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Impact Report for Bonds and Loans

OTP Sustainable Finance Framework

Impact Summary

Evaluation Date July 1, 2024

Issuer Location Budapest, Hungary

Sustainalytics has calculated the estimated impact achieved by the OTP Group Green Loan Portfolio, eligible under the OTP Group Sustainable Finance Framework. Since the 2022 issuance of a green bond under the framework, EUR 1.26 billion have been allocated in the categories renewable energy, green buildings and clean transportation, with projects located in Albania, Bulgaria, Croatia, Hungary, Romania, Serbia and Slovenia. For a representative year, once the projects have been completed, Sustainalytics has calculated 1,340,609 tonnes of avoided GHG emissions in CO_2e.

1.26B
Allocated amount, EUR

1,341
Annual emissions avoided ($ktCO_2e$)

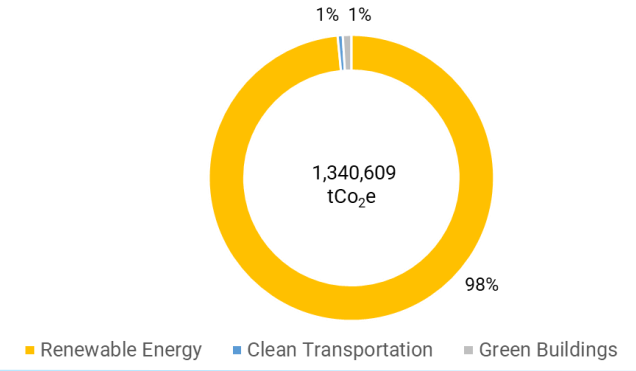
154
Projects

291K
Cars driven for one year

7
Countries

88M
Trees, yearly sequestration

Avoided CO_2e Emissions by Use of Proceeds and Location of Projects by Country



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Introduction

OTP Group ("the Issuer" or "OTP") is a Hungary-based financial institution providing universal financial services through several subsidiaries in 12 countries in Central and Eastern Europe and Central Asia. Headquartered in Budapest, Hungary, the predecessor of OTP Bank Plc. (OTP Group's parent company), the National Savings Bank was established in 1949 as a state-owned bank, which gradually underwent privatization starting in 1995. Nowadays, OTP operates in 12 countries in Central and Easten Europe and the Central Asia Region. OTP Group provides comprehensive banking and other financial services to more than 17.5 million retail and corporate customers with its 41,000 employees.[1]

In June 2024, OTP engaged Sustainalytics to quantify the environmental benefits of the projects financed with the proceeds from the OTP Green Loan Portfolio under its Sustainable Finance Framework.[2] This report covers the allocation of EUR 1.26 billion raised from OTP's 2022 green bond issuance. Using established methodologies, Sustainalytics has estimated avoided emissions from OTP's projects. This report presents the details of our findings, including a description of the methodology used to calculate the impacts.

Scope of Work and Limitations

OTP has engaged Sustainalytics to calculate the environmental impacts of the projects financed with proceeds from the 2022 green bond. For this work, Sustainalytics relied on the data provided by OTP on the allocated amount and the technical data on the projects financed.

Sustainalytics' impact reporting is aligned with ICMA's June 2023 Harmonised Framework for Impact Reporting.[3] The methodology and assumptions made for the impact calculation are outlined in the methodology chapter.

As part of this engagement, Sustainalytics exchanged information with OTP's representatives to understand the sustainability impact of its projects. Through these exchanges, OTP's representatives have confirmed that:

(1) They understand it is the sole responsibility of OTP to ensure that the information provided is complete, accurate and up to date;

(2) They have provided Sustainalytics with all relevant information;

(3) Any provided material information has been duly disclosed in a timely manner.

Sustainalytics also reviewed relevant public documents and non-public information.

