Luxembourg Sustainability Bond Report







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The Grand Duchy of Luxembourg has continually shown determination to grow its role as one of the world's leading international financial centers. For over 15 years, Luxembourg has been a pioneer in placing sustainable finance at the forefront of its activities, and has developed a well-established track record.

From listing the world's first green bond in 2007 to becoming the first European and AAA-rated country to issue a sovereign sustainability bond, the country continues to grow and evolve as a hub for innovative and sustainable financial products.

Luxembourg's sovereign sustainability bond framework was published in September 2020, aligned with best-in-class methodologies including the, then draft, EU Taxonomy criteria, the draft European Green Bonds Standard (EU GBS) and the International Capital Markets Association (ICMA)'s sustainable bond principles.

The inaugural EUR 1.5 billion sovereign sustainability bond, the Luxembourg Sustainability Bond (LSB), was issued in September 2020. By doing so, Luxembourg underlined the fact that environmental and social issues are intertwined and must be tackled together to ensure a just transition.

By issuing a sustainability bond, the Grand Duchy of Luxembourg underlined the fact that environmental and social issues are intertwined and must be tackled together to ensure a just transition.



Three years later, I am pleased to present the final Sustainability Bond Report, covering the years 2018-2022 and the full allocation of the raised proceeds. In total, EUR 1.5 billion worth of investments have been allocated to 74 projects in 7 green and social categories. In 2022, these investments amounted to EUR 366 million. This Report provides the exact allocation of the proceeds for the years 2018 to 2022 as well as the environmental and social impacts resulting from the financed projects. As Minister of Finance, I am proud to see Luxembourg lead by example and set a precedent for the sustainable transition of the financial sector. I would like to express my heartfelt gratitude to all the actors in the public and private sector involved in supporting and advancing sustainable finance.

I would also like to thank the members of the Sustainability Bond Committee and the numerous contributors in all of the involved ministries and bodies for their work and dedication in writing this final Report.

Yuriko Backes

Minister of Finance

Overview of the Luxembourg Sustainability **Bond Framework**

Luxembourg's Sustainability Bond Framework aligns with the 2021 Sustainability Bond Guidelines ("SBG") issued by the International Capital Markets Association (ICMA). The eligibility criteria of the green categories comply, where applicable and on a best-effort basis, with the criteria of the EU Taxonomy. The Framework follows the four core components of the SBG:

Use of Proceeds

The eligible green and social expenditures are distributed across 11 categories (six green and five social) as described under section 2 of the Framework. Any expenditures related to the following activities are excluded:

- · Alcohol, tobacco, gambling;
- Nuclear power generation;
- Fossil fuel production and transportation, and fossil fuel power generation;
- Production or trade in weapons and munitions;
- Production or trade in any product or activity deemed illegal under international conventions and agreements, or subject to international bans.



Process for Evaluation and Selection

A dedicated Sustainability Bond Committee has been State Treasury (chair), the Ministry of Finance and the General Inspectorate of Finance (IGF).

The responsibilities of the Committee include the established to oversee the implementation of the selection, verification and approval of green and social Framework, under the coordination of the Luxembourg expenditures under the Sustainability Bond Framework State Treasury. The members of the Committee are the as well as the review of the allocation of the proceeds and the validation of Green, Social and/or Sustainability Bond reports.

Management of Proceeds

After the approval of the Sustainability Bond Committee, an amount equivalent to at least the Green, Social and/or Sustainability Bond's net proceeds are allocated to eligible expenditures, and managed and tracked by the State Treasury.





Reporting

The Government of Luxembourg produces a Sustainability Bond Report at least annually until full allocation of the Green, Social and/or Sustainability Bond proceeds, including information on:

- The allocation of proceeds towards eligible expenditures ("allocation report"), including total proceeds allocated, categories breakdown, and unallocated proceeds (if any);
- The environmental and/or social impact of those expenditures ("impact report").

The allocation report includes an overview of the allocated proceeds, a breakdown per category as well as the amount of unallocated proceeds at the reporting end-period (if any).

2.5

External Review

The Sustainability Bond Framework has been subject to a second-party-opinion that was carried out by Sustainalytics. In addition, an external reviewer will provide an annual report review until all the proceeds of the Green, Social and/or Sustainability Bond have been allocated, confirming that an amount equal to the net proceeds have been allocated in compliance with the criteria set out in the Use of Proceeds section.

Key figures	
Issuer	The Grand Duchy of Luxembourg
Nominal Amount	EUR 1.5 bn
Issue Date	14/09/2020
Maturity Date	14/09/2032
Coupon	0%
Listing	Luxembourg Stock Exchange
Joint lead managers	Banque et Caisse d'Épargne de l'Etat, BGL BNP Paribas, Banque International à Luxembourg S.A., Deutsche Bank, Société Générale Corporate & Investment Banking
Second Opinion	Sustainalytics
ISIN	LU2228213398



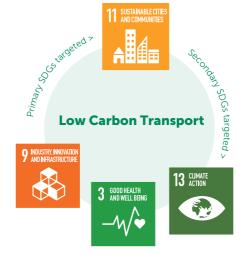
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The present Sustainability Bond Report owners and project managers. This Sustainability Bond Report cov-

Introduction

(the "Report") is the third and last annual allocation and impact report of the Luxembourg Sustainability Bond. The information gathered in this Report is based, as far as possible, on the existing public reports¹ on the green and social projects included, as well as on direct interactions with the ministries, project

ers the years 2018 to 2022 and aims to help understand the specific environmental and social impacts of the eligible projects by quantifying and measuring them where possible. Apart from specific environmental and social impact indicators accompanying the eligible projects, this sovereign bond targets eight primary and nine secondary SDGs:











Water Treatment



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¹ Please refer to 2018-2020 Luxembourg Sustainability Bond Report and 2021 State Treasury Website: Finance durable - Trésorerie de l'Etat - Luxembourg (public.lu)

1.13 billion out of the EUR 1.5 billion have been allocated. For the year 2022, a total of EUR 366 million has been allocated, covering 7 different green or social categories (low carbon transport, water treatment, protection of the environment, education, healthcare, social inclusion, and affordable housing).

For the sake of clarity and transparency, the Sustainabil-

For the years 2018 to 2021, a total amount of EUR

For the sake of clarity and transparency, the Sustainability Bond Committee (SBC) decided to allocate the proceeds from the issued bond to specific projects instead of full state budget lines. On the one hand, this implies more workload for the impact definition and reporting process as well as for the allocation reporting. On the other hand, it allows a clearer identification of the allocation of the proceeds and underlines Luxembourg's

aim for a maximum of transparency on the funded projects. One should thus bear in mind that the Sustainability Bond does not necessarily cover entire projects, but mostly only contributes to a share of the projects financed by the Luxembourgish Government.

Due to the COVID-19 pandemic as well as the Russian war in Ukraine and the subsequent economic impacts, a considerable slowdown of certain investment projects and thus the related expenditures has been observed. As a consequence, two cycle path projects as well as two new refugee centers have been added to the list of projects financed through the sustainability bond. These additional expenses are reported for the years 2018 to 2022.

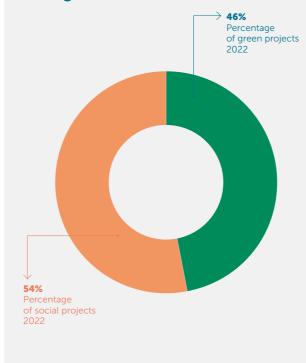
Overview of allocation amounts to green and social projects respectively and the expenditures per category of project.

The following diagrams provide an overview of how the funds of the Luxembourg Sustainability Bond have been allocated to the different relevant government expenditures in the **year 2022**, respectively for the **years 2018 to 2022**.

