

Greenhouse gas emissions inventory

[PKO Bank Polski Spółka Akcyjna]
[2023]



REQUIRED INFORMATION

Have any establishments, operations and/or sources been excluded from the inventory? If so, please indicate.
No.
Reporting period to which the inventory relates
From 01/01/2023 to 31/12/2023 ¹

ORGANISATIONAL BOUNDARIES

Which consolidation method has been chosen (choose each consolidation method for which the organisation reports emissions). If the organisation reports according to more than one consolidation method, it must complete and attach an additional inventory according to each consolidation method.		
Share in capital <input type="checkbox"/>	Financial control <input type="checkbox"/>	Operational control <input checked="" type="checkbox"/>

OPERATIONAL BOUNDARIES

Are Scope 3 emissions included in this inventory?
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If yes, what types of activity are included in Scope 3 emissions?
<p>Scope 3 emissions include:</p> <ul style="list-style-type: none"> cat. 1. emissions from purchased products and services - emissions arising from the purchase of products. The calculations were carried out for the first time and included only in relation to Bank PKO BP; cat. 3. WTT (Weel to Tank) emissions - emissions generated at the production stage of fuels and fuels for the generation of grid electricity and heat, and emissions associated with the generation of electricity lost during transmission and distribution. The calculations are based on data on fuels consumed and electricity and heat purchased (reported in Scopes 1 and 2). The calculations were carried out for the second time and included Bank PKO BP and the Capital Group companies; cat. 5. waste generated - emissions from waste generation. The calculations were carried out for the first time and included only for Bank PKO BP; cat. 6. domestic and international business travel (plane, train, public transport, cars, motorbike). Emissions from travel by company cars have been included in Scope 1 fuel consumption to avoid duplication of emissions. Emissions from Scope 6 were included for the fourth time, the second time including the other Group companies. In addition, emissions from overnight stays in hotels were calculated for the first time and included only for Bank PKO BP; cat. 7. emissions resulting from employee commuting. Data on the mode of transport and the distance travelled were determined on the basis of questionnaires completed by employees of the bank and other Bank's Group companies. Category 7 emissions were included in the carbon footprint analysis for the third time, the second time for the Group companies. In addition, for the first time under category 7, emissions generated during remote working of employees were calculated, which were only included for Bank PKO BP; cat. 11. emissions resulting from the use of sold products - this category includes emissions generated during the use of two banking applications iPKO and IKO by the Bank's customers. The basis for the calculations was information on the time customers spend using the applications. The calculations were made for the first time and included only in relation to Bank PKO BP; cat. 13. consumption of utilities in space leased to third parties. In the reported period it was included for the second time, and only in relation to Bank PKO BP.

¹ With the exceptions described in the body of the report regarding the reporting period for emissions related to electricity, heat and natural gas consumption.

REQUIRED INFORMATION

INFORMATION ON EMISSIONS

The table below refers to the year 2023 - emissions independent of any GHG transactions i.e. sales, purchases, transfers or deposits of allowances.

EMISSIONS	TOTAL	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆
	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)
Scope 1	13 976,47	12 910,66	38,58	40,06	987,06	0,00	0,00
Scope 2 ²	75 547,86	75 547,86	0,00	0,00	0,00	0,00	0,00
Scope 2 ³	28 950,06	28 950,06	0,00	0,00	0,00	0,00	0,00
Scope 3	32 846,30	32 784,70	10,58	51,02	0,00	0,00	0,00

Direct CO ₂ emissions from biogenic combustion (MgCO ₂)
0 MgCO ₂

BASELINE YEAR

Baseline year
2019 ⁴ for Scopes 1 and 2.
The PKO Bank Polski S.A. Group is gradually expanding the scope of data reported under Scope 3, so the baseline year has not yet been determined.

Clarification of company-determined policy for making base year emissions recalculations
2019 was the first year for which a calculation was carried out and an inventory of the PKO Bank Polski S.A. Group's greenhouse gas emissions was prepared.
The emissions inventory for 2019 was taken as the baseline year, taking into account the results after recalculation. The company's business profile does not generate unusual fluctuations in greenhouse gas emissions from one year to the next, so a single year is sufficiently representative and it is not necessary to establish an average of annual emissions over several years.
Given the need to decide on the need for any baseline year emissions recalculations and the lack of a documented company policy in this regard, the general criteria set out in The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard Revised Edition (hereafter: GHG Protocol) were applied. ⁵ For each criterion, the authors of the report proposed a way of evaluating it, which specifies the cases for which baseline year GHG emissions recalculations should be carried out.
Criteria indicating the need to recalculate greenhouse gas emissions for the baseline year:
Criterion 1. Structural changes that have a significant impact on baseline year emissions.
Criterion description: A structural change involves a transfer of ownership or controllability of an emission-generating activity. In contrast to a single structural change, the cumulative effect of a number of smaller changes can have a significant impact on baseline year emissions. Structural changes are: mergers, acquisitions, sells and outsourcing and insourcing of emissions-generating activities. Recalculations of baseline year emissions do not result in an expansion of the range of services and the opening or closing of operational units that are owned or controlled by the company (so-called organic growth). Baseline year emissions will also not be recalculated if the company purchases a facility that was established after the baseline year established by the company.

² Calculated according to the location-based method.

³ Calculated according to the market-based method.

⁴ The last baseline year recalculation took place in the greenhouse gas emissions inventory for 2022.

⁵ <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>

REQUIRED INFORMATION

Criterion 2. Changes in methodology used to calculate or measure emissions or improvements in accuracy data.

Criterion description: Significant changes in methodology and data quality shall be taken into account. Any changes in indicators and actual changes in emissions (related, for example, to a change in the fuel used) shall not trigger a recalculation of the baseline year.

Criterion 3 Detection of errors in baseline year calculations.

Criterion description: The errors detected must be significant errors or the cumulation of several of them must lead to significant inaccuracies that will require correction.

The authors of the 2023 report did not recommend recalculation of greenhouse gas emissions for baseline year of the PKO Bank Polski S.A. Group.

Context for any significant emissions changes that trigger base year emissions recalculations

The authors of the 2023 report did not decide that a recalculation of the PKO Bank Polski S.A. Group's baseline year greenhouse gas emissions was necessary.

The context of the recalculations carried out in previous years was published in the 2022⁶, 1021⁷ and 2020⁸ reports.

⁶ https://www.pkobp.pl/media_files/f84c5fa4-0113-46e0-8a2e-5f0af0b53a2c.pdf

⁷ https://www.pkobp.pl/media_files/04924fcd-2a60-4e0f-84ee-891075705659.pdf

⁸ https://www.pkobp.pl/media_files/d3b259ae-b5b6-4155-9244-d0d2eed3fe49.pdf

REQUIRED INFORMATION

YEAR 2019 (baseline year)							
EMISSIONS	TOTAL	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆
	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)
Scope 1	15 781.34	14 777.69	35.82	55.06	912.46	0.00	0.00
Scope 2 (L-B)	92 785.29	92 785.29	0.00	0.00	0.00	0.00	0.00
Scope 2 (M-B)	92 785.29	92 785.29	0.00	0.00	0.00	0.00	0.00
Scope 3	-	-	-	-	-	-	-

YEAR 2023							
EMISSIONS	TOTAL	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆
	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)	(MgCO ₂ e)
Scope 1	13 976.47	12 910.66	38.58	40.06	987.06	0.00	0.00
Scope 2 (L-B)	75 547.86	75 547.86	0.00	0.00	0.00	0.00	0.00
Scope 2 (M-B)	28 950.06	28 950.06	0.00	0.00	0.00	0.00	0.00
Scope 3	32 846.30	32 784.70	10.58	51.02	0.00	0.00	0.00

The results of 2023 compared to the baseline year (2019):
The emissions reported under Scope 1 and Scope 2 have changed. These changes are due to:

- lower fuel consumption (natural gas, fuel oil and coal). In case of the Bank's Group companies, there was a 720% increase in diesel consumption compared to 2022⁹. In 2023, the Company that consumed the most diesel (99.6% of total Bank's Group companies consumption) was Kredobank. The increased demand for diesel was a result of the ongoing war in Ukraine - rocket attacks by the Russian army resulted in power supply problems, causing Kredobank to use diesel generators. The consumption of diesel used in the Bank's Group companies' vehicles also changed. Diesel consumption decreased by 35.5% compared to the baseline year, as a result of the replacement of diesel-powered vehicles at PKO Leasing;
- the purchasing decisions of the Bank, which in 2023 purchased 70,000 MWh of RES Energy Guarantees of Origin (1,000 MWh more than in 2022), for which the emission factor is 0 kg CO₂ (market-based calculation);
- the applied emission factor for electricity used in the location-based calculation. The factor used excludes emissions related to transmission losses. Furthermore, year on year, the national emission factor is decreasing as a result of the increasing share of RES in the national energy mix;
- the decrease in the consumption of purchased electricity (-11.4%) and heat energy (-14.7%).

Group-wide Scope 1 emissions decreased by 11.44%, while Scope 2 counted by two methods: L-B by 18.58% and M-B by 68.80%.

⁹ Calculated based on Table 2.2 of the Greenhouse Gas Emissions Inventory, PKO Bank Polski Spółka Akcyjna, 2022.

REQUIRED INFORMATION

METHODOLOGIES AND EMISSION FACTORS

Methodologies used to calculate or measure emissions other than those provided by the GHG Protocol (Provide a reference or link to any non-GHG Protocol calculation tools used)

Basic information on the methodology for calculating greenhouse gas emissions and indicators used

GHG emissions in Scopes 1, 2 and 3 were calculated using the *GHG Protocol* methodology. The following emissions factors have been used to calculate Scope 2 greenhouse gas emissions.

For electricity:

- in Poland:

Location-based method		
	Indicator	Additional information
PKO Bank Polski S.A.	651 kgCO ₂ /MWh	Emission factor based on information from KOBiZE ¹⁰
subsidiaries	651 kgCO ₂ /MWh	Emission factor based on information from KOBiZE ¹¹
Market-based method		
	Indicator	Additional information
	0 kgCO ₂ /MWh	Emission factor for electricity produced by RES installations
Plus Energia sp. z o.o.	737 kgCO ₂ /MWh	Emission factor based on vendor information ¹²
PGE Obrót S.A.	662 kgCO ₂ /MWh	Emission factor based on vendor information ¹³
ENEA S.A.	693 kgCO ₂ /MWh	Emission factor based on vendor information ¹⁴
Energa-Obrót S.A.	499 kgCO ₂ /MWh	Emission factor based on vendor information ¹⁵
Green Lights sp. z o.o.	647 kgCO ₂ /MWh	Emission factor based on vendor information ¹⁶
E.ON Polska S.A.	619 kgCO ₂ /MWh	Emission factor based on vendor information ¹⁷
ESV4 Sp. z o.o.	589 kgCO ₂ /MWh	Emission factor based on vendor information ¹⁸
Tauron Sales sp. z o.o.	623 kgCO ₂ /MWh	Emission factor based on vendor information ¹⁹
Unknown supplier	651 kgCO ₂ /MWh	Emission factor based on information from KOBiZE ²⁰

¹⁰ EMISSION INDICATORS for CO₂, SO₂, NO_x, CO and total dust FOR ELECTRICITY based on information from the National Greenhouse Gas and Other Emissions Database for 2022.

¹¹ As in footnote 11.

¹² <https://plusenergia.pl/wp-content/uploads/2023/03/Struktura-paliw-2022.pdf>

¹³ <https://pge-obrot.pl/o-spolce/struktura-paliw>

¹⁴ https://www.enea.pl/grupaenea/obowiazki/struktura/28.03.2023/struktura-paliw_2022_enea-sa.pdf

¹⁵ <https://www.energa.pl/biznes/struktura-paliw/struktura-paliw-2022.html>

¹⁶ <https://green-lights.pl/wp-content/uploads/Struktura-paliw-2022-GL.pdf>

¹⁷ https://eon.pl/-/media/Eon/Dokumenty/Struktura_paliw_2022.ashx

¹⁸ https://www.esv.pl/fileadmin/user_upload/strefa-

[klienta/informacje_obligatoryjne/STRUKTURA_PALIW_GK_ESV_2022_PDF_.pdf](https://www.esv.pl/fileadmin/user_upload/strefa-klienta/informacje_obligatoryjne/STRUKTURA_PALIW_GK_ESV_2022_PDF_.pdf)

¹⁹ <https://www.tauron.pl/tauron/o-tauronie/spolki-grupy/tauron-sprzedaz/struktura-paliw>

²⁰ As in footnote 11.

REQUIRED INFORMATION

- in Ukraine: 218 kgCO₂/MWh²¹ ;
- in Germany: 366 kgCO₂/MWh²² ;
- in Czech Republic: 400 kgCO₂/MWh²³ ;
- in Slovakia: 115 kgCO₂/MWh²⁴ ;
- in Romania: 247 kgCO₂/MWh²⁵ .

