

The Grand Duchy of Luxembourg

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Introduction

In September 2020, The Grand Duchy of Luxembourg (“Luxembourg”) issued a sustainability bond under the Grand Duchy of Luxembourg Sustainability Bond Framework¹ (the “Framework”) aimed at financing green and social expenditures in order to achieve the ambitions set out in Luxembourg’s “National Plan for Sustainable Development”.² Sustainalytics provided a Second Party Opinion³ on the Framework in August 2020. In August 2022, Luxembourg engaged Sustainalytics to review the projects funded in 2021 through the issued sustainability bond and provide an assessment as to whether the projects met the Use of Proceeds criteria and the Reporting commitments outlined in the Framework.

As per the impact report 2020, Luxembourg financed and refinanced expenditures for 65 projects incurred in the budget years 2018 to 2020 with total disbursements of EUR 771.6 million.⁴ In 2021, Luxembourg financed 65 projects with total disbursements of EUR 331 million.⁵ Newly financed projects in 2021 were within the following six Framework categories: (i) Low Carbon Transport, (ii) Water and Wastewater Management, (iii) Access to Essential Services - Education, (iv) Access to Essential Services - Healthcare, (v) Access to Essential Services - Social Inclusion, and (vi) Affordable Housing.

Evaluation Criteria

Sustainalytics evaluated the projects and assets funded in 2021 based on whether the projects and programmes:

1. Met the Use of Proceeds and Eligibility Criteria outlined in the Grand Duchy of Luxembourg Sustainability Bond Framework; and
2. Reported on at least one of the Key Performance Indicators (KPIs) for each Use of Proceeds criteria outlined in the Grand Duchy of Luxembourg Sustainability Bond Framework.

Table 1 lists the Use of Proceeds, Eligibility Criteria, while Table 2 lists the associated KPIs.

Table 1: Use of Proceeds, Eligibility Criteria

Use of Proceeds	Eligibility Criteria
Green Buildings	<ul style="list-style-type: none"> • Construction and acquisition of energy efficient buildings • Renovation of existing buildings
Energy Transition	<ul style="list-style-type: none"> • Renewable energy: construction and operation of electricity generation facilities supporting a transition to a net-zero emissions economy • Energy efficient appliance and lighting
Low Carbon Transport	<ul style="list-style-type: none"> • Low carbon transportation including: <ul style="list-style-type: none"> - Public transport

¹ The Grand Duchy of Luxembourg Sustainability Bond Framework is available on the website of the Luxembourg State Treasury at: <https://te.public.lu/content/dam/tresorerie/fr/sustainable/20200831-Luxembourg-Sustainability-Bond-Framework.pdf>

² “Luxembourg 2030: 3rd National Plan for Sustainable Development”, at: <https://environnement.public.lu/dam-assets/documents/developpement-durable/PNDD.pdf>

³ Grand Duchy of Luxembourg Sustainability Bond Framework Second-Party Opinion, at: <https://www.sustainalytics.com/corporate-solutions/sustainable-finance-and-lending/published-projects/project/the-grand-duchy-of-luxembourg/grand-duchy-of-luxembourg-sustainability-bond-framework-second-party-opinion/grand-duchy-of-luxembourg-sustainability-bond-framework-second-party-opinion-pdf>

⁴ The Grand Duchy of Luxembourg Sustainability Bond Impact Report 2021, at: <https://te.public.lu/content/dam/tresorerie/fr/sustainable/2021-Luxembourg-Sustainability-Bond-Report-2018-2020.pdf>

⁵ The Grand Duchy of Luxembourg has communicated to Sustainalytics that it has disclosed the allocation and impact details in the Luxembourg Sustainability Bond Impact Report 2022.

