



Belfius

Belfius Green Bond Framework

Green Bond Impact Report

Report based on the data of 31 March 2022



Preliminary information

This report provides Use of Proceeds information and Impact information related to Belfius' Green Bond Framework. All relevant information regarding Belfius' Green Bond Framework can be found on:

<https://www.belfius.be/about-us/en/investors/debt-issuance/green-bonds>

All sustainability related information on Belfius is available on: <https://www.belfius.be/about-us/en/belfius-community>

The Sustainability Report 2021 is integrated in Belfius' Annual Report (page 34 to 115), which can be found on:

<https://www.belfius.be/about-us/dam/corporate/investors/ratios-en-rapporten/belfius-reports/en/2021%20Annual%20Report.pdf>

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1. Outstanding Green Bonds

1. Outstanding Green Bonds

Data as of 31 March 2022

ISIN	Issue Date	Maturity Date	Type *	Currency	Amount
BE6328785207	08/06/2021	08/06/2027	NPS	EUR	500,000,000

* CB: Covered Bond, PS: Preferred Senior, NPS: Non-preferred Senior, T2: Tier-2.





2. Allocated Green Assets

2.1. Allocated Green Assets: Green Residential Mortgage Loans – Outstanding Amounts

Residential mortgage loans to finance residential properties belonging to the top 15% most energy efficient buildings in the Flemish or Walloon Region in Belgium. All outstanding loan amounts in EUR as of 31 March 2022

Loan start date	Flanders		Wallonia		Totals
	Apartment	House	Apartment	House	
2015	1,712,563.51	4,313,778.67	905,756.45	3,882,973.87	10,815,072.50
2016	5,936,518.21	18,738,715.81	943,484.24	6,907,403.69	32,526,121.95
2017	9,891,212.34	25,120,922.18	1,557,914.02	10,438,692.49	47,008,741.03
2018	11,929,015.94	35,937,462.16	1,859,289.03	9,027,982.16	58,753,749.29
2019	17,896,385.82	40,181,285.50	3,684,006.33	10,524,051.62	72,285,729.27
2020	5,836,505.42	10,869,143.72	2,520,504.49	7,858,179.71	27,084,333.34
2021	1,584,046.20	2,027,930.94	365,796.97	901,259.08	4,879,033.19
Totals	54,786,247.44	137,189,238.98	11,836,751.53	49,540,542.62	253,352,780.57

2.1. Allocated Green Assets: Green Residential Mortgage Loans – Impact

Residential mortgage loans to finance residential properties belonging to the top 15% most energy efficient buildings in the Flemish or Walloon Region in Belgium. Impact figures in Ton CO2/Year as of 31 March 2022.

Loan start date	Flanders		Wallonia		Totals
	Apartment	House	Apartment	House	
2015	7.43	44.05	5.54	38.85	95.86
2016	21.18	177.03	5.02	68.68	271.91
2017	35.46	252.31	7.94	120.90	416.62
2018	39.83	326.88	8.92	94.96	470.59
2019	58.74	353.27	14.57	104.42	531.01
2020	16.62	96.55	10.24	78.27	201.68
2021	4.73	20.64	1.87	9.32	36.55
Totals	183.99	1,270.73	54.10	515.40	2,024.23

2.2. Allocated Green Assets: Green Energy Loans – Outstanding Amounts

Loans to finance green energy loans in Belgium and the EU which finance either wind or photovoltaic solar projects. All outstanding loan amounts in EUR as of 31 March 2022.

Loan start date	Belgium		Other EU		Totals
	Wind	Solar	Wind	Solar	
2015	0.00	0.00	0.00	0.00	0.00
2016	0.00	0.00	0.00	0.00	0.00
2017	115,722,108.36	0.00	0.00	0.00	115,722,108.36
2018	80,353,756.37	0.00	0.00	0.00	80,353,756.37
2019	15,410,469.82	0.00	0.00	0.00	15,410,469.82
2020	21,440,179.00	0.00	0.00	13,894,876.87	35,335,055.87
2021	0.00	0.00	0.00	0.00	0.00
Totals	232,926,513.55	0.00	0.00	13,894,876.87	246,821,390.42

2.2. Allocated Green Assets: Green Energy Loans – Impact

Loans to finance green energy loans in Belgium and the EU which finance either wind or photovoltaic solar projects. Impact figures in Ton CO2/Year as of 31 March 2022.

