



Rialtas na hÉireann  
Government of Ireland

# Irish Sovereign Green Bond

## Allocation Report 2022





# Contents

Introduction and Summary	1
Acknowledgements	2
Green Budgeting	3
Governance and Project Selection	5
Compliance Review by Sustainalytics	5
Allocation Table and Analysis for 2022	6
Notes to the Allocation Table	9
Case Studies of Allocations from Irish Sovereign Green Bonds	29
Appendix	36

# Introduction and Summary

This is the fifth annual allocation report issued in accordance with the Irish Sovereign Green Bonds ("ISGB") Framework.

ISGBs are designed to provide investors with the financial features of a standard Irish government bond combined with sovereign green bond market practices. ISGB proceeds are paid into the Central Fund in the same manner as standard government bonds. They are allocated against eligible green projects which generate a positive environmental benefit.

In total this Report details €3,444 million of allocations to eligible green projects. This is the full proceeds raised from the sale of a new 20-year ISGB in January 2023.

The ISGB Working Group has decided to allocate €1,465 million to 2021 eligible green projects. This covers the remaining unallocated projects from 2021 and makes the allocation to expenditure ratio 100% for that year. This allows the full environmental impacts to be taken into account. Details are provided in the appendix on pages 36 and 37.

The remainder, €1,979 million, is allocated to 2022 eligible green projects (see main table page 7). This brings the allocation to expenditure ratio to 67% so far for 2022.

**Table: Proceeds raised and allocations timeline**

Year	2017/8	2019	2020	2021	2022	2023
<b>Starting balance (1)*</b>	Nil	1,034,361,382	1,317,704,382	197,572,652	Nil	Nil
<b>Proceeds from sales of ISGBs (2)</b>	2,983,410,000	2,252,380,000	1,268,980,270	838,844,500	Nil	3,444,140,000
<b>Total proceeds for allocation (3) (1+2)</b>	2,983,410,000	3,286,741,382	2,586,684,652	1,036,417,152	Nil	3,444,140,000
<b>Allocations to eligible green projects (4)</b>	1,949,048,618	1,969,037,000	2,389,112,000	1,036,417,152	Nil	3,444,140,000
<b>Allocations to eligible green projects taken from proceeds raised on 5 January 2023</b>				1,465,003,867	1,979,136,133	
<b>End-year balance (3-4)</b>	1,034,361,382	1,317,704,382	197,572,652	Nil	Nil	N/A
<b>Nominal ISGB debt outstanding at year-end</b>	3,000,000,000	5,000,000,000	6,100,590,000	6,848,090,000	6,848,090,000	10,348,090,000 <sup>1</sup>

\*1 as at 30 June 2023

# Acknowledgements

This Report was produced with the co-operation of Government departments and other State bodies responsible for expenditure and subsidies which are allocated from the proceeds of ISGBs. The ISGB Working Group is grateful to the many colleagues who provided information and assistance.

Those Government departments and State bodies are as follows:

- Department of Finance
- Department of Public Expenditure, NDP Delivery and Reform
- Department of Housing, Local Government and Heritage
- Department of Transport
- Department of Agriculture, Food and the Marine
- Department of the Environment, Climate and Communications
- Office of Public Works (OPW)
- National Treasury Management Agency

The Working Group would also like to acknowledge the kind assistance of the National Transport Authority and the Sustainable Energy Authority of Ireland for assistance with the material in the case studies.

# Green Budgeting

## Climate-Related Expenditure

Ireland has committed to reducing its greenhouse gas emissions as part of international efforts to combat climate change.

The Climate Action and Low Carbon Development (Amendment) Act 2021 sets out a legislative requirement to achieve a climate resilient, biodiversity rich and carbon neutral economy in Ireland by no later than the end of 2050. It also provides for the creation of a regime of legally binding carbon budgets. The first two carbon budgets, (2021-2025 and 2026-2030) are required to achieve reductions in greenhouse gas emissions of 51% by 2030.

## Green Budgeting

Ireland currently chairs the Paris Collaborative on Green Budgeting, an initiative of the Organisation for Economic Cooperation and Development (OECD), and has been working on progressive implementation of green budgeting measures since Budget 2019. This involves incorporation of climate considerations within the budgetary process, including work by the Department of Public Expenditure, National Development Plan Delivery and Reform (DPENDR) to implement tagging of climate-related expenditure, and by the Department of Finance in undertaking a corresponding exercise in tagging and analysis of climate-related tax and tax expenditures. Other initiatives include a climate and environmental assessment of the National Development Plan 2021-2030, reported in the Irish Sovereign Green Bond Allocation Report 2022, and annual reporting on the use of Carbon Tax funds in line with commitments given in the Programme for Government.

Further to this work, Climate Action Plan 2021 committed DPENDR to developing and applying definitions to identify and track government spending that may be having a negative impact on climate and environmental outcomes, and this work is ongoing. In February 2023, the Department published a [Review of Fossil Fuel Subsidies and other Potentially Climate Harmful Supports](#), representing the first step in fulfilling the Climate Action Plan commitment, and in developing a more transparent and effective green budgeting process.

The methodologies for this Review were the OECD approach to defining subsidies (results of government actions that confer an advantage on consumers or producers in order to supplement their income or lower their costs) and work from the Central Statistics Office (CSO) to identify other supports which are likely to lead to increased greenhouse gas emissions in an Irish context. While this Review did not measure the impact of these supports, the identification of potentially climate harmful supports is a first step and further refinement of the methodology will take place in future iterations of the Revised Estimates Volume (REV) and as further research is conducted internationally on subsidies. It is intended to include a table identifying potentially climate harmful supports in the publication of future iterations of the REV, as identified by the above-mentioned Review. The Department will also publish supporting information on methodologies used to arrive at assessments.

The Department's future work plan in relation to green budgeting includes:

- Working with those Departments responsible for climate and environmental related expenditures to develop impact metrics that are meaningful and relevant to gauging the performance of programmes that have been tagged as green.
- Considering the range of methodologies available for defining climate-related expenditures to determine best practice; and engaging with bodies including the OECD, EU institutions, and national administrations.
- Further developing and applying definitions to identify and track all climate-related Government spending, including spending that may be having an unfavourable impact on climate and environmental outcomes; and embed this tracking within the budgetary process.
- Methodologies will be informed by international experience but also by the lessons learned from the application of the methodologies used in both the high level climate and environmental assessment of the National Development Plan and in the Review of Fossil Fuel Subsidies and other Potentially Climate Harmful Supports.

Building on the Q1 2023 publication of the Review, DPENDR has begun working towards identification of both climate-favourable and climate-unfavourable expenditure in REV 2024. This process will be further aided by the inclusion of climate information on the Estimates Management System, the centralised online platform currently used by all Departments and Offices for profiling, monitoring and reporting on expenditure throughout the budgetary cycle. As acknowledged by the Parliamentary Budget Office, this will be a significant step forward in green budgeting in Ireland. The roll-out of this approach will be a critical building block for increasing transparency and accountability in respect of cross-departmental climate-related expenditure.

## National Development Plan 2021-2030

Ireland's National Development Plan (NDP) is the country's medium term capital allocation strategy. It details the public capital investments that will be made over the period 2021-2030. It was published on 4 October 2021<sup>1</sup>. The plan aims to promote economic recovery and provide for the infrastructure needs of a growing population. The total public investment outlined in the plan is €165 billion. This will bring capital investment in the economy to 5% of Gross National Income (GNI), significantly above the EU average of 3%.

The NDP is also intended to move the economy onto a more environmentally sustainable path, a path that is compatible with the Irish Government's domestic climate commitments and the Paris Agreement. In that regard, extensive efforts were made to ensure that the NDP was the greenest ever and supports Ireland's climate ambitions.

For the first time in Ireland, a thorough climate and environmental assessment of every measure considered for inclusion in the plan was undertaken. The plan as a whole was assessed for alignment against the principles of a green recovery plan and specific commitments were made on the hypothecation of carbon tax receipts and further climate and environmental reforms to investment appraisal. More details on this are available at this link: <https://www.gov.ie/en/publication/774e2-national-development-plan-2021-2030/>

<sup>1</sup> <https://assets.gov.ie/200358/a36dd274-736c-4d04-8879-b158e8b95029.pdf>

## Governance and Project Selection

As set out in the ISGB Framework, the ISGB Working Group oversees the implementation of the ISGB Framework, including reporting on the allocation of proceeds to eligible green projects. It is comprised of representatives from the National Treasury Management Agency, the Department of Public Expenditure, National Development Plan Delivery and Reform, the Department of the Environment, Climate and Communications and the Department of Finance. It is assisted closely by the Department of Transport, Department of Agriculture, Food and the Marine, Department of Housing, Local Government and Heritage and the Office of Public Works.

The Working Group consulted with other Government departments and State bodies in carrying out its remit. This includes the identification of eligible green projects which are evaluated and selected for allocation under the ISGB Framework based on the use of proceeds criteria. These projects are, where relevant, in line with those identified in the Revised Estimates for Public Expenditure – see this [link](#) for more details.

The objective is to finance, or refinance, eligible green projects which:

- promote, in whole or in part and whether directly or indirectly, Ireland's transition to a low carbon, climate-resilient and environmentally sustainable economy;
- are funded, in whole or in part and whether directly or indirectly, through Exchequer funded expenditures, subsidies or tax foregone; and where the relevant Exchequer expenditure has been provided within the 24 month period preceding the issue date of the relevant ISGB to refinance an existing project; and which otherwise qualify under the Framework.