	<ul style="list-style-type: none"> - Infrastructure for low carbon transport
Protection of the Environment	<ul style="list-style-type: none"> • Waste management • Protection and restoration of healthy ecosystems and their services
Water and wastewater Management	<ul style="list-style-type: none"> • Support the development of water and wastewater management systems allowing to significantly improve energy efficiency and/or water quality
Climate Finance and R&D	<ul style="list-style-type: none"> • Mobilise and support investment in international climate finance • Support research, development and innovation focusing on climate change mitigation and adaptation
Access to Essential Services - Education	<ul style="list-style-type: none"> • Providing access to essential educational infrastructure and services for all by: <ul style="list-style-type: none"> - Extending educational capacities - Improving the quality of the existing educational infrastructure and equipment
Access to Essential Services-Healthcare	<ul style="list-style-type: none"> • Provide access to essential healthcare infrastructure and services for all by: <ul style="list-style-type: none"> - Extending healthcare capacities - Improving the quality of the existing healthcare facilities
Access to Essential Services - Social Inclusion	<ul style="list-style-type: none"> • Provide access to essential services for population groups at risk of social exclusion by: <ul style="list-style-type: none"> - Providing access to essential infrastructure and services to vulnerable population - Providing financial assistance to vulnerable population
Affordable Housing	<ul style="list-style-type: none"> • Provide access to affordable housing to vulnerable population by: <ul style="list-style-type: none"> - Extending the social and affordable housing supply - Improving the quality of the existing social and affordable housing facilities - Providing financial assistance to facilitate access to housing and ownership
Employment Generation and Socio-economic Advancement and Empowerment	<ul style="list-style-type: none"> • Support employment generation and socio-economic advancement and empowerment, including but not limited to: <ul style="list-style-type: none"> - Employment generation and retention initiatives - Support to Social and Solidarity Economy - Support to the SMEs⁶ in the event of extreme events (e.g. natural disaster, extreme weather events, public health disaster etc.)

Table 2: Key Performance Indicators

Use of Proceeds	Key Performance Indicators
Green Buildings	<ul style="list-style-type: none"> • Estimated ex-ante annual energy savings (in MWh) • Annual GHG emissions saved (in tCO₂e)
Energy Transition	<ul style="list-style-type: none"> • Renewable Energy Capacity (in MW) • Number of efficient street lighting appliances and systems installed • Estimated ex-ante annual energy savings (in MWh) • Estimated annual GHG emissions reduced/avoided (in tCO₂e)
Low Carbon Transport	<ul style="list-style-type: none"> • Annual number of low carbon vehicles deployed by type of transport (e.g. number of trains/trams) • Annual number of users served • Other relevant indicators depending on the considered projects

⁶ Small, medium, and micro-sized enterprises, as defined under EU recommendation 2003/361: https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

Protection of the Environment	<ul style="list-style-type: none"> • Annual volume of waste collected and disposed or treated (in tonnes) • Surface of protected or restored areas (in hectares) • Other relevant indicators depending on the considered projects
Water and Waste Water Management	<ul style="list-style-type: none"> • Annual volume of water collected and disposed or treated (in m³) • Number of users served • Other relevant indicators depending on the considered projects
Climate Finance and R&D	<ul style="list-style-type: none"> • Number of investment funds that have been launched with the support of Climate Finance expenditures • Total Net Asset Value of the investments funds • Estimated annual CO₂ emissions avoided (in tCO₂e) • Details of eligible R&D projects will be disclosed, where possible and taking into consideration intellectual property protection measures and know-how aspects
Access to Essential Services - Education	<ul style="list-style-type: none"> • Number of education infrastructures benefiting from the eligible expenditures, including a breakdown by type of infrastructures (schools, universities...) • Capacity/additional capacity (in number of students)
Access to Essential Services - Healthcare	<ul style="list-style-type: none"> • Number of healthcare infrastructures benefiting from the eligible expenditures, including a breakdown by location • Capacity/additional capacity (in number of beds and/or patients)
Access to Essential Services- Social Inclusion	<ul style="list-style-type: none"> • Number of social inclusion infrastructures benefiting from the eligible expenditures, including a breakdown by type of infrastructures • Capacity/additional capacity (in number of beneficiaries)
Affordable Housing	<ul style="list-style-type: none"> • Number of dwellings • When available, additional information may be provided regarding the energy performance of eligible buildings
Employment Generation and Socioeconomic Advancement and Empowerment	<ul style="list-style-type: none"> • Number of people benefitting from the eligible employment generation and retention initiatives, including a breakdown per type of initiatives/schemes considered • When available, additional information may be provided regarding the employment generation and retention initiatives beneficiaries (e.g. age, level of education) • When available, information may be provided regarding the Social and Solidarity Economy beneficiaries (e.g. number, type) • Number of SMEs impacted by the consequences of extreme events benefiting from the eligible expenditures

