Inventory of greenhouse gas emissions

ING Bank Śląski S.A. Group
2022

INFORMATION REQUIRED

Have any establishments, operations and/or sources been excluded from the list? If so, they should be indicated.
No
Reporting period to which the list relates
From 01.01.2022 until 31.12.2022

ORGANISATIONAL BOUNDARIES

What method of consolidation has been chosen.		
Share in capital ☐	Financial control ☐	Operational control √

OPERATIONAL LIMITS

Are Scope 3 emissions included in the list?
yes √ no ☐
If yes, what types of activities are included in Scope 3?
For Scope 3 greenhouse gas emissions were analysed in the following categories: • 1 (Purchased Goods and Services): water consumption, paper use • 3 (Fuel and Energy-Related Activities Not Included in Scope 1 or Scope 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): water treatment and waste generated • 6 (Business travel): business travel by company employees (rail, air, taxi, coach and private cars for business purposes

INFORMATION ON EMISSIONS

The table below refers to emissions independent of any GHG transactions i.e. sale, purchase, transfer or deposit 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	3,810.81	3,477.53	0.13	0.03	0.18	0.00	0.00
Scope 2[2]	4,923.01	4,923.01	0.00	0.00	0.00	0.00	0.00
Scope 2[3]	21,420.95	21,420.95	0.00	0.00	0.00	0.00	0.00
Scope 3	6,014.23	167.89	0.01	0.01	0.00	0.00	0.00
SUM (1-3)[2]	**14,748.05**	**8,568.43**	**0.14**	**0.03**	**0.18**	**0.00**	**0.00**
SUM (1-3)[3]	**31,245.99**	**25,066.36**	**0.14**	**0.03**	**0.18**	**0.00**	**0.00**

Direct CO_2 emissions from biogenic combustion (tCO_2)
0 t CO_2

BASE YEAR

Year chosen as the base year
2019
Explanation of the company's policy for recalculating base year emissions

[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 CO2 equivalent without breaking down the individual greenhouse gases

[2] Calculated according to market-based methodology

[3] Calculated according to location-based methodology Data prior to recalculation was not reported

INFORMATION REQUIRED

N/A

Context of any significant changes in emission that trigger recalculation of base year emissions

A recalculation of the base year and a recalculation of the 2020 and 2021 emissions was carried out. Details are included in a separate document.

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 the ING Capital Group, i.e. liquid fuels used by the car fleet (petrol, diesel), electricity, purchased cold, district heating, natural gas, heating 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 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 25 and for nitrous oxide is 298. Emissions of carbon dioxide, methane and nitrous oxide have been converted into carbon dioxide equivalent emissions according to the formula:

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

where:
W_{eCO_2} – carbon dioxide equivalent emission factor,
W_{CO_2} – carbon dioxide emission factor,

[4] https://www.epa.gov/system/files/documents/2022-04/ghg_emission_factors_hub.pdf

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, 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 in principle in 37 locations on the basis of billing invoices (for 34, gas boilers were the heating source and for 3, room gas cookers). However, for 32 of those locations, information on the volume of consumption in the last months of 2022 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 32 locations, was 224,325 kWh, which represents 19.78% 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 area (137 kWh/m2 where the heating source is a gas boiler and 140 kWh/m2 where the heating source is a room gas cooker). Using the calculated ratios, consumption was estimated for locations for which no actual data was available (39), by multiplying the respective ratios by the area and period of use and dividing by 12. Carbon dioxide equivalent emissions were calculated as the product of consumption and emission factors.

2. **Heating oil:**

   Heating 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 59.09 kWh/m2. This indicator was used to estimate heating oil consumption in the remaining 2 facilities where the heating source is an oil boiler. Carbon dioxide equivalent emissions were calculated as the product of consumption and emission factors.