[1] OTP, "OTP Bank – History", at: https://www.otpbank.hu/portal/en/AboutUs/History
[2] OTP, "Sustainable Finance Framework", (first published in 2022, updated on March 31, 2024), at: https://www.otpbank.hu/static/portal/sw/file/Sustainable_Finance_Framework_ENG_20220524.pdf
[3] ICMA, "Handbook - Harmonised Framework for Impact Reporting", (2023), at: https://www.icmagroup.org/assets/documents/Sustainable-finance/2023-updates/Handbook-Harmonised-framework-for-impact-reporting-June-2023-220623.pdf

Impact Findings

For reporting, Sustainalytics follows the ICMA Harmonised Framework for Impact Reporting,[4] which synthesizes market expectations and outlines recommendations for impact reporting to create a standardized reporting structure and to enhance the understanding of the impact to all stakeholders, including investors.

Table 1 below provides a summary of the impact at the portfolio level, which Sustainalytics calculated from the allocation of proceeds from OTP's 2022 green bond. Tables 2-5 provide category-level details for the assessed projects. Appendices 1-3 provide impact data at the project level. These metrics correspond to a representative year during the bond's term to maturity, and are based on the share of project financing.

Table 1: Summary of Impact – Portfolio Level[5]

Allocated Amount	Weighted Average Remaining Maturity	Financed Emissions Avoided	Financed Emissions Avoided/M EUR
EUR	Years	tCO_2e/year	tCO_2e/year/M EUR
1,256,343,980	7.9	1,340,609	1,067

Table 2: Summary of Impact – Use of Proceeds Category

Use of Proceeds Category	Allocated Amount	Financed Emissions Avoided	Financed Emissions Avoided/M EUR
	EUR	tCO_2e/year	tCO_2e/year/M EUR
Renewable energy	680,052,688	1,319,978	1,940.99
Clean transportation	107,703,414	7,669	71.20
Green buildings	468,587,878	12,962	27.66

Table 3: Impact of Renewable Energy Projects by Technology Type

Technology Type	Allocated Amount	Financed Generation	Financed Capacity	Financed Emissions Avoided	Financed Emissions Avoided/ M EUR
	EUR	MWh/year	MW	tCO_2e/year	tCO_2e/year/M EUR
Hydropower	37,012,793	151,653	51	22,646	612
Solar photovoltaic	444,398,845	812,082	654	671,482	1,511
Onshore wind energy	198,641,049	821,370	407	625,850	3,151

Table 4: Impact of Clean Transportation by Project Type

Project Type	Allocated Amount	Passenger-kilometres Travelled	Financed Emissions Avoided	Financed Emissions Avoided/ M EUR
	EUR	pkm/year	tCO_2e/year	tCO_2e/year/M EUR
Electric trains	36,810,770	800,000,000	6,337	172.16
Electric railways	70,892,644	14,857,034	1,331	18.78

[4] ICMA, "Handbook - Harmonised Framework for Impact Reporting", (2023), at: https://www.icmagroup.org/assets/documents/Sustainable-finance/2023-updates/Handbook-Harmonised-framework-for-impact-reporting-June-2023-220623.pdf
[5] Due to rounding, the summarized amounts might not match the exact amounts in other tables.

Table 5: Impact of Green Building by Building Type

Building Type	Allocated Amount	Gross Building Area	Energy Reduction	Financed Emissions Avoided	Financed Emissions Avoided/M EUR
	EUR	m^2	MWh/year	tCO_2e/year	tCO_2e/year/M EUR
Hotel	5,725,931	18,881	2,496	545	95.13
Office	375,010,481	369,505	42,381	7,961	21.23
Shopping center	87,851,467	177,691	13,107	4,456	50.73

Methodology

Sustainalytics developed its own methodologies for quantifying GHG avoidance and other metrics, including leveraging publicly available best-in-class methodologies, protocols and frameworks that are currently industry best practice. Our estimation practices and general principles rely on the GHG Protocol.[6] Our methodologies are based on guidance provided by the International Financial Institutions[7] on calculation methodology and global emissions. In addition, we rely on the Partnership for Carbon Accounting Financials' Global Accounting Standard[8] for guidance on estimation where data is not readily available and assumptions must be made. Finally, the UN's Clean Development Mechanism[9] provides guidance and information, serving as the foundation for these and other methodologies, including those implemented in this report.