This Report outlines how the allocations were made in 2021 (see Appendix for retrospective allocations to 2021) and 2022 across the six eligible green categories set out in the ISGB Framework:

- Built Environment/Energy Efficiency
- Clean Transportation
- Climate Change Adaptation
- Environmentally Sustainable Management of Living Natural Resources and Land Use
- Renewable Energy
- Sustainable Water and Wastewater Management

## Compliance Review by Sustainalytics

Based on the limited assurance procedures conducted, nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the projects funded with proceeds from the Government of Ireland's Irish Sovereign Green Bonds are not in conformance with the use of proceeds and reporting criteria outlined in the Irish Sovereign Green Bond Framework.

The full compliance review is available at this [link](#).



# Allocation Table and Analysis for the year ended 2022

The table of expenditure and allocations on eligible green projects of this allocation report is assembled as follows:

- **Eligible Green Categories:** Projects/Programmes/Schemes aligned with the six eligible green categories as set out in the ISGB Framework.
- **Notes:** Each Project/Programme/Scheme has an explanatory note.
- **Project/Programme/Scheme:** These have been identified by the ISGB Working Group.
- **2022 Expenditure:** The expenditure numbers for 2022 used in this Report are based on a provisional outturn principally provided by the Department of Public Expenditure, NDP Delivery and Reform in its databank in March 2023 and will be subject to finalization later in 2023 in the 2022 Appropriation Accounts.
- **Allocation from ISGB Proceeds:** The amount allocated to each Project/Programme/Scheme is shown and is sub-totalled by eligible green category.

The total allocation of proceeds to 2022 is €1,979 million from a total available of €3,444 million. The remaining €1,465 million was retrospectively allocated to 2021 in order to bring the allocations up to 100% of expenditure for that year. This retrospective allocation is covered in Appendix 1 and the Notes for the 2021 Allocation are to be found in the [2021 ISGB Allocation Report](#).



## Allocation Table for 2022

Eligible Green Categories	Note	Eligible Green Expenditure € '000s	ISGB Proceeds Allocation € '000s
<b>Built Environment/Energy Efficiency</b>			
Estate Regeneration / Social Housing Improvement	1	64,142.0	43,214.0
Non-Residential Energy Efficiency Programmes	2	43,676.0	29,425.6
SEAI Admin and General Expenses	3	19,509.0	13,143.7
Limerick Regeneration Thermal Upgrade Programme	4	3,012.7	2,029.8
<b>Category total</b>		<b>130,339.7</b>	<b>87,813.0</b>
<b>Clean Transportation</b>			
Public transport Investment	5	688,998.0	464,194.3
Public Service Provision Payments	6	618,987.0	417,026.2
Active Travel Infrastructure	5	309,110.0	208,254.7
Carbon Reduction	7	80,832.0	54,458.4
Greenways	5	42,848.0	28,867.7
Low Emission Vehicle incentivisation	8	18,800.0	12,666.0
<b>Category total</b>		<b>1,759,575.0</b>	<b>1,185,467.3</b>
<b>Climate Change Adaptation</b>			
Flood Risk Management (OPW)	9	54,670.0	36,832.5
Climate Initiatives	10	9,776.4	6,586.6
<b>Category total</b>		<b>64,446.4</b>	<b>43,419.1</b>

## Allocation Table for 2022 (continued)

Eligible Green Categories	Note	Eligible Green Expenditure € '000s	ISGB Proceeds Allocation € '000s
<b>Environmentally Sustainable Management of Living Natural Resources and Land Use</b>			
Forestry and Bio-energy	11	74,086.0	49,913.5
Environmental Protection Agency - Administrative expenses	12	41,600.0	28,026.9
National Heritage (NPWS)	13	31,592.0	21,284.3
Waste Management Programmes	14	21,323.0	14,365.8
International Climate Change Commitments	15	16,045.0	10,809.9
Environmental and Climate Research	16	13,536.0	9,119.5
Peatlands Restoration and Management	17	4,094.0	2,758.2
<b>Category total</b>		<b>202,276.0</b>	<b>136,278.1</b>
<b>Renewable Energy</b>			
Energy Research Programmes	18	9,450.0	6,366.7
<b>Category total</b>		<b>9,450.0</b>	<b>6,366.7</b>
<b>Sustainable Water and Wastewater Management</b>			
Capital Expenditure provided to Irish Water for domestic services	19	717,000.0	483,059.9
Rural Water Programme	20	54,521.0	36,732.1
<b>Category total</b>		<b>771,521.0</b>	<b>519,792.0</b>
<b>Grand Totals</b>		<b>2,937,608.2</b>	<b>1,979,136.1</b>

Note: Sub-totals and totals in Table may not sum up as shown due to rounding.

# Notes to the 2022 Allocation Table

## 1 Estate Regeneration – Social Housing Improvement

The Social Housing Capital Investment Programme spans a range of Exchequer and local authority funded programmes and initiatives, designed to maintain and improve the local authority housing stock of approximately 140,000 units.

Included within this range of programmes is the Energy Efficiency Retrofit Programme which is a newly enhanced programme since 2021, devised as part of the programme for government commitment to retrofit 36,500 local authority owned social homes to a BER rating of B2/Cost Optimal Equivalent. The Programme focuses on ensuring that the fabric of the home is upgraded and an energy efficient heating system is provided. Works eligible under the Programme include attic/cavity wall insulation or external wall insulation where required, windows and doors replacement where required, heat pump installation and ancillary and associated works, enabling dwellings upgraded to achieve an improved Building Energy Rating of B2 or a cost optimal equivalent resulting in a reduction in emissions and yield an important fuel poverty dividend for low income households.

## 2 Non-Residential Energy Efficiency Programmes

### Public Sector

The Public Sector Pathfinder Retrofit Programme is a co-funded capital programme, which provides support for a retrofit programme to decarbonise public buildings in a number of key sectors. The Programme is developing approaches, building best practice with the aim of developing a scalable model that can be replicated across the wider public sector. In 2022 partners included the Department of Education, Higher Education Authority, Further Education and Training, OPW & Courts Service, Local Authorities and the HSE. The programme is co-funded with the various partners and administered by the Sustainable Energy Authority of Ireland (SEAI). This Programme facilitated energy efficiency works and retrofit in 143 buildings across the sectors, at a cost of over €34.5 million in 2022.

### Business Sector

The Excellence in Energy Efficiency Design (EXEED) programme was reviewed and relaunched in early 2021, with significant enhancement in both supporting deeper emissions reductions and more efficient processing and approvals cycles.

The EXEED programme offered stage 1 grant support to 44 companies in 2022 totalling €1.2 million investment and €640,000 in grant support. Nine stage 2 letters of offer were issued in 2022 which represented over €1.5 million in grant support and €6 million of investments in Energy efficient design projects. These stage 2 projects represent savings of 15 GWh in final energy, over 3,200 tCO<sub>2</sub> and over €800,000 in energy costs. A strong pipeline developing with larger companies in 2022 and will be further developed and delivered in 2023/2024. Further changes to the EXEED scheme will be implemented in 2023.

Large Industry Energy Network (LIEN) membership consists of companies with an annual energy spend of €1 million or more. The SEAI work with these companies to improve their energy performance. Special working groups within the Network have developed best practice guides on how to manage energy performance. The LIEN has expanded to over 200 active organisations with an estimated TPER of over 35,000 GWh.

The SEAI's Energy Academy, an online resource that gives businesses free access to high quality energy training, provides energy training for over 5,600 existing users. There are currently 28 Modules available.

The Support Scheme for Energy Audits (SSEA) launched in July 2021. The scheme provides support for SMEs to carry out energy audits and therefore encourages them to implement the energy saving measures identified. It is open to all public and private sector organisations that have an annual energy expenditure of €10,000 or more and are not already required to carry out an energy audit under the Energy Efficiency Directive. There has been significant uptake of the SSEA with 1,400 Vouchers issued in 2022 with a total of 873 paid, equating to €1.75 million.

The SEAI, supported by external contractors are the designated Market Surveillance Authority (MSA) for the purpose of Ecodesign Directive, the Energy Labelling Regulation and Tyre Labelling Regulation. This includes activities in relation to compliance promotion, monitoring and verification. The Minister for the Environment, Climate and Communications has policy responsibility in Ireland for the purpose of, the Energy Labelling Regulation and Tyre Labelling Regulation. The Minister for Enterprise, Trade and Employment has policy responsibility for the Ecodesign Directive.

### **3 Sustainable Energy Authority of Ireland Administration and General Expenses**

This funding is provided to support the operation of the SEAI. It undertakes a wide variety of tasks including administration and operation energy of efficiency grant Schemes, public education programmes on sustainability and climate change and the provision of policy advisory and technical support roles for energy policy development and delivery.

The SEAI is the official source of energy data for Ireland. It develops and maintains comprehensive national and sectoral statistics for energy production, transformation and end-use. These data are a vital input in meeting international reporting obligations, for advising policymakers and informing investment decisions. It also publishes extensive reports on energy production and consumption as well as renewable energy and energy use in the residential sector.



## 4 Limerick Regeneration Thermal Upgrade Programme

The Limerick Regeneration Thermal Upgrade Programme – implemented under the Limerick Regeneration Framework Implementation Plan will include works to 1,500 houses when completed. The 2013 Limerick Regeneration Framework Implementation Plan (LRFIP) provides a roadmap for the Programme, which will also see some 536 new social homes delivered, as well as the refurbishment of over 1,500 existing social and private homes. A rolling programme of thermal upgrades and environmental improvements to existing homes is underway with the main aim to achieve a C1 rating for minor upgrade works and a B2 rating (or cost optimal equivalent) for works classified as major renovations. Over 1,190 houses have been upgraded, with approximately a further 310 on site or in preparation. The bulk of the houses were built between the 1930s and early 1980s. These property improvements have a real impact on the comfort levels of residents, while also improving the physical environment and appearance of the areas. In 2022, the expenditure recouped on the Programme was approximately €3 million, pending the completion of final accounts.