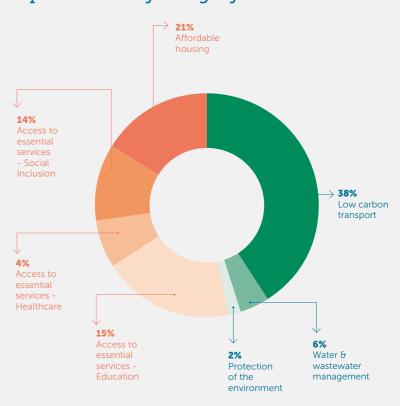
Categories 2022

Allocation

Report



Expenditures by category 2022



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Allocation table



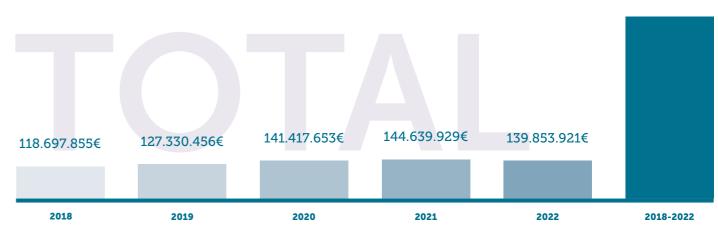


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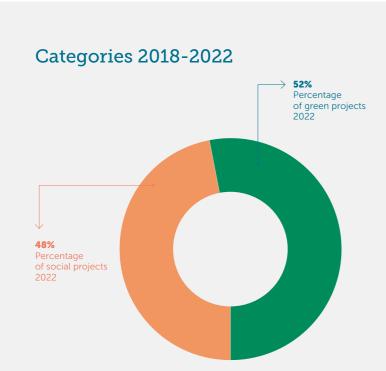
T ubite transport						
Project name	2018	2019	2020	2021	2022	Total 2018-2022
Luxembourg Tram (LuxTram) > Luxembourg City	36.262.909€	35.502.137€	63.104.052€	42.423.149€	37.651.856€	214.944.103€

Infrastructure for low carbon transport						
Construction of a new train line > Luxembourg City - Bettembourg	23.939.225€	31.673.194€	24.386.121€	21.128.273€	19.271.834€	120.398.647€
Adaptation of north side of the Luxembourg City train station > Luxembourg City	17.821.718€	15.524.605€	5.352.400€	2.180.834€	5.010.634€	45.890.191€
Construction of two new platforms at the Luxembourg City train station > Luxembourg City	3.732.512€	7.215.713€	11.351.553€	43.267.561€	30.177.669€	95.745.008€
Laying of second train tracks > Hamm-Sandweiler	19.415.334€	19.940.859€	5.540.480€	2.890.000€	2.064.538€	49.851.211€
Construction of a multimodal platform > Bettembourg	16.249.817€	8.450.377€	6.887.377€	2.623.305€	-	34.210.876€
Modernisation of the train station > Rodange	1.276.340€	9.023.571€	18.885.684€	22.467.807€	25.385.390€	77.038.792€
Widening of footbridge for cycle path > Luxembourg City	-	-	4.776.000€	3.180.000€	2.536.000€	10.492.000€
Construction of a new cycle path > between Esch-Alzette and Belval	-	-	1.133.986€	4.479.000€	17.756.000€	23.368.986€

671.939.814€

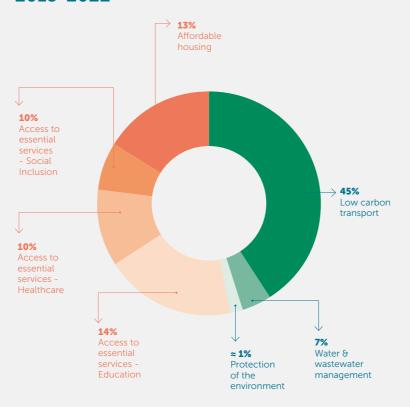


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Expenditures by category 2018-2022

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Luxembourg Sustainability Bond Report

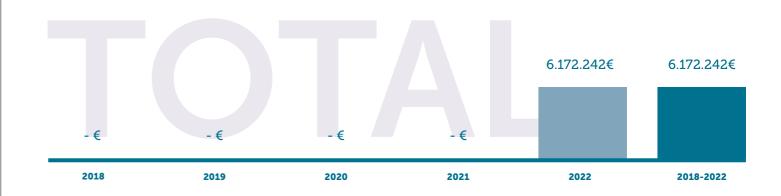
4. Allocation Report

Water & wastewater management Support the development of water and wastewater management systems allowing to significantly improve water quality Total 2018-2022 **Project name** 2018 2019 2020 2021 2022 Extension and modernization of the national drinking water treatment station (SEBES) 3.500.000€ 7.000.000€ 7.000.000€ 7.000.000€ 7.000.000€ > National Water Syndicate in Esch-sur-Sûre Extension and modernization of the wastewater 10.895.498€ 6.152.871€ 17.048.369€ treatment plant > SIDEN in Bleesbruck Sanitation work in the Attert Valley 4.851.427€ 2.065.135€ 2.142.317€ 9.058.879€ > SIDERO in the Attert Valley Evacuation and purification of wastewater generated 253.731€ 864.094€ 1.371.306€ 701.433€ 1.745.174€ 4.935.738€ by the municipalities of the Upper Moselle > AC Schengen in the Upper Moselle Sanitation of the Lower Moselle with the construction 5.601.954€ 6.012.925€ 95.550€ 2.153.372€ 7.379.052€ 21.242.853€ of a new wastewater treatment plant > SIDEST at the Port of Mertert $\label{prop:equation} \mbox{Extension and modernization of the wastewater}$ 442.355€ 755.457€ 127.764€ 177.957€ treatment plant > SIDEST in Uebersyren Extension of the wastewater treatment plant 1.191.889€ > VdL in Beggen Extension of the wastewater treatment plant 3.950.529€ 19.428.513€ 5.192.601€ 4.448.915€ 5.836.468€ > SIACH in Pétange





Protection of the environment Protection and restoration of healthy ecosystems and their ser						
Project name	2018	2019	2020	2021	2022	Total 2018-2022
Ecological renaturation of the Pétrusse valley > Luxembourg City	- €	- €	- €	- €	6.172.242€	6.172.242€





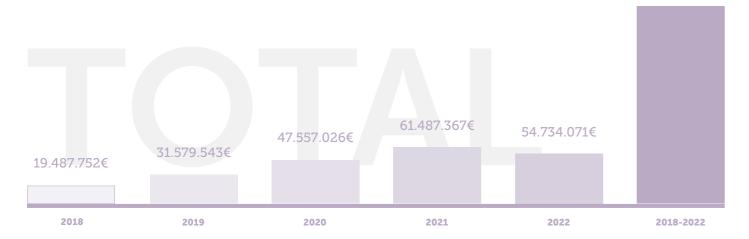
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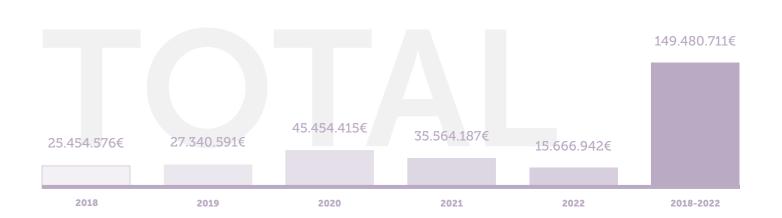


Access to essential services - Education **Project name** 2018 2019 2020 Construction of a new school restaurant 190.004€ 500.171€ 2.128.382€ 4.216.209€ > Ecole privée Fieldgen Construction of a new child care facility 2.045.375€ > Project Wobrecken in Esch-sur-Alzette Construction of new child care facility 2.476.750€ > Bertrange Construction of a new child care facility 2.251.750€ Campus Berchem-Bivange Constrcution of a new child care facility and elementary school 3.059.000€ > Belval-Sud Construction of a new child care facility and elementary school 3.066.750€ > Project Helperknapp in Brouch Construction of a new highschool 5.931.320€ | 10.099.072€ | 20.003.874€ | 13.522.854€ | 2.244.012€ International School in Differdange (public) Renovation of a highschool 3.032.280€ | 10.653.265€ | 13.076.187€ | 22.921.001€ | 7.430.270€ > Lycée Michel Rodange Renovation of a highschool 7.587.010€ 16.504.873€ 861.786€ 5.253.875€ 5.072.476€ > Lycée Classique Diekirch, annexe Mersch Construction of a new school and sports hall 1.874.866€ 2.316.577€ 6.858.943€ 15.328.121€ 24.338.707€ > Lycée Technique pour Professions de Santé

