Inventory of greenhouse gas emissions

ING Bank Śląski S.A. Group
2023.

REQUIRED INFORMATION

Have any establishments, operations and/or sources been excluded from the report? If yes, they should be indicated.
No
Reporting period covered
From 01.01.2023 until 31.12.2023

ORGANISATIONAL BOUNDARIES

What method of consolidation has been chosen.		
Equity share ☐	Financial control ☐	Operational control √

OPERATIONAL BOUNDARIES

Are Scope 3 emissions included in the report?
yes √ no ☐
If yes, what types of activities are included in Scope 3?
For Scope 3 greenhouse gas emissions, the following activities were analysed: • 1 (purchased goods and services): water and paper consumption, • 3 (fuel- and energy-related activities not included in scope 1 and 2): WTT emissions for fuels and energy (for energy and purchased cooling, transmission losses (T&D) are included, as well as emissions related to the production of fuels used to generate energy if the energy is not from RES (Generation)), • 5 (waste generated in operations): water treatment and waste generated in operations, • 6 (business travel): business travel by company employees (by rail, air, taxi, coach and private cars for business purposes).

INFORMATION ON EMISSIONS

The table below refers to emissions independent of any GHG trades i.e. sales, purchases, transfers or banking of allowances.[1]

EMISSIONS	**TOTAL (tCO_2e)**	CO_2 (t)	CH_4 (t)	N_2O (t)	HFCs (t)	PFCs (t)	SF_6 (t)
Scope 1	3,795.18	3,614.18	0.14	0.03	0.09	0.00	0.00
Scope 2[2]	4,431.24	4,431.24	0.00	0.00	0.00	0.00	0.00
Scope 2[3]	19,443.94	19,443.94	0.00	0.00	0.00	0.00	0.00
Scope 3[2]	2,026.38	1,947.90	0.02	0.01	0.00	0.00	0.00
Scope 3[3]	5,657.95	5,579.47	0.02	0.01	0.00	0.00	0.00
SUM (1-3)[2]	**10,252.80**	**9,993.32**	**0.16**	**0.04**	**0.09**	**0.00**	**0.00**
SUM (1-3)[3]	**28,897.07**	**28,637.59**	**0.16**	**0.04**	**0.09**	**0.00**	**0.00**

Direct CO_2 emissions from biogenic combustion (tCO_2)
172.3 t CO_2 Calculated as the product of litres of fuel used in the fleet (petrol and diesel fuel), diesel fuel used in generators, fuel oil used for heating, and the index published in the DEFRA 2023 database

[1] Due to the design of the emission factors, the value of the emission fraction for scope 1 (refrigerant) and scope 3 (categories 1, 3, 5) has been converted to CO_2 equivalent without breaking down the individual greenhouse gases

[2] Calculated according to the market-based methodology

[3] Calculated according to the location-based methodology

REQUIRED INFORMATION

BASE YEAR

Year chosen as the base year
2019
Explanation of the company's policy for recalculating base year emissions
N/A
Context of any significant emission changes that trigger recalculations of base year emissions
N/A

Base year emissions

EMISSIONS	**TOTAL (tCO_2e)**	CO_2 (t)	CH_4 (t)	N_2O (t)	HFCs (t)	PFCs (t)	SF_6 (t)
Scope 1	5,218.52	4,571.87	0.17	0.03	0.247	0.00	0.00
Scope 2[2]	6,536.46	6,536.46	0.00	0.00	0.00	0.00	0.00
Scope 2[3]	28,175.83	28,175.83	0.00	0.00	0.00	0.00	0.00
Scope 3	6,529.73	951.60	0.05	0.02	0.00	0.00	0.00
Sum (1-3)[2]	**18,284.70**	**12,059.92**	**0.22**	**0.06**	**0.25**	**0.00**	**0.00**
Sum (1-3)[3]	**39,924.08**	**33,699.30**	**0.22**	**0.06**	**0.25**	**0.00**	**0.00**

METHODOLOGIES AND EMISSION FACTORS

Methodologies used to calculate or measure emissions other than those under the GHG Protocol

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

The calculation of greenhouse gas emissions, which include inter alia carbon dioxide (CO_2), methane (CH4) and nitrous oxide (N2O), is based on the global standard Greenhouse Gas Protocol methodology developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). The calculations of greenhouse gas emissions were based on the consumption of individual energy carriers used by ING Bank Śląski Group, i.e. liquid fuels used by the car fleet (petrol, diesel), electricity, purchased cooling, district heating, natural gas, fuel oil and coal consumed for the operation of the buildings. In addition, emissions associated with the loss of refrigerant from refrigeration equipment and diesel used to generate electricity from generators were analysed. For Scope 3 of the GHG emissions, the company's employee business travel (rail, air travel, taxi, private car travel for business purposes), water and paper consumption and waste (recycled and municipal) were analysed. Well-to-Tank (WTT) emissions are also included, comprising emissions associated with the extraction, production and transportation of fuels consumed by the ING Bank Śląski Group, the extraction, production and transportation of fuels consumed for the generation of energy purchased by the company, and the generation of energy consumed to cover transmission and distribution (T&D) losses.

Greenhouse gas emissions were converted to carbon dioxide equivalent according to the GWP value (Global Warming Potential), which measures the potential of individual gases in terms of carbon dioxide equivalent, according to the Intergovernmental Panel on Climate Change (IPCC) report, "Climate Change 2013: IPCC Fifth Assessment Report (AR5)[4].", where the GWP for methane is 28 and for nitrous oxide, it is 265. Emissions of carbon dioxide, methane and nitrous oxide have been converted into carbon dioxide equivalent emissions according to the formula:

[4] https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf, p. 87

$$W_{eCO_2} = W_{CO_2} + W_{CH_4} \cdot GWP_{CH_4} + W_{N_2O} \cdot GWP_{N_2O}$$

where:
W_{eCO_2} – carbon dioxide equivalent emission factor,
W_{CO_2} – carbon dioxide emission factor,
W_{CH_4} – methane emission factor,
GWP_{CH_4} – GWP (Global Warming Potential) of methane,
W_{N_2O} – nitrous oxide emission factor,
GWP_{N_2O} – GWP (Global Warming Potential) of nitrous oxide.

