



Rialtas na hÉireann
Government of Ireland

Irish Sovereign Green Bond

Eligible Green Projects
Impact Report 2021



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Introduction and Summary

This is the fourth eligible green projects impact report issued in accordance with the Irish Sovereign Green Bonds (“ISGB”) Framework. It details the environmental impact measures connected to the 2021 allocation report.

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 as with standard government bonds. Amounts raised through the sale of ISGBs are allocated against Eligible Green Projects which generate a positive environmental benefit.

€2,501.4 million was allocated to Eligible Green Projects from 2021 (see Appendix 1). This allocation was made up of proceeds generated in 2021 (€1,036 million) and 2023 (€1,045 million).

In the 2021 Allocation Report, environmental impact indicators were included across the six categories eligible for allocation:

- 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

Cover photos:
Newport River, Co. Mayo
Broombridge Station, Dublin

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 follows¹:

- 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 (NTMA)

UN Sustainable Development Goals

In September 2015, all 193 United Nation Member States adopted the 2030 Agenda for Sustainable Development ("Transforming our World").

The 2030 Agenda is a plan of action for people, planet and prosperity. The focus of the 2030 Agenda is the 17 Sustainable Development Goals (SDGs) and their 169 targets.

In Ireland, a whole-of-Government approach has been adopted for implementation of the SDGs, with each Minister having specific responsibility for implementing individual SDG targets related to their Ministerial functions.

The ISGB Programme has incorporated the UN SDGs from inception and impacts are mapped to specific SDG targets. An SDG hub – [Ireland's SDG Geohive](#) – was developed as part of a partnership between Tailte Eireann (formerly OSi), the Central Statistics Office (CSO) and ESRI Ireland (Environmental Systems Research Institute). The CSO reports on SDGs with further detail available on the CSO website: <https://www.cso.ie/en/statistics/unsustainabledevelopmentgoals/>



¹ Government Departments and State bodies referenced in this report are as they were organised in May 2023 when this report was drafted.

Eligible Green Projects Impact Report Year End 2021

The purpose of impact reporting is to assist investors in ISGBs with a better understanding of the possible environmental impacts of the Eligible Green Projects. A number of key impact indicators are provided and, where possible, quantified. Eligible Green Projects received a 100% allocation against the associated expenditure. This means that the full impacts outlined are available for reporting purposes.

An important consideration in the estimation of impact indicators is the underlying assumptions. While technical experts aim to make sound and conservative assumptions that are reasonable based on the information available at the time, the actual environmental impact of the projects may diverge from the impacts as quantified in the tables².

In some cases quantitative indicators were unavailable; therefore qualitative data has been included to demonstrate other valuable impacts. In addition, some programmes also provide social benefits as well as climate related benefits. This report focuses only on the environmental impacts.

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](#).

² Harmonized Framework for Impact Reporting. The Green Bond Principles. ICMA. June 2019. <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2019/Handbook-Harmonized-Framework-for-Impact-Reporting-WEB-100619.pdf>

Built Environment/Energy Efficiency

Environmental Objectives: Climate Change Mitigation



Project/Programme/ Scheme	Green Expenditure (€ Million)*	ISGB Proceeds Allocation including adjustments (€ Million)	Allocation Percentage from ISGB Proceeds	Impact Indicator		Other impact indicators and additional Information
Sustainable energy programmes, Sustainable Energy Authority of Ireland (SEAI) admin and general expenses	34.6	34.6	100%	Annual energy savings (GigaWatt Hours)	428.0	<ul style="list-style-type: none"> Residential and Commercial Building Energy Ratings published: 96,309 SEAI also manages EV grants including: the Electric Vehicle Grant Scheme and Vehicle Home Charger Grant Scheme <ul style="list-style-type: none"> Number of grants provided (households): 15,457 The Public Sector Pathfinder Retrofit Programme facilitated energy efficiency and retrofit works in over 100 buildings across the central government, health, local authority and education sectors, at a cost of over €14m in 2021.
				Annual Greenhouse gas emissions reduced/avoided in kilotonnes of CO ₂ equivalent	36.8	
				Number of homes renovated	15,457	
Energy Efficiency – Retrofitting, Limerick Regeneration Thermal Upgrade Programme	23.2	23.2	100%	Annual energy savings (GigaWatt Hours)	30.2	Please see table below for detailed information
				Annual Greenhouse gas emissions reduced/avoided in kilotonnes of CO ₂ equivalent	7.9	
				Number of homes renovated	1,730	

Total Allocated 2021 to Built Environment/Energy Efficiency	57.7
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Figures may not total due to rounding

Energy Efficiency Programme

Scheme	2021 Energy Efficiency Programme	
	No. of units	
Phase 2 EERP (Shallow Retrofit)	692	
B2/Cost Optimal Equivalent EERP	892	
Midland Retrofit Programme	146	
TOTAL	1,730	

In 2021, the newly enhanced Energy Efficiency Retrofit Programme (EERP) was launched with the ambition of retrofitting 36,500 properties to B2 or the cost optimal equivalent by 2030.