Issuing Entity's Responsibility

Luxembourg is responsible for providing accurate information and documentation relating to the details of the projects that have been funded, including description of projects, amounts allocated, and project impact.

Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of Luxembourg's Sustainability Bond Use of Proceeds. The work undertaken as part of this engagement included the collection of documentation from the Luxembourg Sustainability Bond Committee and the review of documentation to assess conformance with the Grand Duchy of Luxembourg Sustainability Bond Framework.

Sustainalytics has relied on information and facts presented by Luxembourg with respect to the Nominated Projects. Sustainalytics is not responsible nor shall it be held liable if any of the opinions, findings or conclusions it has set forth herein are not correct due to incorrect or incomplete data provided by Luxembourg.

Sustainalytics made all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the review.

Conclusion

Based on the limited assurance procedures conducted,⁷ nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the reviewed projects, funded through proceeds of Luxembourg's Sustainability bond, are not in conformance with the Use of Proceeds and Reporting Criteria outlined in the Grand Duchy of Luxembourg Sustainability Bond Framework. The Grand Duchy of Luxembourg is planning to reach full allocation by the end of 2022.

Detailed Findings

Table 3: Detailed Findings

Eligibility Criteria	Procedure Performed	Factual Findings	Error or Exceptions Identified
Use of Proceeds Criteria	Verification of the projects funded by the sustainability bond in 2021 to determine if projects aligned with the Use of Proceeds criteria outlined in the Grand Duchy of Luxembourg Sustainability Bond Framework and above in Table 1.	All projects reviewed complied with the Use of Proceeds criteria.	None
Reporting Criteria	Verification of the projects funded by the sustainability bond in 2021 to determine if impact of projects was reported in line with the KPIs outlined in the Grand Duchy of Luxembourg Sustainability Bond Framework and above in Table 1. For a list of KPIs reported please refer to Appendix 2.	All projects reviewed reported on at least one KPI per Use of Proceeds criteria.	None

⁷ Sustainalytics limited assurance process includes reviewing the documentation relating to the details of the projects that have been funded, including description of projects, estimated and realized costs of projects, and project impact, which were provided by the Issuer. The Issuer is responsible for providing accurate information. Sustainalytics has not conducted on-site visits to projects.

Appendices

Appendix 1: Allocation Reporting by Eligibility Criteria

In September 2020, Luxembourg raised EUR 1.5 billion through its sustainability bond. In 2020, it invested EUR 771.6 million in 65 projects across three green and four social categories. In 2021, Luxembourg invested EUR 331.4 million in 65 projects across two green and four social categories. See below a summary of the reported allocated amount at category level.

Use of Proceeds Category	Sub-category	Allocated amount ⁸ (EUR)			
		2018	2019	2020	2021
Low Carbon Transport	Public transport	36,262,909	35,502,137	63,104,052	42,423,149
	Infrastructure for low carbon transport	82,434,946	91,828,319	72,403,615	94,557,780
Water and Wastewater Management	Supporting the development of water and wastewater management systems allowing to significantly improve water quality	21,617,003	30,581,130	12,373,662	20,169,995
Access to Essential Services - Education	Providing access to essential educational infrastructure and services for all	19,487,752	31,579,543	47,557,026 ⁹	61,487,367
Access to Essential Services - Healthcare	Providing access to essential healthcare infrastructure and services for all	25,454,576	27,340,591	45,454,415	35,564,187
Access to Essential Services- Social Inclusion	Providing access to essential services for population groups at risk of social exclusion	18,218,290	22,635,308	20,533,404	24,410,953
Affordable Housing	Providing access to affordable housing to vulnerable population	15,167,975	26,704,393	25,387,381	52,831,175
Allocations by budget year		218,643,451	266,171,421	286,813,555	331,444,606
Total allocated		1,103,073,034			
Total proceeds raised		1,500,000,000			
Unallocated proceeds		396,926,966			