For electricity in scope 2 and WTT emissions in scope 3 (since 2022), a market-based and location-based approach was used to calculate emissions.

DATA CALCULATION AND ESTIMATION METHODOLOGY

Scope 1:

1. **Natural gas:**
   Natural gas consumption was known for 41 locations based on invoices. However, for 37 of those locations, information on the volume of consumption in the final months of 2023 was missing. A regression function was used to estimate the data in the missing periods. The following were used as parameters for the function: consumption values for the periods for which the source data was available and the number of degree days (S_d) calculated according to the formula:

$$Sd = (t_{w0} - t_e) \cdot Ld_{(m)} \, [dzień \cdot K/miesiąc]$$

where:
t_{w0} – design indoor air temperature, assumed 20°C
t_e – the average outside air temperature in a given month,[5],
$Ld_{(m)}$ – number of heating days in month m adopted in accordance with the regulation on the detailed scope and form of the energy audit (Journal of Laws 2009 No. 43 item 346, as amended).

   The value of the estimated consumption for the missing periods in those 37 locations, was 684,776 kWh, which represents 43.2% of the actual consumption, including the consumption in the missing periods. The actual consumption together with the estimated consumption in the missing periods was used to calculate the consumption rate of heat energy generated from natural gas per surface area (122.16 kWh/m2). Using the calculated ratios, consumption was estimated for locations for which no actual data was available (26), by multiplying the respective ratios by the surface area and period of use and dividing by 12. Carbon dioxide equivalent emissions were calculated as the product of consumption and emission factors.

2. **Fuel oil:**
   Fuel oil consumption was known for 2 facilities occupied by the company. An average heating oil consumption rate per unit area in the company was determined for these facilities, which was 71.6 kWh/m2. This ratio was used to estimate fuel oil consumption in the remaining 2 facilities where the heating source is an oil boiler, taking into account the period of operation of the locations during the year. Carbon dioxide equivalent emissions were calculated as the product of consumption and emission factors.

[5] https://www.imgw.pl; *Characteristics of selected climate elements in Poland.*

3. **Petrol and diesel fuel used in company vehicles:**
   The amount of energy consumed by motor vehicles was calculated on the basis of the reported fuel consumption statements of the vehicles used in the ING Bank Śląski Group as the product of the quantity of fuel purchased, converted into kilograms, and the calorific value. Carbon dioxide equivalent emissions were calculated as the product of consumption and emission factors.
4. **Diesel – power generators:**
   In the event of loss of mains power, generators have been installed at some of the sites. To calculate the amount of fuel used to generate a given amount of electricity, the technical characteristics of the individual generators were used. The average fuel consumption (l/h) for 100% load was read from the technical specifications, and the amount of oil used in the gensets was obtained by multiplying this value by the percentage of the genset load and the operating time. For the idling gensets (not producing electricity), the average power load of the gensets for which the energy produced was known was calculated. The amount of energy from diesel was calculated using the estimated amount of fuel consumed converted into kilograms and the calorific value. Carbon dioxide equivalent emissions were calculated as the product of consumption and emission factors.
5. **Refrigerants:**
   Carbon dioxide equivalent emissions from refrigerant loss were calculated according to the following formula:

$$W_{eCO_2} = W_{HFCs} \cdot GWP_{HFCs}$$

where:
W_{eCO_2} – carbon dioxide equivalent emission factor,
W_{HFCs} – refrigerant loss value,
GWP_{HFCs} – GWP (Global Warming Potential) of refrigerant

Scope 2:

1. **Electricity:**
   Electricity consumption for the Bank's branches and other locations was read from the received billing documents.
   Electricity consumption was known for 244 locations. At the time of the emissions calculation, consumption data was available until the end of October/November 2023. The consumption for the missing periods was estimated using the arithmetic average of the readings available in 2023 for each location. The total consumption for the estimated periods was 2,536,652 kWh, representing 11.8% of total consumption at those locations.
   At the locations for which the consumption was not known, the electricity consumption rate per surface area was used to calculate the energy consumption, which was multiplied by the area of the site, taking into account the period of operation of each location during the year. In order to determine the average electricity consumption rate per surface area, actual and estimated consumption values for buildings with a similar function in the missing periods were used, additionally taking into account the use of a similar system for hot water preparation and a similar type of ventilation. Electricity consumption in the common parts of one of the locations is also included in the data (this data has not been included in the calculations before). The available cost data for each month was converted to kWh based on the value of the kWh/PLN indicator determined on the basis of invoices where cost and consumption information was available for that location. The estimated value represents 3.8% of total electricity consumption.

Electricity consumption was not known for small areas occupied in shopping centres with small service points. The electricity consumption of the stands was determined on the basis of the electrical appliances used. The electricity consumption for ATMs and night deposit machines owned by the Bank was determined on the basis of the technical specification of the equipment. The energy generated by photovoltaic installations installed at in-house locations, which was not transferred to the grid, was added to the total electricity consumption. Consumption was not estimated for locations that do not have media connections, e.g. parking spaces, transformer stations, undeveloped land, advertisements/ billboards.