The calculation for the 1,038 properties completed under the enhanced EERP scheme and the Midland Retrofit Programme is based on data received from the local authority sector and confirmed through the SEAI in relation to the Department of Housing, Local Government and Heritage (DHLGH) funded newly enhanced energy efficiency programme to B2/Cost Optimal Equivalent.

A number of properties (692 units) had work completed under the old scheme (Phase 2) as part of the phasing out and transition to a B2/Cost Optimal Equivalent Energy Rating (assumptions are outlined in the ISGB Impact Report 2020).

Clean Transportation

Environmental Objectives: Pollution Prevention and Control/Climate Change Mitigation



Project/Programme/ Scheme	Green Expenditure (€ Million)	ISGB Proceeds Allocation including adjustments (€ Million)	Allocation Percentage from ISGB Proceeds	Impact Indicator		Other impact indicators and additional Information
Carbon reduction, Low Emission Vehicle Incentivisation LEV (Tax foregone)	97.5	97.5	100%	No. of new Grant-Aided Electric Vehicle Purchases	13,135	
				No. of grant-aided small public service vehicles (taxi/hackney/limousine)	689	
				No. of vehicles registered: Electric Vehicle Toll Incentive Scheme	19,196	
				No. of grant-aided electric vehicle home charging points installed (including chargers in multi-unit developments from 2020)	8,379	
Public service provision payments	567.0	567.0	100%	Passenger Journeys (Million)	139.8	Please see table below for detailed information
Active Travel Infrastructure/ Greenways/ Public Transport Investment	876.5	876.5	100%	Annual operated vehicle kilometres (millions)	112.7	Please see table below for detailed information
				Annual operated vehicle seat kilometres (millions)	13,210.4	Please see table below for detailed information
				No. of new coaches and buses delivered for national PSO fleets	293	61 x Single-Deck EURO VI Coaches 53 x Double-Deck EURO VI Coaches 179 x Double-Deck Plug-In Hybrid Buses
				Length of regional and national greenways constructed (km)	70	

Total Allocated 2021 to Clean Transportation	1,540.9
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Figures may not total due to rounding

Clean Transportation

Public service provision payments and Sustainable transport investment programme details

Annual Public Service Provision Payment (PSPP) Passenger Journeys (Millions)	2021
PSPP Public Transport Passenger Numbers:	139.8
LUAS Passenger Numbers	19.5
Iarnród Éireann Passenger Numbers	17.4
Dublin Bus Passenger Numbers	69.9
Bus Éireann Passenger Numbers	21.4
Go ahead Passenger Numbers	9.7
Others services	1.9

Annual PSPP Fleet & Tram Numbers	2021
PSPP Bus Fleet numbers – Dublin Bus/Go Ahead	1,218
PSPP Bus Fleet numbers – Bus Éireann	643
LUAS tram numbers	81

Additional Measures	2021
Segregated cycling infrastructure added (kms)	92
Length of new footpaths (kms)	161
No. of cycle parking stands provided in urban centres	7,681

Annual Operated Vehicle Kilometres* (Millions)	2021
LUAS	4.2
Iarnród Éireann	15.7
Dublin Bus	46.2
Bus Éireann	46.6

Annual Operated Vehicle Seat Kilometres** (Millions)	2021
LUAS	1,290.8
Iarnród Éireann	5,901.9
Dublin Bus	3,163.7
Bus Éireann	2,854.0

* Operated vehicle kilometre refer to the actual amount of vehicle kilometres that a bus or rail company has operated in a given period, as opposed to 'scheduled vehicle kilometres' which would indicate the number of vehicle kilometres that they intended to operate as per their cumulative timetables.

** Vehicle seat-kilometres is a unit of passenger transport capacity measuring the total number of seats available multiplied by the kilometres travelled.

Dublin Bus and Bus Éireann Emissions Metrics	2021
Passenger Journeys for Dublin Bus and Bus Éireann (millions)	91.3
CO ₂ e (tns) – Dublin Bus network buses	55,467
CO ₂ e (tns) – Bus Éireann network buses	47,054
CO ₂ e (tns) – Bus Éireann and Dublin Bus	102,520
CO ₂ e (grams) per passenger journey – Dublin Bus	794
CO ₂ e (grams) per passenger journey – Bus Éireann	2,199