## 5 Active Travel Infrastructure/Greenways/Public Transport Investment

This represents the State's investment in public transport initiatives. It also funds cycling and walking initiatives and sustainable urban transport measures in cities.

### **Smarter Travel Bike Week**

Annual programme of events funded by the Department of Transport and organised by local authorities across the country. The National Transport Authority (NTA) are now responsible for running Bike Week in conjunction with Local Authorities. 900 Bike Week events took place in 2022 with a total of 54,000 participants around Ireland.

### **Cycle Right**

This is the national cycling training standard launched in January 2017. The primary focus of the Department's funding currently is to fund an expansion of the cycle training offered to primary school children with an ambition to increase the numbers year-by-year. Funding is provided through Cycling Ireland and, pre-Covid, numbers were increasing by 5,000 each year. 2022 saw over 30,000 students receiving CycleRight training, which is an increase on pre-Covid numbers. An additional 5,000 students are targeted in 2023 with further subvention available to students in Delivering Equality of Opportunity in Schools (DEIS) schools.

### **Smarter Travel Campus and Workplaces**

The NTA's Workplaces and Campus programmes work with large employers and third-level institutions to encourage more sustainable commuting and travel choices amongst their students and staff. The Smarter Travel team provides a package of measures to promote cycling, walking, public transport, carsharing, the use of technology instead of travel, and flexible working practices. The number of partners involved in this Programme reached 226 in 2022.

## Cycling and Walking

In 2022, €290 million was allocated to the NTA's Active Travel Programme for walking and cycling infrastructure projects in local authority areas around the country. This funding was dedicated to the progression or construction of over 1,000 Active Travel projects. Performance in delivery and spend exceeded expectations in 2022, with approximately €307 million (i.e. out-turn €17 million higher than allocation) invested in walking and cycling infrastructure last year. This constitutes a significant increase in spending when compared to recent years.

Major projects progressed in 2022 include the Clontarf to City Centre route in Dublin, the Belmayne Main Street in Dublin, the Mahon to Marina Greenway in Cork (substantially complete) and the Bilberry to City Centre route in Waterford. Other major achievements include the launch of the Salmon Weir Bridge across the River Corrib in December, the signing of the contract for the Waterford Sustainable Transport Bridge in November, and the completion of the first extensive quietway network linking schools in the Dún Laoghaire-Rathdown area (Sea to Mountains).

The Safe Routes to School Programme (SRTS) which was launched in 2021 continued in 2022 with almost 170 schools progressing through the phases of Round 1. Delivery plans are almost complete for all Round 1 schools and many front of school treatments are now moving from detailed design to construction stage. As of the end of December 2022, 18 schools had front of school measures completed including the Model School in Limerick and Bunscoil Rinn an Chabhlaigh, Cork. In addition, cycle/scooter spaces have been provided at 436 schools throughout the year as part of the SRTS programme.

Over 900 schools applied initially to the SRTS Programme and will enter it on a rolling basis. Round 2 was announced on 12 December 2022 with an additional 108 schools entering the Programme across the country. It is expected that the pace of delivery of SRTS projects will pick up in 2023.

As of end September 2022, 211 dedicated Active Travel staff had been recruited across local authorities.

## Green Schools

133 new schools began working on the Travel and Global Citizenship Travel themes as part of the Green-Schools programme in September 2022 and 369 schools were in Year 2 of the Travel or Global Citizenship Travel themes and will be awarded Green Flags for participation, subject to assessment, in May 2023.

358 schools in total received cycle parking. 284 of these 358 schools were SRTS schools and the remaining 74 were Green-Schools Travel schools.

38 schools received scooter parking. 18 of those 38 were SRTS schools and the remaining 20 were Green-Schools Travel schools.

6,194 students from 179 schools were funded by Green-Schools Travel for Cycle Right training in 2022.

138 schools awarded the Green Flag for Travel or Global Citizenship Travel in May 2022.

Events: Big Travel Challenge (February 2022); Scoot to School Week (March 2022); Bike Week (May 2022); #andshcycles Campaign and Awards (May 2022); Walk to School Week (September 2022); Clean Air Week (November 2022)

Scoot to School Week: 1,647 students scooted on National Scoot on Wednesdays (SOW) Day.

#### Investment programme for 2022 Main Programmes/Projects Expenditure/Allocation €m

Description	REV Subheads	Project Description	Expenditure (€000s)	Sub-Total Expenditure (€000s)	Sub-Total Allocation (€000s)
<b>Programme A - Active Travel and Greenways</b>					
<b>Active Travel Infrastructure</b>					
Active Travel - Asset Protection and Renewal	A3.1	Repair and renewal of existing walking and cycling infrastructure	0		
Smarter Travel	A3.2	Sustainable measures and behavioural change measures	1,466		
Cycling and Walking	A3.3	New cycling and walking infrastructure	306,199		
Green Schools	A3.4	Educational awareness training for schools	1,445	309,110	208,255
<b>Greenways</b>					
Greenways	A4	New greenway infrastructure	42,848	42,848	28,868
<b>Programme B - Carbon Reduction and Public Transport</b>					
<b>Carbon Reduction</b>					
Support for LEV Transition	B3.2	EV Grants	68,654		
	B3.2	EV Infrastructure	11,875		
Energy, Air and Adaptation	B3.4	Decarbonisation research projects	303	80,832	54,458
<b>Public Transport Services</b>					
	B4	See Table in Note 6 on PSPP Breakdown per Operator	618,987	618,987	417,026
<b>Public Transport Infrastructure</b>					
Public Transport Infrastructure	B5.1	IMMAC Safety Programme and Heavy Rail Development	458,907		
	B5.2	Public Transport Infrastructure (non-heavy rail)	218,674		
	B5.3	Accessibility Retrofit	11,417	688,998	464,194
<b>Total</b>				<b>1,740,775</b>	<b>1,172,801</b>

#### Infrastructure Manager Multi-Annual Contract and Heavy Rail Investment

A total of €339.3 million of Exchequer capital funding was provided to Irish Rail/Iarnród Éireann in 2022 to fund protection and renewal of the national railway system under the Infrastructure Manager Multi-Annual Contract (IMMAC).

Following Government approval in December 2021, a contract was signed for the largest ever fleet expansion with potential for up to 750 electric/battery electric carriages under the DART+ Programme. The order was for initial purchase of 95 units (65 battery electric and 30 electric units) with the first of the units entering service in 2025. In December 2022, a second order was placed, for the delivery of a further 90 battery electric train carriages. Delivery commenced of 41 Inter-City railcar units. Design work continued on EU RRF funded Cork Commuter Rail project. Phase 1 includes the redevelopment of Kent Station to create a fully connected suburban network, double-tracking of the current single track between Glounthaune and Middleton, and network-wide resignalling. Work continued on the National Train Control Centre, which will be completed and commissioned in 2025.

### **Bus fleet/BusConnects**

BusConnects Dublin consists of infrastructure and ICT improvements along with network redesign. The final network redesign for Dublin, which relates to the proposed new bus routes centred on nine new 'spines'. The first of these Spines – the H-Spine – launched in June 2021 and serves the Howth corridor. The second Spine – the C-Spine – launched in November 2021. This serves the Lucan/Leixlip/Celbridge corridor and also introduced a much-improved local area network of services, as well as 24-hour services.

The roll-out continued in 2022 with the launch of the third and fourth phases (the introduction of two new Northern Orbital routes, the N4 and N6 and the G-Spine – Ballyfermot-City Centre – Docklands and Route 60). The Preliminary Business Case for infrastructure investment was approved by Government in Q2 2022, allowing BusConnects to enter the planning system. Planning applications for six Core Bus Corridor schemes were subsequently submitted to An Bord Pleanála.

Following an extensive public consultation process, the NTA published the new BusConnects Cork network in June 2022. The draft network provides an increase of over fifty percent in bus services across the city, to allow more people to gain access to more places quickly.

The first round of public consultation in relation to the 12 new Sustainable Transport Corridors infrastructure proposals closed on 3 October 2022. A second round of public consultation will take place in 2023 following the updating of the proposals.

172 buses for PSO fleets were delivered, including 107 fully electric vehicles.

### **Light Rail – Metrolink**

Government approval for the Metrolink underground railway Preliminary Business Case at Decision Gate 1 was received in Q3 2022. Transport Infrastructure Ireland (TII) lodged a Railway Order application with An Bord Pleanála on 30 September and aim to proceed to Public Spending Code (PSC) Decision Gate 2 in early 2024, in parallel with the planning process.

### **Light Rail – Other**

Luas Finglas: the Strategic Assessment Report for the project was approved by the Minister for Transport in April 2021. The Department of Transport is expecting a Preliminary Business Case from the NTA for the project at Decision Gate 1 of the PSC in 2023.



Cork Light Rail: The Department is expecting a revised Strategic Assessment Report from the NTA in 2023.

### **Ticketing and Technology**

The main work being funded in 2022 in relation to ticketing/technology relates to Next Generation Ticketing and improved Automatic Vehicle Location technology, both of which are important to improve the overall passenger experience. Next Generation Ticketing is considered part of the BusConnects programme and its approvals will be dealt with in the BusConnects approval process whereas Automatic Vehicle Location project is separate (and much smaller project) and will require its own approval.