In 2023, the conversion of the KOBIZE ²⁶ indicator was performed as follows:

Emission factors for electricity produced in Poland for 2022, published in December 2023 **(used in calculations for 2023)**.

Volume in MWh:

- | | |
|---|------------------------------------|
| • volume of electricity produced by combustion plants: | 144 443 114 |
| • volume of electricity produced from water: | 2 815 000 |
| • volume of electricity produced from wind and other RES: | 27 602 000 |
| • losses and balance sheet differences: | 8 811 000 |
| • the balanced volume of electricity at end users was: | 166 049 114 |
| • CO ₂ emissions: | 113,799,238,201 kg CO ₂ |

$$\text{EC} = 113\,799\,238\,201 \div (144\,443\,114 + 2\,815\,000 + 27\,602\,000) = \mathbf{651\,kgCO_2/MWh}$$

For thermal energy:

- Poland: 361.9 kgCO₂/MWh²⁷ ;
- Germany: 121.3 kgCO₂/MWh²⁸ ;
- Ukraine: 163.7 kgCO₂/MWh²⁹ .

• Information on source data and estimates

The source data for determining the volume of greenhouse gas emissions in the PKO BP S.A. Capital Group are summaries of energy carrier consumption, refrigerant additions, as well as the data necessary for calculating Scope 3 emissions prepared by Bank representatives independently for the Bank's and Subsidiaries' consumption areas:

In terms of Bank PKO BP, these are:

- a summary of invoices for the purchase of energy/energy carriers or of consumption read from billing systems for the period 4Q 2022 - 3Q 2023;
- summary of the amount of fuel oil consumed³⁰ in 2023;
- summary of refrigerants replenished in 2023;
- a summary of the quantities of purchased fuel used in vehicles in 2023;
- summary of fuel used for generators in 2023;
- data on domestic and international business travel and commuting in 2023;
- data on the quantities and weights of products purchased, divided into the relevant categories;
- data on the types, quantities and costs incurred for the purchase of durable goods;
- a statement on the masses of waste transferred to an external company dealing with waste treatment;
- employee surveys on commuting;
- employee surveys on remote working;
- banking app login data (data provided included information on the number of customers who logged into the app and the total number of hours spent using the app by all customers; data was presented by quarter).

REQUIRED INFORMATION

In terms of Subsidiaries:

- questionnaires completed by individual companies for the periods 4Q 2022 and 1Q - 3Q 2023 with regard to the consumption of individual energy carriers or, in the absence of data, information on the type of carrier, the quantity of which is to be estimated;
- summary of refrigerants replenished in 2023;
- data on domestic and international business travel and commuting in 2023.

The consumption data for the various energy carriers were allocated to the property database provided, including information on the total area of the property (in the following months of the balance period), the rented area, the function of the property, etc. All properties were divided into six categories:

- ATM/Drop-box;
- Branch/Office;
- Warehouse/Unspecified;
- Housing;
- Undergoing adaptation/transfer;
- Ground.

Final energy consumption rates were then determined for Groups 1-3, which were used to estimate energy consumption in facilities for which consumption information was not available. Energy consumption in dwellings, however, was included in category 13 in Scope 3.

In the following sections, the assumptions for each energy carrier are described in more detail. Full details of the methodology adopted and the assumptions for the calculations are described in Appendix 1 of this report.

• Electricity (included in Scope 2)

The electricity consumption shown in the statements is treated as final energy consumption. The balance period for the entire analysis is the period 01.01.2023 - 31.12.2023, but the available consumption data covered period as close as possible to 01.10.2022 - 30.09.2023. As not all consumption data cover a period of equally 365 days, this was taken into account in the calculations by approximating the consumption in the balance period in proportion to the number of days in the statement provided. The electricity consumption data shown in the invoice statements implemented according to the "Central Agreement" were aggregated on the basis of the balance periods from 01.10.2022 to 30.09.2023. For properties where consumption data was not known, indicators were determined, the values of which are quoted below:

- "ATM/Drop-box":
Electricity consumption rate: 6.41 kWh/day (2,339.7 kWh/year);
- "Branch/Facility/Office":
Electricity consumption rate: 0.17 kWh/m²/day (63.7 kWh/ m²/year);
- Other (e.g. warehouse, unspecified, etc.):

²¹ <https://ourworldindata.org/grapher/co2-per-unit-energy?tab=chart®ion=Europe&country=~UKR>

²² <https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1>

²³ <https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1>

²⁴ <https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1>

²⁵ <https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1>

²⁶ As in footnote 11.

²⁷ <https://www.ure.gov.pl/pl/cieplo/energetyka-ciepna-w-l/11407,2022.html>

²⁸ SimaPro 9.5.0.0 Ecoinvent base weighted average of indicators based on installed capacity structure
<https://ariadneprojekt.de/publikation/analyse-wandel-der-fernwaerme-im-kontext-des-kohleausstiegs-und-der-aktuellen-gaskrise/>

²⁹ SimaPro 9.5.0.0 Ecoinvent base arithmetic mean of the network heat indicators.

³⁰ In the 2023 report, the amount of oil used instead of the amount of oil purchased is reported for the first time.

REQUIRED INFORMATION

Electricity consumption rate: 0.10 kWh/m²/day (36.6 kWh/ m²/year).

• Heat - district heating (Scope 2) and natural gas (Scope 1)

The consumption of natural gas and district heating was analysed on the basis of statements prepared by the Ordering Party concerning meter readings and consumption values read from billing invoices for periods as close as possible to 01.10.2022 - 30.09.2023. The values given for natural gas in m³ were converted into final energy consumption according to the calorific values (CV) contained in the KOBIZE³¹ statement, separately for high-methane natural gas and nitrogenous natural gas. If natural gas consumption was given in energy unit, it was converted into energy in fuel related to the calorific value, multiplied by a coefficient of 0.9 (the assumed ratio of calorific value to heat of combustion for natural gas). The consumption values given for district heating were taken directly.

As not all accounts covered a period of equally 365 days, this was taken into account in the calculations by approximating the consumption at each location over the entire balance period in proportion to the number of days the location was in use during that period, taking into account the length of time for which the consumption was given in the statements.

On the basis of the above data, values of final energy consumption indicators for heating purposes were determined. These were used to estimate heat consumption in locations for which no information was obtained. These indicators were:

- for the property group "Branch/Facility/Office": 0.30 kWh/m²/day (110.2 kWh/m²/year);
- for the property group "Warehouse/Unspecified": 0.26 kWh/m²/day (95.8 kWh/m²/year).

No heat consumption was assumed for the "ATM/Drop-box" group.

• Fuels used in vehicles (included in Scope 1)

Data on the quantities of fuel used in vehicles and generators were aggregated in the same unit in which they were reported, i.e. litres. Data were analysed by diesel (ON), petrol (Pb) and liquefied petroleum gas (LPG). They were aggregated independently for countries (Poland, Ukraine, Slovakia, Czech Republic, Germany) and by vehicle and power generator. In order to compare the volumes calculated in the current analysis with the historical reports, the consumption shown in volume units was converted into kWh according to the following indices:

- Diesel: 9.23 kWh/l ³²;
- LPG: 7.16 kWh/l ³³;
- Petrol: 9.79 kWh/l ³⁴.

³¹ KOBIZE report "Calorific values (CVs) and CO₂ emission factors (ECs) in 2021 for reporting under the Emissions Trading Scheme for 2024", December 2023.

https://www.kobize.pl/uploads/materialy/materialy_do_pobrania/wskazniki_emisyjnosci/WO_i_WE_do_monitorowania-ETS-2024.pdf

³² Calculated on the basis of the CV adopted from the KOBIZE publication and the density adopted from the Regulation on Quality Requirements for Liquid Fuels (Journal of Laws 2015, item 1680), adopted as the average value of the minimum and maximum density for diesel 'with improved low-temperature properties';

³³ Calculated on the basis of the CV adopted from the KOBIZE publication and the density adopted from the website <https://www.igaz.pl/a19,wartosc-opalowa-gazu-propan-butan-w-stosunku-do-innych-gazow.html>

³⁴ Calculated on the basis of the CV adopted from the KOBIZE publication and the density adopted from the Regulation on Quality Requirements for Liquid Fuels (Journal of Laws 2015, item 1680), adopted as the average value of the minimum and maximum density;

REQUIRED INFORMATION

Volumes of purchased fuel were converted into energy consumption using calorific values obtained from the KOBIZE report³⁵.

- **Other fuels - for heating purposes (included in Scope 1)**

Fuel oil consumption was analysed based on a statement prepared by the Contracting Authority containing the consumption or volume of fuel tanked in 2023 given in litres. This was converted to final energy consumption according to the net calorific value (WO) included in the KOBIZE report³⁶, assuming an average density based on data for Eco-C oil³⁷.

The calorific value for liquefied petroleum gas was also adopted from the aforementioned KOBIZE document.

In the absence of information on the consumption of the other heating fuels (fuel oil, hard coal) at the locations to which these carriers were assigned, consumption was estimated on the basis of the indicators determined for natural gas and district heating.

- **Refrigerants (covered in Scope 1)**

The refrigerant consumption figures include refrigerant refilled or replaced for technical reasons, as only such activities generate GHG emissions. Factors used in compressor equipment (chillers, heat pumps, etc.) were not included in the report as per the GHGP. The following substances were analysed:

- R410A;
- R407C;
- R32;
- R22 (a factor supplemented for the first time in the reported year);

by country Poland, Ukraine Slovakia, Czech Republic, Germany and Romania. GHG emissions were calculated using the *GHG Protocol* methodology with indicators from the IPCC AR5³⁸ report.

- **Waste in the organisation (included in Scope 3)**

The organisation's waste data was analysed only for Bank PKO BP in the waste summary provided. Based on the code, group and recovery process of the raw material from the waste, a corresponding emission factor was assigned. Due to the recovery or incineration processes themselves occurring, the emission factor for these wastes is identical. No recovery process code has been assigned for bulky waste (code: 20 03 07), however, in accordance with current practices such waste is shredded and reused or incinerated. The carbon footprint was calculated according to the GHG Protocol methodology and using emission factors from the DEFRA database.

³⁵ KOBIZE report "Calorific values (CV) and CO₂ emission factors (EC) in 2021 for reporting under the Emissions Trading Scheme for 2024", December 2023.

³⁶ KOBIZE report "Calorific values (CV) and CO₂ emission factors (EC) in 2021 for reporting under the Emissions Trading Scheme for 2024", December 2023.

https://www.kobize.pl/uploads/materialy/materialy_do_pobrania/wskazniki_emisyjnosci/WO_i_WE_do_monitorowania-ETS-2024.pdf

³⁷ Source: <https://www.ornpoludnie.pl/PL/NaszaOferta/StrefaBIOpaliiw/OlejeOpalowe/Strony/Olej-opalowy-Eko-C.aspx>

³⁸ IPCC Fifth Assessment Report (AR5)

REQUIRED INFORMATION

- **Business trips (included in Scope 3)**

Data on domestic and international business trips was aggregated by Bank PKO BP and Subsidiaries, as well as by the mode of transport used. The distance was calculated on the basis of the shortest travel routes in the case of ground transport and the distance between cities in the case of air transport. The carbon footprint was calculated according to the GHG Protocol methodology on the basis of the estimated distances and the mode of transport using emission factors from the DEFRA database.

- **Commuting and remote working (included in Scope 3)**

Data on distances covered in commuting provided in the statements were analysed independently for Bank PKO BP and the Subsidiaries. The data was compiled based on the results of employee surveys aggregating the results by mode of transport. The carbon footprint was calculated according to the GHG Protocol methodology based on estimated distances and mode of transport using emission factors from the DEFRA database. Category 7 was extended to include emissions from employee remote working (calculations were made for Bank PKO BP employees based on employee surveys).

- **Products purchased (included in Scope 3)**

The calculations were made only for Bank PKO BP Polska. The basis for the calculations is data on purchased selected types of products, for which it was possible to aggregate the relevant data. Purchased products were divided into the following categories: paper, cardboard, electronics (small appliances). Emission factors were adopted from the DEFRA database. Emissions associated with the purchase of envelopes for letters sent were also included in the purchases. The basis for the calculations is information on the number of letters sent.

- **Use of products sold (included in Scope 3)**

Calculations were performed only for Bank PKO BP Polska. Emissions resulting from the use of sold products included emissions generated when Bank PKO BP Polska's customers used two banking applications, i.e. iPKO and IKO. For the calculations, the following assumptions were made regarding electricity consumption as a result of using the applications:

- for the use of the application on the phone: it was assumed that the power consumption when using the application, reaches similar values as web browsing. Therefore, a power consumption of 0.5 W was assumed when connected via the mobile network (this value is the sum of the power consumption for internet browsing and the average screen brightness)³⁹;
- for the use of the application on the computer: based on the power consumption resulting from the measurements⁴⁰, it was assumed that the devices consume 60.0 W when using the service.