Carbon dioxide equivalent emissions were then calculated by multiplying consumption by the emission factor. Two factors were used to calculate market-based emissions:

1. For 83.7% of the energy provided by one supplier, the index published by the supplier was used.
2. For the remaining energy volume, the index published by KOBiZE was used, which was adjusted on the basis of data published by KOBiZE according to the following formula:

$$W_e = W_{CO_2} - \frac{WTT}{BIE_{-WTT}}$$

where:
W_e- emission factor
W_{CO_2}- emission factor for electricity end-users
WTT – balancing losses and differences
BIE_{-WTT} – balanced volume of electricity with end users without balancing losses and differences

The factor $W_e$calculated in accordance with the methodology described in section 2 above was used to calculate location-based emissions.

2. Purchased cooling:

The consumption of purchased cooling for air conditioning was known for the facilities occupied by the company on the basis of invoices. The cooling used was entirely generated from electricity. There were 13 locations that lacked information on the volume of consumption in the final months of 2023. For 7 locations, consumption information was not available in accounting documents.

A regression function was used to estimate the data in the missing months (the relevant methodology is described in the section on natural gas). The estimates accounted for 12% of the value of total consumption. At the locations for which the consumption was not known, the cooling consumption rate per area was used to calculate the consumption, which was multiplied by the area of the site, taking into account the period of operation of each location during the year. In order to determine the average cooling consumption rate per area, actual and estimated consumption values for buildings with a similar function in the missing periods were used. The estimates accounted for 15.6% of the value of total consumption.

Carbon dioxide equivalent emissions were then calculated by multiplying consumption by an emission factor W_e calculated according to the methodology described for calculating emissions from electricity (section 2).

For the calculation of market-based emissions, it was assumed that energy consumption at locations where the owner had purchased a guarantee of origin or held certificates proving the generation of the renewable energy used for the facilities was excluded from the calculation of greenhouse gas emissions.

3. **District heating:**

District heating consumption was known for 46 locations, based on invoices and meter readings. There were 40 locations that lacked information on the volume of consumption in the final months of 2023. A regression function was used to estimate the data in the missing periods (the relevant methodology is described in the section on natural gas). The value of the estimated consumption for the missing periods in those locations, was 868,724 kWh, which represents 10.5% of the actual consumption including the consumption in the missing periods. On the basis of the obtained data, the average district heating consumption rate per unit area in the company was determined for the office buildings (97.92 kWh/m2) and for other buildings (91.40 kWh/m2). These indicators were used to estimate the consumption of district heating in the remaining facilities (97), where the heating source is a thermal centre and where the consumption was not known, taking into account the period of operation of each location during the year. For the spaces occupied by small service points at shopping malls, zero network heat consumption was assumed, as these spaces are located in common spaces and would be heated in the facilities regardless of whether there is a stand there. Carbon dioxide equivalent emissions were calculated as the product of consumption and emission factors for each province.

Scope 3:

1. **Category 1 (purchased goods and services):**

1.1. Paper:

Carbon dioxide equivalent emissions from the consumption of paper have been calculated on the basis of a statement submitted by the supplier on the volume of paper ordered as a product of weight and emission factor.

1.2. Water consumption:

Water consumption was known from invoices for 162 locations. For some locations, information on consumption by month was missing. The missing consumption was estimated using the arithmetic average of the readings available in 2023 for each location. The total consumption for the estimated periods was 9,178.8 l, representing 25% of total consumption at those locations.

Based on the available data, an average water consumption rate per employee was calculated. This indicator was used to estimate the volume of water used at the locations for which actual data was not available (135) as the product of the indicator, the number of people employed at the location and the number of months of operation. Due to the additional functions performed in relation to other meeting venues, water consumption in the Head Office buildings, a building where no operations are carried out and a location where there was a water system malfunction resulting in a water leak into the sewerage network were excluded from the factor calculation. Carbon dioxide equivalent emissions were calculated by multiplying the calculated water consumption data and emission factor.

2. **Category 3 (fuel and energy-related activities not included in scope 1 or scope 2):**

Due to the discontinuation by DEFRA of the publication of the WTT – overseas electricity (generation and T&D) indices used to calculate emissions for 2019-2021, an index value has been calculated according to the methodology previously used by DEFRA[6] in line with the following formulas:

[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1083857/2022-ghg-cf-methodology-paper.pdf

$$WTT_{Generation} = W_e \cdot \text{UK}\frac{WTT}{Direct}$$

and

$$WTT_{T\&D} = \left(\frac{W_e}{1 - \frac{WTT}{BIE_{-WTT}}} - W_e\right) \cdot \text{UK}\frac{WTT}{Direct}$$

where:
$WTT_{Generation}$ – emission factor related to the production of fuels used for energy production if the energy does not come from RES
$WTT_{T\&D}$ – emission factor related to transmission losses for electricity
W_e – emission factor calculated for electricity
$\text{UK}\frac{WTT}{Direct}$ – indirect emission factor/WTT reported by DEFRA
WTT – balancing losses and differences
BIE_{-WTT} – balanced volume of electricity with end users without balancing losses and differences

The ratios calculated above were used to calculate the location-based carbon dioxide equivalent emissions from generation and transmission losses for electricity (excluding electricity generated by own photovoltaic installations) and purchased cooling as the product of the energy consumption value and the ratio. In market-based terms, the ratio $WTT_{Generation}$ was assumed to be equal to 0. According to the GHG standard, emissions from renewable energy generation are 0.

Carbon dioxide equivalent emissions from transmission losses for natural gas, fuel oil, petrol fuel, diesel fuel used for car fleets and generators and district heat were calculated as the product of consumption and the emission factor (for district heat, emissions related to the production of fuels used for heat generation and related to heat transmission losses were included).

3. Category 5 (Waste generated in operations):

3.1. Water treatment:

Carbon dioxide equivalent emissions were calculated as the product of water consumption (calculated in accordance with the methodology described in section 1.2.) and emission factor.