Loan start date	Belgium		Other EU		Totals
	Wind	Solar	Wind	Solar	
2015	0.00	0.00	0.00	0.00	0.00
2016	0.00	0.00	0.00	0.00	0.00
2017	40,931.42	0.00	0.00	0.00	40,931.42
2018	32,689.29	0.00	0.00	0.00	32,689.29
2019	6,905.44	0.00	0.00	0.00	6,905.44
2020	9,607.36	0.00	0.00	5,757.47	15,364.83
2021	0.00	0.00	0.00	0.00	0.00
Totals	90,133.51	0.00	0.00	5,757.47	95,890.98



2.3. Allocated Green Assets: Summary

Summary of the allocated green assets per 31 March 2022

	Outstanding (in EUR)	Impact (in Ton CO2/year)
Green Residential Mortgage Loans	253,352,780.57	2,024.23
Green Energy Loans	246,821,390.42	95,890.98
Totals	500,174,170.99	97,915.21



3. Summary of Impact Calculation Methodology

3.1. Impact calculation methodology: Green Residential Buildings

The methodology to calculate the amount of CO₂ emission avoided for the green residential mortgage loans is calculated by comparing the worst-case emission of the green residential dwellings to the average emission of residential dwellings.

The methodology to calculate the avoided CO₂ emission by financing a green residential property is based on the following factors:

1. The theoretical average annual energy consumption per m² in kWh of an average residential property based on the EPC certificates.
2. The theoretical average annual energy consumption per m² in kWh of an average residential green property in our selection.
3. The average size in m² of a property.
4. The conversion factor in order to derive the actual energy consumption per square meter.
5. The energy sources used in an average household.
6. The CO₂ emission in kg/kWh for each energy source.
7. The average minimum CO₂ reduction per financed green property.
8. The amount financed relative to the value of the property whereby the amount financed is the current outstanding balance of the residential mortgage loan. This means that the CO₂ reduction that is taken into account decreases over time in function of the amortization of the loan.

3.1. Impact calculation methodology: Green Residential Buildings

The calculation methodology is the same for each green residential mortgage loan, although property and location specific assumptions are made. The table below contains the figures that were applicable on 31 March 2022.

	Flanders		Wallonia	
	Apartment	House	Apartment	House
Average energy use (i)	276 kWh/m ² /year	459.8 kWh/m ² /year	337.5 kWh/m ² /year	472.7 kWh/m ² /year
Maximum energy use green properties (ii)	100 kWh/m ² /year	100 kWh/m ² /year	125 kWh/m ² /year	125 kWh/m ² /year
Theoretical minimum energy saving (iii) = (i)-(ii)	176 kWh/m ² /year	359.8 kWh/m ² /year	212.5 kWh/m ² /year	347.7 kWh/m ² /year
Average surface (iv)	86.5 m ²	170 m ²	85 m ²	168 m ²
Theoretical energy saving per property (v)=(iii)x(iv)	15,224 kWh/year	61,166 kWh/year	18,063 kWh/year	58,412 kWh/year
Conversion factor (theoretical to observed) (vi)	30.5%	30.5%	30.95%	30.95%
Real energy saving per property (vii)=(v)x(vi)	4,643 kWh/year	18,856 kWh/year	5,590 kWh/year	18,078 kWh/year
CO2 emission per kWh (viii)	185.95 g/kWh	185.95 g/kWh	180.22 g/kWh	180.22 g/kWh
CO2 reduction per green property (ix)=(vii)x(viii)	863 kg/year	3,469 kg/year	1,007 kg/year	3,258 kg/year

The CO2 reduction per green property (ix) is then multiplied with the ratio “outstanding loan balance / property value” in order to derive the CO2 emission which is attributed to the green residential mortgage loan.



3.2. Impact calculation methodology: Green Energy Loans

The amount of CO₂ avoided by financing green energy projects is calculated versus the equivalent amount of energy that would be produced by a modern CCGT (combined cycle gas turbine) plant having an efficiency rate of 65%. This logic comes from the fact that the amount of electricity generated by nuclear plants in Belgium is scheduled to decrease in the near future and partially replaced by electricity generated by CCGT plants.

As of 31 March 2022, this results in the following formulas:

Wind:

amount financed by Belfius / Investment value of the project x production capacity (P90) in mWh x 202 kg/mWh x 0.65

Photovoltaic solar:

amount financed by Belfius / investment value of the project x production capacity in kWh x 1,000 kWh/year/kWp x 202 g/kWh x 0.65

For smaller (residential) photovoltaic solar projects, a suboptimal orientation is assumed resulting in an annual production of 900 kWh per kWp. Additionally we apply a 10% haircut on the theoretical annual energy production for these smaller projects.

Note that the current outstanding loan balance is used as “amount financed by Belfius”.



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