214.845.760€



Access to essential services - H Provide access to essential healthcare infrastructure and serv		ire				
Project name	2018	2019	2020	2021	2022	Total 2018-2022
Obstetrics Maternity and Gynecology Center > Centre Hospitalier de Luxembourg (CHL)	767.383€	498.663€	103.192€	5.284€	250.000€	
Construction of a modular building with specialized pediatric beds * > Centre Hospitalier de Luxembourg (CHL)	-	-	-	-	66.391€	
Extension of the National Institute of Cardiac Surgery and Interventional Cardiology (INCCI)	398.001€	398.882€	498.327€	912.620€	-	
New construction for the CHL Hospital and the National Institute of Cardiac Surgery and Interventional Cardiology (INCCI) > Centre Hospitalier de Luxembourg & INCCI	-	8.420.435€	2.107.828€	5.529.567€	6.968.681€	
Construction of a floor tower for geriatric rehabilitation beds, an integrated dialysis center, the National Center for Specialized Ophthalmology and an elective orthopedic service > Hôpitaux Robert Schuman - Kirchberg	-	-	-	1.780.901€	1.490.306€	
Extension of the national service of juvenile psychiatry > Hôpitaux Robert Schuman - Kirchberg	2.263.331€	3.498.997€	3.770.332€	5.941.912€	1.879.271€	
Construction of a medical center with 10 single maternity rooms, 1 endoscopy room and 1 outpatient medical-technical unit > Hôpitaux Robert Schuman - Kirchberg & Clinique Bohler	4.064.091€	323.300€	51.045€	70.044€	10.935€	
New construction with 4 care units, a day hospital and radiology > Hôpitaux Robert Schuman - Zithaklinik	12.605.664€	8.420.005€	9.151.774€	7.227.336€	1.094.800€	
Construction of a therapeutic center for adolescents in Putscheid > Centre Hospitalier Neuro-Psychiatrique	793.012€	1.353.085€	2.340.871€	624.376€	620.406€	
Construction of a new extension for geriatric reeducation and care > Hôpital Steinfort	-	-	75.856€	109.135€	336.152€	
Construction of the new hospital ""Südspidol"" > Centre Hospitalier Emile Mayrisch (CHEM) - Südspidol	-	-	20.458.049€	7.338.010€	-	
Extention of the CHEM ""Altbau 2"" > Centre Hospitalier Emile Mayrisch (CHEM)	-	-	-	2.320.414€	-	



4.563.094€

896.757€

2.734.900€

795.567€

221.145€

4.618.880€

2.057.116€

307352€

1.172.424€

2.224.812€ 2.750.000€

200.000€

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Architectural measures to accommodate ϑ installation

Increase in emergency rooms and daycare centers

Extension of the hemodialysis service

> Centre Hospitalier du Nord (CHdN)

> all 4 hospital centers of the country

> all 4 hospital centers of the country

of additional IRMs

in the hospitals

Luxembourg Sustainability Bond Report

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Access to essential services - Social inclusion Provide access to essential services for population groups at risk of social exclusion								
Project name	2018	2019	2020	2021	2022	Total 2018-2022		
Reception centers for people having applied for or benefiting from international protection > Sanem / Mühlenbach / Bettembourg / Bridel / Capellen / Rodange / Luxembourg City	837.742€	6.362.279€	5.101.821€	8.617.510€	9.458.856€	30.378.207€		
Reception center for homeless people & multifunctional emergency structure for people in need > Sandweiler, Building A + B	6.642.997€	4.538.043€	864.037€	51.072€	45.765€	12.141.914€		
Construction, renovation and transformation of different properties to create a new residential home and day center for persons with disabilities > Ettelbrück	9.247.479€	6.933.983€	3.238.886€	829.864€	1.139.265€	21.389.477€		
Construction of a care home for the elderly > Differdange	-	3.934.371€	8.984.276€	11.809.470€	22.135.479€	46.863.596€		
Construction of a care home for the elderly > Bascharage	696.751€	1.324.841€	4.143.928€	8.515.084€	14.414.686€	29.095.290€		
Construction of a reception center > Project ""Jongenheem"" Maison Porte Ouverte	1.139.664€	1.432.875€	1.088.950€	955.820€	343.443€	4.960.752€		
Construction of a reception center > Project ""Tandel-Fouhren"" (Municipality & Arcus ASBL)	334.304€	1.113.208€	2.149.424€	2.200.322€	2.844.060€	8.641.318€		





Affordable housing						
Provide access to affordable housing to vulnerable population						
Project name	2018	2019	2020	2021	2022	Total 2018-2022
Construction of an innovative and sustainable village ""Elmen"": 292 rental units and 96 properties in Kehlen/Olm > Société Nationale des Habitations à Bon Marché - 030	-	-	3.758.377€	581.965€	12.431.104€	16.771.446€
Construction of a building with 28 rental units (subsidized) in Differdange > Luxembourg Housing Fund - 011	1.036.429€	798.113€	1.653.103€	2.776.010€	22.552€	
Construction of a building with 23 rental units (subsidized) in Kopstal, Bridel > Luxembourg Housing Fund - 045*	-	515.534€	1.359.942€	281.204€	2.338.450€	4.495.130€
Construction of a building with 28 units in Junglinster > Luxembourg Housing Fund - 039	-	-	-	437.571€	444.107€	881.678€
Construction of new properties with 117 rental units and 32 units dedicated for beneficiairies of individual housing allowances in Mamer > Luxembourg Housing Fund - 067	-	-	-	-	1.447.765€	1.447.765€
Construction of a neighbourhood of 281 rental units and 120 properties for beneficiairies of individual housing allowances in Wiltz > Luxembourg Housing Fund - 099	- €	1.605.087€	-	1.634.402€	-	3.239.489€
Construction of a residence with 29 rental units and 3 properties in Grevenmacher > Société Nationale des Habitations à Bon Marché - 099	-	5.618.184€	1.234.059€	4.193.964€	269.646€	11.315.853€
Construction of 31 rental units and 65 properties in Contern > Société Nationale des Habitations à Bon Marché - 014	-	-	2.561.202€	3.052.468€	2.259.388€	7.873.058€
Construction of 34 rental units in Luxembourg City, Réimerwee I - Société Nationale des Habitations à Bon Marché - 021	4.196.556€	2.786.486€	243.353€	12.114€	928.601€	8.167.110€
Construction of 60 properties in Luxembourg City, Réimerwee II > Société Nationale des Habitations à Bon Marché - 021	1.590.227€	-	-	57.931€	381.707€	2.029.865€
Construction of 39 rental units in Dudelange > Kierchefong - 003	-	4.707.740€	3.010.606€	-	-	7.718.346€
Construction of 52 rental units in Vianden > Croix Rouge - 001	-	-	2.566.694€	6.588.180€	1.325.126€	10.480.000€
Construction of 28 units in Oberkorn > Oeuvres Paroissiales Obercorn - 001	-	-	-	577.051€	-	577.051€
Construction of 37 rental units in Differdange > AC Differdange	-	4.217.999€	-	-	-	4.217.999€
Construction of 35 rental units in Luxembourg City > Ville de Luxembourg - 007	8.344.763€	-	-	2.751.237€	-	11.096.000€
Construction of 48 rental units in Differdange > AC Differdange	-	-	-	12.221.926€	-	12.221.926€
Construction of a building with 32 rental units in Differdange > Luxembourg Housing Fund - 133	-	-	-	-	10.753.616€	10.753.616€
Construction of a building with 48 rental units in Differdange > Differdange City - 002	-	-	-	-	5.476.070€	5.476.070€
Construction of a building with 4 rental units in Niederkorn > Luxembourg Housing Fund - 015	-	-	-	-	4.331.820€	
Construction of new properties with 162 units in Wecker > Luxembourg Housing Fund - 001	-	-	-	-	4.228.092€	4.228.092€
Construction of a building with 16 rental units in Vianden > Association of Parents of Mentally Handicapped Children	-	-	-	-	2.733.797€	
Governmental acquisition of land for the construction of affordable housing targeting low income persons > Luxembourg Housing Fund & Société Nationale des Habitations à Bon Marché	-	6.455.250€	9.000.045€	17.665.152€	29.015.667€	62.136.114€

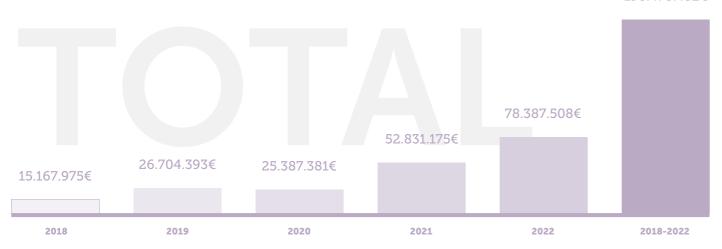
4. Allocation Report

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Luxembourg Sustainability Bond Report

4. Allocation Report

198.478.432€





TOTAL of allocated proceeds 219.324.098€ 2018 2019 2020 2021 2022 2018-2022



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Under the Sustainability Bond Framework, the SBC has committed to regularly produce and release reports that detail the allocation and impact of the proceeds until full allocation is achieved. This Report serves as to a share of the projects rather than the entirety, the the third and final report, presenting a comprehensive breakdown of the funds, allocated to specific projects the bond proceeds. Therefore, the Report includes the and the corresponding impact indicators. The Report draws on existing public reports and direct engagements with relevant ministries, project owners, and managers to ensure accuracy.

The purpose of the impact report is to provide investors with a deeper understanding of the potential environmental and social impacts and outcomes resulting from the funded projects. To assess the specific effects of these projects, the Report utilizes a set of impact indicators identified by the SBC in collaboration with a team of experts. The methodology employed in this Report aligns with the previous two Reports of the Sustainability Bond².