- **Calculation of greenhouse gas emissions by PKO Bank Polski S.A.'s subsidiaries.**

For the PKO Bank Polski S.A. Group, i.e. PKO Bank Polski S.A., as well as its subsidiaries, the principles of reporting and estimating data on the consumption of energy carriers were applied uniformly.

The GHG emissions calculations and data estimation (Appendix 1) and the methodology for calculating Scope 3 emissions (Appendix 2) for the PKO Bank Polski S.A. Group were prepared by experts from Ellipsis Energy sp. z o.o.

³⁹ A. Carroll "An Analysis of Power Consumption in a Smartphone".

⁴⁰ <https://www.osti.gov/servlets/purl/1166988>, p. 10

REQUIRED INFORMATION

Authors: Bartosz Dobrowolski, M.Sc., Mateusz Grygorowicz, M.Sc., Natalia Klauza, M.Sc., Jan Kucowski, Monika Małek, MA, Monika Musiał, MA, Paweł Wultański, MA, Daniel Owczarczyk, MA.

REQUIRED INFORMATION

ORGANISATIONAL BOUNDARIES

If the reporting company's parent company does not report emissions, include an organizational diagram that clearly defines relationship of the reporting subsidiary as well as other subsidiaries
Not applicable.

EMISSION INFORMATION

Emissions disaggregated by source types (in MgCO ₂ e)	
Scope 1: Direct emissions from owned/controlled operations	
a. Direct emissions from stationary combustion ⁴¹	4 286.17
b. Direct emissions from mobile combustion ⁴²	8 703.24
c. Direct emissions from process sources	0.00
d. Direct emissions from fugitive sources ⁴³	987.06
e. Direct emissions from agricultural sources	0.00
Scope 2: Indirect emissions from the use of purchased electricity, steam, heating and cooling	
a. Indirect emissions from purchased/acquired electricity	5 117.06
b. Indirect emissions from purchased/acquired process steam	0.00
c. Indirect missions from purchased/acquired thermal energy	23 833.00
d. Indirect emissions from purchased/acquired cooling	0.00

Emissions disaggregated by facility (recommended for individual facilities with stationary combustion emissions over 10,000 MgCO ₂ e)	
Facility	Scope 1 emissions
Not applicable.	None of the individual sites generate emissions in excess of level of 10 000 MgCO ₂ e

Emissions disaggregated by country (in MgCO ₂ e)	
Country	Emissions (specify the Scopes covered)
Location-based method	
Poland (Scope 1+2+3)	119 536,09
Czech Republic (Scope 1+2+3)	27,57
Slovakia (Scope 1+2+3)	13,59
Germany (Scope 1+2+3)	12,41
Romania (Scope 1+2+3)	12,63
Ukraine (Scope 1+2+3)	2 768,34
Market-based method	
Poland (Scope 1+2+3)	72 938.29
Czech Republic (Scope 1+2+3)	27.57
Slovakia (Scope 1+2+3)	13.59
Germany (Scope 1+2+3)	12.41
Romania (Scope 1+2+3)	12.63
Ukraine (Scope 1+2+3)	2 768.34

Emissions attributable to own generation of electricity, heat or steam that is sold or transferred to another organisation
0 MgCO ₂ e

⁴¹ Sum of emissions from the subcategories "Heating" and "Aggregates".

⁴² Sum of emissions from the subcategory "Company vehicles".

⁴³ Total emissions from refrigerants used.

REQUIRED INFORMATION

Emissions attributable to the generation of electricity, heat or steam that is purchased for re-sale to non-end users

0 MgCO_{2e}

Emissions from greenhouse gases not included in the Kyoto Protocol (e.g., CFCs, NO_x,)

Not applicable

Information on the causes of emissions changes that did not trigger a base year emissions recalculation (e.g., process changes, efficiency improvements, plant closures)

Changes in emissions in 2023 related to the change in area due to the closure or opening of further branches do not trigger the need to recalculate baseline year GHG emissions. In accordance with Criterion 1 detailed in the baseline year emissions recalculation policy and the guidance (criteria and guidance set out under the *GHG Protocol*), the occurrence of such changes is treated as a natural development of the organisation and does not constitute a rationale for recalculating baseline year emissions.

Greenhouse gas emissions data for all years between the baseline year and the reporting year (including details of and reasons for recalculations, if appropriate)

2019 was the first year for which a GHG emissions inventory was prepared for the PKO Bank Polski S.A. Group. A recalculation of the baseline year was carried out in 2022, as described in the reports for previous years in the section entitled: "Context of any material changes in emissions".

The table below provides information on greenhouse gas emissions for all years between baseline year and reporting year.

Market-based					
Year	Scope 1, MgCO _{2e}	Scope 2, MgCO _{2e}	Scope 1+2, MgCO _{2e}	Scope 3, MgCO _{2e}	Scope 1+2+3, MgCO _{2e}
2019 (baseline year)	15 781.34	92 785.29	108 566.63	-	108 566.63
2020	13 501.01	57 437.63	70 938.64	288.67	71 227.31
2021	13 388.10	37 303.78	50 691.87	3 536.31	54 228.19
2022	14 715.83	33 784.02	48 499.85	18 277.17	66 777.02
2023	13 976.47	28 950.06	42 926.54	32 846.30	75 772.83

The yearly calculated emissions illustrate a downward trend in scope 1 and 2 occurring primarily due to PKO BP's energy efficiency improvements and purchasing decisions. The global decline is distorted by the expansion of scope 3 into additional categories. The emission reduction in 2023 relative to 2019 was (in total) 30.21%, or - 32 794 tCO_{2e} (calculated using the market-based method).

Location-based					
Year	Scope 1, MgCO _{2e}	Scope 2, MgCO _{2e}	Scope 1+2, MgCO _{2e}	Scope 3, MgCO _{2e}	Scope 1+2+3, MgCO _{2e}
2019 (baseline year)	15 781.34	92 785.29	108 566.63	-	108 566.63
2020	13 501.01	89 689.63	103 190.64	288.67	103 479.31
2021	13 388.10	85 395.98	98 784.07	3 536.31	102 320.39
2022	14 715.83	80 416.48	95 132.32	18 277.17	113 409.48
2023	13 976.47	75 547.86	89 524.33	32 846.30	122 370.63

REQUIRED INFORMATION

Scope 1:

for all reporting periods (2019, 2020, 2021, 2022, 2023), Scope 1 reported:

- emissions from fugitive refrigerants;
- emissions from fuels used in buildings;
- emissions from fuels used in vehicles (company car journeys).

Scope 2:

for all reporting periods (2019, 2020, 2021, 2022, 2023), Scope 2 reported:

- emissions from electricity consumed;
- emissions from consumed district heating.

Scope 3:

- in 2019 (baseline year), the scope was not reported;
- in 2020, scope 3 emissions, resulting from business and international travel were reported for the first time;
- in 2021, in addition to business travel, emissions resulting from PKO BP employees' commuting to work were also reported (surveys were conducted among employees at the bank's Polish locations);
- in 2022, in addition to scopes 1 and 2 and the previously included categories in scope 3, the emissions calculations have been extended to include WTT emissions and the rental of commercial space. In addition, the scope of analysis has been extended to include business travel and employee commuting by subsidiaries;
- in 2023, the calculations were extended to include emissions related to purchased products, waste and the use of sold products. The calculations were only carried out for Bank PKO BP. In addition, category 7 was extended to include emissions arising from remote working of employees (calculations were carried out for Bank PKO BP only).

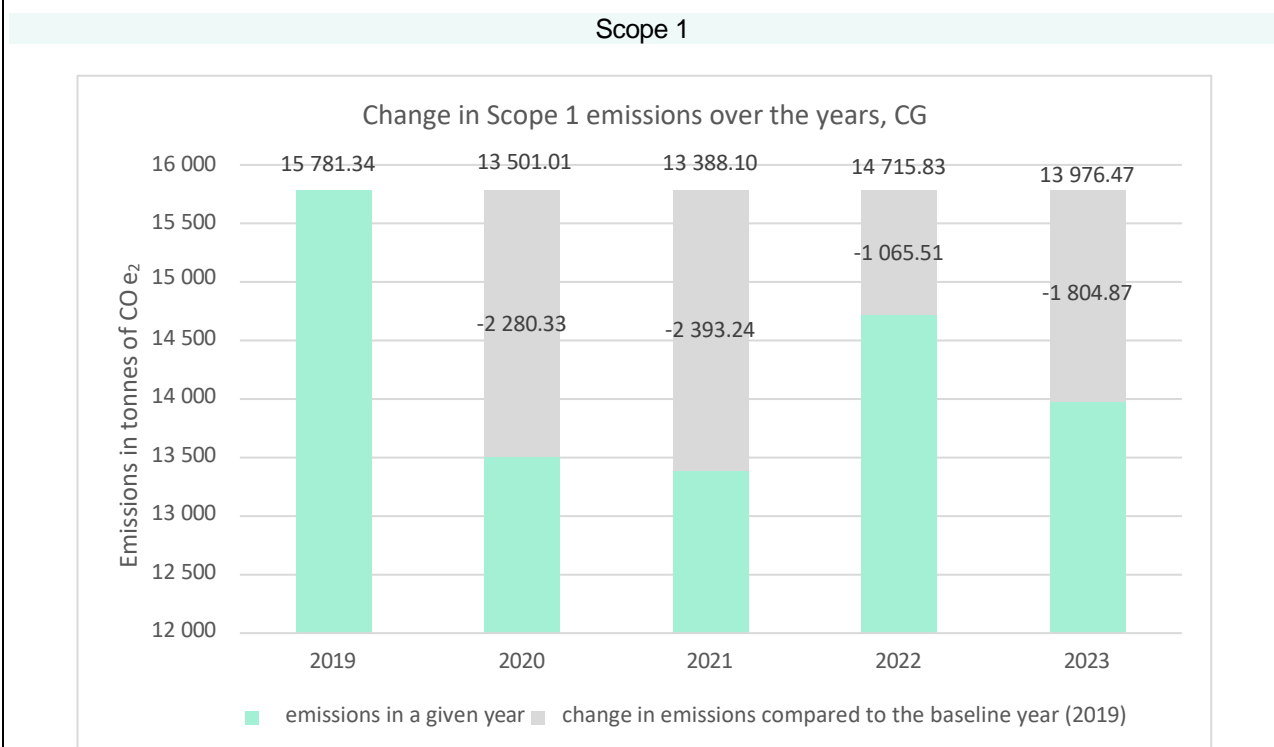
The following table presents the annual changes in emissions

Market-based					
Year	Scope 1, MgCO ₂ e	Scope 2, MgCO ₂ e	Scope 1+2, MgCO ₂ e	Scope 3, MgCO ₂ e	Scope 1+2+3, MgCO ₂ e
Change in 2020 with respect to 2019	-2 280.33	-35 347.66	-37 627.99	288.67	-37 339.32
Change in 2021 with respect to 2020	-112.91	-20 133.85	-20 246.77	3 247.64	-16 999.12
Change in 2022 with respect to 2021	1 327.73	-3 519.76	-2 192.02	14 740.86	12 548.83
Change in 2023 with respect to 2022	-739.36	-4 839.44	-5 578.79	14 569.13	8 995.81
Change in 2023 with respect to the year baseline (2019)	-1 804.87	-63 835.22	-65 640.09	32 846.30	-32 793.79

REQUIRED INFORMATION

Location-based					
Year	Scope 1, MgCO ₂ e	Scope 2, MgCO ₂ e	Range 1+2, MgCO ₂ e	Scope 3, MgCO ₂ e	Scope 1+2+3, MgCO ₂ e
Change in 2020 with respect to 2019	-2 280.33	-3 095.66	-5 375.99	288.67	-5 087.32
Change in 2021 with respect to 2020	-112.91	-4 293.65	-4 406.56	3 247.64	-1 158.92
Change in 2022 with respect to 2021	1 327.73	-51 611.96	-50 284.23	14 740.86	-35 543.37
Change in 2023 with respect to 2022	-739.36	-4 868.62	-5 607.98	14 569.13	8 961.15
Change in 2023 with respect to the baseline year (2019)	-1 804.87	-17 237.43	-19 042.29	32 846.30	13 804.00

PKO BP S.A. Group's (market-based) carbon footprint emissions are shown below.