### **Accessibility Retro-fit Programme**

Accessibility features, such as wheelchair access and audio/visual aids, are built into all new public transport infrastructure projects and vehicles from the design stage. However, there are legacy issues in relation to older infrastructure and facilities. To address these issues, the Department of Transport funds this Programme, managed by the NTA. The Programme aims to install accessible bus stops, upgrade older bus and train stations to make them wheelchair accessible, and to provide grant support for the introduction of more wheelchair accessible vehicles into the taxi fleet. This work continued in 2022, with the level of grant funding maintained.

## 6 Public Service Provision Payments (PSPP)

This funding provides support for the continued operation of public transport services provided by public transport operators for the provision of socially necessary, however financially non-viable, transport services. It includes funding for local link services under the Rural Transport Programme which is managed by the National Transport Authority. This does not include payments to support the Essential Air Services Programme (i.e. the Public Service Obligation for air routes).

### PSPP by operator for 2022

Operator	Expenditure (€m)	Allocation (€m)
Dublin Bus	140.578	94.711
Bus Éireann	117.839	79.391
Irish Rail	225.602	151.993
Luas	24.460	16.479
Other PSPP related costs	32.444	21.858
Go-Ahead Ireland and other tendered services	21.957	14.793
Rural Regular Transport Services	13.452	9.063
Rural Transport*	15.666	10.555
Commercial Bus Operators Scheme**	13.743	9.259
Young Adult Card (YAC)	2.442	1.645
New Services (PSO Routes and Variations)	6.924	4.665
New Services (Connecting Ireland and New Town Services)	3.880	2.614
Total	618.987	417.026

Temporary (non-core) funding supports continued for non-commercial PSO services as passenger numbers continue to recover from Covid related public health restrictions as well as funding to support a 20% average fare discount in March 2022, introduced as a cost-of-living measure.

\* Accounted for under REV subhead B 4.2, this comprises primarily current funding with a small amount of capital funding. The bulk of this funding is provided to the NTA for services under the Rural Transport Programme (RTP), which the NTA manages on behalf of the Department of Transport. These services, which operate under the Local Link brand, are provided by approx. 400 private sector operators/companies and are contracted directly by the NTA. The current funding also includes administrative costs for both the NTA and the Local Link Offices (Transport Co-Ordination Units) which in turn manage the services on a day-to-day basis for the NTA. There is also some capital funding provided to the NTA under B 4.2 for the RTP (approx. €650,000 per annum) for projects such as the Integrated Ticket Management System. €2 million is an allocation for Ukrainian Refugee Transport Services.

\*\* Temporary emergency PSO funding provided to certain key operators in the commercial market to mitigate the impact of the reduction in passenger numbers as a result of public health restrictions introduced to combat COVID-19. Also includes funding to support the Young Adult Card discounted fare.

## 7 Carbon Reduction

### Green Transport Fund

The Green Transport Fund was established by the Department of Transport in 2017 to support the uptake of low carbon, energy efficient technologies within the transport sector, specifically to support piloting and uptake of energy-efficient and alternatively fuelled technologies for PSO operators within the bus fleet and small public service vehicle (SPSV) sector. Additionally, the Fund acts to bridge the price differential between such technologies and conventionally fuelled vehicles.

### Electric SPSV (eSPSV) Grant Scheme

Funding has been provided through the Green Transport Fund for an electric vehicle small public service grant scheme to stimulate Electric Vehicle (EV) uptake in the high-visibility taxi, hackney, and limousine sector. A grant of up to €7,000 or €3,500 was initially made available towards the purchase of a battery electric vehicle (BEV) or plug-in hybrid vehicle (PHEV) respectively; these maximum grant amounts were increased to €10,000 and €5,000 respectively in 2020. In 2021, further grants of up to €20,000 were made available for existing SPSV drivers who scrapped older vehicles for new BEVs, which doubled 2020 support. In 2022, circa 540 grants were issued under this scheme nationwide. The majority of the grants issued under the Scheme were for BEVs meaning that conventional diesel fuelled vehicles are being replaced by 100% electric variants.

### Alternatively Fuelled Heavy-Duty Vehicle (AFHDV) Purchase Grant Scheme

To promote the decarbonisation of the heavy-duty sector, and to assist road transport companies to transition from fossil fuels, the Department of Transport launched the AFHDV Purchase Grant Scheme in March 2021.

The Scheme supports the purchase of new large vans, trucks, buses and coaches. The Scheme is intended to help bridge the difference in purchase price between conventional heavy-duty vehicles (HDVs) and those powered by alternatively fuelled power-trains that offer environmental benefits over standard diesel vehicle technologies, and that would not otherwise have been bought.

To accord with EU State Aid rules, grant levels under the Scheme are calculated as a percentage of the difference in price between a conventionally fuelled diesel HDV and its alternatively fuelled equivalent. Maximum grant levels for eligible vehicles depend on the size of the company or enterprise applying for the grant, and on the fuel-type of the vehicle that the applicant wishes to buy.

## Carbon Reduction Measures

### Low-Emission Vehicle Toll Incentive (LEVTI)

The LEVTI, initially introduced in July 2018, aimed to encourage private car commuters who regularly use tolled roads to consider switching to EVs. Under LEVTI, battery electric vehicles and plug-in hybrid electric vehicles qualify for 50% and 25% toll reductions respectively up to a maximum threshold of €500 for private vehicles and €1,000 for commercial vehicles. By the end of 2019, almost 9,000 EVs had registered to avail of the incentive. In 2020, the Scheme was expanded to include other low-emission fuels, such as compressed natural gas (CNG) and hydrogen, and other vehicle types including trucks, buses and coaches. The number of vehicles registered under the scheme had risen to almost 30,000 as of the end of September 2022. The Scheme is operated by TII and will continue into 2023 (to a maximum of 50,000 vehicles).

### Ring-Fenced Funding from Carbon Tax Revenue

#### SPSV-dedicated EV Charging Infrastructure

In 2020, the Department of Transport's Climate Change Unit was allocated €1.5 million of hypothecated carbon tax revenue to fund the installation of EV charging infrastructure dedicated to electric SPSV at transport hubs nationwide. In 2022, additional funding of €3 million was allocated towards the installation of more SPSV dedicated fast EV recharging points at select Irish Rail stations nationwide.

The Government's policy regarding the increased usage of Electric Vehicles (EVs) is primarily driven by the Climate Action Plan which sets a target of 945,000 EVs by 2030. This is equivalent to one-third of the circa 2.8 million vehicles currently on the road in Ireland. There is an interim number of 194,540 EVs by 2025 modelled in the Climate Action Plan. It is expected that the numbers will increase sharply afterwards as total cost of ownership of an EV will reach parity with internal combustion engines around this time. This is an ambitious target which will require very significant and sustained growth as well as continued Government support and buy-in from across all sections of society.

In this regard the Department in 2022, through Zero Emission Vehicles Ireland (ZEVI) and with assistance from the Sustainable Energy Authority of Ireland (SEAI), provided for the:

- Purchase Grant of up to €5,000 towards purchase of new battery electric vehicles (BEVs) for cars and vans – budget of €60 million
- Home Charger Grant Scheme – budget of €10.6 million
- Apartment Charger Scheme – budget of €4 million
- Public Charge Point Scheme – budget of €5.6 million
- Public Fleet Trials – budget of €1.5 million
- Dealership Awards – budget of €100,000



## 8 Low Emission Vehicle (LEV) Incentivisation

There are a number of taxation elements that incentivise LEV adoption. As there is considerable detail behind each element, they are summarized below.

- Vehicle Registration Tax Relief – Up to €5,000 for new battery-electric vehicles (BEVs).
- Accelerated Capital Allowance (ACA) – BEV/PHEVs and their associated recharging infrastructure qualify under the ACA scheme. This Scheme enables businesses to identify and buy the most energy efficient equipment including electric charging infrastructure and write down the cost of such equipment in the year of purchase rather than over the traditional 8 years.
- 0% Benefit-in-Kind (BIK) – BEVs qualify for a 0% Benefit-in-Kind rate up to €50,000 without mileage conditions. This will be extended out to 2025 with a tapering effect on the vehicle value. This measure has taken effect from 2023. For BIK purposes, the original market value of an electric vehicle will be reduced by €35,000 for 2023; €20,000 for 2024; and €10,000 for 2025.
- Low Motor Tax – BEVs qualify for the lowest tax band of motor tax at €120 per annum, while a PHEV is typically taxed at circa €170 per annum.

## 9 Flood Risk Management (OPW)

This expenditure supports investment in major flood works. These funds will provide for the ongoing development of structural and non-structural measures to mitigate the impact of flooding on society, households and businesses.

The OPW has responsibility for leading and coordinating the whole of Government implementation of the National Flood Policy, which involves the identification of flood risk and the development of a planned programme of feasible flood relief works combined with a greater emphasis on non-structural flood risk management measures.

### Capital Projects Overview

The OPW has completed 53 flood relief schemes since 1995, protecting over 12,200 properties and avoiding damages to businesses and households of €1.9 billion, approximately.

Since 2018, as part of a phased approach to scheme delivery, the OPW has trebled to nearly 90 the number of schemes at design and construction at this time.

Capital investment in flooding projects, associated flood risk management measures and programmes was nearly €55 million in 2022.

### 2022 Expenditure Summary

Just over €21 million (39%) of the total expenditure in 2022 was incurred by seven schemes, which were under construction during this period including the Athlone Flood Relief Scheme (€3.2 million), Springfield Flood Relief Scheme (€2.4 million) and the Douglas Flood Relief Scheme (€6.5 million).

In addition, the other projects currently at various stages of design and planning incurred expenditure of approximately €18 million.

