



BPER BANCA GROUP

GHG STATEMENT

On 2023 GHG Emissions

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1. Scope and perimeter

This GHG statement report the relevant greenhouse gas (GHG emissions) for BPER Banca Group, hereinafter “The Group” or “BPER Banca” and it includes direct Scope 1, indirect Scope 2 and indirect Scope 3.

The reporting perimeter coincides with area of consolidation in the 2023 Consolidated financial statements of the BPER Banca Group (for the list of fully consolidated Group companies, see chapter 4 “Scope of consolidation of the BPER Banca Group”- of the Notes to the Consolidated Financial Statements of the BPER Banca at 31 December 2023); the approach used is “financial control”¹. BPER Group’s subsidiaries cover most of the Italian national territory (Cap 1 Consolidated non-financial statement 2023). The data shown are for the 2023 financial year

2. References

Types of GHG included in the calculation are listed below:

- CO₂
- CH₄
- N₂O
- HFCs
- HCFCs

Regarding the methodologies and standards used for the calculation of GHG emissions, we report below the international, regional and national references, as well as the methodologies for calculating GHG emissions starting from energy consumption:

- Global Reporting Initiative Sustainability Reporting Standards, issued by GRI-Global Reporting Initiative (“GRI Standards”), in particular Disclosures GRI 305-1 (2016), GRI 305-2 (2016), GRI 305-3 (2016) – international;
- “Linee Guida sull’applicazione in banca degli Standards GRI (Global Reporting Initiative) in materia ambientale”, published by ABI Lab in December 2023;
- “Italian Greenhouse Gas Inventory 1990 – 2021– National Inventory Report 2023 Annex 6 National Emission Factors” published by Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA);
- “Fattori di emissione per la produzione ed il consumo di energia elettrica in Italia” published by Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA);
- European Residual Mixes 2022, AIB – international;
- UK Government GHG Conversion Factors for Company Reporting (2023) – international;
- Global Warming Potential (100 year), IPCC 5th Assessment (AR5) – international;
- Global Warming Potential (100 year), IPCC 4th, 6th Assessment where IPCC 5th data not available;
- The Greenhouse Gas Protocol: a Corporate Accounting and Reporting Standard (Revised Edition) – international;
- GHG Protocol Scope 2 Guidance: an amendment to the GHG Protocol Corporate Standard – international;
- GHG Protocol Scope 3 Calculation Guidance: an amendment to the GHG Protocol Corporate Standard – international;
- GHG Protocol Scope 3 guidance; “The Corporate Value Chain (Scope 3) Accounting and Reporting Standard”- international and “Technical Guidance for Calculating Scope 3 Emissions”

¹ Source: <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>

- PCAF (2022). The Global GHG Accounting and Reporting Standard Part A: Financed Emissions. Second Edition - international.

3. Reported GHG gases

The greenhouse gas emissions covered in this statement are CO₂, HFCs, HFCs. Unless explicitly stated otherwise, CH₄ and N₂O are incorporated into all emission factors (e.g., for combustion-related activities), as the measurement unit is CO₂ equivalent.

4. Data collection, estimation methodology and calculation method

Main estimation method for the quantification of GHG emissions is based on the formula:

$$\text{GHG Emissions} = A * \text{EF} * \text{GWP}$$

Where:

- GHG emissions is the quantity of GHG (expressed in CO₂, CH₄, N₂O) measured in metric tonnes of CO₂ equivalent;
- A is activity data, which measures burned fuel [kg], [m³], [l] or [tons], energy [MJ] o [kWh], refrigerant gas leaks [kg];
- EF (Emission Factor) is the quantity of GHG emissions per every unit of activity data;
- GWP is Global Warming Potential (IPCC, AR5): 1 for CO₂; 27.9 for CH₄ and 273 for N₂O.

Scope 1 and Scope 2 data collection and consolidation of energy consumption data is coordinated by the Energy Manager. Inside each site there is a representative in charge of collecting data on energy consumption and refrigerant gas leaks who is responsible of reporting the data on the corporate tool, which monitors environmental data. Electric and thermal energy consumption data are extrapolated from third party suppliers' invoices, while car fleet consumptions are retrieved from fuel cards. The remaining fuel consumption, not covered by the fuel card, is estimated based on the reimbursement costs recorded by the HR department and is calculated by dividing these costs by the average national prices for diesel and gasoline.