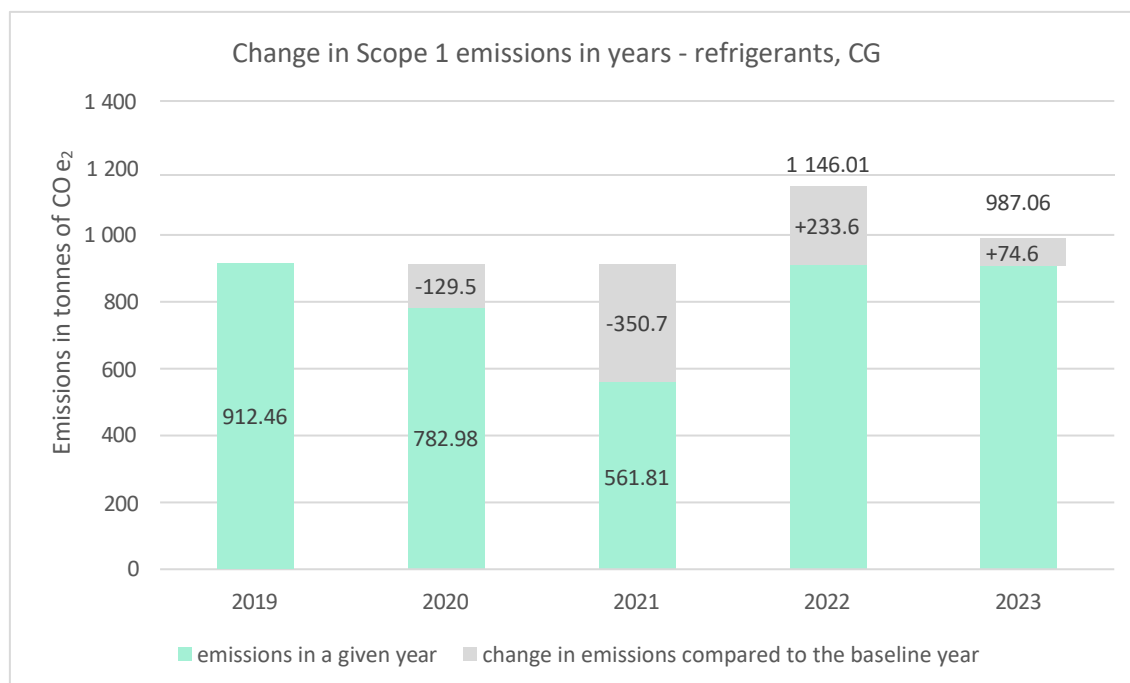


For scope 1:

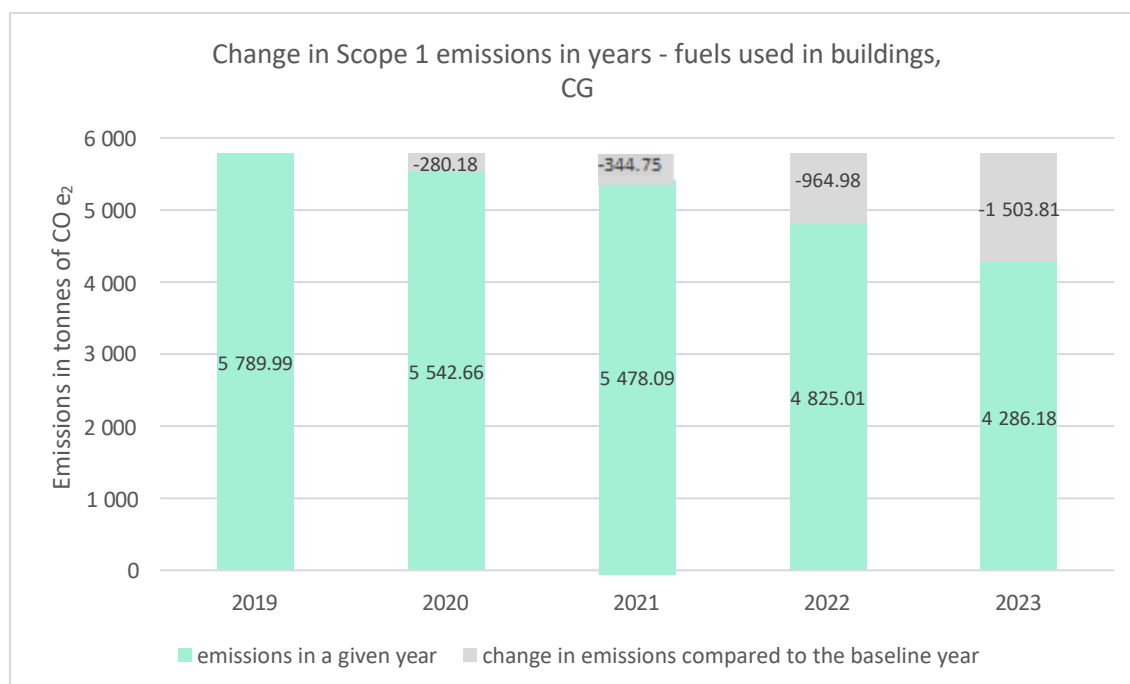
- the decrease in emissions in 2023 compared to 2019 was -11.44%, mainly due to a reduction in the amount of fuel used of approximately 7,925 MWh;
- vehicle fuel use in 2023 was 2.37% lower than in 2019 (approximately 914 MWh);
- in 2023, fuel use in buildings was 25.78% lower than in 2019 (approximately 7,011 MWh);
- emissions from refrigerant losses in 2023 have increased relative to the baseline year by 8.18% (74.6 tonnes of CO₂).

REQUIRED INFORMATION

Below are charts for the different types of emissions reported under the Scope 1.



The increased emissions related to refrigerant leaks recorded in 2023 are probably due to the use of more refrigeration equipment. For this category, PKO BP is responsible for 81.59% of the emissions (805.37 tCO₂e), with subsidiaries responsible for the remaining 18.41% (181.69 tCO₂e).



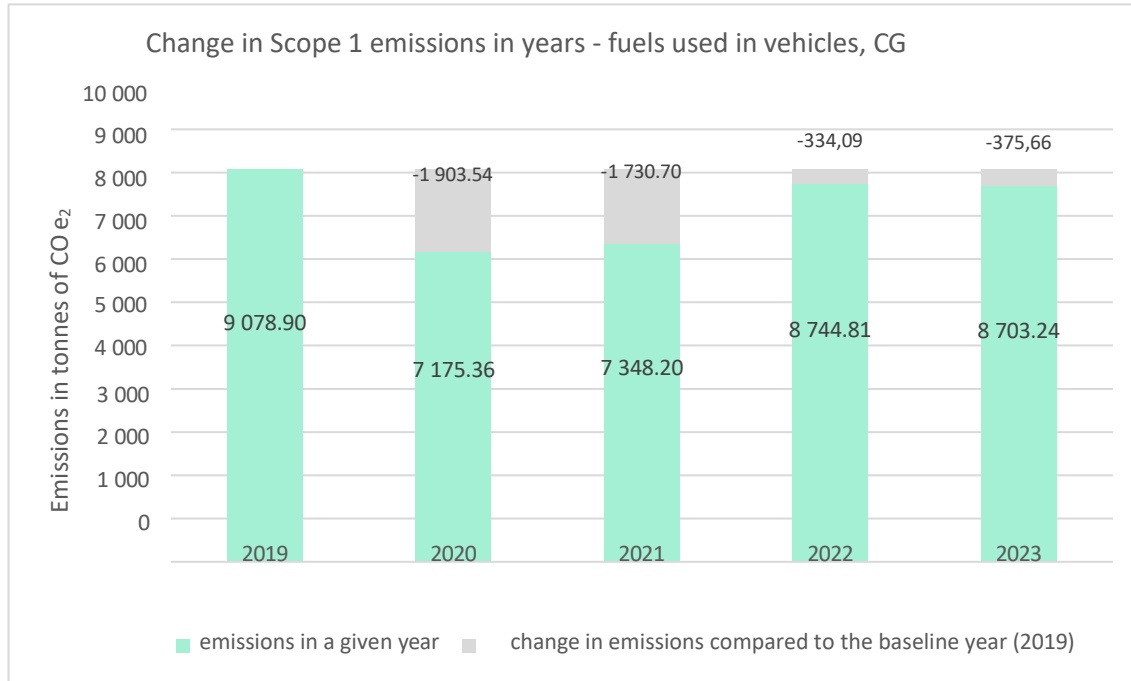
REQUIRED INFORMATION

The decrease in emissions in 2023 relative to the baseline year is 25.8%. The reason for the reduction in carbon footprint relative to the baseline year is lower fuel consumption in buildings. The difference is approximately 7,011 MWh, which translates into a decrease in emissions of 1,503.82 tCO₂e.

Reductions occurred primarily for PKO BP and amounted to 28.7% including a reduction in consumption:

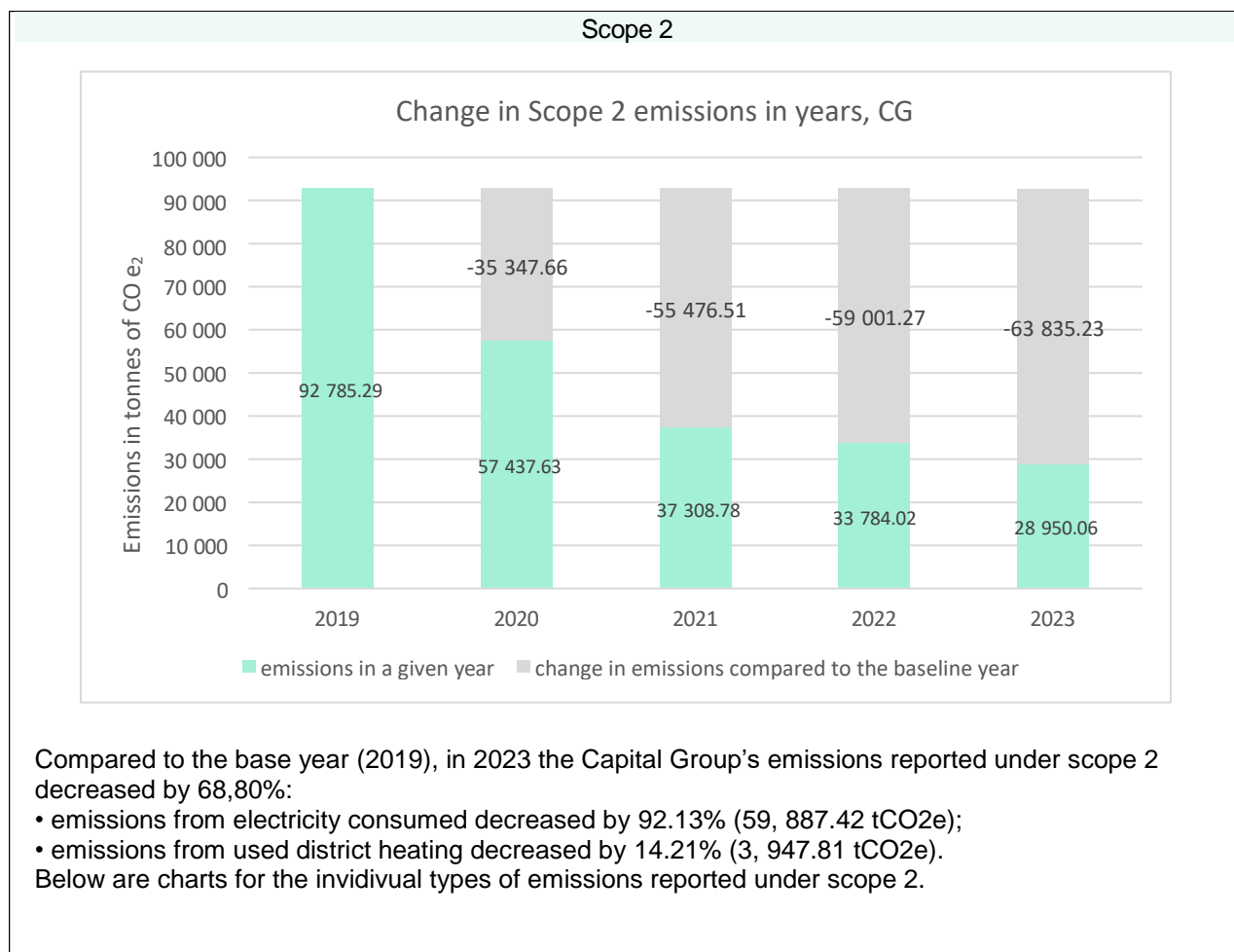
- coal by 56.38%,
- heating oil by 19.75%,
- natural gas by 29.87% and
- diesel by 27.41%.

For the subsidiaries, the decrease in fuel consumption relative to 2019 was 3.04%.