Renewable Energy

It is assumed that the energy generated by the projects crowd out a mix of current and upcoming planned generation capacity and, therefore, associated emissions. The approach taken to derive the greenhouse gas emissions avoidance uses:

a) The emissions of the renewable energy projects, which is often (but not always) zero; and
b) The baseline emissions or emissions occurring in the absence of the project. For electricity generation, these emissions are based on the energy mix used to supply electricity to the local grid.
c) Financed project avoided emissions are calculated by using the share of project financing of the total project emissions avoided from the above calculations.

Data Sources and Assumptions

- For the projects included in this report, the expected annual generation (measured in MWh) was provided by OTP. In cases for which the annual generation was not available, the project capacity (measured in MW) was provided.
- For projects without data on the expected annual generation, Sustainalytics estimated this value leveraging the project capacity provided by OTP and capacity factors based on technology type and location using data provided by IRENA.[10]
- The baseline emission factors for the countries where projects are located were sourced from IFI.[11] To account for emissions from upstream activities, Sustainalytics applies an additional indirect emission factor.[12]
- One exception is the grid emission factor from Albania, which was sourced from the EBRD.[13]
- For zero-carbon technologies, such as solar and wind energy, the emissions per unit of generation are assumed to be 0 $kgCO_2e/kWh$.
- For hydropower projects' emissions, emission factors were sourced from hydropower.org.[14]

[6] Greenhouse Gas Protocol, "About Us", (2023), at: https://ghgprotocol.org/
[7] International Financial Institutions (IFI), "Members of the International Financial Institutions on Greenhouse Gas Accounting", at: https://unfccc.int/sites/default/files/resource/IFIs membership for UNFCCC %27white pages%27_0.pdf
[8] Partnership for Carbon Accounting Financials (PCAF), "About", (2024) at: https://carbonaccountingfinancials.com/
[9] UNFCCC, "CDM Methodologies Booklet – Fourteenth edition", (2022), at: https://cdm.unfccc.int/methodologies/documentation/index.html
[10] International Renewable Energy Agency (IRENA), "Statistics Time Series", (2023) at: https://www.irena.org/Data/View-data-by-topic/Capacity-and-Generation/Statistics-Time-Series
[11] UNFCCC, "The IFI Dataset of Default Grid Factors", available at: https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies
[12] Calculated based on data from: Government of the UK, "Government conversion factors for company reporting of greenhouse gas emissions", (2023), at: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting, IEA, "Country Profiles", at: https://www.iea.org/
[13] European Bank for Reconstruction and Development, "Electricity Emission Factors Review", https://www.ebrd.com/downloads/about/sustainability/cef.pdf. The source is old (2009) but according to IEA (www.iea.org/countries/albania) the energy mix has not changed significantly. According to European Bank for Reconstruction and Development, the emission factor used is 0.074.
[14] International Hydropower Association (IHA), "Hydropower's carbon footprint", (2024), www.hydropower.org/factsheets/greenhouse-gas-emissions

Clean Transportation

Clean transportation is assumed to displace a mix of existing and future transportation along the same travel distance. The carbon avoidance is calculated using:

a) The emissions of the clean transportation projects based on the best available data from OTP. To the extent available, calculations are based on fuel consumption or tonne-kilometre data. In the absence of such information, estimates are made based on mode of transportation, fuel type and average passengers or tonnes transported per vehicle.
b) The baseline emissions, which are the emissions associated with a basket of vehicles or modes of transport being replaced currently and in the future lifetime of the project.
c) Financed project avoided emissions are calculated by using the share of project financing of the total project emissions avoided from the above calculations.