3.2. Municipal waste:

The waste data is read from declarations submitted to the Municipalities and the invoices from the waste collection companies. The data was known for 91 locations. The total weight of waste generated in operations was calculated by multiplying the number of collections, the average weight of the containers for each fraction (bio, paper, plastic, glass, mixed waste) and the number of months of operation of the location. The average bin weight for a given fraction was calculated on the basis of publicly available information on the average weights of waste in a given category and the capacity of the waste bins. For locations for which actual data was not available, the total weight of waste generated was estimated as the product of the number of employees at the location and an indicator of the volume of waste generated per employee (an indicator calculated as the arithmetic average of the volume of waste generated per employee at locations for which data on the volume of waste collected was available). Carbon dioxide equivalent emissions were calculated as the product of consumption and emission factor (a factor for waste utilisation in incineration plants was used).

3.3. Disposed/re-used waste:

Carbon dioxide equivalent emissions from waste transferred for disposal/re-use have been calculated on the basis of a reported statement from the BDO database (Database on Products and Packaging and Waste Management) as the product of weight and emission factor (a factor for waste utilisation in incineration plants was used).

From 2023 onwards, part of the waste is transferred for treatment and re-use. An emission factor (for re-used materials) of 0 was assumed for this waste.

4. **Category 6 (Business travel):**

The statements received from the agencies supporting the procurement of the employee business travel services were used to calculate the carbon equivalent of the company's employee travel for rail, air, taxi travel. Information on private car travel for business purposes is sourced from an internal business trip management application. Carbon dioxide equivalent emissions were calculated as the product of the distance travelled and emission factor.

For the entities in the ING Bank Śląski Capital Group, i.e. ING Bank Śląski and its subsidiaries, the principles for calculating and estimating data on the consumption of energy carriers and the resulting greenhouse gas emissions were applied in the same way. Where the actual consumption of energy carriers and the resulting greenhouse gas emissions were not known for the subsidiaries, they were estimated on the basis of the companies' share of the total area (for natural gas, fuel oil, diesel to power generators, electricity, purchased cooling, district heating, transmission losses – WTT) or total FTEs (for water, waste).

Optional information

ORGANISATIONAL BOUNDARIES

List of all legal entities or establishments in which the reporting organisation has an ownership interest or exercises financial or operational control	Equity share (%)	Does the reporting organisation have financial control (Yes/No)	Does the reporting organisation have operational control (Yes/No)
ING Bank Śląski S.A.	100% (group parent company)	Yes	Yes
ING Investment Holding (Polska) S.A.	100%	Yes	Yes
ING Commercial Finance Polska S.A.	100%	Yes	Yes
ING Lease (Polska) Sp. z o.o.	100%	Yes	Yes
ING Usługi dla Biznesu S.A.	100%	Yes	Yes
ING Bank Hipoteczny S.A.	100%	Yes	Yes
Nowe Usługi S.A.	100%	Yes	Yes
SAIO S.A.	100%	Yes	Yes
Paymento Financial S.A.	100%	Yes	Yes

If the parent company of the reporting entity does not report emissions, attach an organisation chart that clearly identifies the relationship between the reporting subsidiary and other subsidiaries
N/A

INFORMATION ON EMISSIONS

Emissions by source (t Co2e)				
Scope 1: Direct emissions from owned/controlled operations	2022	2022 after adjustment	2023	Change 2023 vs. 2022 after adjustment [%]
a. Direct emissions from stationary combustion	548.49	525.86	496.50	-5.58%
b. Direct emissions from mobile combustion	2,883.38	2,883.38	3,088.82	7.13%
c. Direct emissions from process sources	56.42	56.42	39.84	-29.39%
d. Direct emissions from fugitive sources	322.52	322.52	170.02	-47,28%
e. Direct emissions from agricultural sources	0.00	0.00	0.00	-
SUM	**3,810.81**	**3,788.18**	**3,795.18**	**0.18%**
Scope 2: Indirect emissions from the use of purchased electricity, process steam, heat and cooling				
a. Indirect emissions from purchased/acquired electricity (calculated using a market-based approach)	0.00	0.00	0.00	0.00%
b. Indirect emissions from purchased/acquired electricity (calculated using a location-based approach)	16,497.93	16,613.16	14,897.10	-10.33%
c. Indirect emissions from purchased/acquired process steam	0.00	0.00	0.00	0.00%
d. Indirect emissions from purchased/acquired thermal energy	4,347.92	4,326.80	3,809.40	-11.96%
e. Indirect emissions from purchased/acquired cooling (calculated using a market-based approach)	575.09	690.83	621.84	-9.99%
f. Indirect emissions from purchased/acquired cooling (calculated using a location-based approach)	575.09	751.36	737.44	-1.85%
SUM (market-based)	**4,923.01**	**5,017.63**	**4,431.24**	**-11.69%**
SUM (location-based)	**21,420.94**	**21,691.32**	**19,443.94**	**-10.36%**

Optional information

Emissions by plant (recommended for individual plants with stationary exhaust emissions above 10,000 tCO_2e)	
Facility	Scope 1 emissions
N/A	N/A

Emissions by country ($MgCO_2e$)	
Country	Emissions
N/A	N/A
Emissions related to the own generation of electricity, heat or process steam which are sold or transferred to another organisation	
N/A	

Emissions related to the own generation of electricity, heat or process steam which are purchased for resale to intermediate customers
N/A

Emissions [kg] from greenhouse gases not included in the Kyoto Protocol (e.g., CFCs, NOx,)