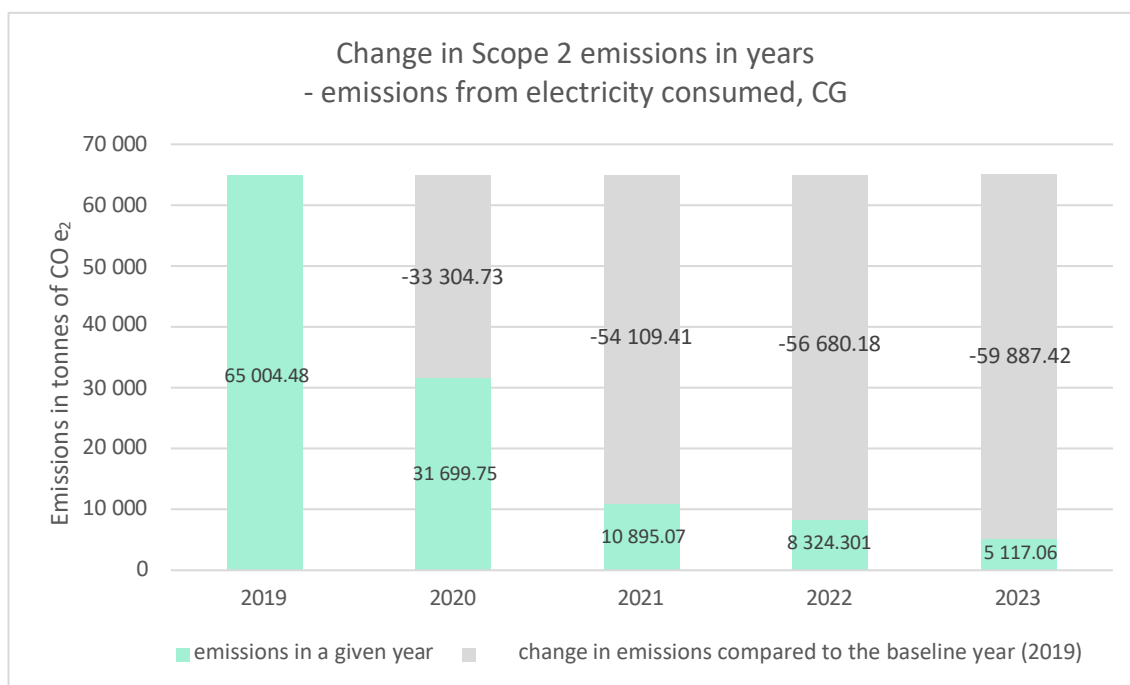


In 2023, PKO BP was responsible for 67.18% of emissions resulting from vehicle fuel use, translating into emissions of 5,846.45 tCO₂e, while subsidiaries were responsible for emissions of 2,856.79 tCO₂e. The overall reduction in PKO BP's carbon footprint of 375.66 tCO₂e in relation to the baseline year is due to a 2.37% reduction in fuel consumption.

REQUIRED INFORMATION



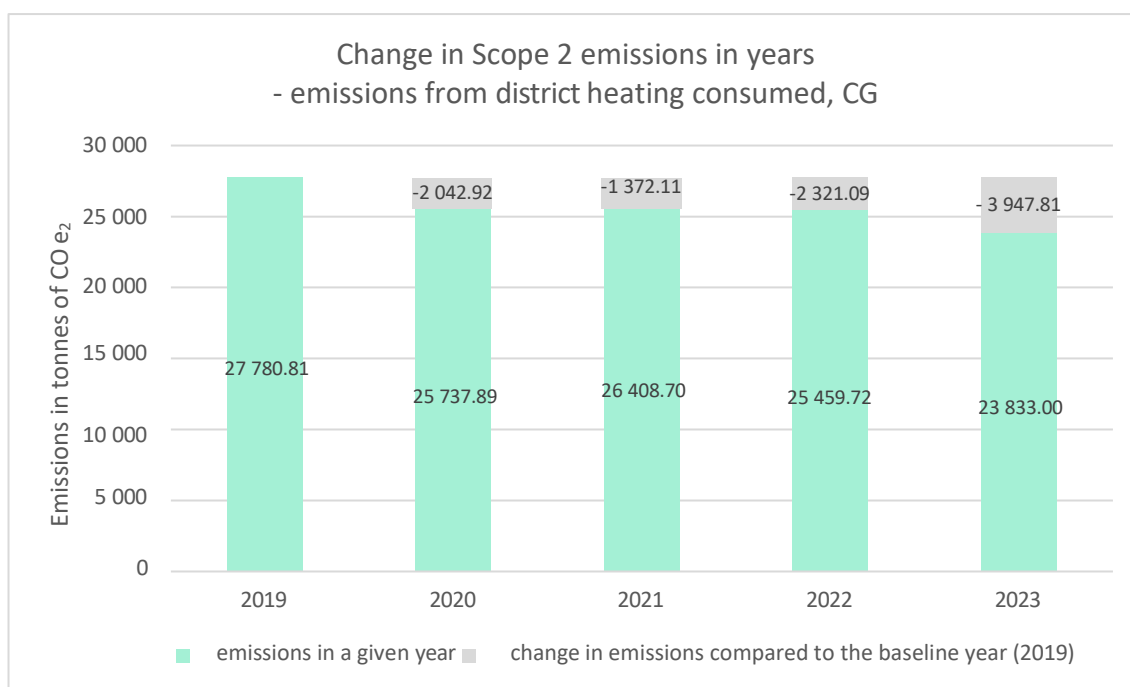
REQUIRED INFORMATION



The overall reduction in greenhouse gas emissions from purchased electricity in 2023 was 92.13% compared to the baseline year (2019), resulting in a carbon footprint reduction of 59,887.42 tCO₂e.

By volume of electricity consumption, the CG subsidiaries emitted 4,276.82 tCO₂e, accounting for 83.58% of the carbon footprint. PKO BP, on the other hand, is responsible for the remaining 16.42% of emissions amounting to 840.24 tCO₂e. The annual decreases in the PKO BP Group's emissions are due to energy efficiency improvements, investments in photovoltaic installations and the Bank's purchasing decisions to obtain Renewable Energy Guarantees.

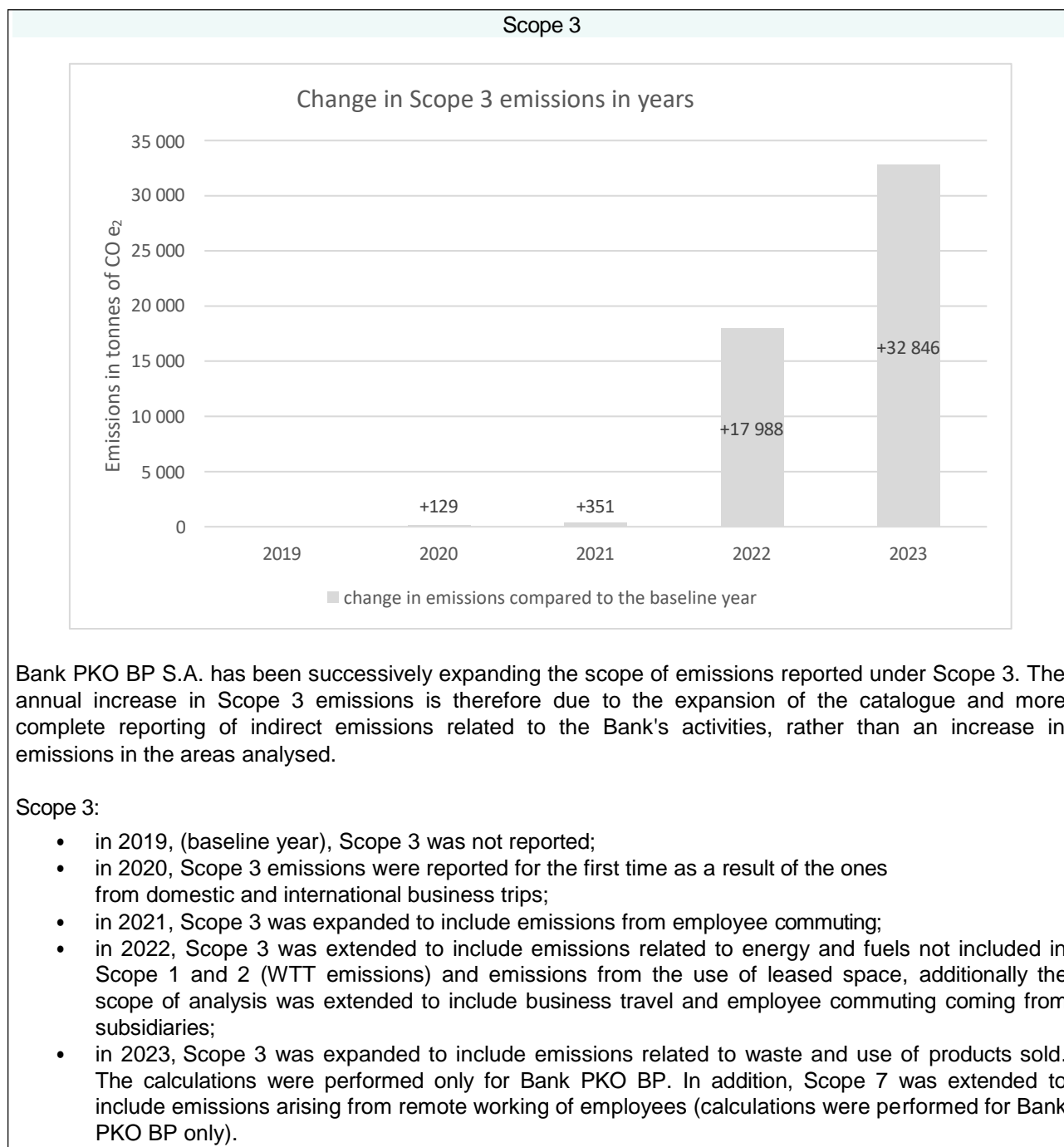
REQUIRED INFORMATION



In 2023, a decrease in greenhouse gas emissions from consumed district heating of 14.21% (3,947.81 tCO₂e) compared to the baseline year (2019) is shown.

Comparing the amount of heat purchased with the baseline year, there was a 14.72% reduction in heat consumption (11,439 MWh). PKO BP is responsible for 89.49% of emissions from purchased district heat (21,327.78 tCO₂e), with the remaining 10.51%(2,505.22 tCO₂e), attributable to the activities of the bank's subsidiaries. In addition to energy efficiency improvements in buildings, the changes are influenced by factors such as weather conditions, the total area of heated space used or changes in the emission factor.

REQUIRED INFORMATION



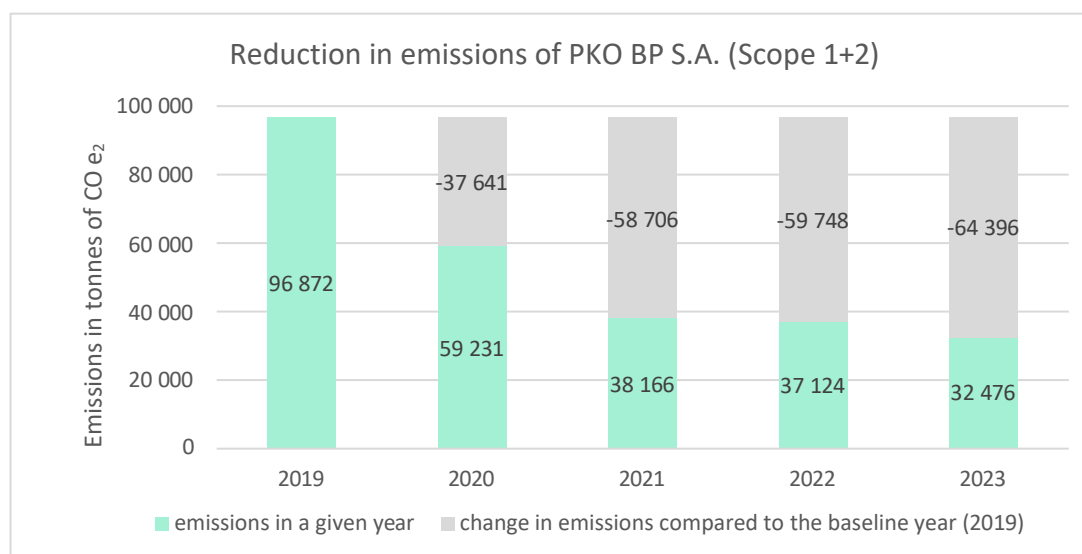
REQUIRED INFORMATION

Summary of emission reduction strategies or programmes

In September 2020, PKO Bank Polski S.A. acquired for the first time electricity generated in a cogeneration unit fuelled by natural gas (low carbon source). The guarantee of origin of electricity from high-efficiency cogeneration is a document that certifies to the final customer that the amount of electricity injected into the distribution network or transmission network, as specified in this document, was generated in high-efficiency cogeneration.