Data Sources and Assumptions

- For the projects included in this report, data on the trains such as the distance travelled and propulsion technology was provided by OTP.
- It is assumed that the financed trains displace a mix of other transportation modes which consists of rails, cars and busses.
- Project level emissions associated with electricity consumption were calculated using a national grid emission factor sourced from IFI.[15] To account for emissions from upstream activities, such as electricity transmission losses and the extraction and refining of primary fuels, Sustainalytics applies an additional, indirect emission factor to the emissions directly emitted by the project and baseline vehicles.[16]

[15] UNFCCC, The IFI Dataset of Default Grid Factors (2016), available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Funfccc.int%2Fsites%2Fdefault%2Ffiles%2Fresource%2FHarmonized_IFI_Default_Grid_Factors_2021_v3.2_0.xlsx&wdOrigin=BROWSELINK

[16] UK Government, Department for Business, Energy & Industrial strategy, "Government conversion factors for company reporting of greenhouse gas emissions", at: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting. In the case of Serbia, where the emission factor had to be estimated based on a global comparison of direct and indirect emission factors.

Green Buildings

It is assumed that green buildings consume less energy than a mix of existing buildings and new construction. The avoidance of greenhouse gas emissions is then calculated using:

a) The emissions of the green building projects. To the extent available, the reporting is based on metered energy consumption. If such information is not available, estimates for the relevant projects are based on the building certificates, standards or country-level averages.
b) The baseline emissions, or emissions occurring in the absence of the projects. This figure is based on the estimated energy intensity of comparable buildings, or in the case of refurbishments, the prior emissions.
c) Financed project avoided emissions are calculated by using the share of project financing of the total project emissions avoided from the above calculations.

Data Sources and Assumptions

- For the projects included in this report, building data including gross building area, location and relevant building certificates were provided by OTP and used as inputs for the calculations. Where relevant, Sustainalytics has performed calculations based on the most recently available green building certificates or energy performance certificates for each property.
- Based on location and building characteristics such as type and size, the energy intensity of a baseline building is estimated using a combination of country averages and publicly available statistical models.[17, 18, 19]
- The emission factors for the project and baseline properties are based on the average energy mix for buildings in the relevant country and building type. A distinction is made between electricity consumption and other energy consumption.
- The grid emission factors for the countries in which the projects are located were sourced from IFI.[20] To account for emissions from upstream activities, Sustainalytics applies an additional indirect emission factor.[21]

[17] IFC's EDGE model is used for statistical modelling of buildings. EDGE, at: http://www.edgebuildings.com
[18] CRREM, "Global Decarbonisation Pathways", at: https://www.crrem.org/pathways/
[19] For projects located in Serbia, an eastern European average was used.
[20] UNFCCC, "IFI TWG – List of methodologies", at: https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies
[21] UK Government, Department for Business, Energy & Industrial Strategy, "Government conversion factors for company reporting of greenhouse gas emissions", at: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting

Appendix 1: Impact of Renewable Energy Projects

Project Type	Country	Technology Type	Allocated Amount	Financed Generation	Financed Capacity	Direct Emissions Avoided[22]	Indirect Emissions Avoided[23]	Financed Emissions Avoided[24]	Financed Emissions Avoided/M EUR
			EUR	MWh/year	MW	tCO_2e/year	tCO_2e/year	tCO_2e/year	tCO_2e/year/M EUR
Hydropower (total)			***37,012,793***	***151,653***	***51***	***38,557***	***3,229***	***22,646***	***611.84***
	Albania	Hydropower	27,039,588	126,178	40	19,833	93	9,381	346.93
	Bulgaria	Hydropower	2,489,398	6,678	4	3,307	678	3,985	1,600.89
	Romania	Hydropower	4,888,706	12,303	5	9,625	1,414	4,085	835.50
	Serbia	Hydropower	2,595,101	6,494	2	5,791	1,045	5,195	2,001.93
Wind (total)			***198,641,049***	***821,370***	***407***	***1,148,894***	***270,155***	***625,850***	***3,150.66***
	Bulgaria	Onshore wind energy	85,086,380	467,708	233	392,059	99,342	442,832	5,204.50
	Croatia	Onshore wind energy	33,842,289	66,140	30	49,535	10,327	19,734	583.13
	Romania	Onshore wind energy	34,711,406	260,717	118	560,246	128,752	132,890	3,828.41
	Serbia	Onshore wind energy	45,000,975	26,805	27	147,053	31,733	30,394	675.40
Solar (total)			***444,398,845***	***812,082***	***654***	***775,809***	***196,503***	***671,482***	***1,510.99***
	Albania	Solar photovoltaic	901,314	900	1	222	73	89	98.20
	Bulgaria	Solar photovoltaic	327,255,384	637,607	485	692,717	175,524	603,695	1,844.72
	Croatia	Solar photovoltaic	10,691,973	15,965	14	5,104	1,064	4,763	445.52
	Hungary	Solar photovoltaic	89,578,124	97,123	108	33,655	9,705	32,105	358.40
	Romania	Solar photovoltaic	15,972,051	60,487	47	44,110	10,137	30,831	1,930.29

[22] Direct emissions refer to emissions directly avoided by displacing electricity from the grid.
[23] Indirect emissions are emissions resulting from the extraction, refining and transportation of primary fuels, including transmission and distribution losses, before their use in the generation of electricity.
[24] Country-level emissions summed might differ marginally from totals due to rounding.

Appendix 2: Impact of Clean Transportation Projects

Project Type	Country	Allocated Amount	Share of Total Project Financing	Passenger-kilometres Travelled	Tonne-kilometres travelled	Financed Direct Emissions	Financed Indirect Emissions	Financed Emissions Avoided	Financed Emissions Avoided/M EUR
		EUR	%	pkm/year	tkm/year	tCO_2e/year	tCO_2e/year	tCO_2e/year	tCO_2e/year/ M EUR
Railways (total)		***107,703,414***		***814,857,034***	***12,517,067***	***2,020***	***529***	***7,669***	***191***
Electric trains	Slovenia	36,810,770	35	800,000,000	-	1,581	408	6,337	172.16
Electric railways	Serbia	70,892,644	80	14,857,034	12,517,067	439	120	1,331	18.78

Appendix 3: Impact of Green Building Projects

Building Type	Country	Number of Projects	Gross Building Area	Allocated Amount	Average Energy Intensity	Average Energy Reduction	Financed Direct Emissions	Financed Indirect Emissions	Financed Emissions Avoided	Financed Emissions Avoided/ M EUR
			m^2	EUR	kWh/m^2	MWh/year	tCO_2e/year	tCO_2e/year	tCO_2e/year	tCO_2e/year/ M EUR
Hotel (total)		***1***	***18,881***	***5,725,931***	***113***	***2,496***	***393***	***71***	***545***	***95.13***
	Serbia	1	18,881	5,725,931	113	2,496	393	71	545	95.13
Office (total)		***13***	***369,505***	***375,010,481***	***55***	***14,684***	***3,073***	***602***	***7,961***	***21.23***
	Bulgaria	3	50,252	33,000,546	55	4,412	619	125	1,178	35.70
	Hungary	6	202,521	231,520,249	53	20,530	1,046	218	2,477	10.70
	Romania	2	52,684	39,296,574	64	6,227	519	99	1,026	26.12
	Serbia	2	64,048	71,193,111	56	11,212	890	161	3,279	46.06
Shopping centre (total)		***4***	***177,691***	***87,851,467***	***89***	***9,771***	***4,476***	***898***	***4,456***	***50.73***
	Bulgaria	1	156,180	74,525,779	84	10,799	4,094	825	4,041	54.23
	Romania	3	21,511	13,325,687	123	2,308	383	73	415	31.14

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