Scope 3 data relates to:

Category	Estimation methodology
1. Purchased goods and services	<p>Emissions were estimated using data collected by suppliers regarding the quantity (tons) of paper and board recycled and non-recycled used by the Group during the year 2023.</p> <p>The emission calculation includes emissions generated through both the production of recycled and non- recycled paper. The methodology applied is the average data method as listed on the "Technical Guidance for Calculating Scope 3 emissions" by GHG Protocol.</p> <p>To calculate emissions, the emission factor of UK Government GHG Conversion Factors for Company Reporting – Business Material Use (2023) were applied.</p> $\text{GHG emissions (kg CO2e)} =$ $\text{Mass of purchased goods or services for a given year (kg)}$ $\times \text{emission factor (kg CO2e)}$

6. Business Travel	<p>Emissions were estimated based on distances travelled by employees while on business travel and were calculated thanks to the available departure and destination information collected through employee train and plane tickets.</p> <p>The methodology applied is the distance-based method, as listed on the “Technical Guidance for Calculating Scope 3 emissions” by GHG Protocol. The figure is related to employees’ air and train travels. GHG emissions were calculated starting from the kilometers covered per flight and rail travel.</p> $\text{GHG emissions (kg CO2e) = distance travelled by person (passenger.km)} \\ \times \text{emission factor } \left(\frac{\text{kgCO2e}}{\text{passenger.km}} \right)$
15. Investments	<p>Financed Emissions relate to the loan and the securities portfolio of the Group, the data were collected from:</p> <ul style="list-style-type: none"> • BPER exposure data from internal bank database (e.g. FINREP, Loan Data Tape); • Emissions and economics counterparties data from qualified info providers; • BPER internal database related to collateral real estate loan portfolio characteristics and energy rating data from qualified info providers. <p>Loan portfolio emissions calculation methodology</p> <p>The total amount of emissions related to the loan portfolio is calculated as the financed emissions for investments made to “General Purpose” and for collateral “Real estate” according to PCAF standard methodology.</p> <p>In line with the PCAF methodology, the financed emissions have been calculated for the following asset classes:</p> <ul style="list-style-type: none"> • loans with unknown use of proceeds (so called General Purpose) issued to listed and unlisted corporate counterparties, referred to in the following asset classes included in the PCAF methodology: Bonds and listed equity and Business loans and unlisted equity; • financing for real estate acquisition , with reference to both commercial and residential properties referred to to the Commercial Real Estate and Mortgage asset classes included in the PCAF methodology. <p>It is worth mentioning that the PCAF methodology takes into account only financing for the purchase of built and fully operational real estate units.</p> <p><u>General Purpose</u></p>

The total amount of emissions related to General Purpose loan portfolio is calculated according to PCAF methodology as the sum of financed emissions for each counterparty included in the analysis.

The financed emissions are calculated by multiplying the attribution factor by the emissions of counterparty company in the portfolio, where the attribution factor represents the ratio between the Gross Carrying amount to a given company and its Total Assets as follow:

$$\text{Financed Emissions (tCO2e)} = \sum \left(\frac{\text{Gross Carrying amount}}{\text{Total Assets}} \right) * \text{GHG Emissions}$$

Where EVIC data is available, it was used instead of Total Asset on the Balance sheet. The portfolio analyzed includes general purpose financing to corporate counterparties, corresponding to the first two PCAF Standard Asset Classes: Listed Equity and Corporate Bonds and Business Loans and Unlisted Equity. The aim of calculation is to represent the share of each counterparty's emissions attributable to BPER Banca; therefore, the calculation methodology is based on calculating the attribution factor (Gross carrying amount of financing divided by the Total Assets of the counterparty) for the counterparty's emissions (whenever it is possible to gather or estimate their emissions).

The information used as input for estimating GHG emissions and Total Assets on the Balance sheet data are gathered from data provider proprietary databases.

Exclusion:

The analysis excluded corporate customers for which no reliable data was available, including information on balance sheet, GHG emissions, industry sector. According to PCAF Standard Methodology, also individuals counterparties have been excluded by the analysis.

In addition, intra-group companies are excluded from the analysis.

The analysis and calculation conducted led to outputs with data quality Scores of 2, according to PCAF Standard methodology.