It's important to note that the impact of the Luxembourg Sustainability Bond represents a portion of each impact indicator. Since the bond's coverage extends impacts of the projects cannot be solely attributed to impact share covered by the bond for each project, which can be found in the Impact Table published on the Luxembourg State Treasury's website.

The subsequent pages offer an overview of the investment projects categorized into green and social projects. For the year 2022, the Report presents the relevant impact indicators for each category, along with their target values for the years 2018-2022 and the actual progress made until the end of 2022.

For detailed explanations of the project descriptions and impacts, please refer to the 2018-2020 Impact Report (pages 20-39).



² The detailed Impact table and Methodology are available on the Luxembourg State Treasury Website. Finance durable - Trésorerie de l'Etat - Luxembourg (public.lu)

Low Carbon Transport

PROJECT TARGET



transport projects



transport projects



Deploy 30 low carbon vehicles by 2030 (tram)

Deployed 19 low carbon

vehicles (tram)



Serve **31 million users on tramlines** (max.) per year by 2030



lines, new rail lines, new cycle paths by 2030





Served nearly 20.2 million users on tram lines (in 2022)



Built 23.4 of new tram, lines, new rail lines, new cycle paths by 2030



Enable **469 million** passenger-kilometres (pkm) per year by 2025



Enable 2.7 billion tonne-kilometres per year of rail transport

600.000

Transfer 600 000 ITUs (max.) per year from road to rail transport



Transfer **3.4 million tons of** freight per year from road to rail transport



passenger-kilometres **(pkm)** (in 2022)



Enabled **5.2 billion tonne-kilometres**

Transferred 600.000 ITUs from road to rail transport (in 2022)



Transferred > 2.9 million tons of freight from road to rail transport (in 2022)

SDGs targeted (Primary and secondary)





Luxembourg Sustainability Bond Report







Projects	LSB allocated amount in 2022 (€)	Total LSB allocated amount 2018-2022 (€)	Total project costs 2018-2022 (€)	Share of LSB allocated amount of total project costs in 2022	Share of LSB allocated amount of total project costs 2018-2022
Luxembourg Tram (LuxTram) > Luxembourg City	37.651.856€	214.944.103€	559.780.000€	7%	38%
Construction of a new train line > Luxembourg City - Bettembourg	19.271.834€	120.398.647€	292.013.570€	7%	41%
Adaptation of north side of the Luxembourg City train station > Luxembourg City	5.010.634€	45.890.191€	334.000.000€	2%	14%
Construction of two new platforms at the Luxembourg City train station > Luxembourg City	30.177.669€	95.745.008€	171.000.000€	18%	56%
Laying of second train tracks > Hamm-Sandweiler	2.064.538€	49.851.211€	215.000.000€	1%	23%
Construction of a multimodal platform > Bettembourg	-	34.210.876€	221.000.000€	0%	15%
Modernisation of the train station > Rodange	25.385.390€	77.038.792€	107.500.000€	24%	72%
Widening of footbridge for cycle path - in Luxembourg City	2.536.000€	10.492.000€	16.000.000€	16%	66%
Construction of new cycle path - between Esch-Alzette and Belval	17.756.000€	23.368.986€	47.500.000€	37%	49%

NUMBERS: LIGHT = Expected **BOLD** = Realised

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Impact data by/in 2022										
Projects	Deployed low carbon vehicles [§] (#)	Users on tramline [«] (#)	km of new tram lines / rail lines (km)	passenger-kilometres in 2022⁵ (pkm)	tonne-kilometres per year of rail transport [©] (tkm)	Transfer of Intermodal Transport Units (ITU) in 2022' (#)	Freight transfer per year from road to rail transport® (t)	t CO2e avoided® (t CO2e)		
Luxembourg Tram (LuxTram) > Luxembourg City	19	20.195.616	8.8	138.600.000	-	-	-	194 490		
Construction of a new train line > Luxembourg City - Bettembourg	-	-	7.5	32.853.600	62.202 .816	-	-	93 425		
Adaptation of north side of the Luxembourg City train station > Luxembourg City	-	-	1.5	-	-	-	-	-		
Construction of two new platforms at the Luxembourg City train station > Luxembourg City	-	-	0.563	-	-	-	-	-		
Laying of second train tracks > Hamm-Sandweiler	-	-	6.2	7.633.738	-	-	-	-		
Construction of a multimodal platform > Bettembourg	-	-	4.2	-	-	160.498	2.975.195	-		
Modernisation of the train station > Rodange	-	-	-	-	-	-	-	-		
Widening of footbridge for cycle path in Luxembourg City	-	-	0.29	-	-	-	-	-		
Construction of new cycle path > between Esch-Alzette and Belval	-	-	1.9	-	-	-	-	-		

NUMBERS: LIGHT = Expected **BOLD** = Realised

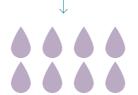
Water and Wastewater Treatment

PROJECT TARGET

LSB REALISED BY/IN 2022



Investments in 8 water and wastewater treatment installations



wastewater treatment installations

112 million m³

Treat 112 million m³ of water (max.) per year

million m³

Treated around **31 million m**³

of water (in 2022)

887.000 population equivalents of wastewater (max.) per year

Treated around population equivalents of wastewater (in 2022)



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⁴ Number of users served on new tram line
5 Passenger-kilometers on additional low carbon transport infrastructure
6 Number of tonne - kilometers enabled for rail transport due to modal freight shift from road to rail

⁷ Number of freight containers and semi-trailers (ITU) and tons transferred from Portion of Transport

8 Tons of freight transferred from road to rail transport

9 Avoided CO2e emissions due to modal shift in passenger transport

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5. Impact Report

SDGs targeted (Primary and secondary)



Primary







Projects	LSB allocated amount in 2022 (€)	Total LSB allocated amount 2018-2022 (€	Total project costs 2018-2022 (€)	Share of LSB allocater amount of total proje costs in 2022	Share of LSB allocater amount of total proje costs 2018-2022
Extension and modernization of the national drinking water treatment station (SEBES) > National Water Syndicate in Esch-sur-Sure	7.000.000€	31.500.000€	218.598.734€	3%	14%
Extension and modernization of the wastewater treatment plant > SIDEN in Bleesbruck	-	17.048.369€	88.460.516€	0%	19%
Sanitation work in the Attert Valley > SIDERO in the Attert Valley	2.142.317€	9.058.879€	78.211.604€	3%	12%
Evacuation and purification of wastewater generated by the municipalities of the Upper Moselle > AC Schengen in the Upper Moselle	253.731€	4.935.738€	57.096.421€	0.44%	9%
Sanitation of the Lower Moselle with the construction of a new wastewater treatment plant > SIDEST at the Port of Mertert	7.379.052€	21.242.852€	94.994.359€	8%	22%
Extension and modernization of the wastewater treatment plant > SIDEST in Uebersyren	442.355€	1.503.533€	141.387.071€	0.31%	1%
Extension of the wastewater treatment plant > VdL in Beggen	-	1.191.889€	295.314.228€	0%	0.4%
Extension of the wastewater treatment plant > SIACH in Pétange	3.950.529€	19.428.513€	75.487.746€	5%	26%



NUMBERS: LIGHT = Expected **BOLD** = Realised

Impact data by/in 20	Impact data by/in 2022										
Projects	Annual water treatment (m3)	Drinking water treat- ment for users (# of users)	Wastewater treatment in person equivalents (p.e.)	Additional users served at enlarged existing and new plants (# of users)	Newly equipped water and wastewater treat- ment plants ¹⁰ (# of plants)	Treatment of dry solids of sewage sludge in anaerobic digestion (t/ year)	Production of biogas for energy generation (m3/year)				
Extension and modernization of the national drinking water treatment station (SEBES) National Water Syndicate in Esch-sur-Sûre	21.308.580	577.604	-	New plant	1	-	-				
Extension and modernization of the wastewater treatment plant > SIDEN in Bleesbruck	5.836.560	-	61.800	50.000	1	940	305.246				
Sanitation work in the Attert Valley > SIDERO in the Attert Valley	-	-	-	-	-	-	-				
Evacuation and purification of wastewater generated by the municipalities of the Upper Moselle > AC Schengen in the Upper Moselle	1.521.110	-	13.697	New plant	0	-	-				
Sanitation of the Lower Moselle with the construction of a new wastewater treatment plant > SIDEST at the Port of Mertert	1.143.180	-	22.086	New plant	1	300	320				
Extension and modernization of the wastewater treatment plant > SIDEST in Uebersyren	4.281.450	-	30.000	96.000	1	620	-				
Extension of the wastewater treatment plant > VdL in Beggen	15.338.688	-	270.000	190.000	1	8.450	3.832.500				
Extension of the wastewater treatment plant	7.230.000	-	79.000	65.000	0	887	600.000				

