

# Impact Report for Bonds and Loans

## OTP Group Sustainable Finance Framework

### Impact Summary

**Evaluation Date** 7 July 2023

**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 in 2022. Since issuance, EUR 1,013 million 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 731,816 tonnes of avoided emissions in CO<sub>2</sub>e.



**€1.01B**  
Allocated funds



**732**  
Annual emissions avoided (ktCO<sub>2</sub>e)



**122**  
Projects



**159K**  
Cars driven for one year



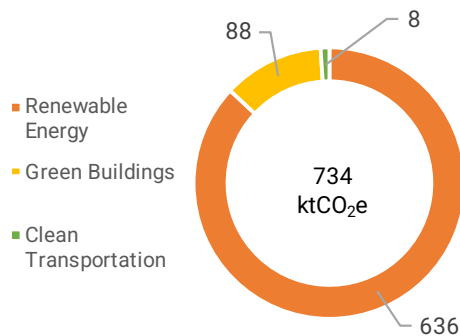
**7**  
Countries



**48M**  
Trees, yearly sequestration



### Avoided CO<sub>2</sub>e Emissions by Use of Proceeds and Number of Projects by Country



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## Introduction

OTP Group (“the Issuer” or “OTP”) is a Hungary-based and internationally operating financial institution, which provides financial services.

In April 2023, OTP engaged Sustainalytics to quantify the environmental benefits of the projects financed with the proceeds from the OTP’s Green Loan Portfolio under their Sustainable Finance Framework. 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 OTP’s Green Loan Portfolio. For this work, Sustainalytics relied on the data provided by OTP on the amount allocated and the technical data on the projects financed. The sole purpose of this report is to provide a transparent account of the impact created and emissions avoided by the projects in the OTP Green Loan Portfolio; this report does not provide endorsement of projects nor their eligibility.

Sustainalytics’ impact reporting is aligned with ICMA’s June 2022 Harmonised Framework for Impact Reporting handbook.<sup>1</sup> 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 management team 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.

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<sup>1</sup> ICMA, “Handbook - Harmonised Framework for Impact Reporting” (2022), at: [https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Harmonised-Framework-for-Impact-Reporting-Green-Bonds\\_June-2022-280622.pdf](https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Harmonised-Framework-for-Impact-Reporting-Green-Bonds_June-2022-280622.pdf)

## Impact Findings

For reporting, Sustainalytics follows the ICMA Harmonised Framework for Impact Reporting,<sup>1</sup> 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 impacts for each use of proceeds category which Sustainalytics calculated from the allocation of proceeds from OTP’s sustainable bond. These metrics correspond to a representative year during the bond’s term to maturity and are based on the share of project financing. Appendix 1-3 provide project-level avoided emissions.

**Table 1: Summary of Impact – Use of Proceeds**

Use of proceeds category	Allocated amount	Financed emissions avoided
	EUR	tCO <sub>2</sub> e
Renewable Energy	430,651,780	636,300
Green Buildings	462,022,863	87,847
Clean Transportation	120,792,723	7,669
Total	1,013,467,366	731,816

## 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.<sup>2</sup> Our methodologies are based on guidance provided by the International Financial Institutions<sup>3</sup> on calculation methodology and global emissions. In addition, we rely on the Partnership for Carbon Accounting Financials' Global Accounting Standard<sup>4</sup> for guidance on estimation where data is not readily available and assumptions must be made. Finally, the UN's Clean Development Mechanism<sup>5</sup> 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 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, installed capacity (measured in MW) data was provided by OTP, and the generation based on national average capacity factors.
- The baseline emission factors for the countries where projects are located were sourced from IFI.<sup>6</sup> To account for emissions from upstream activities, Sustainalytics applies an additional, indirect emissions factor.<sup>7</sup>
- One exception is the grid emission from Albania, which was sourced from the EBRD.<sup>8</sup>
- For Hydropower, emission factors sourced from hydropower.org, comparable to the ones from the IPCC, are used for the project's emissions.<sup>9</sup>
- Indirect emission factors were sourced from DEFRA.<sup>10</sup>
- For zero-carbon technologies such as solar and wind, the emissions per unit of generation are assumed to be 0 gCO<sub>2</sub>e/kWh.

<sup>2</sup> Greenhouse Gas Protocol, About Us, at: <https://ghgprotocol.org/>

<sup>3</sup> International Financial Institutions, "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](https://unfccc.int/sites/default/files/resource/IFIs%20membership%20for%20UNFCCC%20white%20pages%200.pdf)

<sup>4</sup> Partnership for Carbon Accounting Financials, About, at: <https://carbonaccountingfinancials.com/>

<sup>5</sup> UNFCCC, CDM Methodology Booklet, (2021), at: <https://cdm.unfccc.int/methodologies/documentation/index.html>

<sup>6</sup> 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](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)

<sup>7</sup> Government of the UK, 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>

<sup>8</sup> "Electricity Emission Factors Review", European Bank for Reconstruction and Development, accessed 26/05/2023, at: [www.ebrd.com/downloads/about/sustainability/cef.pdf](http://www.ebrd.com/downloads/about/sustainability/cef.pdf). The source is old (2009) but according to IEA ([www.iea.org/countries/albania](http://www.iea.org/countries/albania)) the energy mix has not changed significantly.