Real Estate

Real Estate financing has been included in the calculation of emissions related to the loan portfolio, by employing PCAF Methodology as well. These loans have a specific purpose, namely the purchase and refinance of commercial and residential real estate, the former corresponds to the Commercial Real

Estate Asset Class of PCAF Standard, the latter corresponds to the Mortgages Asset Class of PCAF Standard.

Real Estate emissions are calculated by multiplying the attribution factor by the dimensional factor of the real estate unit (surface in sqm or number of unit) and the emission factor derived by the PCAF database (PCAF European building emission factor database). The emission factors are selected according to the data available regarding the building surface or energy rating, climate zone, number of buildings, type of building data. The calculation is made as follow:

$$\text{Financed Emissions (tCO}_2\text{e)} = \sum \frac{\text{Gross loans}}{\text{Real Estate Value at origination}} * \text{dimensional factor} * \text{PCAF Emission Factor}$$

The information used as input for estimating GHG emissions of Commercial Real Estate and Mortgages are gathered within BPER Banca databases related to financed buildings and from info provider proprietary databases regarding the building energy ratings and PCAF Standard Real Estate emission factors.

Exclusion:

The analysis excluded financing for lands and building with missing data for which emissions cannot be estimated.

The analysis and calculation conducted led to outputs with data quality Scores of 3, 4 and 5, according to PCAF Standard methodology; only estimations with data quality Score 3, 4, 5 have been included within the carbon accounting perimeter; for Scores 3 and 4 it was possible to estimate emission intensity as well, expressed as tCO₂e/m².

Securities portfolio emissions calculation methodology

The total amount of emissions related to securities portfolio is calculated according to PCAF methodology as the sum of financed emissions for each counterparty included in the analysis.

The financed emissions are calculated by multiplying the attribution factor by the emissions of counterparty company in the portfolio, where the attribution factor represents the ratio between the Exposure to a given company and the EVIC (Enterprise Value Including Cash) as follow:

The formula is as follows:

$$\text{Financed Emissions} =$$

	Total GHG Emissions (Scope 1 + Scope 2) Exposure $* \left(\frac{\text{Enterprise Value Including Cash (EVIC)}}{\text{Enterprise Value Including Cash (EVIC)}} \right)$
	<p>Where EVIC data is not available, the Total Asset value is considered.</p> <p>The information used as input for estimating GHG emissions, EVIC and Total Assets data are gathered from data provider proprietary databases.</p> <p><i>Exclusion:</i> the analysis excluded government securities and intra-group counterparties from the calculation.</p> <p>Last, counterparties for which information on economic figures was not available were also excluded.</p>

5. GHG Emission Quantities

Scope 1 – Consolidated

Type of consumption	Unit of measure	From 1 January to 31 December 2023				
		Quantity	t CO ₂	t CH ₄	t N ₂ O	t CO _{2e}
Heating						
of which natural gas	Sm ³	3,221,574.03	6,462.48	0.28	0.11	6,500.34
of which diesel oil	l	219,979.00	585.58	0.06	0.01	591.45
of which propane air	Sm ³	16,137.00	83.14	0.00	0.00	83.14
Fuel combustion in company cars						
Diesel	l	601,700.44	1,592.10	0.00	0.06	1,608.30
LPG	l	2,039.01	3.46	0.00	0.00	3.48
Gasoline	l	219,671.48	512.38	0.07	0.01	515.81
Methane	kg	378,32	0.00	0.00	0.00	0.004
Total (heating and fuel combustion)			9,239.13	0.40	0.19	9,302.53
Refrigerant gases (HFCs HCFCs)						
Total (refrigerant gases)			-	-	-	2,892.30
Total Scope 1						12,195.06

Scope 2 – Consolidated

Location-Based

Type of consumption	Unit of measure	From 1 January to 31 December 2023				
		Quantity	t CO ₂	t CH ₄	t N ₂ O	t CO _{2e}
Electricity purchased (location-based)	kWh	95,326,277.08	25,541.72	44,42	70,26	25,656.40
Thermal energy purchased (location-based)	kWh	3,821,596.60	800.62	0.00	0.00	800.62
Total Scope 2 Location-based						26,457.02

Market-based

Type of consumption	From 1 January to 31 December 2023
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	Unit of measure	Quantity	t CO _{2e}
Electricity purchased (market-based)	kWh	437,383.6	200.85
Thermal energy purchased (market-based)	kWh	3,821,596.60	800.62
Total Scope 2 Market-based			1,000.57