The OPW continued to fund Local Authorities under the Minor Flood Mitigation Works and Coastal Protection Scheme, with approximately €2.7 million (5%) expended under the Scheme in 2022. Since 2009, 673 projects have been completed at a cost of approximately €46 million to 2022. These projects provide flood protection to over 7,800 properties. Approximately two-thirds of these properties are outside those areas to be protected by the major flood relief schemes; the Scheme plays a valuable role in broadening the range of properties that benefit from flood protection across Ireland.

## 10 Climate Initiatives

The National Dialogue on Climate Action (NDCA) was established within the Department of the Environment, Climate and Communications (DECC) to facilitate public participation in the development of the Climate Action Plan by engaging people in climate-related dialogue in an annual programme of events centred around inclusive Climate Conversations.

A comprehensive programme of engagement activities and research was delivered under the NDCA in 2022, including:

- Climate Conversations 2022 (CC22), which serves as the annual public consultation on the Climate Action Plan, captured the views of over 4,300 members of the public through an online consultation; and engaged in a two-way dialogue with focus groups of populations who may be vulnerable to the transition to carbon neutrality; supported Public Participation Networks; and held expert interviews.
- Two National Climate Stakeholder Forum (NCSF) events, which took the form of deliberative workshops, reached extensive number of stakeholders from a wide range of organisations to discuss climate action challenges and solutions.
- The first National Youth Assembly on Climate (NYAC) engaged over 40 young people, between the ages of 12 and 24, to capture their suggestions on how young people in Ireland can deliver climate action. The first NYAC Report was launched by Ministers Ryan and O’Gorman in November 2022.
- The publication of an audience segmentation analysis, building on the EPA Climate Change in the Irish Minds report 2021, was published in 2022.
- The EPA Climate Conference 2022, Creating Ireland’s Climate Future examined the vision for a climate-neutral and resilient Ireland by 2050, and how that vision will be achieved in terms of strategic planning for our built and natural environments.
- The EPA Climate Change Lecture Series 2022.

## 11 Forestry and Bio-energy

This programme provides grants and annual premium payments to landowners (for 15 years) in exchange for planting trees. During 2019 a number of new measures were introduced to increase levels of biodiversity and to assist the sustainable management of forests. These measures included support for additional management options such as continuous cover forestry (CCF) which gives forest owners an alternative to the more traditional harvesting systems such as clearfelling on certain areas. Over €240,000 has been paid out for 325 hectares of CCF to the end of 2022. In 2020, a new Woodland Creation on Public Lands scheme was introduced to encourage the planting of native tree species on suitable land owned by public bodies. The native woodlands created under this Scheme are non-commercial and for the benefit of the public in general to exist in perpetuity. Some 48 hectares were planted in this Scheme in 2022.

The Climate Action Plan 2022 contains annual targets of 8,000 hectares of afforestation and construction of 125km of Forest Roads. In 2022, 2,273 hectares of new forests were planted in Ireland by private landowners under the afforestation scheme. This compares to 2,016 hectares of new forests planted in 2021. In addition, in 2022, 69 kilometres of forest roads were grant aided through the forest road scheme which will facilitate the mobilisation of biomass for wood products and energy.

Based on the 2022 National Inventory Report to the United Nations Framework Convention on Climate Change (UNFCCC), forests in Ireland removed over 2.9 Mt of CO<sub>2</sub> equivalents in 2020 which includes removals associated with harvested wood products. During the Forestry Programme 2014-2020, which was extended to end 2022 in late 2020, total afforestation has exceeded 32,000 hectares and over 620 kilometres of forest roads were constructed. Total expenditure along with future commitments amount to over € 442 million for this period.

## 12 Environmental Protection Agency – Administrative expenses

Funding is provided to support the operation of the Environmental Protection Agency (EPA). The EPA is an independent public body established under the Environmental Protection Agency Act, 1992. It has a wide variety of functions relating to the protection of Ireland's environment, ranging from the enforcement of environmental law, monitoring, analysing and reporting on the environment, waste management and radiological protection. The EPA funds environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability; and new research projects into water, climate & air and environmental sustainability.

## 13 National Heritage (NPWS)

The National Parks & Wildlife Service (NPWS) of the Department of Housing, Local Government and Heritage (DHLGH) is responsible for the conservation of nature and biodiversity in Ireland.

The overarching strategy for nature conservation is Ireland's 3rd National Biodiversity Action Plan 2017-2021 (NBAP), a Government policy that is comprised of a suite of Objectives, Targets and Actions that aims to achieve Ireland's Vision for Biodiversity that "biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally". Many positive actions for Biodiversity have been taken since 2017. A draft 4th National Biodiversity Action Plan was sent for public consultation in September 2022 and a final version of the 4th NBAP will be published in 2023.

DHLGH, alongside the Heritage Council, provide funding for the National Biodiversity Data Centre. The National Biodiversity Data Centre is a national centre for the collection, collation, management, analysis and dissemination of data on Ireland's biological diversity. Biodiversity data are a key requirement for understanding our natural surroundings, for tracking change in our environment and for gaining a greater insight on how we benefit from, and impact upon, the ecosystem goods and services provided by biological diversity and in 2020 held 16,500 species and over 4.4 million records.

## 14 Waste Management Programmes

### Landfill remediation

Two landfill sites were remediated in 2022. Funding was drawn down in respect of 67 sites in 21 Local Authorities, with 25 new sites being allocated funding in 2022. This funding is to progress legacy landfill sites through 3 stages of environmental risk assessment, regularisation through the application for Certificate of Authorisation (CoA) to the EPA and the final remediation works, as required. In total, there was draw down of €21.3 million for landfill remediation with €14 million (approx.) of this being allocated to the remediation of the site at Kerdiffstown which is in final works phase. The official opening of Kerdiffstown Park is provisionally scheduled for Q3 2023.

The landfill remediation grant programme makes provision of funding to Local Authorities in meeting their obligations to identify, risk assess and remediate legacy landfills under Section 22 of the Waste Management Act, 1996 (amended) and the policy roadmap for delivery as set out in the 3 regional waste management plans 2015-2021. The policy roadmap will be renewed in the publication of the National Waste Management Plan for a Circular Economy 2023-2029, due for publication this year.

### Remediation of Diesel Laundering Sites

Funding is provided to assist local authorities in carrying out their role as competent authorities under waste legislation to ensure that any waste generated and left abandoned by diesel launderers is disposed of without endangering human health and without harming the environment. Funding of €400,000 was allocated to two local authorities in 2022 to fund the clean-up and removal of diesel sludge relating to incidences of illegal diesel laundering.

### Remediation of EPR waste stream stockpiles posing an environmental threat:

Ireland uses the Extended Producer Responsibility (EPR) model for dealing with a number of waste streams and the approved compliance schemes continue to operate successfully with each approved compliance scheme operating on a not-for-profit basis.

Changes to markets and economics have left some EPR streams with a negative or very low value waste product. The non-compliance by a minority of actors outside of the compliance schemes in these streams has resulted in the creation of sites of concern which pose an environmental threat.



An effective system of waste management is critical to the welfare of the environment and society in general and when private actors fail to meet their obligations, local authorities must use the appropriate enforcement powers. Enforcement action on these sites was deployed to secure compliance with the law and to ensure the protection of our natural environment. The State have committed to fund the remediation of these sites.

The Waste Enforcement Regional Lead Authorities (WERLAs) identified six sites of concern, five sites containing tyre stockpiles and one site containing farm plastic stockpiles. To date, four sites have been completely remediated, (one fully completed during 2021 and three further sites commenced in 2021 and subsequently completed during 2022) one site is going through a tendering process and one site has yet to commence. A total of €2,209,434.47 has been spent on these projects to date.

A total funding of €20 million was provided to local authorities under the Landfill Remediation grant programme to support progress of 70 sites across 21 local authorities broken down by Region as follows:

Region	Local Authorities	No. of sites per Region
Southern Region	7	35
Connacht Ulster Region	6	19
Eastern Midlands Region	8	16
<b>Total</b>	<b>21</b>	<b>70</b>

Approximately €15 million of the expenditure was for the completion of the final stage IV of the largest project of its kind in the State, at the former landfill site at Kerdiffstown, Kildare. This project will see the remediation of the former quarry and landfill site and the creation of a recreational park as an amenity for the local community providing an enhanced long term site management care plan.

#### Diesel and tyre site clean-up

In addition to funding landfill remediation, the grant programme provides funding to local authorities in addressing other sites as needed, namely diesel laundering, tyre sites and farm plastic. In 2021, €0.5 million funding was provided to two local authorities, Monaghan and Louth, for clean-up of diesel laundering sites. A further €0.6 million supported remediation of four tyre sites and one farm plastics site located in five local authorities, namely Galway, Westmeath, Donegal, Waterford and Clare.

## 15 International Climate Change Commitments

Under the heading 'International Climate Change Commitments' the Minister for Environment, Climate and Communications was responsible for the allocation of €16 million in financial support for international climate action. The Department of the Environment, Climate and Communications prioritises its financial support to multilateral climate funds under the UNFCCC and will continue this approach towards achieving Ireland's 2025 climate finance target.

The Green Climate Fund (GCF) was established under the auspices of the UNFCCC in 2010 to support the efforts of developing countries to respond to the challenge of climate change. The GCF helps developing countries limit or reduce their greenhouse gas emissions and adapt to climate change. The GCF aims to deliver equal amounts of funding to mitigation and adaptation and is recognised as the main financial mechanism of the Paris Agreement. Ireland has committed to an annual contribution of €4 million a year between 2020 to 2023 to the GCF.