In 2021, PKO Bank Polski S.A. purchased electricity generated from hydropower in a renewable energy source installation. The purchase of the guarantee of origin is evidence of the purchase of electricity from renewable energy sources and thus contributes to the reduction of CO₂ emissions into the environment.

The bank has included provisions for monitoring its carbon footprint in its 2023-2025 strategy.



In 2023, PKO Bank Polski S.A. achieved a reduction of carbon footprint by 66.48% under scope 1+2, reducing emissions by 64 396 tCO₂e relative to the baseline year.

REQUIRED INFORMATION

ADDITIONAL INFORMATION

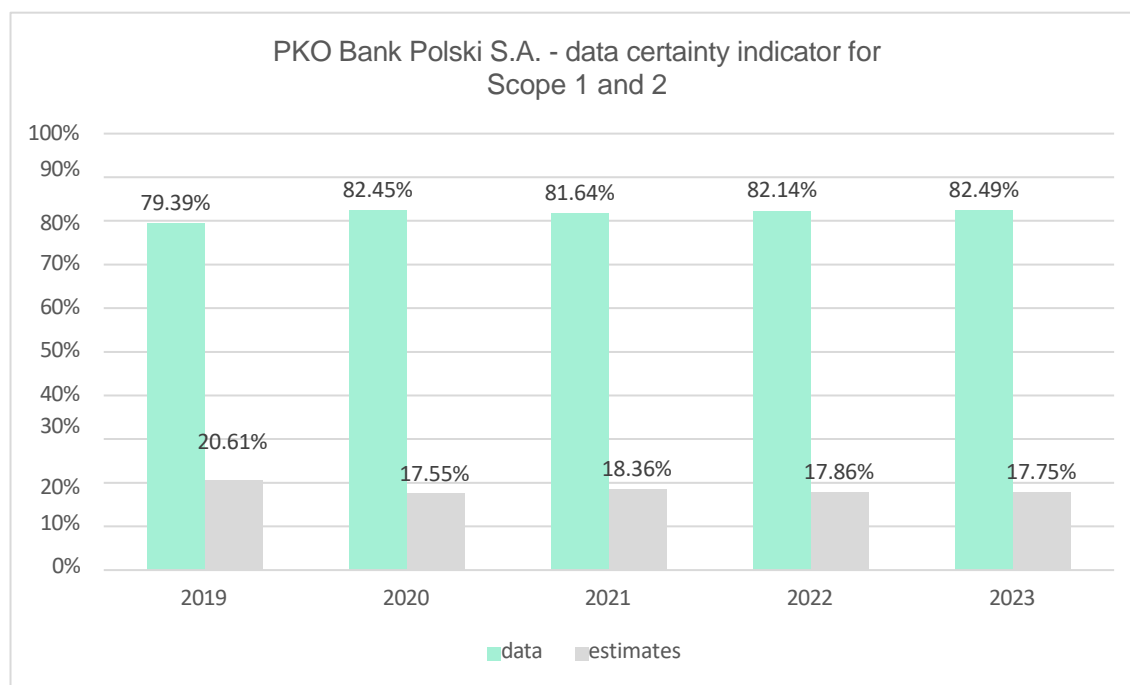
The source data presented in the above report is taken from the appendixes:
Appendix 1. <i>Analysis of energy consumption in the PKO Bank Polski S.A. capital group conducted for the purpose of reporting emissions for 2023 in accordance with the GHG Protocol guidelines</i>
Appendix 2 <i>Report 2023 summary</i>

Information on any contractual provisions relating to risks and liabilities associated with the greenhouse gas emissions
In 2023, neither PKO Bank Polski S.A. nor its subsidiaries were parties to Agreements relating to greenhouse gas emission risks or obligations.

Information on the quality of records (e.g. information on the causes and magnitude of uncertainties in emission estimates) and outline of existing policies to improve the quality of records
<p>The data needed for emissions calculations that relate to utility consumption can be divided into two main groups: actual and estimated. The metered data are based on billing meters or statements received from the utility suppliers. In contrast, the estimated part of energy consumption is not directly metered. This is due to the way in which it is billed to suppliers or shared with other entities. As an example, facilities located in shopping centres. They can be billed on a flat rate basis (e.g. area occupied), regardless of actual consumption. In addition, the establishment uses infrastructure that consumes energy and works for the needs of different entities, such as shared ventilation and air conditioning, lighting of common areas.</p> <p>As a result of the calculations and estimation processes carried out (described in the methodology chapter), a data certainty indicator⁴⁴ of a level described as good in the <i>GHG Protocol</i> standard methodology was achieved.</p> <p style="text-align: center;">Data certainty indicator - PKO Bank Polski S.A.</p> <p>In 2023, the energy data certainty indicator for PKO Bank Polski S.A. was 82.49% for the Scopes 1+2, with an index of:</p> <ul style="list-style-type: none"> • 89.02% in relation to the Scope 1 data; • 80.37% in relation to the Scope 2 data. <p>In 2019, this indicator was respectively:</p> <ul style="list-style-type: none"> • 81.28% for emissions in Scopes 1+2; • 79.39% for energy in Scopes 1+2. <p>A direct comparison can be made for the energy-related indicators, as these are the ones that result from the amount of energy consumption data reported. This is due to the fact that there is no direct measurement of greenhouse gas emissions at PKO Bank Polski S.A. and the entire emissions inventory is compiled indirectly on the basis of determining the consumption of individual energy carriers.</p> <p>The following graph presents the change in the data certainty indicator for energy consumption for the Bank Polski PKO S.A. over the years.</p>

⁴⁴ As a percentage of source-derived data in the total data used for the calculation, consisting of source-derived and estimated data.

REQUIRED INFORMATION



The data certainty indicator for energy consumption increased from 79.39% in 2019 to 82.49% in 2023, i.e. by 3.10 p.p.. This is due to the increasing intensity of data acquisition by PKO Bank Polski S.A. units year over year. Over the following years, the data certainty indicator remains at a similarly high level.

Data certainty indicator – PKO Bank Polski S.A. Group

In 2023, the energy certainty indicator for the PKO Bank Polski S.A. Group was 83.54% for Scope 1+2, with an index of:

- 91.01% in relation to the Scope 1 data;
- 80.63% in relation to the Scope 2 data.

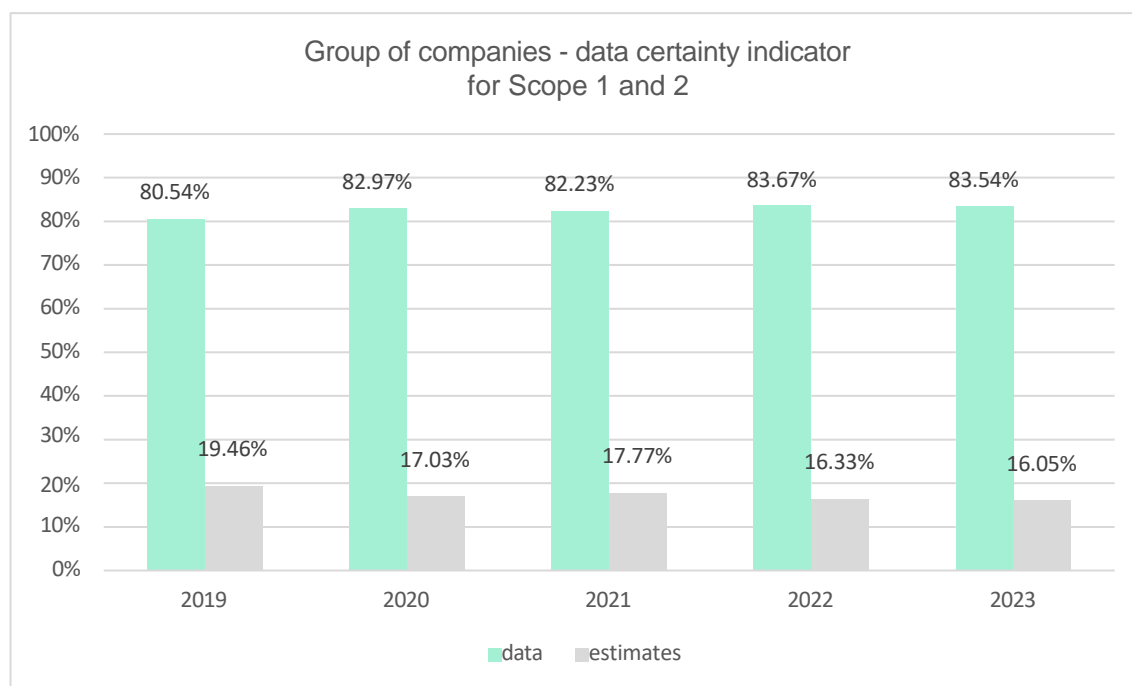
In 2019, this indicator was respectively:

- 82.35% for emissions in Scope 1+2;
- 80.54% for energy in Scope 1+2.

A direct comparison can be made for energy-related indicators, as they are the ones resulting from the amount of energy consumption data reported. This is due to the fact that there is no direct measurement of greenhouse gas emissions in the PKO Bank Polski S.A. Group and the entire emission inventory is compiled indirectly on the basis of determining the consumption of individual energy carriers.

The graph below shows the change in the data certainty indicator for energy consumption for the Group over the years.

REQUIRED INFORMATION



The data certainty indicator for energy consumption increased from 80.54% in 2019 to 83.54% in 2023, i.e. by 3.0 p.p.. This is due to an increase in the intensity of data acquisition by Group entities. Over the following years, the data certainty indicator remains at a similar high level.

REQUIRED INFORMATION

APPENDIX TO THE REPORT ON GREENHOUSE GAS EMISSIONS PKO BP S.A. Capital Group FOR THE YEAR 2023

Tables

Greenhouse gas emissions by organisation

Table 1.1 Greenhouse gas emissions in 2023 by organisation - market-based method [in tCO ₂ e].	28
Table 1.2 Greenhouse gas emissions by organisation - difference in emissions in 2023 compared to baseline year (2019), market-based method [in tCO ₂ e].	29

Fuel consumption - absolute values

Table 2.1 Fuel consumption: absolute values in 2023 [kWh].	30
Table 2.2 Fuel consumption: absolute values - year 2023 compared to year 2019 [kWh].	31

Fuel consumption - percentage of data and estimates

Table 3.1 Fuel consumption in 2019: percentage of data and estimates [%]	32
Table 3.2 Fuel consumption in 2023: percentage of data and estimates [in %]	33

Emissions - absolute values

Table 4.1 Emissions in 2023: comparison of market-based and location-based approaches [tCO ₂ e].	34
Table 4.2 Emissions in 2023 by source: source data and estimates - market-based method [tCO ₂ e].	35
Table 4.3 Comparison of 2023 and 2019 emissions - market-based method [tCO ₂ e].	36

OPTIONAL INFORMATION

Table 1.1
Greenhouse gas emissions in 2023 by organisation - market-based method [in tCO₂e].

Emissions	TOTAL (tCO ₂ e)	CO ₂ (tCO ₂ e)	CH ₄ (tCO ₂ e)	N ₂ O (tCO ₂ e)	HFCs (tCO ₂ e)	PFCs (tCO ₂ e)	SF ₆ (tCO ₂ e)
PKO BP							
Scope 1	10 308.01	9 451.21	28.12	23.31	805.37	0.00	0.00
Scope 2	22 168.03	22 168.03	0.00	0.00	0.00	0.00	0.00
Total Scope 1 and 2	32 476.04	31 619.24	28.12	23.31	805.37	0.00	0.00
Scope 3	26 333.55	26 299.19	6.17	28.19	0.00	0.00	0.00
Total Scope 1, 2 and 3	58 809.59	57 918.43	34.29	51.51	805.37	0.00	0.00
CG							
Scope 1	3 668.46	3 459.44	10.47	16.75	181.69	0.00	0.00
Scope 2	6 782.04	6 782.04	0.00	0.00	0.00	0.00	0.00
Total Scope 1 and 2	10 450.49	10 241.48	10.47	16.75	181.69	0.00	0.00
Scope 3	6 512.75	6 485.51	4.41	22.83	0.00	0.00	0.00
Total Scope 1, 2 and 3	16 963.24	16 726.99	14.88	39.58	181.69	0.00	0.00
Total CG							
Scope 1	13 976.47	12 910.66	38.58	40.06	987.06	0.00	0.00
Scope 2	28 950.06	28 950.06	0.00	0.00	0.00	0.00	0.00
Total Scope 1 and 2	42 926.54	41 860.72	38.58	40.06	987.06	0.00	0.00
Scope 3	32 846.30	32 784.70	10.58	51.02	0.00	0.00	0.00
Total Scope 1, 2 and 3	75 772.83	74 645.42	49.16	91.08	987.06	0.00	0.00

OPTIONAL INFORMATION

Table 1.2

Greenhouse gas emissions by organisation - difference in emissions in 2023 compared to baseline year⁴⁵ (2019), market-based method [in tCO₂e].