Scope 3

Category 1. Purchased goods and services

Paper consumption

Paper consumption	From 1 January to 31 December 2023	
	Mass t	t CO _{2e}
Recycled paper	1,253.99	916.01
Non-recycled paper	18.52	16.86
Total Category 1	1,272.51	932.88

Category 6. Business Travel

Air travel

Air travel	Distance per passenger km.passenger	From 1 January to 31 December 2023			
		t CO ₂	t CH ₄	t N ₂ O	t CO _{2e}
Domestic flights					
<i>Average passenger</i>	1,545,549.66	418.86	0.35	2.08	421.28
Short-haul					
<i>Average passenger</i>	0.00	0.00	0.00	0.00	0.00
<i>Economy class</i>	82,453.08	15.00	0.00	0.07	15.08
<i>Business class</i>	2,665.07	0.73	0.00	0.00	0.73
Long-haul					
<i>Average passenger</i>	0.00	0.00	0.00	0.00	0.00
<i>Economy class</i>	25,408.32	5.06	0.00	0.03	5.08
<i>Premium economy class</i>	54,885.08	17.48	0.00	0.09	17.57
<i>Business class</i>	41,076.90	23.72	0.00	0.12	23.84
<i>First class</i>	0.00	0.00	0.00	0.00	0.00
International flights					
<i>Average passenger</i>	988.47	0.17	0.00	0.00	0,17
<i>Economy class</i>	0.00	0.00	0.00	0.00	0.00
<i>Premium economy class</i>	0.00	0.00	0.00	0.00	0.00
<i>Business class</i>	0.00	0.00	0.00	0.00	0.00
<i>First class</i>	0.00	0.00	0.00	0.00	0.00
Total	1,753,026.58	481.02	0.35	2.39	483.75

Train travel

Train travel	Distance per passenger km.passenger	From 1 January to 31 December 2023			
		t CO ₂	t CH ₄	t N ₂ O	t CO _{2e}
National railways	4,382,485.07	153.83	0.31	1.25	155.40
International railways	148.00	0.00	0.00	0.00	0.00
Light transport and tram	0.00	0.00	0.00	0.00	0.00
Subway	0,00	0.00	0.00	0.00	0.00
Total	4,382,633.07	153.83	0.31	1.25	155.40

Category 15. Investments

Investments	From 1 January to 31 December 2023
	t CO _{2e}
Loan Portfolio	3,382,316
Securities Portfolio	265,662
Total	3,647,978

6. Applied emission factors

Scope 1

Type of consumption	Unit of measure	2023		
		t CO ₂	t CH ₄	t N ₂ O
Heating				
of which natural gas	Sm ³	0.0020060	0.00000008572	0.0000000343
of which diesel oil	l	0.00266196	0.0000002521	0.0000000720
of which propane air*	Sm ³	0.00515198	-	-
Fuel combustion in company cars				
Diesel oil	l	0.00264600	0.0000000037	0.0000000983
LPG	l	0.00169456	0.0000002236	0.0000000179
Gasoline	l	0.00233248	0.0000003053	0.0000000260
Methane	kg	0.0000115	0.0000000005	0.0000000002

Source: ISPRA, with transformation into CO₂ equivalent according to the procedure set out in the "Guidelines on the application in banks of GRI (Global Reporting Initiative) Environmental Standards" published by ABI Lab in December 2023.

Propane Air* - Propane 0.02 KgCO₂ (Source: IPCC AR6) - For the calculation of emissions, the composition of the propane air is taken into consideration (50% air and 50% propane). Therefore, the emission factor is considered only for the quantity of propane used. Considering the density factor Propane: 515.198 kg/m³

Type of gas	2023
	GWP*
1 kg of R-22	1,760
1 kg of R-407-C	1,624
1 kg of R-410-A	1,924
1 Kg of R-422-D	2,473
1 kg of R-427-A	2,024
1 kg of R-417-A	2,127
1 kg of R32	677
1 kg of R507-A	3,985

*UK Government GHG Conversion Factors for Company Reporting – Refrigerant & Other (2023)