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 statement of the vehicles used in the ING Group as the product of the quantity

[5] https://www.imgw.pl/; *Characteristics of selected climate elements in Poland.* At the date of the calculation, data for December 2022 was not available – the data published for December 2021 was used

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. For the three generators, only the operating time was known in 2022, without the amount of energy generated. In this case, the amount of energy produced was calculated using the average power load of the gensets for which the energy produced was known, the operating time of the gensets and power output of the gensets.. 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 genset was obtained by multiplying this value by the percentage of the genset load and the operating time. 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 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 invoices or energy meters.
   Electricity consumption was known for 270 locations. There were 28 locations that lacked information on the volume of consumption in December. This was estimated using the arithmetic average of the 2022 readings for each location. The total consumption for the estimated periods was 127,230 kWh, representing 0.5% of total consumption.
   In facilities for which the consumption was not known, the electricity consumption rate per area was used to calculate the energy consumption, which was multiplied by the area of the branch. In order to determine the average electricity consumption rate per 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 an electric hot water preparation system and a similar type of lighting.
   Electricity consumption was not known for small areas occupied in shopping centres with small sales points. The energy 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 ING was determined on the basis of the technical specifics 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 indicators were used to calculate the emissions:

1. For 90.7% of the energy provided by one supplier, the indicator 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

2. Purchased cold:

The consumption of purchased cold for air conditioning was known for the facilities occupied by the company on the basis of billing invoices. The cold used was entirely generated from electricity. One location lacked information on consumption in Q4, one in November and December, and the others lacked information on consumption in December. To fill in the missing periods, actual data from invoices from the period corresponding to the missing period in 2021 was used. The missing data represents 17% of total electricity consumption for cold generation. 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.

3. District heating:

District heating consumption known at 35 locations based on billing invoices and meter readings. There were 29 locations that lacked information on the volume of consumption in the last months of 2022. A regression function was used to estimate the data in the missing periods (the methodology for its use is described in the section on natural gas). The value of the estimated consumption for the missing periods in those locations, was 484,677 kWh, which represents 5.36% 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 of 88.65 kWh/m2 and for other buildings of 106.26 kWh/m2. These indicators were used to estimate the consumption of district heating in the remaining facilities (132), where the heating source is a thermal centre and where the consumption was not known. For the spaces occupied by small sales points , 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 stall 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 use of paper have been calculated on the basis of the submitted statement on the volume of paper ordered as a product of weight and emission factor.

1.2. Water consumption:

Water consumption was known from billing invoices for 155 locations. For some locations, information on consumption by month was missing. The missing consumption was estimated using the product of the number of employees and the water consumption coefficient (the coefficient value was calculated by dividing the average water consumption for the available months by the number of employees at the location). 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 locations for which actual data was not available (238) as the product of the indicator, the number of people employed at the location and the number of months of operation. 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:

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

and

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

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

$\mathrm{UK}\frac{WTT}{Direct}$ – 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 carbon dioxide equivalent emissions from transmission losses for electricity and purchased cold as the product of the energy consumption value and the ratio. Carbon dioxide equivalent emissions from transmission losses for natural gas, heating oil, petrol fuel, diesel fuel used for car fleet and generators and district heat were calculated as the product of consumption and the emission factor (for district heating emissions related to the production of fuels used for heat generation and related to heat transmission losses were included).

3. **Category 5 (Waste generated):**

3.1. Water treatment:

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

3.2. Municipal waste:

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

The actual waste data is read from declarations submitted to the Municipalities and billing invoices from the waste collection companies. The data was known for 90 locations. The total weight of waste generated 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 for 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.

3.3. Recycled waste:

Carbon dioxide equivalent emissions from waste transferred for disposal 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.

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

Carbon dioxide equivalent emissions from business travel by company employees (rail, air, taxi and private cars for business purposes) were calculated on the basis of the statements provided as the product of the distance travelled and emission factors.