⁸ Full amounts displayed under 2018 and 2019 and part of the amounts displayed under 2020 were refinanced from the respective budget years with the bond issued in 2020. The actual allocations took place in 2020.

⁹ Luxembourg has informed Sustainalytics that there has been a retroactive change in allocation for this figure. Hence, this is not consistent with the figure reported in the previous Impact Report and Annual Review.

Appendix 2: Impact Reporting by Eligibility Criteria

Use of Proceeds Category	Indicators	Impact Reported			
		2018	2019	2020	2021
Low Carbon Transport	Number of low-carbon vehicles deployed by type of transport (trams/year)	8	9	11	17
	Number of users served on new tram and train lines (users/year)	5,752,704	7,230,837	5,180,667	15,395,304
	Length of new tram lines / new rail lines built (km) ¹⁰	15.8	15.8	18.56	18.56
	Passenger-kilometers (pkm) on additional low-carbon transport infrastructure (pkm/year)	25,680,312	38,567,788	22,639,071	88,028,468
	Number of freight containers and semi-trailers - maximum annual capacity/year (ITU) ¹¹	600,000	600,000	600,000	600,000
	Number of freight containers and semi-trailers/year (ITU)	127,448	133,863	135,207	163,471
	Number of tonnes transferred from road to rail transport (per year)	3,186,200	3,346,575	3,380,175	4,007,180
Water and Wastewater Management	Volume of water treated (m ³ /year)	-	-	15,584,926	15,927,376
	Total number of users served (population equivalent/year)	15,346	16,551	169,951	170,947
	Sewage sludge anaerobic digestion and use of biogas for energy generation (tonnes of sewage sludge/year)	-	-	2,700 ¹²	2,891
Access to Essential Services - Education	Number of institutions benefiting from these investments ¹³	9	9	9	10
Access to Essential Services - Healthcare	Number of institutions benefiting from these investments ¹⁴	20	20	20	20

¹⁰ These values are absolute values.

¹¹ The OECD defines Intermodal Transport Unit as "international transportation method that involves several different modes of transportation: ocean freight, air freight, rail, trucking, etc.," available at: <https://stats.oecd.org/glossary/detail.asp?ID=4303>

¹² Luxembourg has informed Sustainalytics that there has been a retroactive change for this figure. Hence, this not consistent with the figure reported in the previous Impact Report and Annual Review.

¹³ These values are absolute values. All institutions benefitted were schools and childcare facilities.

¹⁴ These values are absolute values. Projects were in the following locations: Luxembourg (7 projects), Putscheid (1 project), Steinfort (1 project), Esch-sur-Alzette (2 projects), Ettelbruck (1 project). Two other projects financed all four hospital centres of the country.

Access to Essential Services- Social Inclusion	Number of beneficiaries ¹⁵ /year	237	1,012	2,786	1,823 ¹⁶
Affordable Housing	Finished Housing units	-	-	-	274

¹⁵ Beneficiaries are defined as people having applied for or benefiting from international protection.

¹⁶ Institutions benefitted were the following: Reception centres for people having applied for or benefiting from international protection (487 beneficiaries); reception centre for homeless people and multifunctional emergency structure for people in need (1,246 beneficiaries); and construction, renovation and transformation of different properties to create a new residential home and day centre for persons with disabilities (90 beneficiaries).

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