NUMBERS: LIGHT = Expected **BOLD** = Realised

> SIACH in Pétange

September 2023 **30** September 2023

 $^{^{\}rm 10}$ Water and was tewater with micro-pollutant treatment and other advanced treatment, above EU requirements

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Protection of the **Environment**

Primary environmental objective:

Protection and restoration of biodiversity and ecosystem restoration EO_6

Secondary environmental objectives:

Climate change adaptation EO_2 (flood control), pollution prevention and control EO_5 & sustainable use and protection of water EO_3 (river water quality)

SDGs targeted (Primary and secondary)









Projects	LSB allocated amount in 2022 (€)	Total LSB allocated amount 2018-2022 (€)	Total project costs 2018-2022 (€)	Share of LSB allocated amount of total project costs in 2022	Share of LSB allocated amount of total project costs 2018-2022
Ecological renaturation of the Pétrusse valley * > Luxembourg City	6.172.242€	6.172.242€	22.144.774€	28%	28%

Impact data by/in 2022						
Projects	Expected area of protected and restored habitats (hectares)***	Expected increase on protected habitats – National (m2)	Expected increase on protected habitats - EU Natura 2000 (m2)	Hedges planted (expected) (m2)	Fish passages constructed (expected) (#)	Expected capacity increase for water retention of the river after rehabilitation ¹² (m2)
Ecological renaturation of the Pétrusse valley * > Luxembourg City	8.6	8.097	4.664	673	1	859

¹¹ National and EU Natura 2000 ¹² for 100 year river flows events HQ100 of 55m3/s

NUMBERS: LIGHT = Expected **BOLD** = Realised

Education

SDGs targeted (Primary and secondary)













						Dy/III Z
Projects	LSB allocated amount in 2022 (€)	Total LSB allocated amount 2018-2022 (€)	Total project costs 2018-2022 (€)	Share of LSB allocated amount of total project costs	Share of LSB allocated amount of total project costs 2018-2022	Expected increase of total student capacity (# of students)
Construction of a new school restaurant > Ecole privée Fieldgen	4.216.209€	7.034.766€	17.781.389€	24%	40%	80
Construction of a new child care facility > Project Wobrecken in Esch-sur-Alzette	-	2.045.375€	38.403.529€	0%	5%	381
Construction of new child care facility > Bertrange	-	2.476.750€	17.445.000€	0%	14%	482
Construction of a new child care facility > Campus Berchem-Bivange	-	2.251.750€	29.132.360€	0%	8%	437
Constrcution of a new child care facility and elementary school > Belval-Sud	-	3.059.000€	41.500.000€	0%	7%	593
Construction of a new child care facility and elementary school > Project Helperknapp in Brouch	-	3.066.750€	50.864.514€	0%	6%	600
Construction of a new highschool > International School in Differdange (public)	2.244.012€	51.801.132€	77.047.673€	3%	67%	1.050
Renovation of a highschool > Lycée Michel Rodange	7.430.270€	57.113.003€	63.073.186€	12%	91%	0
Renovation of a highschool > Lycée Classique Diekirch, annexe Mersch	16.504.873€	35.280.020€	50.858.140€	32%	69%	750
Construction of a new school and sports hall > Lycée Technique pour Professions de Santé	24.338.707€	50.717.214€	109.400.000€	22%	46%	1.200

NUMBERS: LIGHT = Expected **BOLD** = Realised

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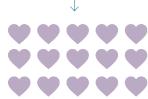
Healthcare

PROJECT TARGET

LSB REALISED BY/IN 2022







Invested in 15 healthcare projects



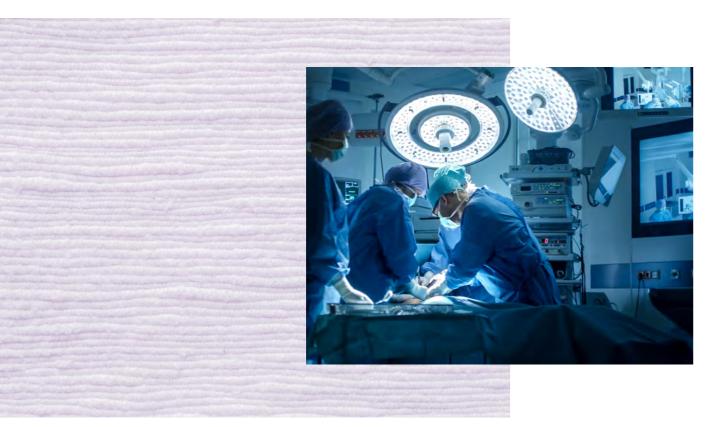


45.000 patients

Increase the total patient capacity by > 45 000 patients

166 patients

creased the total patient capacity by **166 patients**



SDGs targeted (Primary)



Projects	LSB allocated amount in 2022 (€)	Total LSB allocated amount 2018-2022 (€)	Total project costs 2018-2022 (€)	Share of LSB allocated amount of total project costs in 2022	Share of LSB allocated amount of total project costs 2018-2022
Obstetrics Maternity and Gynecology Center > Centre Hospitalier de Luxembourg (CHL)	250.000€	1.624.522€	37.980.000€	1%	4%
Construction of a modular building with specialized pediatric beds * > Centre Hospitalier de Luxembourg (CHL)	66.391€	66.391€	12.000.000€	1%	1%
Extension of the National Institute of Cardiac Surgery and Interventional Cardiology (INCCI) > Centre Hospitalier de Luxembourg & INCCI	-	2.207.830€	11.850.000€	0%	19%
New construction for the CHL Hospital and the National Institute of Cardiac Surgery and Interventional Cardiology (INCCI) > Centre Hospitalier de Luxembourg & INCCI	6.968.681€	23.026.511€	364.000.000€	2%	6%
Construction of a floor tower for geriatric rehabilitation beds, an integrated dialysis center, the National Center for Specialized Ophthalmology and an elective orthopedic service > Hôpitaux Robert Schuman - Kirchberg	1.490.306€	3.271.207€	185.500.000€	1%	2%
Extension of the national service of juvenile psychiatry > Hôpitaux Robert Schuman - Kirchberg	1.879.271€	17.353.843€	19.000.000€	10%	91%
Construction of a medical center with 10 single maternity rooms, 1 endoscopy room and 1 outpatient medical-technical unit > Hôpitaux Robert Schuman - Kirchberg & Clinique Bohler	10.935€	4.519.415€	13.500.000€	0.08%	33%
New construction with 4 care units, a day hospital and radiology > Hôpitaux Robert Schuman — Kirchberg & Clinique Bohler	1.094.800€	38.499.579€	62.000.000€	2%	62%
Construction of a therapeutic center for adolescents in Putscheid > Centre Hospitalier Neuro-Psychiatrique	620.406€	5.731.750€	7.000.000€	9%	82%
Construction of a new extension for geriatric reeducation and care > Hôpital Steinfort	336.152€	521.143€	23.000.000€	1%	2%
Construction of the new hospital ""Südspidol"" > Centre Hospitalier Emile Mayrisch (CHEM) - Südspidol	-	27.796.059€	433.000.000€	0%	6%
Extention of the CHEM ""Altbau 2"" > Centre Hospitalier Emile Mayrisch (CHEM)	-	2.320.414€	9.080.000€	0%	26%
Extension of the hemodialysis service > Centre Hospitalier du Nord (CHdN)	-	5.988.349€	5.988.349 €	0%	100%
Architectural measures to accommodate & installation of additional IRMs > all 4 hospital centers of the country	200.000€	8.726.204€	8.733.352€	2%	100%
Increase in emergency rooms and daycare centers in the hospitals all 4 hospital centers of the country	2.750.000€	7.827.495€	31.000.000€	9%	25%

NUMBERS: LIGHT = Expected **BOLD** = Realised

5. Impact Report

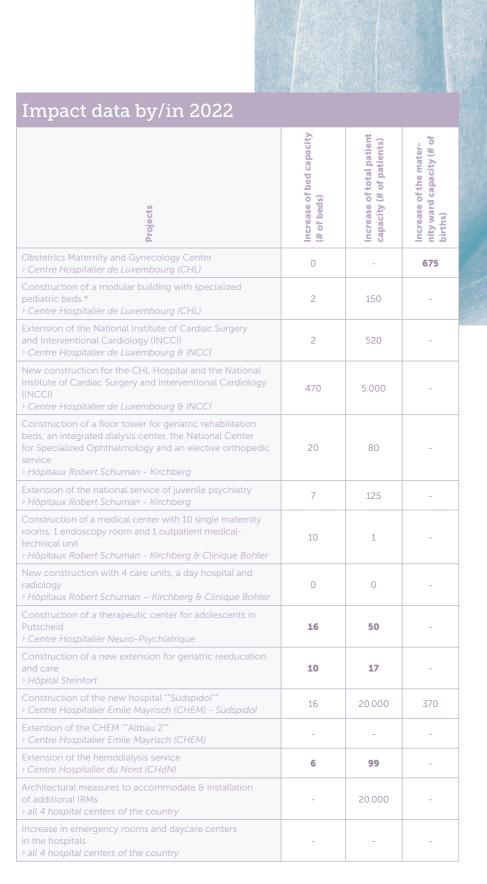
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NUMBERS: LIGHT = Expected **BOLD** = Realised