<sup>9</sup> "Hydropower's carbon footprint", accessed 26/5/2023, at: [www.hydropower.org/factsheets/greenhouse-gas-emissions](http://www.hydropower.org/factsheets/greenhouse-gas-emissions)

<sup>10</sup> Government of the UK, 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>, An exception was Serbia, where the emission factor had to be estimated based on a global comparison of direct and indirect emission factors, with a low error margin.

## Green Buildings

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

- a) The emissions of the energy efficient 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, emission intensities 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.<sup>11</sup>
- The emissions factors for the baseline properties are based on the average energy mix for buildings in the relevant country. A distinction is made between electricity consumption and other energy consumption.
- The grid emissions factors for the countries in which the projects are located were sourced from IFLI.<sup>6</sup> To account for emissions from upstream activities, Sustainalytics applies an additional, indirect emissions factor.<sup>10</sup>

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<sup>11</sup> IFC's EDGE model is used for statistical modelling of buildings.

## 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 sustainable transport projects based on the best available data from OTP. To the extent available, calculations are based on fuel consumption or passenger-kilometre data. In the absence of such information, estimates are made based on mode of transportation, fuel type and average passengers 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 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.<sup>6</sup> 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 emissions factor to the emissions directly emitted by the project and baseline vehicles.<sup>10</sup>

## Appendix 1: Impacts of Renewable Energy by Country and Project Type

Project Type	Country	Allocated amount	Project generation	Financed generation	Project capacity	Financed capacity	Financed emissions avoided <sup>12,13</sup>
		EUR	MWh	MWh	MW	MW	tCO <sub>2</sub> e
<b>Hydropower (total)</b>		<b>23,679,284</b>	<b>242,560</b>	<b>100,146</b>	<b>76</b>	<b>31</b>	<b>5,107</b>
	Albania	23,679,284	242,560	100,146	76	31	5,107
<b>Solar (total)</b>		<b>223,589,707</b>	<b>543,993</b>	<b>353,266</b>	<b>451</b>	<b>297</b>	<b>244,438</b>
	Bulgaria	110,667,776	319,055	213,190	238	159	192,174
	Croatia	3,042,210	11,026	7,902	10	7	2,522
	Hungary	91,026,157	141,288	104,628	147	109	34,021
	Romania	15,323,339	69,984	26,041	52	19	13,991
	Serbia	3,530,226	2,640	1,505	4	2	1,730
<b>Wind (total)</b>		<b>183,382,789</b>	<b>4,664,280</b>	<b>490,858</b>	<b>2,288</b>	<b>246</b>	<b>386,754</b>
	Bulgaria	77,751,585	1,350,720	298,003	672	148	268,626
	Croatia	17,220,625	178,920	29,522	84	14	9,420
	Romania	39,635,859	2,723,840	129,114	1,216	58	69,368
	Serbia	48,774,720	410,800	34,220	316	26	39,340

## Appendix 2: Impacts of Green Buildings by Country and Building Type

Building Type	Country	Number of projects	Gross building area	Allocated amount	Average energy intensity	Average energy reduction	Energy use avoided	Financed direct emissions	Financed indirect emissions	Financed emissions avoided <sup>13</sup>
			m <sup>2</sup>	EUR	kWh/m <sup>2</sup>	%	MWh	tCO <sub>2</sub> e	tCO <sub>2</sub> e	tCO <sub>2</sub> e
<b>Shopping mall (total)</b>		<b>1</b>	<b>154,618</b>	<b>82,814,087</b>	<b>78</b>	<b>68%</b>	<b>14,270</b>	<b>1,642</b>	<b>533</b>	<b>4,681</b>
	Romania	1	154,618	82,814,087	78	68%	14,270	1,642	533	4,681
<b>Office (total)</b>		<b>11</b>	<b>375,872</b>	<b>379,208,777</b>	<b>59</b>	<b>71%</b>	<b>30,478</b>	<b>33,141</b>	<b>1,140</b>	<b>83,166</b>
	Romania	1	47,571	32,487,465	60	70%	4,446	1,354	150	3,592
	Hungary	6	219,229	233,884,517	49	77%	18,667	16,895	268	51,168
	Bulgaria	2	45,025	37,088,109	95	31%	1,369	3,447	287	1,914
	Serbia	2	64,047	75,748,686	65	68%	5,986	11,445	435	25,491

<sup>12</sup> All avoided emissions for renewable energy are direct.

<sup>13</sup> Country level emissions summed might differ marginally from totals due to rounding.

## Appendix 3: Impacts of Clean Transportation by Project

Project	Country	Allocated amount	Share of total project financing	Passenger-kilometres travelled	Passenger-kilometres travelled	Financed direct emissions <sup>Error!</sup> <small>Bookmark not defined.</small>	Financed indirect emissions <sup>1</sup> <sub>3</sub>	Financed emissions avoided <sup>13</sup>
		EUR	%	Passenger-km	Tonne-km	tCO <sub>2</sub> e	tCO <sub>2</sub> e	tCO <sub>2</sub> e
<b>Railways (total)</b>		<b>120,792,723</b>		<b>814,857,034</b>	<b>12,517,067</b>	<b>2,020</b>	<b>529</b>	<b>7,669</b>
	Slovenian	50,416,467	35	800,000,000	-	1,581	408	6,337
	Serbian	70,376,256	80	14,857,034	12,517,067	439	120	1,331

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