Pollution	2019	2019 after adjustment	2022	2022 after adjustment	2023
Total dust[7]	9.09	10.36	6.22	7.51	6.93
PM10[7] dust	8.94	10.21	6.22	7.51	6.93
PM2.5[7] dust	8.68	9.95	6.22	7.51	6.93
Carbon monoxide (CO)[7, 8]	413.93	1,698.07	342.23	1,427.07	1,485.50
Nitrogen oxides (NOx/NO_2)[7, 8]	673.74	9,864.33	547.3	8,423.70	8,892.36
Sulphur oxides (SOx/SO_2)[7]	94.96	145.93	52.09	112.62	104.37
Benzo(a)pyrene[7, 8]	0.00	0.00	0.00	0.00	0.00
Non-methane volatile organic compounds (NMVOC) [8]	1.87	209.32	2.47	179.42	193.18
Ammonia (NH_3) [8]	0.37	49.71	0.47	42.61	45.88
Lead (Pb) [8]	0.00	0.48	0.00	0.41	0.44

Due to the errors detected in the calculation of CO, NOx/NO_2, SOx/SO_2, NMVOC, NH_3 and PB for petrol and diesel fuel used in the vehicle fleet, it was decided to recalculate the values for 2019-2022. In addition, greenhouse gas emissions not included in the Kyoto Protocol for diesel fuel used in gensets were taken into account. The results of the recalculation are presented in the table above.

Information on the reasons for emission changes that did not result in emissions recalculations in the base year (e.g. process changes, efficiency improvements, plant closures).
N/A

[7] Calculated for natural gas, fuel oil, coal, diesel fuel used in gensets
[8] Calculated for petrol and diesel fuel used in the vehicle fleet

Optional information

GHG emissions data for all years between the base and reporting years (including details and reasons for recalculations, if any)

The table below provides information on greenhouse gas emissions between the base year and the years 2020-2023 [tCO2e]):

	2019	2020	2021	2022	2022 after adjustment	2023
Scope 1	5,218.52	3,427.41	3,222.62	3,810.81	3,788.18	3,795.18
Scope 2 – market-based	6,536.46	5,692.60	6,229.09	4,923.01	5,017.63	4,431.24
Scope 2 – location-based	28,175.83	23,570.85	22,559.88	21,420.95	21,691.32	19,443.94
Scope 3 – market-based[9]	6,529.73	4,806.63	6,389.43	6,014.23	2,049.65	2,026.38
Scope 3 – location-based					6,083.02	5,657.95
SUM Scopes 1-3 – market-based	**18,284.70**	**13,926.64**	**15,841.14**	**14,748.05**	**10,855.46**	**10,252.80**
SUM Scopes 1-3 – location-based	**39,924.08**	**31,804.89**	**32,171.93**	**31,245.99**	**31,562.52**	**28,897.07**

As a result of obtaining information on the actual consumption after the publication date of the 2022 report for locations for which we had relied on estimated data, we decided to recalculate the values for 2022. The key changes from the data presented a year ago are due to the fact that:

- the actual values for the missing time periods was lower than the estimated data (for natural gas and district heating),
- additional consumption was taken into account after receipt of the final bill from the supplier (concerns electricity),
- additional locations were included for which no consumption had been calculated before;
- market-based reporting has been separated for locations where owners hold RES certificates of origin or purchase guarantees of origin. In accordance with the GHG standard for these locations, we assume zero emissions from the electricity used to generate cooling (applies to purchased cooling),
- the methodology for estimating water consumption was elaborated on for locations where information on actual consumption was not available.

Summary of emission reduction strategies or programmes

Electricity:

In 2023, ING Bank Śląski S.A. had an agreement in place with a supplier for the purchase of electricity as part of the "Energy Naturally" product. Under the Agreement, the supplier was obliged to sell electricity generated entirely from the renewable energy generation units. The sale of electricity coming entirely from the sources indicated in the preceding sentence means that the entire volume of electricity purchased under the agreement is covered by the volume of electricity generated from renewable energy sources belonging to the supplier's group and electricity purchased or accounted for by the supplier generated from renewable energy sources.

Within the framework of the above, the supplier undertakes to transfer for the benefit of ING Bank Śląski S.A. the guarantees of origin of electricity produced from renewable energy sources in renewable energy source units, in accordance with the Renewable Energy Sources Act and the RGP Regulations maintained by the Polish Power Exchange (Towarowa Giełda Energii S.A.). The supplier provided the bank with the guarantees of origin in Q1 2024. According to accepted estimates, the guarantees from the supplier will cover 83.7% of the volume of electricity used at the bank's locations.

[9] Due to the lack of a separate market-based approach for Scope 3, it was assumed that for the period 2019-2021, the Scope 3 emission values calculated using the market-based approach are equal to the location-based values.

Optional information

At the date of the calculation of consumption and GHG emissions, it was estimated that 0.5% of the electricity used by the ING Bank Śląski Group was covered by guarantees of origin purchased directly by the owners or managers of locations where ING Bank Śląski is the landlord.
14.4% of the electricity used was volume that was not covered through the "Energy Naturally" product or guarantees purchased by owners or managers. Guarantees of origin of 2,000 MWh were purchased for part of this volume (59.7%). As part of the guarantees, a certificate was obtained certifying that the electricity introduced into the distribution network or transmission network was generated in a renewable energy source facility. Additional guarantees of origin were purchased for the remaining volume (40.3% of 14.4%, or 1,349 MWh) in Q1 2024.
The remaining volume of electricity used (1.3%) was generated from photovoltaic panels installed on selected buildings owned by ING Bank Śląski.
Purchased cooling:
As at the date of the calculation of consumption and greenhouse gas emissions, ING Bank Śląski received information that three entities owning or managing space in locations where the ING Bank Śląski Group operated were in possession of guarantees of origin confirming that the electricity used to generate cooling was generated in renewable energy units. For those locations, zero greenhouse gas emissions were assumed for the cooling generated and a market-based approach was separated from the reporting of purchased cooling.