The Global Environment Facility (GEF) is an established funding mechanism to provide new and additional grant and concessional funding to developing countries to meet the agreed incremental costs of measures to achieve global environmental benefit. Ireland contribution of €10 million to GEF-8, provided in annual instalments of €2.5 million over a four-year period 2022-2025. This represents a 175% increase on previous multi-annual contributions.

The Adaptation Fund (AF) finances projects and programmes that help vulnerable communities in developing countries adapt to climate change. Initiatives are based on country needs, views and priorities. The allocation to the AF in 2022 was €5.5 million.

International Energy Agency Clean Energy Transition Programme (CETP) aims to accelerate global clean energy transitions. The Programme provides independent, cutting-edge support to governments whose energy policies will significantly influence the prospects for – and the speed of – the global transition towards more sustainable energy production and use. Funding is intended to support efforts under CETP which falls under Ireland's priority areas of energy system resilience and people-centred transitions. €250,000 was provided in 2022.

The Climate and Clean Air Coalition Trust Fund is used to build capacity, enable peer-to-peer engagement and support leadership at a national level for Parties who need it for climate pollutants including methane. \$1 million was provided in 2022.

The Nationally Determined Contributions (NDC) Partnership is an informal platform of countries and international institutions whose objective is to collectively mobilise support for developing country parties to the UNFCCC to develop and implement their NDCs under the Paris Agreement.

The UNFCCC Trust Fund for Participation receives voluntary contributions to support the participation of the representatives of developing country Parties, in particular the least developed countries and small island developing States, and other Parties with economies in transition in the sessions of the Conference of the Parties and its subsidiary bodies.

Action for Climate Empowerment (ACE) is a term adopted by UNFCCC which involves six elements – education, training, public awareness, public participation, access to information, and international cooperation, to improve the effectiveness of climate action. In line with domestic policy Ireland remains committed to increased and deepening levels of engagement with the public on climate action and continues to promote these approaches and share its learnings with other countries. A contribution of €200,000 was provided in 2022 to UNFCCC work in this area.

A contribution of €2.5 million was made to the United Nations Development Programme. This virement was sought in addition to the €15 million original allocation under the A6 subhead to arrange the contribution to support its climate finance activities, including the SDG Pipeline Builder Programme.

**Table 1: Breakdown of International Climate Change Commitments Expenditure in 2022.**

Green Climate Fund	€4,000,000
Adaptation Fund	€5,500,000
NDC Partnership	€100,000
IEA Clean Energy Transitions Programme	€250,000
CCAC Trust Fund	\$1,000,000
GEF-8	€2,500,000
UNDP	€2,500,000
UNFCCC Participation Fund	€25,000
UNFCCC Action for Climate Empowerment	€200,000

## 16 Environment and Climate Research

The Climate Action Modelling Group (CAMG), formerly the Technical Research and Modelling (TRAM) Group was established in 2015 with the goal of providing the technical capacity required to inform policy development in the context of the national low-carbon transition.

Currently the CAMG comprises of four research partners who provide research and modelling on various aspects of Ireland's economy and energy system to assist in policy development.

The current CAMG partners include:

- University College Cork (UCC), with a focus on energy systems modelling,
- University College Dublin (UCD), examines electrification as a whole at various scales in one (EMPower) model covering three prongs: Technology Adoption, Distribution System and Generation,
- EnvEcon's models examine air quality and the transport system,
- and the ESRI's modelling is primarily focused on examining the links and effects between climate policies and the economy.

In 2022, as well as performing specific research in their own specialist area's all CAMG members contributed greatly to the development of the Climate Action Plan 2022.

The work of each partner is directed by subject to a multiannual contract, or grant agreement in the case of the ESRI. In 2022 a total of €1,722,625.93 was paid to the CAMG Partners under these contracts. The previous contracts with each partner expired in Q4 of 2022 and Q1 of 2023. DECC issued tenders for new contracts to continue the work of CAMG for at least the next 5-7 years in the summer and autumn of 2022. A need was also identified for an additional work programme focused on Agriculture and LULUCF modelling. An additional tender to procure this work over the same period was also published in summer 2022.

Three new contracts, or contract extensions are now in place with the final two agreements expected be signed in 2023. The work of the group is essential to guide policy development to enable Ireland to meet its ambitious emissions reduction targets by 2030.

The EPA manages an environmental research programme that delivers essential scientific support for environmental policy development, implementation and broader decision making. The scope of EPA-funded research is informed by its relevance to policy and its alignment with the key activities of the EPA. This reflects the vision of [EPA Research 2030](#) of '*putting science and innovation at the centre of environmental protection in Ireland through the development and proactive transfer of knowledge*'.

## 17 Peatlands Restoration and Management

The National Peatlands Strategy available at [this link](#) covers the period 2015-2025 and a midterm review [was published in 2023](#).

Functioning peatlands capture (sequester) carbon from the atmosphere and store it in the form of peat and vegetation. Restoring and rehabilitating Ireland's peatlands will ensure that the carbon content of the peat within each bog is stored in perpetuity. Currently it is estimated that peatlands emit ca 5-7 Mt CO<sub>2</sub> per year, which equates to approximately 10% of the national greenhouse gas emissions as reported annually by Ireland's environmental protection agency. It is essential therefore to keep the carbon stored in the ground and restore and rehabilitate their hydrological balance to return degraded peatlands to sinks or carbon neutral systems.

The National Parks and Wildlife Service of the Department of Housing, Local Government and Heritage are leading on this programme for nature based change by restoring over 22,000 hectares of protected raised bog.

In 2022, restoration measures were undertaken across several protected raised bogs with preparatory measures undertaken on a range of other sites including the installation of hydrological monitoring equipment. Further phases of the restoration programme are underway or planned.

The monitoring of greenhouse gas emissions and hydrological monitoring is continuing across Ireland's raised bog network.

The Cessation of Turf Cutting Compensation Scheme (CTCCS) was established in 2011 to provide a long term compensation scheme for domestic turf cutters affected by the cessation of turf cutting on designated raised bog special areas of conservation and was extended in 2014 to include raised bog natural heritage areas.

Much of Ireland's protected peatlands are in private ownership, though considerable areas are in the control or ownership of the State. The CTCCS is part of a suite of measures which facilitates the restoration programme for protected raised bogs, by compensating domestic turf cutters who have ceased to cut turf from these bogs.

This Scheme is applicable to turf cutters who fulfil the qualifying criteria of the Scheme and who have ceased cutting turf for domestic purposes on the raised bog special areas of conservation and natural heritage areas encompassed by the Scheme. It comprises; a payment of €1,500 per annum, index-linked, for 15 years, or relocation, where feasible, to a non-designated bog, together with once off payment of €500 on the signing of a legal agreement with the Minister for Housing, Local Government and Heritage under the scheme. 2,740 applicants received payments in 2022 under the CTCCS. There may be other affected turf cutters, who may qualify under the scheme, who may still apply.

## 18 Energy Research Programmes

The Offshore Energy Development Unit consists of five distinct work programmes led by the SEAI. These work programmes aim to aid the development and deployment of offshore renewable energy into the Irish electricity grid system through the delivery of test site locations along Ireland's west coast. These test sites include Lir (a maREI-UCC project) located in Cork, Smartbay located in Galway bay, and the AMETS test site located in Belmullet, Mayo, which is the largest such site in development.

In addition, the SEAI Ocean Energy Prototype Development Fund continued to fund projects throughout 2022, with the multi-annual grant due to conclude in 2023. Details of all projects funded by the programme are available in [SEAI's National Energy Research Database](#).

## 19 Capital Expenditure by Irish Water on Domestic Water Services

Uisce Éireann is a fully publicly owned, regulated, commercial State body with responsibility for the operation and maintenance of Ireland's public water and wastewater assets. It was established to provide safe, clean, affordable and environmentally compliant water and wastewater services to households and businesses connected to the public network.

This involves treating 1.8 billion litres of drinking water each day and treating the wastewater produced. Uisce Éireann's public water and sewer networks require a multi-billion euro investment programme. The key challenges for Uisce Éireann are to;

- Enhance compliance with regulatory standards (both drinking water and wastewater);
- Address the network loss rate and reduce leakage;
- Increase network and treatment capacity to support growth (both social and economic);
- Develop the resilience required to cater for greater frequency of extreme weather events; and
- Maintain the current aging asset base and rectify the legacy issues.

Uisce Éireann's capital expenditure in 2022 was set across the three themes of the Water Services Policy Statement (2018-2025):

1. Quality: bringing public water and wastewater services to acceptable international benchmarks and ensuring improved compliance with public health and environmental standards;
2. Conservation: prioritising improved resource management, abstraction control, source protection, tackling leakage and encouraging behavioural change; and
3. Future proofing: supporting economic and social progress and improving capacity and resilience.

Uisce Éireann investment in 2022 included works on the Ringsend, Arklow and Kilkenny Waste Water Treatment Plants, to raise network capacities, increase water quality and achieve compliance with European Directives.

More information about Uisce Éireann projects can be found on the Uisce Éireann [website](#) and further details are set out in the Uisce Éireann [Strategic Funding Plan 2019-2024](#). Although the majority of Uisce Éireann's capital funding comes from the Exchequer on behalf of the domestic sector, Uisce Éireann's non-domestic sector partially finances Uisce Éireann's investment programme through a combination of customer-funded capital expenditure for new connections and the surplus generated from the provision of services to Uisce Éireann's non-domestic customers.

