentivising Farming in a Greener and More Sustainable Way	Green Agricultural Pilots	€3	€3	€3	€3
	New Measures				
Other	Pilot Environmental Programmes in Agriculture		€20	€0	€0
Targeted Social Protection Interventions	Targeted Social Protection Interventions		€48	€153	€197
Total Investment in Residential Energy Efficiency	Investment in Residential & Community Energy Efficiency		€100	€189	€278
Incentivising Farming in a Greener and More Sustainable Way	ACRES				€78
	Total	€90	€238	€412	€623

Source: PBO based on DPER, *Budget 2021: The Use of Carbon Tax Funds 2021* (2020); *Budget 2022: The Use of Carbon Tax Funds 2022* (2021); and *Budget 2023: The Use of Carbon Tax Funds 2023* (2022).