ADDITIONAL INFORMATION

Information on inventory quality (e.g. information on the causes and magnitude of uncertainties in emission estimates) and an outline of existing policies to improve inventory quality

The data confidence index was[10]:

- 79.26% – in the case of an energy-based calculation of the assurance rate. The indicator is at the "fair"level.
- 75.39% – in the case of an emission-based calculation of the assurance rate (market-based method). The indicator is at the "fair" level.
- 80.22% – in the case of an emission-based calculation of the assurance rate (location-based method). The indicator is at the "fair" level.

The higher value of the certainty factor on emissions data calculated using the location-based methodology compared to the factor calculated using the market-based methodology is due to the inclusion of the first emissions factor from electricity used in the emissions calculation.

[10] For scope 1 and 2, calculated in accordance with the GHG Protocol guidance on uncertainty assessment in GHG inventories and calculating statistical parameter uncertainty

Appendix to the greenhouse gas emissions report of the ING Bank Śląski S.A. Group For 2023

List of tables

Table 1. Greenhouse gas emissions in organisational breakdown [Mg CO2e].

Source	2019			2022 after adjustment			2023			Change in 2023 vs.:	
	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	2019	2022[11]
Natural gas	580.53	14.17	594.7	468.50	13.66	482.15	430.37	13.44	443.81	-25%	-8%
Fuel oil	65.14	1.59	66.73	42.46	1.24	43.70	51.09	1.60	52.69	-21%	21%[12]
Coal	3.39	0.08	3.47	0.00	0.00	0.00	0.00	0.00	0.00	-100%	-100%[13]
Petrol fuel	1,576.97	175.81	1,752.78	2,278.69	320.34	2,599.03	2,716.77	342.30	3,059.07	75%	18%[14]
Diesel – car fleet	1,795.77	324.98	2,120.75	256.00	28.34	284.35	28.26	1.49	29.75	-99%	-90%[15]
Diesel – power generators	46.24	1.13	47.37	54.82	1.60	56.42	38.63	1.21	39.84	-16%	-29%[16]
Refrigerants	617.63	15.08	632.71	313.39	9.14	322.52	164.88	5.15	170.02	-73%	-47%[17]
SUM Scope 1	**4,685.68**	**532.84**	**5,218.52**	**3,413.87**	**374.31**	**3,788.18**	**3,429.99**	**365.18**	**3,795.18**	**-27%**	**0%**
Electricity – market based	656.14	16.02	672.16	0.00	0.00	0.00	0.00	0.00	0.00	-100%	-
Electricity – location based	21,779.81	531.73	22,311.53	16,142.61	470.56	16,613.16	14,446.01	451.09	14,897.10	-33%	-10%[18]
Cooling – market-based	809.56	19.76	829.32	671.26	19.57	690.83	603.01	18.83	621.84	-25%	-10%
Cooling – location-based				730.08	21.28	751.36	715.11	22.33	737.44	-11%	-2%[19]
District heating	4,914.98	119.99	5,034.98	4,204.24	122.55	4,326.80	3,694.05	115.35	3,809.40	-24%	-12%[20]
SUM Scope 2 – market-based	**6,380.68**	**155.78**	**6,536.46**	**4,875.51**	**142.12**	**5,017.63**	**4,297.06**	**134.18**	**4,431.24**	**-32%**	**-12%**
SUM Scope 2 – location-based	**27,504.35**	**671.48**	**28,175.83**	**21,076.93**	**614.39**	**21,691.32**	**18,855.17**	**588.77**	**19,443.94**	**-31%**	**-10%**

[11] A significant contributor to the decrease in carbon equivalent emissions is the optimisation of occupied space related to operations, with the decommissioning and relocation of outlets in 2022 and 2023, which has contributed to reductions in utility consumption including electricity, district heating and water, and waste generation.

[12] The increase in emissions from fuel oil is due to the irregular nature of oil purchases. Consumption data is provided on the basis of purchase orders from purchase invoices (no meters indicating oil consumption).

[13] The decrease in emissions from coal use is due to the decommissioning in 2021 of an outlet where a coal-fired boiler was the main source of heating.

[14] The increase in emissions from petrol fuel is related to the implementation of the ECO Policy. We are giving up compression ignition (DIESEL) cars by replacing them with hybrid (PB) cars.

[15] The decrease in emissions from diesel oil is related to the implementation of the ECO Policy. We are giving up compression ignition (DIESEL) cars by replacing them with hybrid (PB) cars.

[16] The decrease in emissions from diesel fuel used in the gensets is due to a reduction in the frequency of genset tests from every three weeks to every four weeks in order to reduce CO2 emissions.

[17] The decrease in emissions from refrigerant losses is due to a higher baseline in 2022. In 2022, there was one failure of a large air-conditioning system in the head office building in Katowice resulting in a loss of 89 kg of refrigerant, which accounted for 49% of all refrigerant losses in that year. In 2023, 91.4 kg of loss was recorded as a result of 31 failures.

[18] The decrease in emissions from electricity is the result of lower electricity consumption as a result of energy-saving solutions such as the replacement of lighting with led lighting, upgrading office space lighting by implementing follower lighting, a brightness control system for light sources, the optimisation of office space as described above and update of the values of the indicators used to calculate emissions. Electricity consumption in 2023 includes previously unaccounted for electricity consumption in the common parts of one office building in Warsaw estimated on the basis of amounts from billing invoices. The disclosure value represents 4% of the total electricity consumption of the ING Bank Śląski Group.

[19] The decrease in emissions from cooling is mainly due to an update of the values of the indicators used to calculate emissions. The energy demand required to generate cooling was 0.4% higher compared to 2022, which is mainly due to new disclosures (the cooling consumption of the common parts of one office building in Warsaw was included).