Scope 2

Type of consumption	Unit of measure	2023		
		t CO ₂	t CH ₄	t N ₂ O
Electricity (location based)	kWh	0.00026794	0.0000000167	0.0000000027
Thermal energy (location based)	kWh	0.0002095	0.00	0.00
Electricity (market based)	kWh	0.00045715	0.00	0.00
Thermal energy (Market based)*	kWh	0.0002095	0.00	0.00
Source emission factor	ABI guidelines December 2023 for Location Based European Residual Mixes 2022 published by AIB for Market Based *the absence of contractual information Marked Based Emission Factor from Thermal Energy (district heating), and in line with what is also indicated in the "GHG Protocol -Scope 2 Guidance", has been used the Location Based Emission Factor to convert the thermal energy t in tCO ₂			

Scope 2 market-based emissions are expressed in tonnes of CO₂. However, for thermal energy, the percentage of methane and nitrous oxide has a negligible effect on total greenhouse gas emissions (CO₂ equivalent) as can be deduced from the relevant technical literature.

Scope 3

Category 1. Purchased goods and services

Paper consumption

Paper consumption	Unit of measure	Primary material production	Closed loop source
		t CO ₂ e	t CO ₂ e
Paper and board: paper	t	0.91048	0.73048
Source of Emission factor	UK Government GHG Conversion Factors for Company Reporting – Material Use (2023)		

Category 6. Business travel

Air travel

Air travel	Unit of measure	2023			
		t CO ₂	t CH ₄	t N ₂ O	t CO ₂ e
Domestic Flights					
<i>Average passenger</i>	Passenger.km	0,000271	0,000000224	0,000001343	0,000272577
Short haul					
<i>Average passenger</i>	Passeggero.km	0,000185	0,000000011	0,000000916	0,000185917
<i>Economy class</i>	Passenger.km	0,000182	0,000000011	0,000000898	0,000182869
<i>Business class</i>	Passeggero.km	0,000273	0,000000011	0,000001352	0,000274303
Long-haul					
<i>Average passenger</i>	Passeggero.km	0,00026	0,000000011	0,000001289	0,000261281
<i>Economy class</i>	Passenger.km	0,000199	0,000000011	0,000000987	0,000200108
<i>Premium economy class</i>	Passeggero.km	0,000319	0,000000011	0,000001574	0,000320155
<i>Business class</i>	Passeggero.km	0,000577	0,000000022	0,000002855	0,000580287
<i>First class</i>	Passeggero.km	0,000796	0,000000034	0,000003939	0,000800403
International flights					
<i>Average passenger</i>	Passenger.km	0,000175	0,000000011	0,000000863	0,000175804
<i>Economy class</i>	Passenger.km	0,000134	0,000000006	0,000000667	0,000134643
<i>Premium economy class</i>	Passeggero.km	0,000214	0,000000011	0,000001058	0,000215419
<i>Business class</i>	Passeggero.km	0,000389	0,000000022	0,000001921	0,000390443
<i>First class</i>	Passeggero.km	0,000536	0,000000022	0,00000265	0,000538542
Source of Emission factor	UK Government GHG Conversion Factors for Company Reporting – Business Travel Air (2023)				

Train travel

Train travel	Unit of measure	2023			
		t CO ₂	t CH ₄	t N ₂ O	t CO ₂ e
National railways	Passenger.km	0,00003510	0,000000008	0,000000028	0,00003546
International railways	Passenger.km	0,00000441	0,000000002	0,000000003	0,00000446
Light transport and tram	Passenger.km	0,00002832	0,000000012	0,000000016	0,00002860
Subway	Passenger.km	0,00002753	0,000000011	0,000000016	0,00002780
Source of Emission factor	UK Government GHG Conversion Factors for Company Reporting – Business travel land (2023)				

Category 15. Investments

General Purpose Loan and Securities portfolio financed emissions are calculated based on total greenhouse gas (GHG) emissions of a counterparty weighted by the financial exposure as a share in the company's total value. The GHG emissions and the economic figures are provided by info provider proprietary database.

Real Estate Loan portfolio financed emissions are calculated based on PCAF emission factors (PCAF European building emission factor database) selected according to the building surface and the data gathered by info provider proprietary database related to the building energy rating or the climate zone, the number and the type of building.

7. Conclusion

GHG Emissions related to 2023 BPER Banca Group own operation and activities, as indicated in the paragraph "Scope" of this report are:

Scope	GHG Emissions	2023
1	Direct	12,195 t CO ₂ e
2	Indirect (market-based)	1,001 t CO ₂ e
2	Indirect (location-based)	26,457 t CO ₂ e
3	Other indirect	3,649,550 t CO ₂ e

An independent external body audit on GHG emissions data was performed.