5.6

Social Inclusion

SDGs targeted (Primary and secondary)













Projects	LSB allocated a in 2022 (€)	Total LSB alloc amount 2018-2	Total project c 2018-2022 (€)	Share of LSB al amount of tota costs	Share of LSB al amount of tota costs 2018-202
Reception centers for people having applied for or benefiting from international protection > Sanem / Mühlenbach / Bettembourg / Bridel / Capellen / Rodange / Luxembourg City	9.458.856€	30.378.207€	53.932.562€	18%	56%
Reception center for homeless people and multifunctional emergency structure for people in need - Sandweiler, Building A + B » > Sandweiler	45.765€	12.141.914€	13.300.000€	0.34%	91%
Construction, renovation and transformation of different properties to create a new residential home and day center for persons with disabilities > Ettelbrück	1.139.265€	21.389.477€	27.280.187€	4%	78%
Construction of a care home for the elderly > Differdange	22.135.479€	46.863.596€	62.435.545€	35%	75%
Construction of a care home for the elderly > Bascharage	14.414.686€	29.095.290€	64.000.000€	23%	45%
Construction of a reception center > Project "Jongenheem" Maison Porte Ouverte	343.443€	4.960.752€	5.889.614€	6%	84%
Construction of a reception center > Project "Tandel-Fouhren" (Municipality & Arcus ASBL)	2.844.060€	8.641.318€	11.660.000€	24%	74%

LIGHT = Expected

BOLD = Realised

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Impact data by/in 2022 1.017 > Sanem / Mühlenbach / Bettembourg / Bridel / Capellen / Rodange / Luxembourg City multifunctional emergency structure for people 106 in need - Sandweiler, Building A + B » Construction, renovation and transformation of different properties to create a new residential 100 home and day center for persons with disabilities 114 > Differdange Construction of a care home for the elderly 201 Construction of a reception center 32 Project "Jongenheem" Maison Porte Ouverte Construction of a reception center Project "Tandel-Fouhren" (Municipality & Arcus

NUMBERS: LIGHT = Expected **BOLD** = Realised 5.7

Affordable Housing

PROJECT TARGET











SDGs targeted (Primary and secondary)











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				_ #	_ #
Projects	LSB allocated amount in 2022 (€)	Total LSB allocated amount 2018-2022 (€)	Total project costs 2018-2022 (€)	Share of LSB allocated amount of total project costs	Share of LSB allocated amount of total project costs 2018-2022
Construction of an innovative and sustainable village ""Elmen"": 292 rental units and 96 properties in Kehlen/Olm ¹³ > Société Nationale des Habitations à Bon Marché - 030	12.431.104€	16.771.446€	268.428.964€	5%	6%
Construction of a building with 28 rental units (subsidized) in Differdange > Luxembourg Housing Fund - 011	22.552€	6.286.207€	6.422.045€	0.35%	98%
Construction of a building with 23 rental units (subsidized) in Kopstal, Bridel > Luxembourg Housing Fund - 045	2.338.450€	4.495.130€	14.865.001€	16%	30%
Construction of a building with 28 units in Junglinster > Luxembourg Housing Fund - 039	444.107€	881.678€	18.451.916€	2%	5%
Construction of new properties with 117 rental units and 32 units dedicated for beneficiairies of individual housing allowances in Mamer * > Luxembourg Housing Fund - 067	1.447.765€	1.447.765€	97.570.000€	1%	1%
Construction of a neighbourhood of 281 rental units and 120 properties for beneficiairies of individual housing allowances in Wiltz > Luxembourg Housing Fund - 099	-	3.239.489€	795.000.000€	0%	0.41%
Construction of a residence with 29 rental units and 3 properties in Grevenmacher > Société Nationale des Habitations à Bon Marché - 099	269.646€	11.315.853€	14.156.059€	2%	80%
Construction of 31 rental units and 65 properties in Contern > Société Nationale des Habitations à Bon Marché - 014	2.259.388€	7.873.058€	76.808.430€	3%	10%
Construction of 34 rental units in Luxembourg City, Réimerwee I > Société Nationale des Habitations à Bon Marché - 021	928.601€	8.167.110€	13.044.741€	7%	63%
Construction of 60 properties in Luxembourg City, Réimerwee II > Société Nationale des Habitations à Bon Marché - 021	381.707€	2.029.865€	23.117.647€	2%	9%
Construction of 39 rental units in Dudelange > Kierchefong - 003	-	7.718.346€	10.687.819€	0%	72%
Construction of 52 rental units in Vianden > Croix Rouge - 001	1.325.126€	10.480.000€	17.673.336€	7%	59%
Construction of 28 units in Oberkorn Oeuvres Paroissiales Obercorn - 001	-	577.051€	6.650.667€	0%	9%
Construction of 37 rental units in Differdange > AC Differdange	-	4.217.999€	5.624.003€	0%	75%
Construction of 35 rental units in Luxembourg City > Ville de Luxembourg - 007	-	11.096.000€	14.795.000€	0%	75%
Construction of 48 rental units in Differdange > AC Differdange	-	12.221.926€	23 798 667€	0%	51%
Construction of a building with 32 rental units in Differdange > Luxembourg Housing Fund - 133	10.753.616€	10.753.616€	10.753.616€	100%	100%
Construction of a building with 48 rental units in Differdange > Differdange City - 002	5.476.070€	5.476.070€	17.849.000€	31%	31%
Construction of a building with 4 rental units in Niederkorn > Luxembourg Housing Fund - 015	4.331.820€	4.331.820€	11.811.423€	37%	37%
Construction of new properties with 162 units in Wecker > Luxembourg Housing Fund - 001	4.228.092€	4.228.092€	75.908.537€	6%	6%
Construction of a building with 16 rental units in Vianden > Association of Parents of Mentally Handicapped Children	2.733.797€	2.733.797€	9.453.277€	29%	29%
Governmental acquisition of land for the construction of affordable housing targeting low income persons > Luxembourg Housing Fund & Société Nationale des Habitations à Bon Marché	29.015.667€	62.136.114€	-	-	-

¹³ The LSB co-finances the first partial development plan (PAP), which includes 292 rental units and 96 properties (as opposed to 375 houses and 375 apartments for the complete project).

NUMBERS: LIGHT = Expected **BOLD** = Realised

Impact data by/in 2022				
Projects	# of finished housing units built	# of eligible affordable housing beneficiaries	Energy performance certificate (EPC) classes	
Construction of an innovative and sustainable village ""Elmen"": 292 rental units and 96 properties in Kehlen/Olm ¹³ > Société Nationale des Habitations à Bon Marché - 030	0	892	AAA - BBB	
Construction of a building with 28 rental units (subsidized) in Differdange > Luxembourg Housing Fund - 011	0	64	BBA	
Construction of a building with 23 rental units (subsidized) in Kopstal, Bridel > Luxembourg Housing Fund - 045	23	52	AAA - BBA	
Construction of a building with 28 units in Junglinster > Luxembourg Housing Fund - 039	0	64	AAA - BBA	
Construction of new properties with 117 rental units and 32 units dedicated for beneficiairies of individual housing allowances in Mamer * > Luxembourg Housing Fund - 067	0	373	-	
Construction of a neighbourhood of 281 rental units and 120 properties for beneficiairies of individual housing allowances in Wiltz > Luxembourg Housing Fund - 099	0	922	-	
Construction of a residence with 29 rental units and 3 properties in Grevenmacher > Société Nationale des Habitations à Bon Marché - 099	0	73	AAA	
Construction of 31 rental units and 65 properties in Contern > Société Nationale des Habitations à Bon Marché - 014	0	299	AAA - BBA	
Construction of 34 rental units in Luxembourg City, Réimerwee I > Société Nationale des Habitations à Bon Marché - 021	0	78	AAA	
Construction of 60 properties in Luxembourg City, Réimerwee II > Société Nationale des Habitations à Bon Marché - 021	0	138	AAA	
Construction of 39 rental units in Dudelange > Kierchefong - 003	39	89	-	
Construction of 52 rental units in Vianden > Croix Rouge - 001	52	119	AAA	
Construction of 28 units in Oberkorn Oeuvres Paroissiales Obercorn - 001	0	69	-	
Construction of 37 rental units in Differdange > AC Differdange	0	85	BBA	
Construction of 35 rental units in Luxembourg City Ville de Luxembourg - 007	0	80	AAA	
Construction of 48 rental units in Differdange > AC Differdange	48	110	ACA	
Construction of a building with 32 rental units in Differdange > Luxembourg Housing Fund - 133	0	75	AAA	
Construction of a building with 48 rental units in Differdange > Differdange City - 002	0	110	AAA	
Construction of a building with 4 rental units in Niederkorn > Luxembourg Housing Fund - 015	0	98	AAA	
Construction of new properties with 162 units in Wecker > Luxembourg Housing Fund - 001	0	390	-	
Construction of a building with 16 rental units in Vianden Association of Parents of Mentally Handicapped Children	0	37	ABA	
Governmental acquisition of land for the construction of affordable housing targeting low income persons > Luxembourg Housing Fund & Société Nationale des Habitations à Bon Marché	-	-	-	

¹³ The LSB co-finances the first partial development plan (PAP), which includes 292 rental units and 96 properties (as opposed to 375 houses and 375 apartments for the complete project).