[20] The decrease in emissions from district heating is the result of lower demand for district heating as a result of the optimisation of office space described above, the modernisation of ventilation units and the installation of heat recovery systems in one of the head office buildings in Katowice, a decrease by 0.6 degrees in the average annual air temperature in Poland compared to 2022, decreases in the emission factors for individual provinces used for the calculation.

Optional information

Source	2019			2022 after adjustment			2023			Change in 2023 vs.:	
	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	2019	2022
Category 1: Paper	184.55	5.17	189.72	78.78	2.30	81.08	45.36	1.31	46.68	-75%	-42%[21]
Category 1: Water supply	26.46	1.30	27.76	5.91	0.31	6.22	7.60	0.43	8.03	-71%	29%[22]
SUM (Category 1)	**211.01**	**6.47**	**217.48**	**84.69**	**2.60**	**87.29**	**52.96**	**1.74**	**54.70**	-75%	-37%
Category 3: WTT emissions – market-based	**5,483.08**	**133.86**	**5,616.94**	**1,671.70**	**48.73**	**1,720.43**	**1,597.36**	**49.88**	**1,647.24**	**-71%**	**-4%**
Category 3: WTT emissions – location-based				**5,590.82**	**162.97**	**5,753.79**	**5,118.97**	**159.84**	**5,278.81**	**-6%**	**-8%**
Category 5: Water treatment	54.47	2.67	57.14	10.78	0.56	11.35	8.66	0.49	9.15	-84%	-19%[22]
Category 5: Municipal waste	71.03	3.49	74.52	57.19	2.99	60.17	54.98	3.11	58.09	-22%	-3%
Category 5: Recycled waste	10.88	0.00	10.88	0.26	0.00	0.26	0.14	0.01	0.15	-99%	-42%[23]
SUM (Category 5)	**136.38**	**6.16**	**142.54**	**68.47**	**3.31**	**71.78**	**63.78**	**3.61**	**67.38**	-53%	-6%
Category 6: Rail journeys	183.01	13.51	196.52	58.66	5.50	64.16	101.70	8.19	109.88	-44%	71%[24]
Category 6: Air travels	193.58	6.51	200.10	50.05	2.15	52.20	92.16	0.74	92.90	-54%	78%[24]
Category 6: Coach travel	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	-100%	-
Category 6: Taxi trips	7.30	0.00	7.30	12.06	1.89	13.94	12.35	1.26	13.61	86%	-2%[24]
Category 6: Travels in private cars	148.82	0.00	148.82	39.85	0.00	39.85	40.66	0.00	40.66	-73%	2%[24]
SUM (Category 6)	**532.71**	**20.05**	**552.77**	**160.62**	**9.53**	**170.16**	**246.87**	**10.19**	**257.06**	**-53%**	**51%**
SUM Scope 3 – market-based	**6,363.18**	**166.55**	**6,529.73**	**1,985.48**	**64.17**	**2,049.65**	**1,960.97**	**65.41**	**2,026.38**	**-69%**	**-1%**
SUM Scope 3 – location-based				**5,910.72**	**172.30**	**6,083.02**	**5,482.57**	**175.38**	**5,657.95**	**-13%**	**-7%**
SUM Scopes 1-3 – market-based	**17,429.54**	**855.17**	**18,284.70**	**10,274.86**	**580.60**	**10,855.46**	**9,688.02**	**564.78**	**10,252.80**	**-44%**	**-6%**
SUM Scopes 1-3 – location-based	**38,553.20**	**1,370.87**	**39,924.08**	**30,401.52**	**1,161.00**	**31,562.52**	**27,767.74**	**1,129.33**	**28,897.07**	**-28%**	**-8%**

[21] [21] The decrease in emissions from paper is the result of lower demand for paper and is due to an increase in the share of recycled paper use from 1% in 2022 to 95% in 2023 of total consumption.

[22] The increase in emissions due to water supply and treatment was mainly due to: failures causing water to leak into the sewerage system (4% of total consumption), development of green areas, upgrades of installations resulting in higher water consumption, new disclosures at one location in Warsaw (5% of total consumption) and an increase in the value of the emission factor (for water supply). The main reasons for the reduction of emissions are due to the optimisation of office space and the decrease in the emission factor (for water treatment).

23 The decrease in emissions from disposed waste is due to the transfer of some of the waste for re-use. An emission factor of 0 was assumed for such waste. Details of the calculation are described in the section above.

24 The increase in emissions from business travel is due to more kilometres travelled by rail, air, taxi and private cars. This is a result of the return to travelling after pandemic-related restrictions.

Table 2. Fuel consumption by organisational breakdown [kWh].

Source	2019			2022 after adjustment			2023			Change 2023 vs.	
	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	2019	2022
Natural gas	3,203,190	78,202	3,281,392	2,585,018	75,353	2,660,371	2,374,645	74,150	2,448,796	-25%	-8%
Fuel oil	248,829	6,075	254,904	162,207	4,728	166,935	195,196	6,095	201,292	-21%	21%
Coal	10,138	248	10,386	0	0	0	0	0	0	-100%	-100%
Petrol fuel	6,299,177	702,269	7,001,446	9,102,176	1,279,575	10,381,752	10,853,651	1,367,523	12,221,174	75%	18%
Diesel – car fleet	6,709,996	1,214,297	7,924,293	956,574	105,908	1,062,482	105,597	5,578	111,175	-99%	-90%
Diesel – power generators	172,767	4,218	176,984	204,843	5,971	210,814	144,360	4,508	148,868	-16%	-29%
SUM Scope 1	**16,644,098**	**2,005,308**	**18,649,406**	**13,010,818**	**1,471,536**	**14,482,354**	**13,673,450**	**1,457,854**	**15,131,304**	**11%**	**4%**
Electricity – location-based	32,131,934	784,459	32,916,393	24,372,359	710,452	25,082,811	22,492,789	702,358	23,195,147	-30%	-8%
Cooling	1,194,210	29,155	1,223,365	1,096,200	31,954	1,128,154	1,098,816	34,312	1,133,127	-7%	0%
District heating	14,249,808	347,890	14,597,698	12,207,428	355,845	12,563,273	11,076,515	345,874	11,422,389	-22%	-9%
SUM Scope 2 – location-based	**47,575,951**	**1,161,505**	**48,737,456**	**37,675,987**	**1,098,251**	**38,774,238**	**34,668,120**	**1,082,543**	**35,750,663**	**-27%**	**-8%**
SUM Scopes 1-2 – location-based	**64,220,049**	**3,166,813**	**67,386,862**	**50,686,805**	**2,569,787**	**53,256,592**	**48,341,569**	**2,540,398**	**50,881,967**	**-18%**	**-4%**