Emissions	TOTAL (tCO ₂ e)	CO ₂ (tCO ₂ e)	CH ₄ (tCO ₂ e)	N ₂ O (tCO ₂ e)	HFCs (tCO ₂ e)	PFCs (tCO ₂ e)	SF ₆ (tCO ₂ e)
PKO BP							
Scope 1	-2 835.40	-2 709.42	-3.77	-14.85	-107.09	0.00	0.00
Scope 2	-61 560.75	-61 560.75	0.00	0.00	0.00	0.00	0.00
Total Scope 1 and 2	-64 396.15	-64 270.17	-3.77	-14.85	-107.09	0.00	0.00
Scope 3	26 333.55	26 299.19	6.17	28.19	0.00	0.00	0.00
Total Scope 1, 2 and 3	-38 062.60	-37 970.98	2.40	13.35	-107.09	0.00	0.00
CG							
Scope 1	1 030.53	842.38	6.54	-0.15	181.69	0.00	0.00
Scope 2	-2 274.46	-2 274.46	0.00	0.00	0.00	0.00	0.00
Total Scope 1 and 2	-1 243.94	-1 432.08	6.54	-0.15	181.69	0.00	0.00
Scope 3	6 512.75	6 485.51	4.41	22.83	0.00	0.00	0.00
Total Scope 1, 2 and 3	5 268.81	5 053.43	10.95	22.68	181.69	0.00	0.00
Total CG							
Scope 1	-1 804.87	-1 867.03	2.76	-15.00	74.60	0.00	0.00
Scope 2	-63 835.22	-63 835.22	0.00	0.00	0.00	0.00	0.00
Total Scope 1 and 2	-65 640.08	-65 702.25	2.76	-15.00	74.60	0.00	0.00
Scope 3	32 846.30	32 784.70	10.58	51.02	0.00	0.00	0.00
Total Scope 1, 2 and 3	-32 793.79	-32 917.55	13.34	36.02	74.60	0.00	0.00

⁴⁵ The last baseline year recalculation took place in the greenhouse gas emissions inventory for 2022.

OPTIONAL INFORMATION

Table 2.1
Fuel consumption: absolute values in 2023 [kWh].

	PKO BP			Only CG			CG		
	data	estimates	total	data	estimates	total	data	estimates	total
Fuels used in buildings									
high-methane natural gas	9 596 545.58	3 896 194.38	13 492 739.96	656 991.60	133 040.71	790 032.31	10 253 537.18	4 029 235.08	14 282 772.26
nitrogenous natural gas	860 247.37	0.00	860 247.37	1 362 125.68	422 098.64	1 784 224.32	2 222 373.05	422 098.64	2 644 471.69
heating oil	2 039 734.69	662 712.57	2 702 447.26	358.21	0.00	358.21	2 040 092.90	662 712.57	2 702 805.47
diesel	59 138.86	0.00	59 138.86	420 766.00	0.00	420 766.00	479 904.86	0.00	479 904.86
LPG	0.00	0.00	0.00	5 388.42	0.00	5 388.42	5 388.42	0.00	5 388.42
lignite	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
hard coal	0.00	90 582.70	90 582.70	0.00	0.00	0.00	0.00	90 582.70	90 582.70
Total fuels used in buildings	12 555 666.50	4 649 489.65	17 205 156.15	2 445 629.91	555 139.35	3 000 769.26	15 001 296.41	5 204 628.99	20 205 925.40
Fuels used in vehicles									
diesel	1 394 311.16	0.00	1 394 311.16	2 660 144.27	0.00	2 660 144.27	4 054 455.43	0.00	4 054 455.43
LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
petrol	23 761 641.38	0.00	23 761 641.38	9 869 582.79	0.00	9 869 582.79	33 631 224.17	0.00	33 631 224.17
Total fuels used in vehicles	25 155 952.54	0.00	25 155 952.54	12 529 727.06	0.00	12 529 727.06	37 685 679.60	0.00	37 685 679.60
In total, the fuels responsible for emissions in Scope 1	37 711 619.04	4 649 489.65	42 361 108.69	14 975 356.97	555 139.35	15 530 496.32	52 686 976.01	5 204 628.99	57 891 605.00
Energy purchased									
electricity	67 020 001.35	4 683 153.58	71 703 154.93	9 594 387.47	885 139.37	10 479 526.84	76 614 388.82	5 568 292.95	82 182 681.78
heat energy	37 988 054.16	20 966 862.00	58 954 916.16	5 097 178.74	2 221 792.81	7 318 971.55	43 085 232.90	23 188 654.80	66 273 887.70
Total purchased energy, accounting for emissions in Scope 2	105 008 055.51	25 650 015.58	130 658 071.09	14 691 566.22	3 106 932.18	17 798 498.39	119 699 621.73	28 756 947.75	148 456 569.48
In total, the energy responsible for emissions in Scopes 1 and 2	142 719 674.55	30 299 505.22	173 019 179.77	29 666 923.19	3 662 071.52	33 328 994.71	172 386 597.74	33 961 576.74	206 348 174.49

OPTIONAL INFORMATION

Table 2.2

Fuel consumption: absolute values - year 2023 compared to year 2019⁴⁶ [kWh].

	PKO BP			Only CG			CGI		
	2023	2019	difference	2023	2019	difference	2023	2019	difference
Fuels used in buildings									
high-methane natural gas	13 492 739.96	20 465 060.09	-6 972 320.13	790 032.31	2 939 802.29	-2 149 769.98	14 282 772.26	23 404 862.38	-9 122 090.12
nitrogenous natural gas	860 247.37	-	860 247.37	1 784 224.32	-	1 784 224.32	2 644 471.69	-	2 644 471.69
heating oil	2 702 447.26	3 367 591.00	-665 143.74	358.21	132 432.55	-132 074.34	2 702 805.47	3 500 023.55	-797 218.08
diesel	59 138.86	81 469.00	-22 330.14	420 766.00	16 759.20	404 006.80	479 904.86	98 228.20	381 676.66
LPG	-	-	-	5 388.42	5 718.04	-329.62	5 388.42	5 718.04	-329.62
lignite	-	-	-	-	-	-	-	-	-
hard coal	90 582.70	207 666.67	-117 083.97	-	-	-	90 582.70	207 666.67	-117 083.97
Total fuels used in buildings	17 205 156.15	24 121 786.76	-6 916 630.61	3 000 769.26	3 094 712.08	-93 942.82	20 205 925.40	27 216 498.84	-7 010 573.43
Fuels used in vehicles									
diesel	1 394 311.16	1 211 092.62	183 218.54	2 660 144.27	4 093 034.42	-1 432 890.15	4 054 455.43	5 304 127.04	-1 249 671.61
LPG	-	-	-	-	-	-	-	-	-
petrol	23 761 641.38	27 485 590.87	-3 723 949.49	9 869 582.79	5 810 136.11	4 059 446.68	33 631 224.17	33 295 726.98	335 497.19
Total fuels used in vehicles	25 155 952.54	28 696 683.49	-3 540 730.95	12 529 727.06	9 903 170.53	2 626 556.53	37 685 679.60	38 599 854.02	-914 174.42
In total, the fuels responsible for emissions in Scope 1	42 361 108.69	52 818 470.25	-10 457 361.57	15 530 496.32	12 997 882.61	2 532 613.71	57 891 605.00	65 816 352.86	-7 924 747.85
Energy purchased									
electricity	71 703 154.93	81 675 347.78	-9 972 192.85	10 479 526.84	11 034 126.46	-554 599.62	82 182 681.78	92 709 474.24	-10 526 792.46
heat energy	58 954 916.16	68 774 176.29	-9 819 260.13	7 318 971.55	8 938 718.85	-1 619 747.30	66 273 887.70	77 712 895.14	-11 439 007.43
Total purchased energy, accounting for emissions in Scope 2	130 658 071.09	150 449 524.07	-19 791 452.98	17 798 498.39	19 972 845.31	-2 174 346.92	148 456 569.48	170 422 369.38	-21 965 799.90
The total energy corresponding to for emissions in Scopes 1 and 2	173 019 179.77	203 267 994.32	-30 248 814.54	33 328 994.71	32 970 727.92	358 266.79	206 348 174.49	236 238 722.23	-29 890 547.75

⁴⁶ The last baseline year recalculation took place in the GHG Inventory for 2022.

OPTIONAL INFORMATION

Table 3.1
Fuel consumption in 2019: percentage of data and estimates [%].

	PKO BP		Only CG		CGI	
	data	estimates	data	estimates	data	estimates
Fuels used in buildings						
natural gas	67.67%	32.33%	70.01%	29.99%	67.97%	32.03%
heating oil	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
diesel	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
LPG	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%
lignite	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
hard coal	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Total fuels used in buildings	72.57%	27.43%	71.51%	28.49%	72.45%	27.55%
Fuels used in vehicles						
diesel	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
LPG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
petrol	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
Total fuels used in vehicles	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
Total fuels responsible for emissions in Scope 1	87.47%	12.53%	93.22%	6.78%	88.61%	11.39%
Energy purchased						
electricity	85.80%	14.20%	97.59%	2.41%	87.20%	12.80%
heat energy	65.57%	34.43%	67.19%	32.81%	65.75%	34.25%
Total energy purchased, responsible for Scope 2 emissions	76.55%	23.45%	83.99%	16.01%	77.42%	22.58%
In total, the energy responsible for emissions in Scopes 1 and 2	79.39%	20.61%	87.62%	12.38%	80.54%	19.46%

OPTIONAL INFORMATION

Table 3.2
Fuel consumption in 2023: percentage of data and estimates [in %].

	PKO BP		Only CG		CGI	
	data	estimates	data	estimates	data	estimates
Fuels used in buildings						
high-methane natural gas	71.12%	28.88%	83.16%	16.84%	71.79%	28.21%
nitrogenous natural gas	100.00%	0.00%	76.34%	23.66%	84.04%	15.96%
heating oil	75.48%	24.52%	100.00%	0.00%	75.48%	24.52%
diesel	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
LPG	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%
lignite	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
hard coal	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%
Total fuels used in buildings	72.98%	27.02%	81.50%	18.50%	74.24%	25.76%
Fuels used in vehicles						
diesel	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
LPG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
petrol	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
Total fuels used in vehicles	100.00%	0.00%	100.00%	0.00%	100.00%	0.00%
Total fuels responsible for emissions in Scope 1	89.02%	10.98%	96.43%	3.57%	91.01%	8.99%
Energy purchased						
electricity	93.47%	6.53%	91.55%	8.45%	93.22%	6.78%
heat energy	64.44%	35.56%	69.64%	30.36%	65.01%	34.99%
Total energy purchased, accounting for Scope 2 emissions	80.37%	19.63%	82.54%	17.46%	80.63%	19.37%
Total energy responsible for emissions in Scopes 1 and 2	82.49%	17.51%	89.01%	10.99%	83.54%	16.46%

OPTIONAL INFORMATION

Table 4.1
Emissions in 2023: comparison of market-based and location-based approaches [tCO₂e].