NUMBERS: LIGHT = Expected **BOLD** = Realised

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École Internationale de Differdange & Esch-sur-Alzette

The École Internationale Differdange & Esch-sur-Alzette (EIDE)¹⁴ is an international public school that has been established in the south of Luxembourg. By creating an international environment, the Luxembourgish Government responds to the growing heterogeneity of the school population. Due to diverse backgrounds of students and the multitude of foreign mother languages spoken, the government decided to develop a public education system that offers equal opportunities to all pupils, regardless of the language(s) spoken at home.

The establishment of a public international school in Luxembourg is an essential step to adapting the educational system to the specificities and diverse backgrounds of the Luxembourgish population. In fact, more than 47% of the population do not have the Luxembourgish nationality. The biggest foreign community in Luxembourg is originally from Portugal, representing 14,5% of the foreign population. This underlines the rationale behind the multilingual offer at the EIDE.

The teaching program is aimed at students from immigrant backgrounds, allowing them to be integrated in their mother tongue and enter the educational system smoothly, as well as any other student wishing to develop in an international context.

Concretely, the EIDE offers three linguistic sections: French, English and German. Apart from other language courses, all of the courses are taught in the language selected by the student, who can also selecta second and third language, (possible choices: German, French, English and Portuguese). In addition, Luxembourgish courses (oral communication) are compulsory for all students in primary and lower secondary classes as integration language.





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ASE STUDY

Ecological renaturation of the Pétrusse valley

The Pétrusse valley is a major feature of the capital's landscape. The valley is defined on one side by its rocks and on the other side by its green character, reflected in trees, hedges, lawns and flowers. The goals of the renaturation project¹⁶ are to cope with high flood flows, to take account of the numerous infrastructures located at the bottom of the valley and to alleviate exposure to flood risks in the valley.

The aim of the ecological renaturation of the Pétrusse valley is to restore its degraded and artificial ecosystems to a more natural state. Removing the concrete streambed and restoring the natural conditions of the watercourse will improve the balance of the flora and fauna, nutrients and water. In addition, it will enable the expansion of biotopes in the urban environment, thus providing a perennial habitat for many plants and animals.

The project foresees the demolition of the existing concrete with moderate raising of the stream bed, the systematic elimination of the existing wall along the Pétrusse at certain points to widen the flow profile of the watercourse, the creation of a bed to make it more resistant to extreme flooding, the construction of a fish ladder and the construction of a new retaining wall downstream of the Bourbon lock on the left bank. In addition, a rest and leisure area, the renewal of play areas and sports facilities as well as the creation of a bicycle carriageway along the entire length of the valley, including new bridges, are foreseen.

This project supports the protection of the environment in the urban area as well as the protection and restoration of biodiversity. It also creates green spaces for the citizens and visitors of Luxembourg City and supports the use of bicycles in the center through the creation of bicycle paths.



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¹⁶ Ville de Luxembourg : Renaturation project of the Pétrusse valley

¹⁷ Source: Ville de Luxembourg / Lindenkreuz Eggert

UPDATES ON PREVIOUS

CASE STUDIES

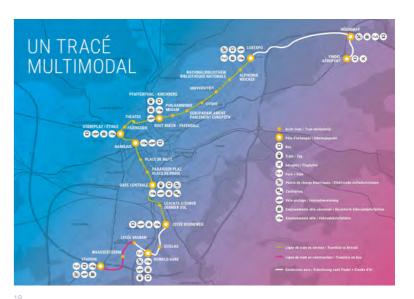
The new Tram in Luxembourg City

Construction works for the new tram in Luxembourg, which is built in stages, began in 2015. The first section of the tramline was inaugurated in December 2017. Since September 2022, it serves 17 stations of which 6 multimodal hubs.

Having started in September 2021, the works on section "D" of the tram line, which will link the Lycée de Bonnevoie to Lycée Vauban and the Lycée Vauban to the Stadion, are expected to be finalized and put into service during the year 2024. The tram will then run on this new 3.7 km section and serve 5 new stations, including two new multimodal hubs (*):

- SCILLAS
- HOWALD GARE (*)
- LYCÉE VAUBAN
- WASSERTUERM
- STADION (*)

The tram line is now 10 kilometers long.



UPDATES ON PREVIOUS CASE STUDIES

"Südspidol"

The "Südspidol" is a merger of three hospitals in the south of Luxembourg. It will be the second largest hospital in the country and is meant to support the whole south of the country.

In 2021, the Centre Hospitalier Emile Mayrisch (CHEM) terminated the contract with the design consortium Health Team Europe (HTE), who had won the competition initiated in October 2015 for the construction of the "Südspidol". Even if the planning work had been launched in 2012, and EUR 37.8 million have already been committed, a number of problems had arisen. As a result, on September 2nd, the Board of Directors, following the favorable opinion of the

applicable procedures, terminated the contract¹⁹. The contract was terminated by means of a settlement agreement signed in 2022. Nevertheless when the contract was terminated, the preliminary design (APS) phase was completed. The preliminary design, authorization file and execution project phases had begun. For the moment the search for a new planning group is underway and will be completed by the end of the year at the latest.

been launched in 2012, and EUR 37.8 million have already been committed, a number of problems had arisen. As a result, on September 2nd, the Board of Directors, following the favorable opinion of the Tenders Committee and in compliance with the Due to the interruption of the execution phase, the project will be delayed by several years. The SBC received this information in the last quarter of 2021. It has been decided that the Sustainability Bond will not contribute to the remaining part of the execution phase, the project will be delayed by several years. The SBC received this information in the last quarter of 2021. It has been decided that the Sustainability Bond will not contribute to the remaining part of the execution phase, the project will be delayed by several years. The SBC received this information in the last quarter of 2021. It has been decided that the Sustainability Bond will not contribute

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¹⁸ Source: Luxtram

¹⁹ Les récentes évolutions du projet Südspido

on previous sustainability bond reporting

Feedback

After the publication of the second Report in September 2022, the Sustainability Bond Committee (SBC) contacted the investors to receive feedback on the Report. The SBC received one question, requesting the clarification of the avoided CO2 emissions for the 2018-2020 period in the Clean Transportation category. The SBC responded to this request via email, reiterating the methodology used to calculate these avoided emissions. This was the only clarification request which the SBC received. The Committee interpreted this as a positive sign and as the Report being clear, extensive and sufficiently detailed.

Outlook

For any future issuances of such bonds, the currently existing Sustainability Bond Framework will be updated and adjusted accordingly, as the LSB is exclusively founded on the drafts of the EU Taxonomy, which had not yet been in place at the time of the creation and the launch of the LSB.

Acknowledgments

This Report was produced by the Sustainability Bond Committee under the responsibility of the Luxembourg State Treasury, with the valuable collaboration of the different ministries and bodies that are responsible for allocated expenditures under the Sustainability Bond, as well as with input from the different benefiting institutions themselves.

The SBC is grateful for the many contributions, valuable input and assistance, in particular regarding the continuous and ongoing measurement of the impact indicators and the collection of the actual impact data, and the review of this Report.

The involved government departments and state bodies are as follows:

- Luxembourg Ministry for the Environment, Climate and Sustainable Development,
- Luxembourg Ministry of Transport and Public Works,
- Luxembourg Ministry of Health,
- Luxembourg Ministry of Housing,
- · Luxembourg Ministry of Education, Children and Youth,
- Luxembourg Ministry of Family Affairs, Integration and the Greater Region,
- Luxembourg Ministry of Foreign Affairs' National Reception Office,

- Luxembourg Water Management Administration. The benefiting entities/institutions:
- Luxtram S.A.,
- Société nationale des chemins de fer luxembourgeois (CFL) – National Rail Network,
- Syndicat des eaux du barrage d'Esch-sur-Sûre (SEBES) – Water treatment plant,
- Syndicat intercommunal de Dépollution des Eaux Résiduaires de l'Ouest (SIDERO),
- Syndicat Intercommunal de Dépollution des Eaux résiduaires du Nord (SIDEN),
- Syndicat intercommunal de dépollution des eaux résiduaires de l'Est (SIDEST),
- Syndicat intercommunal pour l'assainissement du bassin de la Chiers (SIACH),
- Administration Communale de Schengen,
- Ville de Luxembourg, Service Canalisation.