## 20 Rural Water Programme

The Rural Water Programme delivers improvements to domestic water services in areas of rural Ireland where there are no public water services. This is achieved through capital investment and support through measures which are aimed at sustainable outcomes by:

- helping rural water supplies to achieve wholesome and clean water that is compliant with the Drinking Water Regulations;
- funding water conservation and supporting good practices to contribute to reduce energy and consumables costs;
- allowing water quality deficient group water schemes to be taken in charge by Uisce Éireann ensuring a safe and reliable water supply;
- facilitating the expansion of piped water supplies and central waste water collection systems; and
- supporting repair/replacement of defective domestic wells and domestic waste water treatment systems (septic tanks) to achieve wholesome and clean drinking water and minimising risks to the environment.



# Case Studies of Allocations from Irish Sovereign Green Bonds

## A. Athlone Town Bus Service Electrification

### Background

At its launch in 2018, Project Ireland 2040, and the associated National Development Plan (NDP) 2018-2027, contained a commitment to “... transition to low emission buses, including electric buses, for the urban public bus fleet, with no diesel-only buses purchased from July 2019...”.

On foot of this commitment, the National Transport Authority (NTA) was keen to pilot the full conversion of a town bus service in Ireland to zero-emission operation by battery-electric buses, as such a project would provide both the NTA and the bus operators with a template for the future rollout of zero-emission buses and supporting infrastructure in other cities and towns across Ireland, and enable experience to be gained in the planning, design, implementation and operation of the buses and infrastructure.



Following discussions with Bus Éireann (BÉ), who operate the majority of Public Service Obligation (PSO) town bus services in Ireland, Athlone in County Westmeath was selected as the optimum location for this project due to its central geographical location on the island of Ireland, the strategic positioning of Athlone Bus Depot at the midpoint of the two bus routes serving the town, the space available at Athlone Bus Depot to facilitate the installation of charging infrastructure and the proximity of Athlone Bus Depot to high voltage electricity supply lines.

The second Climate Action Plan (in 2021) subsequently identified the “... full conversion of Athlone town bus service to electric buses ...” as a step necessary for delivery of Action 270 (entitled ‘Transition PSO town bus services to low-emission bus fleet’), which was reinforced by a similar intention within the NDP 2021-2030.

### Response

Work on the project began in earnest during 2021.

As the NTA has been responsible for the procurement of new urban buses for PSO bus services since 2017, it therefore took the lead in procuring suitable battery-electric buses for the project.

Following a tender competition, a framework agreement for the supply of single-deck (long length) electric buses was signed in June 2021 with Alexander Dennis Limited, and at the same time an initial order was placed under that contract for the supply of 45 x 12-metre length Enviro200EV buses, 11 of which were earmarked for operation of the Athlone town bus service.



These buses began to arrive in Ireland during Q4 2022, and following registration, were delivered to Athlone over the Christmas and New Year period.

BÉ, meanwhile, was tasked with installing the charging infrastructure required to support the operation of the electric buses at Athlone Bus Depot.

In addition to the installation of the 9 Heliox charging stations supplied by lead contractor ESB Smart Energy Services (SES) (which are capable of charging up to 18 battery-electric buses simultaneously), the infrastructure element of the project also entailed the construction of a new electricity substation within the depot yard, the establishment of an uprated grid connection to significantly enhance the Maximum Import Capacity (MIC) of the electrical supply into the depot site and a variety of civil works to prepare the depot yard for both the charging stations and the buses themselves.

The project also included the commissioning of an automated electric bus monitoring and management back-office suite provided by IVU Transit Technologies, integrating the daily operational planning system and depot management system with a charge management system and information obtained from the electric buses via equipment supplied by Chargepoint.

Management and delivery of the project was co-ordinated in-house by a joint engineering team from BÉ and the NTA, with three dedicated project co-ordinators being appointed at BÉ. In addition, architects, from BÉ's sister Corás Iompair Éireann (CIÉ) Group subsidiary Iarnród Éireann-Irish Rail (IÉ), were engaged to manage the civils and infrastructural enabling works, exploiting their unique experience with previous rail electrification projects in Ireland.

### Athlone Town Bus Service Electrification Project

The Athlone Town Bus Service Electrification Project was the first to launch under the Irish Government's Pathfinder Programme of exemplar transport projects and is part of the National Sustainable Mobility Policy, which targets a 50% reduction in greenhouse gas emissions by 2030 in the transport sector.

The project was officially launched by the Minister for Transport Mr. Eamonn Ryan TD on Friday 20th January 2023 with entry into passenger service of the full fleet of 11 buses following from Sunday 29th January 2023.

In their first two months of operation, the buses covered more than 80,000 kilometres, abating more than 57,000kg of CO<sub>2</sub> in the form of tailpipe emissions. It is expected that approximately 400,000kg of CO<sub>2</sub> in the form of tailpipe emissions will be removed annually from the environment.

The new electric buses have made a hugely positive impact locally, with extremely positive feedback from passengers and drivers, and, in a much wider context, have generated a much greater awareness of the environmental and other benefits that zero-emission public transport will bring for future generations.

### Learnings

The experience gained and lessons learnt from the infrastructure elements of the project have already been applied to the depot electrification projects currently underway at Dublin Bus' Summerhill and Phibsboro garages in Dublin City Centre, as well as the depot electrification contract that will soon be awarded in respect of Bus Éireann's Limerick Roxboro depot.

In addition, the knowledge gained from the procurement and operation of the electric buses continues to be exploited by the NTA in its zero-emission bus and coach procurement activities.

## B. SEAI – At the Heart of the Energy Decarbonisation Revolution

The Sustainable Energy Authority of Ireland (SEAI) is Ireland's national energy authority. SEAI is driving Ireland's sustainable energy transformation for the benefit of all society. Last year, SEAI launched a new Strategic Plan 2022-2025, supporting the organisation as it scales up to deliver our 2030 and 2050 targets. [The strategy](#) sets out a clear vision to lead Ireland's energy revolution. This revolution requires fundamental change across all aspects of Irish society and will transform the way in which we all live.

Over the last five years, SEAI has grown fourfold. This growth is underpinned by the increasing urgency of the mission, with budget allocation for 2023 amounting to almost €600 million. SEAI is committed to delivering against ambitious targets, through a well-governed and customer-centric system.

SEAI has built successes on the foundation of a strong governance framework. The culture and activities continue to be supported by this from design to implementation. SEAI is proud to have retained certification to the NSAI SWiFT 3000 Code of Practice for Corporate Governance during the past year. SEAI has invested in people, with significant growth in staff and expertise, which is essential to delivering climate and energy targets.

The Government's determination to drive Ireland's clean energy transition could not be clearer. Aside from meeting our legally binding targets, decarbonisation will deliver enormous benefits to Irish society, including healthier environments in which to live, employment opportunities, and increased efficiencies and competitiveness. Ireland is already a world leader in many aspects of the energy transition, such as wind energy deployment, and progress on home energy upgrades. SEAI will work tirelessly with all energy users, and guide and support them in their energy transition with the fundamental goal of a decarbonised society.

Highlights from SEAI's 2022 achievements (*excluding the National Retrofit Directorate, which is funded through the collection of carbon taxes*) include the following:

### Business and public sector supports

- Supported over 2,500 businesses in their energy transition.
- Grant aided 873 high quality SME energy audits and delivered online energy management training to over 180 SMEs.
- Provided energy efficient design training courses to over 80 supply chain professionals.
- Added 10 new members to the Large Industry Energy Network (LIEN), which account for approximately 80% of industry energy emissions in Ireland.
- Now totalling 207, LIEN companies avail of dedicated energy and decarbonisation advice and expertise, delivering 479 GWh in energy savings.
- SEAI launched a new Solar PV grant for businesses.
- Launched a commercial EV fleet trial which will provide 200 businesses with a trial EV and charger for a 3-month period.

- Public Sector Partnership scaled up support to 350 public sector bodies in their Climate Action Roadmap development, energy management, and emissions reduction strategy, and SEAI launched the Reduce Your Use Public Sector campaign in partnership with the Office of Public Works supporting the public sector mandate to reduce energy consumption over the winter 2022/23.
- SEAI was designated under statute as the Market Surveillance Authority, and the Single Point of Contact for renewable energy projects.
- Under the Market Surveillance Authority, SEAI carried out more than 200 retailer and online advertising inspections for energy labelling and more than 200 product technical validations through audits and testing were carried out.
- Launched the new Energy Efficiency Obligation Scheme.
- Support Scheme for Renewable Heat has to-date offered 15-year contracts to 90 commercial installations, amounting 90 GWh of renewable heat annually.
- Excellence in Energy Efficient Design (EXEED) programme offered support to 53 companies supporting representing savings of 15 GWh and over 3,200 tCO<sub>2</sub>.
- More than 5,500 users now registered to SEAI Energy Academy and over 2,000 course certificates issued in 2022.

### Community and citizen

- 24 community energy projects were approved for grant support, delivering 235 GWh of energy savings.
- Supporting the development of 35 potential community renewable electricity projects, through workshops, feasibility assessments and guidance.
- SEAI community energy network now has over 700 member organisations nationwide, comprising more than 35,000 citizens. SEAI co-funded 41 community energy master plans.
- Delivered 760 school workshops with over 19,000 students participating.
- Supported deep decarbonisation of schools, higher education institutes, and OPW and HSE estate buildings, with direct savings of 65 GWh and 18 ktCO<sub>2</sub> in 2022, under the SEAI Pathfinder Programme.
- Through Department of Transport funding, SEAI grant-aided the purchase of 10,894 battery electric vehicles, and grant aided the installation of over 16,000 EV home chargers.