Climate Change Adaptation

Environmental Objectives: Climate Change Adaptation

Sustainable Development Goals



Project/Programme/ Scheme	Green Expenditure (€ Million)	ISGB Proceeds Allocation (€ Million)	Allocation Percentage from ISGB Proceeds	Impact Indicator		
Flood Risk Management	55.7	55.7	100%	No. of Properties Protected on completion	8,296	<p>54% of the total capital expenditure of €55m on flood risk management in 2021 related to expenditure on the flood relief projects listed in the following table. These projects were at different stages of implementation during 2021 – either substantially complete, at construction or at design development. As primary indicators of the positive environmental impacts of those projects and of the benefit of the projects to the communities affected, the table gives information on the numbers of properties to be protected and the losses and damages avoided on completion of the projects.</p> <p>floodinfo.ie</p> <p>Please see table below for detailed information</p>
				Damages/Losses Avoided on completion (€ Million)	728	

Total Allocated 2021 to Climate Change Adaptation	55.7
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Note – breakdown of Flood Risk Management by Project

Project	Current Status	No of Properties Protected on Completion	Damage/Losses Avoided on Completion (€ Million)
Ashbourne	Under construction	45	3
Athlone FRS	Under construction	554	48
Bandon FRS	Substantially completed	392	33
Claregalway	Substantially completed	77	11
Clonakilty	Substantially completed	296	34
Douglas/Togher	Under construction	221	35
Dunkellin	Substantially completed	23	9
Ennis Lower	Substantially completed	1274	123
Ennis South	Substantially completed	126	5
Enniscorthy	At planning	326	52
Kings Island (Limerick)	Detailed design	473	37
River Dodder (Dublin)	Tidal phase completed and Fluvial phase under construction	1,938*	70
River Lee (Cork city)	At scheme development	2,100	185
Morell	Under construction	30	20
Skibbereen	Substantially completed	312	36
Templemore FRS	Under construction	109	27
Total		8,296	728

* (includes 1,000 already protected by Tidal phase)

Environmentally Sustainable Management of Living Natural Resources and Land Use

Environmental Objectives: Pollution Prevention and Control/Climate Change Mitigation/Natural Resource Conservation/Biodiversity

Sustainable Development Goals



Project/Programme/ Scheme	Green Expenditure (€ Million)	ISGB Proceeds Allocation including adjustments (€ Million)	Allocation Percentage from ISGB Proceeds	Impact Indicators		Other impact indicators and additional Information
Forestry and bio-energy*	69.6	69.6	100%	Afforestation (hectares of broadleaf planted)	829	Number of landowners who planted: 282 Forestry Statistics Ireland 2021
				Afforestation (hectares of conifers planted)	1,187	
Environmental Protection Agency Administrative expenses	48.9	48.9	100%	Number of reports published	34	<ul style="list-style-type: none"> Visits to drinking water sites: 79 Visits to Industrial, waste, dumping at sea and VOC facilities: 1,295 Radiation licences issued: 937 Prosecutions heard: 13 Number of environmental queries from the public: 2,940
				Number of visits to Urban Waste Water Sites	212	
				Environmental licences issued (permits, authorisations and licences)	687	
International Climate Change Commitments	13.0	13.0	100%	Number of reports published	1	Ireland's Climate and Environmental Finance Report 2021
Waste Management Programmes and Landfill remediation	21.3	21.3	100%	Number of landfill sites remediated	62	<ul style="list-style-type: none"> Number of Local Authorities in receipt of funding for landfill remediation: 23 Number of Landfill Remediation projects being funded: 70 Number of Local Authorities in receipt of funding for Diesel laundering clean-up: 2 Number of Local Authorities in receipt of funding for tyre impacted sites: 4 EPA Code of Practice Environmental Risk Assessment for Unregulated Waste Disposal Sites
				Number of Diesel laundering sites cleaned up	3	
Climate Initiatives	5.6	5.6	100%	Number of reports published	23	
National heritage (NPWS)	25.8	25.8	100%	Number of species held by the National Biodiversity Data Centre	16,911	This is an increase of 411 on the 2020 figure
				Number of NPWS farm plan schemes	178	4th National Biodiversity Action Plan Draft
Peatlands restoration and management	5.5	5.5	100%	Land area conserved/restored (hectares)	460	Number of annual payments and lump sum payments made under the Cessation of Turf Cutting Compensation Scheme for designated raised bogs: 3,179

Total Allocated 2021 to Environmentally Sustainable Management of Living Natural Resources and Land Use	189.7
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Figures may not total due to rounding