The SBC would again like to thank 4Climate, who, together with INFRAS, Beissel & Ruppert and Efor-Ersa helped to define the green impact indicators, estimated the environmental benefits including the calculation of avoided greenhouse gas emissions as well as elaborated the green impact methodology.

related to the Sustainability Bond

Other topics

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The Grand Duchy of Luxembourg

Type of Engagement: Annual Review Date: 1 September 2023 Engagement Team:

John-Paul lamonaco, john-paul.iamonaco@morningstar.com Astrid Bruchou, astrid.bruchou@morningstar.com

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 to achieve, among other things, 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 2023, Luxembourg engaged Sustainalytics to review the projects funded in 2022 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.

This is Sustainalytics' third annual review for Luxembourg. As per the impact report 2018-2020, Luxembourg financed and refinanced expenditures that incurred in the budget years 2018 to 2020 with total disbursements of EUR 786.3 million.^{4,5} In 2021, total disbursements were EUR 347.7 million.^{6,7} In 2022, total disbursements were EUR 366.4. million within the following seven Framework categories: i) Low Carbon Transport, ii) Water and Wastewater Management, iii) Protection of the Environment, iv) Access to Essential Services - Education, v) Access to Essential Services - Healthcare, vi) Access to Essential Services - Social Inclusion, and vii) Affordable Housing. Luxembourg has allocated all outstanding proceeds.

Evaluation Criteria

Sustainalytics evaluated the projects and assets funded in 2022 based on whether the projects and programmes:

- Met the Use of Proceeds and Eligibility Criteria outlined in the Grand Duchy of Luxembourg Sustainability Bond Framework; and
- 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 and Associated KPIs

Use of Proceeds	Eligibility Criteria
Low Carbon Transport	Low carbon transportation including: Public transport Infrastructure for low carbon 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

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APPENDIX

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Compliance

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[&]quot;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: <a href="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-famework-second-party-opinion-pdf

⁴ 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.

⁵ 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

⁶ The Grand Duchy of Luxembourg Sustainability Bond Impact Report 2021, at: https://tresorerie.public.lu/dam-assets/fr/sustainable/luxembourg-sustainability-bond-report-2021.pdf

⁷ 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.

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Water and wastewater Management	 Support the development of water and wastewater management systems allowing to significantly improve energy efficiency and/or water quality
Protection of the Environment	 Waste management Protection and restoration of healthy ecosystems and their services
Access to Essential Services - Education	 Providing access to essential educational infrastructure and services for all by: Extending educational capacities Improving the quality of the existing educational infrastructure and equipment
Access to Essential Services- Healthcare	Provide access to essential healthcare infrastructure and services for all by: Extending healthcare capacities Improving the quality of the existing healthcare facilities
Access to Essential Services - Social Inclusion	Provide access to essential services for population groups at risk of social exclusion by: Providing access to essential infrastructure and services to vulnerable population Providing financial assistance to vulnerable population
Affordable Housing	Provide access to affordable housing to vulnerable population by: 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

Table 2: Key Performance Indicators

Use of Proceeds	Key Performance Indicators
Low Carbon Transport	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
Water and Waste Water Management	Annual volume of water collected and disposed or treated (in m³) Number of users served Other relevant indicators depending on the considered projects
Protection of the Environment	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
Access to Essential Services - Education	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	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	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	Number of dwellings When available, additional information may be provided regarding the energy performance of eligible buildings

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Issuer's Responsibility

Luxembourg is responsible for providing accurate information and documentation relating to the projects funded, including description of projects and amounts allocated.

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, nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the reviewed projects do not meet the use of proceeds criteria outlined in the Grand Duchy of Luxembourg Sustainability Bond Framework. Luxembourg has disclosed to Sustainalytics that the proceeds from the Grand Duchy of Luxembourg Sustainability Bond Framework bond were fully allocated as at December 31st, 2022.

Detailed Findings

Table 2: 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 2022 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 2022 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 complied with the reporting criteria, except for projects financed under the Protection of the Environment category, which will be reported when available.	KPIs for expenditures under Protection of the Environment are not yet available. For more information see Appendix 2.

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⁸ Sustainalytics limited assurance process includes reviewing the documentation relating to the details of the funded projects, including description of projects, estimated and realized costs of projects, and project impact, as provided by the Issuer, which is responsible for providing accurate information. Sustainalytics has not conducted on-site visits to projects.

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Appendices

In September 2020, Luxembourg raised EUR 1.5 billion through its sustainability bond. It allocated EUR 786.3 million between 2018 and 2020, EUR 347.7 million in 2021, and EUR 366.4 million in 2022 across three green and four social categories. See below a summary of the reported allocated amounts for each category.

Appendix 1: Allocation Reporting

Use of	Sub-category	Allocated amount (EUR)							
Proceeds Category		2018	2019	2020	2021	2022			
Low Carbon Transport	Public transport	36,262,909	35,502,137	63,104,052	42,423,149	37,651,856			
	Infrastructure for low carbon transport	82,434,946	91,828,319	78,313,601 ⁹	102,216,78010	102,202,065			
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	21,167,983			
Protection of the Environment	Protection and restoration of healthy ecosystems and their services					6,172,242			
Access to Essential Services - Education	Providing access to essential educational infrastructure and services for all	19,487,752	31,579,543	47,557,026	61,487,367	54,734,071			
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	15,666,942			
Access to Essential Services- Social Inclusion	Providing access to essential services for population groups at risk of social exclusion	18,898,93711	25,639,600 ¹²	25,571,322 ¹³	32,979,14214	50,381,553			
Affordable Housing	Providing access to affordable housing to vulnerable population	15,167,975	26,704,393	25,387,381	52,831,175	78,387,508			
Allocations by	budget year	219,324,098	269,175,713	297,761,459	347,671,795	366,364,220			
Total allocated		1,500,297,285							
Total proceeds raised		1,500,297,285							
Unallocated proceeds		0							

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Appendix 2: Impact Reporting by Eligibility Criteria

Use of Proceeds	Indicators	Impact Reported						
Category ¹⁵	Illuicators	2018	2019	2020	2021	2022		
Low Carbon Transport	Number of low-carbon vehicles deployed by type of transport (trams/year)	8	9	11	17	19		
	Number of users served on new tram and train lines (users/year)	5,752,704	7,230,837	5,180,667	15,395,304	21,426,864		
	Length of new tram lines / new rail lines / new cycle paths built (km) ¹⁶	15.8	15.8	18.56	18.56	23.45		
	Passenger-kilometers (pkm) on additional low-carbon transport infrastructure (pkm/year)	25,680,312	38,567,788	22,639,071	88,028,468	146,233,738		
	Number of freight containers and semi-trailers - maximum annual capacity/year (ITU) ¹⁷	600,000	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	160,498		
	Number of tonnes transferred from road to rail transport (per year)	3,186,200	3,346,575	3,380,175	4,007,180	2,975,195		
	Volume of water treated (m³/year)	-	-	15,584,926	15,927,376	31,069,538		
w	Total number of users served (population equivalent/year)	15,346	16,551	169,951	170,947	176,583		
Water and Wastewater Management	Sewage sludge anaerobic digestion and use of biogas for energy generation (tonnes of sewage sludge/year)	-	-	1,220 ¹⁸	2,115	1187		
Access to Essential Services - Education	Number of institutions benefiting from these investments ¹⁹	9	9	9	10	10		
Access to Essential Services - Healthcare	Number of institutions benefiting from these investments ²⁰	20	20	20	20	20		
Access to Essential Services- Social Inclusion	Number of beneficiaries ²¹ /year	237	1,012	2,786	1,823 ²²	2789		
Affordable Housing	Finished Housing units	-	-	-	274	162		

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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.

10 Ibid.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid

¹⁴ Ibid

¹⁵ The Grand Duchy of Luxembourg communicated to Sustainalytics that KPIs for the Protection of the Environment category are not yet available and will be disclosed according to the reporting criteria contained in the Framework.

¹⁶ These values are absolute values.

¹⁷ 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

18 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.

¹⁹ These values are absolute values. Projects are 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. ²¹ Beneficiaries are defined as people having applied for or benefiting from international protection.

²² Institutions benefiting include 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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In case of discrepancies between the English language and translated versions, the English language version shall prevail.

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