### Research and policy insights

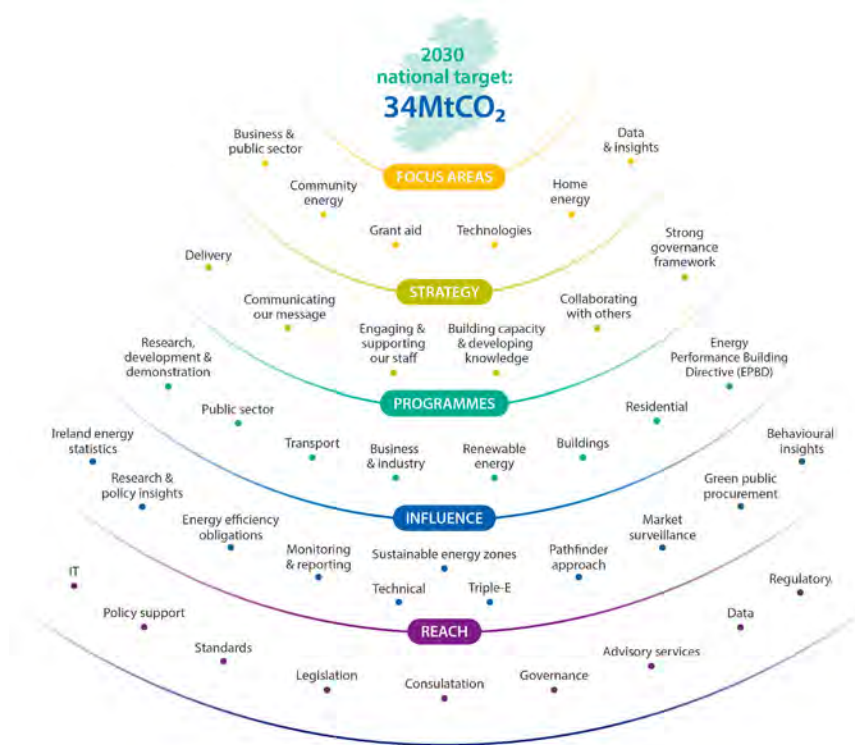
- Published Ireland's National Heat Study, providing important analysis towards the preparation of Climate Action Plan 2023.
- Published updates to key statistical publications including Energy in Ireland, Energy prices reports, Renewable Energy and Energy Related CO<sub>2</sub> Emissions in Ireland.
- Launched the Local Authority Climate Action Plan (LA-CAP) dashboard which includes a range of Irish energy and technology data enabling LA CAPs to be delivered with greater detail.
- Awarded funding to 44 new energy research, development, and demonstration projects.

- Grew Ireland's IEA Technology Collaboration Programme activity, adding 35 new Irish experts.
- Funded six applicants through the 2022 SEAI LiR Industry Access Programme.
- Hosted the 2022 National Energy Research and Policy Conference: Societal Transformation for Delivering Ireland's Energy Revolution, reaching 591 delegates
- Implemented significant upgrades to Ireland's National Energy Modelling Framework (NEMF) and used it to develop updated National Energy Projections for Ireland.
- Delivered and coordinated consumer uptake modelling, analysis and reviews informing various schemes supported by DECC.
- Published two major behavioural studies on *Consumers ability to operate heat pumps and their controls* and *Communication strategies to encourage energy conservation*.

## Organisation and service delivery

- Published a new Statement of Strategy for 2022-2025: "Delivering Ireland's Energy Revolution".
- SEAI's contact centre served almost 280,000 voice, email, and webchat transactions across all programmes.
- Hosted SEAI's first live Energy Show since 2019 with almost 2,500 attendees.
- Delivered a hugely successful Energy Awards and live ceremony (first since 2019) with 107 nominations received.
- Web engagement: Over two million web sessions on [www.seai.ie](http://www.seai.ie)

Please see SEAI's [Statement of Strategy](#), the [Climate Action Roadmap](#), and the [SEAI website](#).





## CLIMATE ACTION ROADMAP



### 1 Planning Phase (Year 1)

- Conduct initial energy audit of all buildings
- Develop a decarbonisation strategy for building(s)
- Define emission reduction targets for each building
- Identify possible building adjustment or moves to accommodate organisation growth
- Develop a capital budget plan and support for decarbonisation efforts



### 2 Energy Efficiency Improvements (Years 2-4)

- Maintain ISO50001 certification, integrating and standardising all RYU improvements
- Upgrade all lighting systems, controls, and operational control
- Develop HVAC improvements and operational control to increase efficiency
- Incorporate building adjustments to facilitate SEAI growth
- Feasibility and implementation of other ideas for energy performance improvement



### 3 Renewable Energy Installations (Years 3-4)

- Transition to electrification of heat using heat pump in Dublin offices
- Identify other buildings heat electrification opportunity, if applicable
- Conduct feasibility studies for potential renewable energy sources (solar, biofuel, biomass)
- Installation of solar panels with battery storage, as applicable



### 4 Monitoring and Reporting (Years 1-8)

- Monitor energy usage and emissions to track progress towards emissions reduction targets
- Report impact to maintain momentum and build support for SEAI climate action efforts
- Evaluate and adjust the energy management plan as necessary based on monitoring and reporting results



### 5 Education and Training (Years 1-8)

- Conduct awareness campaigns to encourage behavioural changes
- Develop and deliver training programs to educate employees and building occupants on energy efficiency and emissions reduction
- Raise awareness about the SEAI climate action efforts through communication and engagement with stakeholders
- Encourage employee participation in energy conservation and emissions reduction initiatives

**2030 target: 39 tCO<sub>2</sub>eq**

# Appendix 1 – Retrospective Allocation to 2021 Eligible Expenditure

Allocation Table for 2021<sup>2</sup>

Eligible Green Categories	Project/Programme/Scheme	Eligible Green Expenditure € '000s	ISGB Proceeds Allocation 2021* € '000s	ISGB Proceeds Allocation** € '000s
<b>Built Environment/Energy Efficiency Total</b>		<b>57,723.3</b>	<b>23,916.6</b>	<b>33,806.7</b>
Built Environment/Energy Efficiency breakdown of programmes and schemes	Sustainable Energy Programmes	18,467.3 <sup>3</sup>	7,651.6	10,815.7
	Energy Efficiency – Retrofitting	21,741.0 <sup>4</sup>	9,008.0	12,733.0
	Sustainable Energy Authority of Ireland (SEAI) Admin and General Expenses	16,098.0	6,669.9	9,428.1
	Limerick Regeneration Thermal Upgrade Programme	1,417.0	587.1	829.9
<b>Clean Transportation Total</b>		<b>1,540,908.0</b>	<b>638,446.5</b>	<b>902,461.5</b>
Clean Transportation breakdown of programmes and schemes	Low Emission Vehicle incentivisation	17,350.0	7,188.6	10,161.4
	Active Travel Infrastructure/Greenways/Public Transport Investment	876,484.0 <sup>5</sup>	363,154.8	513,329.2
	Public Service Provision Payments	566,962.0	234,910.1	332,051.9
	Carbon Reduction	80,112.0	33,192.9	46,919.1
<b>Climate Change Adaptation Total</b>		<b>55,666.0</b>	<b>23,064.2</b>	<b>32,601.8</b>
Climate Change Adaptation breakdown of programmes and schemes	Flood Risk Management (OPW)	55,666.0	23,064.2	32,601.8

\* This column is as per the 2021 Allocation Report and is shown here for completeness.

\*\* This column outlines allocations made from proceeds raised in January 2023.

- 2 Figures may not total due to rounding.  
 3 Excludes carbon taxes of €113m  
 4 Excludes carbon taxes of €3.543m  
 5 Excludes carbon taxes of €20m

Eligible Green Categories	Project/Programme/Scheme	Eligible Green Expenditure € '000s	ISGB Proceeds Allocation 2021* € '000s	ISGB Proceeds Allocation** € '000s
<b>Environmentally Sustainable Management of Living Natural Resources and Land Use Total</b>		<b>189,709.8</b>	<b>78,602.7</b>	<b>111,107.1</b>
Environmentally Sustainable Management of Living Natural Resources and Land Use breakdown of programmes and schemes	Forestry and Bio-energy	69,568.0	28,824.2	40,743.8
	Environmental Protection Agency – Administrative expenses	48,942.9	20,278.6	28,664.3
	National Heritage (NPWS)	25,798.0	10,688.9	15,109.1
	Waste Management Programmes and Landfill Remediation	21,305.9	8,827.7	12,478.2
	International Climate Change Commitments	12,972.4 <sup>6</sup>	5,374.9	7,597.5
	Peatlands Restoration and Management	5,490.0 <sup>7</sup>	2,274.7	3,215.3
	Climate Initiatives	5,632.6	2,333.8	3,298.9
<b>Renewable Energy Total</b>		<b>10,357.9</b>	<b>4,291.6</b>	<b>6,066.3</b>
Renewable Energy breakdown of programmes and schemes	Energy Research Programmes	10,357.9	4,291.6	6,066.3
<b>Sustainable Water and Wastewater Management Total</b>		<b>647,056.0</b>	<b>268,095.6</b>	<b>378,960.4</b>
Sustainable Water and Wastewater Management breakdown of programmes and schemes	Capital Expenditure provided to Irish Water for domestic services	599,000.0	248,184.5	350,815.5
	Rural Water Programme	48,056.0	19,911.1	28,144.9
<b>Grand total expenditure and allocations</b>		<b>2,501,421.0</b>	<b>1,036,417.2</b>	<b>1,465,003.9</b>

\* This column is as per the 2021 Allocation Report and is shown here for completeness.

\*\* This column outlines allocations made from proceeds raised in January 2023.

6 Excludes carbon taxes of €2m

7 Excludes carbon taxes of €4.385m







**Rialtas na hÉireann**  
Government of Ireland