Renewable Energy

Environmental Objectives: Climate Change Mitigation



Project/Programme/ Scheme	Green Expenditure (€ Million)	ISGB Proceeds Allocation (€ Million)	Allocation Percentage from ISGB Proceeds	Impact Indicator		Additional Information
Energy research programmes	10.4	10.4	100%	Number of companies (including public sector organisations) benefitting from SEAI Research & Innovation programmes as lead, partner or active collaborators	143	In 2021, SEAI supported innovative energy-related research, development & demonstration (RD&D) projects via the SEAI National Energy RD&D Funding Programme. Projects funded by aim to support Ireland's transition to a clean energy future by: (i) Accelerating the deployment of energy-related products, processes and systems in the Irish marketplace; (ii) supporting solutions that enable technical and other barriers to energy market uptake to be overcome; (iii) growing Ireland's national capacity to access, develop and apply international class energy RD&D, and (iv) providing policy guidance and support through results, outcomes and learnings from supported projects. The project work supported aims to underpin the delivery of key national energy policies including the Climate Action Plan and the Programme for Government, among others. Research supported also helps to inform further development of SEAI energy efficiency and renewable energy programmes and policies.
				Number of SEAI Research & Innovation awards benefitting research institutions	48	

Total Allocated 2021 to Renewable Energy	10.4
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Sustainable Water and Wastewater Management

Environmental Objectives: Climate Change Adaptation/Biodiversity/Natural Resource Conservation/Pollution Prevention and Control

Sustainable Development Goals



Project/Programme/ Scheme	Green Expenditure (€ Million)	ISGB Proceeds Allocation (€ Million)	Allocation Percentage from ISGB Proceeds	Impact Indicator		Other impact indicators and additional Information
Rural water programme	48.1	48.1	100%	Total no. of Private Wells (new and upgraded)	2,913	<ul style="list-style-type: none"> No. of Operational Supports to Private Group Water Schemes: 527 No. of Operational Supports to Public Group Water Schemes: 163
				Total no. of Septic Tanks (upgraded)	164	
Capital Expenditure provided to Irish Water for domestic services	599.0	599.0	100%	Water savings (million litres of water per day)	222.08	<ul style="list-style-type: none"> Private side leakage savings (Ml/day): 13.97 Public side leakage savings (Ml/day): 208.11 Number of people removed from a boil water notice in place for longer than 30 days: 38,290 Number of water supply schemes removed from the Environmental Protection Agency's Remedial Action List (RAL), which highlights the water supplies that pose a risk to customers: 9 Implementation of the Irish Water Lead in Drinking Water Mitigation Plan (number of lead services replaced): 5,876 Uisce Eireann CapEx plan
				New and upgraded water treatment plants	12	
				Length of water main laid – New and rehabilitated (Km total)	202	
				New and upgraded wastewater treatment plants	8	
				Length of sewer laid-New and rehabilitated (km total)	26	

Total Allocated 2021 to Sustainable Water and Wastewater Management	647.1
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Figures may not total due to rounding

Appendix 1: Allocation Table³

Eligible Green Categories	Project/Programme/Scheme	Eligible Green Expenditure € '000s	ISGB Proceeds Allocation 2021 € '000s	ISGB Proceeds Allocation 2022 € '000s
Built Environment/Energy Efficiency Total		57,723.3	23,916.6	33,806.7
Built Environment/Energy Efficiency breakdown of programmes and schemes	Sustainable Energy Programmes	18,467.3	7,651.6	10,815.7
	Energy Efficiency - Retrofitting	21,741.0	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
Clean Transportation Total		1,540,908.0	638,446.5	902,461.5
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	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
Climate Change Adaptation Total		55,666.0	23,064.2	32,601.8
Climate Change Adaptation breakdown of programmes and schemes	Flood Risk Management (OPW)	55,666.0	23,064.2	32,601.8
Environmentally Sustainable Management of Living Natural Resources and Land Use Total		189,709.8	78,602.7	111,107.1
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	5,374.9	7,597.5
	Peatlands Restoration and Management	5,490.0	2,274.7	3,215.3
	Climate Initiatives	5,632.6	2,333.8	3,298.9
Renewable Energy Total		10,357.9	4,291.6	6,066.3
Renewable Energy breakdown of programmes and schemes	Energy Research Programmes	10,357.9	4,291.6	6,066.3
Sustainable Water and Wastewater Management Total		647,056.0	268,095.6	378,960.4
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
Grand total expenditure and allocations		2,501,421.0	1,036,417.2	1,465,003.9

3 Figures may not total due to rounding.

Glossary

GWh	GigaWatt hours
GHG	Greenhouse Gas
ktCO₂e	Kilotonnes of carbon dioxide equivalent
KM	Kilometre
VOC	Volatile Organic Compounds
EV	Electric vehicle
BEV	Battery electric vehicle
PHEV	Plug-in hybrid electric vehicle
LEV	Low emission vehicle
na	Indicator is not applicable for Project/Programme/Scheme
NPWS	National Parks & Wildlife Service
SEAI	Sustainable Energy Authority of Ireland
UWWTD	Urban Waste Water Treatment Directive
VRT	Vehicle Registration Tax



Athlone, Co. Westmeath



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Government of Ireland