Table 3. Greenhouse gas emissions – percentage of actual and estimated data [%]

Source	2019		2022 after adjustment		2023	
	Actual data	Estimates	Actual data	Estimates	Actual data	Estimates
Natural gas	35%	65%	61%	39%	36%	64%
Fuel oil	90%	10%	91%	9%	92%	8%
Coal	0%	100%	-	-	-	-
Petrol fuel	100%	0%	100%	0%	100%	0%
Diesel – car fleet	100%	0%	100%	0%	100%	0%
Diesel – power generators	0%	100%	0%	100%	0%	100%
Refrigerants	100%	0%	100%	0%	100%	0%
SUM Scope 1	**92%**	**8%**	**93%**	**7%**	**91%**	**9%**
Electricity – market based	99%	1%	-	-	-	-
Electricity – location-based	99%	1%	98%	2%	83%	17%
Cooling – market-based	100%	0%	85%	15%	76%	24%
Cooling – location based			90%	10%	72%	28%
District heating	69%	31%	77%	23%	59%	41%
SUM Scope 2 – market-based	**76%**	**24%**	**79%**	**21%**	**62%**	**38%**
SUM Scope 2 – location-based	**94%**	**6%**	**93%**	**7%**	**78%**	**22%**
Paper	100%	0%	100%	0%	100%	0%
WTT – transmission losses – market-based	96%	4%	91%	9%	82%	18%
WTT – transmission losses – location-based			96%	4%	83%	17%
Water supply	70%	30%	71%	29%	61%	39%
Water treatment	70%	30%	71%	29%	61%	39%
Municipal waste	0%	100%	29%	71%	29%	71%
Recycled waste	100%	0%	100%	0%	100%	0%
Rail journeys	100%	0%	100%	0%	100%	0%
Air travels	100%	0%	100%	0%	100%	0%
Coach travel	100%	0%	-	-	-	-
Taxi trips	100%	0%	100%	0%	100%	0%
Travels in private cars	100%	0%	100%	0%	100%	0%
SUM Scope 3 – location-based	**95%**	**5%**	**95%**	**5%**	**83%**	**17%**
SUM Scope 3 – market-based			**90%**	**10%**	**83%**	**17%**
SUM Scopes 1-3 – market-based	**87%**	**13%**	**86%**	**14%**	**77%**	**23%**
SUM Scopes 1-3 – location-based	**94%**	**6%**	**94%**	**6%**	**81%**	**19%**

Table 4. Fuel consumption emissions – percentage of actual and estimated data [%]

Source	2019		2022 after adjustment		2023	
	Actual data	Estimates	Actual data	Estimates	Actual data	Estimates
Natural gas	35%	65%	61%	39%	36%	64%
Fuel oil	90%	10%	91%	9%	92%	8%
Coal	0%	100%	-	-	-	-
Petrol fuel	100%	0%	100%	0%	100%	0%
Diesel – car fleet	100%	0%	100%	0%	100%	0%
Diesel – power generators	0%	100%	0%	100%	0%	100%
Electricity – location-based	99%	1%	98%	2%	83%	17%
Cooling	100%	0%	85%	15%	72%	28%
District heating	70%	30%	78%	22%	59%	41%

Table 5. Data sources for the indicators used in the calculation of greenhouse gases CO_2e, CO_2, CH_4,N_20, HFCs

Area	Source
Natural gas	https://www.epa.gov/system/files/documents/2023-03/ghg_emission_factors_hub.pdf https://www.kobize.pl/uploads/materialy/materialy_do_pobrania/monitorowanie_raportowanie_weryfikacja_emisji_w_eu_ets/WO_i_WE_do_monitorowania-ETS-2023.pdf https://krajowabaza.kobize.pl/docs/Wska%C5%BAniki_ma%C5%82e_%C5%BAr%C3%B3dla_spalania_paliw_2022_i_2023-SZABLON.pdf
Fuel oil	
Coal	
Petrol fuel	
Diesel – car fleet	
Diesel – power generators	
Refrigerants	https://www.theclimateregistry.org/wp-content/uploads/2019/02/Draft-PC-Appendix_A_Global-Warming-Potentials.pdf
Electricity	https://www.kobize.pl/pl/file/wskazniki-emisyjnosci/id/198/wskazniki-emisyjnosci-dla-energii-elektrycznej-za-rok-2022-opublikowane-w-grudniu-2023-r https://pge-obrot.pl/o-spolce/struktura-paliw
Cooling	
District heating	https://www.ure.gov.pl/pl/cieplo/energetyka-cieplna-w-l/11407,2022.html
Paper	https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023#conversion-factors-user-survey
WTT – transmission losses	
Water supply	
Water treatment	
Municipal waste	
Recycled waste	
Rail journeys	https://www.epa.gov/system/files/documents/2023-03/ghg_emission_factors_hub.pdf
Air travels	
Coach travel	
Taxi trips	
Travels in private cars	