	PKO BP			Only CG			CGI		
	M-B	L-B	difference	M-B	L-B	difference	M-B	L-B	difference
Refrigerants	805.37	805.37	0.00	181.69	181.69	0.00	987.06	987.06	0.00
Emissions from fuels used in buildings									
high-methane natural gas	2 734.59	2 734.59	0.00	160.12	160.12	0.00	2 894.71	2 894.71	0.00
nitrogenous natural gas	174.35	174.35	0.00	361.61	361.61	0.00	535.96	535.96	0.00
heating oil	701.97	701.97	0.00	0.09	0.09	0.00	702.06	702.06	0.00
diesel	15.03	15.03	0.00	106.91	106.91	0.00	121.94	121.94	0.00
LPG	0.00	0.00	0.00	1.24	1.24	0.00	1.24	1.24	0.00
lignite	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
hard coal	30.26	30.26	0.00	0.00	0.00	0.00	30.26	30.26	0.00
Total emissions from fuels used in buildings	3 656.20	3 656.20	0.00	629.98	629.98	0.00	4 286.18	4 286.18	0.00
Emissions from fuels used in vehicles									
diesel	287.05	287.05	0.00	547.65	547.65	0.00	834.70	834.70	0.00
LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
petrol	5 559.40	5 559.40	0.00	2 309.14	2 309.14	0.00	7 868.53	7 868.53	0.00
The total emissions from fuels used in vehicles	5 846.45	5 846.45	0.00	2 856.79	2 856.79	0.00	8 703.24	8 703.24	0.00
Total emissions in Scope 1	10 308.01	10 308.01	0.00	3 668.46	3 668.46	0.00	13 976.47	13 976.47	0.00
Emissions from purchased energy									
electricity ⁴⁷	840.24	46 662.18	-45 821.94	4 276.82	5 052.68	-775.86	5 117.06	51 714.86	-46 597.80
heat energy	21 327.78	21 327.78	0.00	2 505.22	2 505.22	0.00	23 833.00	23 833.00	0.00
Total Scope 2 emissions	22 168.03	67 989.96	-45 821.94	6 782.04	7 557.90	-775.86	28 950.06	75 547.86	-46 597.80
Total emissions in Scopes 1 and 2	32 476.04	78 297.98	-45 821.94	10 450.49	11 226.36	-775.86	42 926.54	89 524.33	-46 597.80
Emissions - Scope 3									
Category 1 Purchased products and services;	580.20	580.20	0.00	0.00	0.00	0.00	580.20	580.20	0.00
Category 3: Energy-related activities and fuel	12 989.41	12 989.41	0.00	1 623.56	1 623.56	0.00	14 612.97	14 612.97	0.00
category 5 Waste in operations	18.99	18.99	0.00	0.00	0.00	0.00	18.99	18.99	0.00
Category 6: Business travel - domestic	1 295.42	1 295.42	0.00	120.19	120.19	0.00	1 415.60	1 415.60	0.00
Category 7: Staff commuting	8 444.32	8 444.32	0.00	4 769.00	4 769.00	0.00	13 213.32	13 213.32	0.00
category 11. Use of sold products	961.42	961.42	0.00	0.00	0.00	0.00	961.42	961.42	0.00
category 13 Leased assets	2 043.80	2 043.80	0.00	0.00	0.00	0.00	2 043.80	2 043.80	0.00
Total Scope 3 emissions	26 333.55	26 333.55	0.00	6 512.75	6 512.75	0.00	32 846.30	32 846.30	0.00
Total emissions in Scopes 1, 2 and 3	58 809.59	104 631.53	-45 821.94	16 963.24	17 739.10	-775.86	75 772.83	122 370.63	-46 597.80

⁴⁷ The high reduction in greenhouse gas emissions in Scope 2 is due, among other things, to the purchase by PKO Bank Polski S.A. of electricity generated from wind and solar installations (RES energy). Guarantees of origin covered 70,000 MWh, which were entirely attributed to the Bank's consumption.

OPTIONAL INFORMATION

Table 4.2

Emissions in 2023 by source: source data and estimates - market-based method [tCO₂e].

	PKO BP			Only CG			CGI		
	data	estimates	total	data	estimates	total	data	estimates	total
Refrigerants	805.37	0.00	805.37	181.69	0.00	181.69	987.06	0.00	987.06
Emissions from fuels used in buildings									
high-methane natural gas	1 944.95	789.65	2 734.59	133.15	26.96	160.12	2 078.10	816.61	2 894.71
nitrogenous natural gas	174.35	0.00	174.35	276.06	85.55	361.61	450.41	85.55	535.96
heating oil	529.83	172.14	701.97	0.09	0.00	0.09	529.92	172.14	702.06
diesel	15.03	0.00	15.03	106.91	0.00	106.91	121.94	0.00	121.94
LPG	0.00	0.00	0.00	1.24	0.00	1.24	1.24	0.00	1.24
lignite	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
hard coal	0.00	30.26	30.26	0.00	0.00	0.00	0.00	30.26	30.26
Total emissions from fuels used in buildings	2 664.15	992.05	3 656.20	517.47	112.51	629.98	3 181.61	1 104.56	4 286.18
Emissions from fuels used in vehicles									
diesel	287.05	0.00	287.05	547.65	0.00	547.65	834.70	0.00	834.70
LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrol	5 559.40	0.00	5 559.40	2 309.14	0.00	2 309.14	7 868.53	0.00	7 868.53
Total emissions from fuels used in vehicles	5 846.45	0.00	5 846.45	2 856.79	0.00	2 856.79	8 703.24	0.00	8 703.24
Total emissions in Scope 1	9 315.96	992.05	10 308.01	3 555.94	112.51	3 668.46	12 871.91	1 104.56	13 976.47
Emissions from purchased energy									
electricity	840.24	0.00	840.24	3 727.42	549.40	4 276.82	4 567.66	549.40	5 117.06
heat energy	13 740.46	7 587.32	21 327.78	1 743.35	761.87	2 505.22	15 483.82	8 349.19	23 833.00
Total Scope 2 emissions	14 580.71	7 587.32	22 168.03	5 470.77	1 311.27	6 782.04	20 051.48	8 898.59	28 950.06
Total emissions in Scopes 1 and 2	23 896.67	8 579.37	32 476.04	9 026.72	1 423.78	10 450.49	32 923.39	10 003.15	42 926.54
Emissions - Scope 3									
Category 1 Purchased products and services;	406.14	174.06	580.20	0.00	0.00	0.00	406.14	174.06	580.20
Category 3: Energy-related activities and fuel	10 640.72	2 348.69	12 989.41	1 539.95	83.61	1 623.56	12 180.67	2 432.30	14 612.97
category 5 Waste in operations	18.99	0.00	18.99	0.00	0.00	0.00	18.99	0.00	18.99
Category 6: Business travel - domestic	1 295.42	0.00	1 295.42	120.19	0.00	120.19	1 415.60	0.00	1 415.60
Category 7: Staff commuting	4 825.81	3 618.51	8 444.32	4 769.00	0.00	4 769.00	9 594.81	3 618.51	13 213.32
category 11. Use of products sold	961.42	0.00	961.42	0.00	0.00	0.00	961.42	0.00	961.42
category 13 Leased assets	1 005.45	1 038.35	2 043.80	0.00	0.00	0.00	1 005.45	1 038.35	2 043.80
Total Scope 3 emissions	19 153.94	7 179.61	26 333.55	6 429.14	83.61	6 512.75	25 583.08	7 263.22	32 846.30
Total emissions in Scopes 1, 2 and 3	43 050.61	15 758.98	58 809.59	15 455.85	1 507.39	16 963.24	58 506.46	17 266.37	75 772.83

OPTIONAL INFORMATION

Table 4.3
Comparison of 2023 emissions with 2019 - market-based method [tCO₂e].

	PKO BP			Only CG			CG		
	2023	2019	difference	2023	2019	difference	2023	2019	difference
Refrigerants	805.37	912.46	-107.09	181.69	0.00	181.69	987.06	912.46	74.60
Emissions from fuels used in buildings									
high-methane natural gas	2 734.59	4 180.60	-1 446.01	160.12	600.54	-440.42	2 894.71	4 781.14	-1 886.43
nitrogenous natural gas	174.35	0.00	174.35	361.61	0.00	361.61	535.96	0.00	535.96
heating oil	701.97	876.35	-174.38	0.09	34.46	-34.37	702.06	910.81	-208.75
diesel	15.03	21.20	-6.17	106.91	0.16	106.75	121.94	21.36	100.58
LPG	0.00	0.00	0.00	1.24	1.32	-0.08	1.24	1.32	-0.08
lignite	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
hard coal	30.26	75.36	-45.10	0.00	0.00	0.00	30.26	75.36	-45.10
Total emissions from fuels used in buildings	3 656.20	5 153.51	-1 497.31	629.98	636.48	-6.50	4 286.18	5 789.99	-1 503.81
Emissions from fuels used in vehicles									
diesel	287.05	315.16	-28.11	547.65	1 013.00	-465.35	834.70	1 328.16	-493.46
LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petrol	5 559.40	6 762.28	-1 202.88	2 309.14	988.45	1 320.69	7 868.53	7 750.73	117.80
Total emissions from fuels used in vehicles	5 846.45	7 077.44	-1 230.99	2 856.79	2 001.45	855.34	8 703.24	9 078.89	-375.65
Total emissions in Scope 1	10 308.01	13 143.41	-2 835.40	3 668.46	2 637.93	1 030.53	13 976.47	15 781.34	-1 804.87
Emissions from purchased energy									
electricity	840.24	59 143.39	-58 303.15	4 276.82	5 861.09	-1 584.28	5 117.06	65 004.48	-59 887.42
heat energy	21 327.78	24 585.39	-3 257.61	2 505.22	3 195.41	-690.19	23 833.00	27 780.81	-3 947.81
Total Scope 2 emissions	22 168.03	83 728.78	-61 560.75	6 782.04	9 056.51	-2 274.47	28 950.06	92 785.29	-63 835.22
Total emissions in Scopes 1 and 2	32 476.04	96 872.19	-64 396.15	10 450.49	11 694.44	-1 243.94	42 926.54	108 566.63	-65 640.09
Emissions - Scope 3									
Category 1 Purchased products and services;	580.20	0.00	580.20	0.00	0.00	0.00	580.20	0.00	580.20
Category 3: Energy-related activities and fuel	12 989.41	0.00	12 989.41	1 623.56	0.00	1 623.56	14 612.97	0.00	14 612.97
category 5 Waste in operations	18.99	0.00	18.99	0.00	0.00	0.00	18.99	0.00	18.99
Category 6: Business travel - domestic	1 295.42	0.00	1 295.42	120.19	0.00	120.19	1 415.60	0.00	1 415.60
Category 7: Staff commuting	8 444.32	0.00	8 444.32	4 769.00	0.00	4 769.00	13 213.32	0.00	13 213.32
category 11. Use of products sold	961.42	0.00	961.42	0.00	0.00	0.00	961.42	0.00	961.42
category 13 Leased assets	2 043.80	0.00	2 043.80	0.00	0.00	0.00	2 043.80	0.00	2 043.80
Total Scope 3 emissions	26 333.55	0.00	26 333.55	6 512.75	0.00	6 512.75	32 846.30	0.00	32 846.30
Total emissions in Scopes 1, 2 and 3	58 809.59	96 872.19	-38 062.60	16 963.24	12 368.62	4 594.62	75 772.83	108 566.63	-32 793.80

OPTIONAL INFORMATION TO THE REPORT ON GREENHOUSE GAS EMISSIONS PKO BP S.A. Capital Group FOR THE YEAR 2023

Abbreviations used in the report:

- CH₄ - methane;
- CO₂ - carbon dioxide;
- HFCs - hydrofluorocarbons;
- kg - kilogram;
- kWh - kilowatt-hour (the amount of energy consumed in 1 hour by a 1 kW device);
- tCO₂e - megagram (tonne) of carbon dioxide equivalent;
- MJ - megajoule;
- MWh - megawatt hour (the amount of energy consumed in 1 hour by a 1 MW device, equal to 1,000 kWh);
- N₂O - nitrous oxide;
- PFCs - perfluorocarbons;
- SF₆ - sulphur hexafluoride

Definitions:

- carbon dioxide equivalent - a quantity that indicates the concentration of carbon dioxide whose emissions into the atmosphere would have the same effect as a given concentration of a comparable greenhouse gas;
- Greenhouse gases - the gaseous constituents of the atmosphere involved in the greenhouse effect;
- GHG Protocol - *The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard Revised Edition*, guidelines for *reporting* an organisation's carbon footprint;
- GHG Protocol Scope 2 Guidance - Scope 2 guidance standardising how organisations measure emissions from purchased or acquired electricity, heat and cooling;
- location-based method - a method for quantifying Scope 2 greenhouse gas emissions based on emission factors for specific locations, taking into account boundaries such as national borders;
- market-based method - a method of quantifying Scope 2 greenhouse gas emissions on the basis of the emitted greenhouse gas emissions of the generators from which the notifier, by Agreement, buys the electricity associated with the energy guarantees of origin or the energy guarantees of origin separately;
- baseline year emissions recalculation - the recalculation of baseline year emissions resulting from meeting the criteria detailed in the company's established policy for recalculating baseline year emissions or in the general criteria set out in the GHG Protocol;
- baseline year - a specific year or an average over a number of years for which the organisation compares reported emissions;
- an organisation's *carbon footprint* - the total sum of greenhouse gas emissions caused directly or indirectly by an organisation;
- emission factor - the average emission value of a greenhouse gas per unit of energy consumed;
- *Scope 1* (*Scope 1*) - includes direct emissions from the combustion of fuels in stationary or mobile sources owned or supervised by the company, process emissions, and those from refrigerant volatilisation;
- *Scope 2* (*Scope 2*) - includes indirect emissions from the consumption of electricity (purchased externally), heat, cooling;
- *Scope 3* (*Scope 3*) - includes other indirect emissions arising throughout the supply chain, e.g. from the manufacture and transport of raw materials or intermediates, waste management, employee travel, and use of products by end users. This scope is optional.