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 total area (for natural gas, heating oil, diesel to power generators, electricity, purchased cooling, district heating, transmission losses – WTT) or total FTEs (for water, municipal 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	Share in the capital of the legal entity (%)	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 Lease (Polska) Sp. z o.o.	100%	Yes	Yes
ING Bank Hipoteczny S.A.	100%	Yes	Yes
Nowe Usługi S.A.	100%	Yes	Yes
ING Commercial Finance Polska S.A.	100%	Yes	Yes
SAIO S.A.	100%	Yes	Yes
Solver Sp. z o.o. in liquidation	100%	Yes	Yes
ING Usługi dla Biznesu 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 (in t Co2e)			
Scope 1: Direct emissions from owned/controlled operations	2021	2022	Change [%]
a. Direct emissions from stationary combustion	564.22	548.49	-2.79%
b. Direct emissions from mobile combustion	2,516.13	2,883.38	14.60%
c. Direct emissions from process sources	66.24	56.42	-14.82%
d. Direct emissions from fugitive sources	76.03	322.52	324.20%
e. Direct emissions from agricultural sources	0.00	0.00	-
TOTAL	**3,222.62**	**3,810.81**	**18.25%**
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)	595.18	0.00	-100.00%
b. Indirect emissions from purchased/acquired electricity (calculated using a location -based approach)	16,925.97	16,497.93	-2.53%
c. Indirect emissions from purchased/acquired process steam	0.00	0.00	0.00%
d. Indirect emissions from purchased/acquired thermal energy	5,201.74	4,347.92	-16.41%
e. Indirect emissions from purchased/acquired cold	432.17	575.09	33.07%
SUM (market-based)	**6,229.09**	**4,923.01**	**-20.97%**
SUM (location-based)	**22,559.88**	**21,420.94**	**-5.05%**

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 (in $MgCO_2e$)

Optional information

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 from greenhouse gases not included in the Kyoto Protocol (e.g., CFCs, Nox,) – after recalculation

Pollution	2019	2020	2021	2022
Total dust	9.09	7.96	7.45	6.22
PM10 dust	8.94	7.82	7.30	6.22
PM2.5 dust	8.68	7.57	7.05	6.22
Carbon monoxide (CO)	413.93	394.85	361.71	342.23
Nitrogen oxides (NOx/NO_2)	673.74	628.54	567.02	547.30
Sulphur oxides (SOx/SO_2)	94.96	52.48	56.53	52.09
Benzo(a)pyrene	0.00	0.00	0.00	0.00
Non-methane volatile organic compounds (NMVOC)	1.87	1.68	2.01	2.47
Ammonia (NH_3)	0.37	0.32	0.38	0.47
Lead (Pb)	0.00	0.00	0.00	0.00

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).

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. A detailed description of the methodology for estimating the factor value is described in the section "Methodologies used to calculate or measure emissions other than those under the GHG Protocol".

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

The table below provides information on greenhouse gas emissions between the base year and the years 2020-2022 [tCO2e]):

	2019	2020	2021	2022
Scope I	5,218.52	3,427.41	3,222.62	3,810.81
Scope II – market-based	6,536.46	5,692.60	6,229.09	4,923.01
Scope II – location-based	28,175.83	23,570.85	22,559.88	21,420.95
Scope III	6,529.73	4,806.63	6,389.43	6,014.23
SUM Scopes I-III – market-based	**18,284.70**	**13,926.64**	**15,841.14**	**14,748.05**
SUM Scopes I-III – location-based	**39,924.08**	**31,804.89**	**32,171.93**	**31,245.99**

Optional information

Summary of emission reduction strategies or programmes
In 2022, the ING Group had a contract with an electricity supplier under which it receives a Guaranteed Sale Certificate for Energy Produced from Renewable Sources (CGSEiW) every month, which certifies that the electricity purchased was produced in a renewable energy facility. The certificates issued have a PTCA Green Energy Sales Guarantee. As of the date of this report, certificates have been issued by the supplier for the period January-November 2022, covering 91.9% of the energy delivered by the supplier. Due to contractual provisions, it was assumed that the missing certificates for December 2022 would cover the remaining volume of energy delivered by the supplier. According to an accepted estimate, the certificates cover 90.1% of the energy used. Guarantees of origin were purchased for the 9.3% of electricity used that was not covered with the CGSEiW product. As part of the guarantee, a certificate was obtained certifying that the electricity introduced into the distribution network or transmission network was generated in a renewable energy source facility. The remaining volume of electricity used (0.6%) was generated from photovoltaic panels installed on selected buildings owned by the ING Group.

SUPPLEMENTARY 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[7]: • 87.30% – in the case of an energy-based calculation of the assurance rate. The indicator is at the "good" level. • 77.11% – in the case of an emission-based calculation of the assurance rate (market-based method). The indicator is at the "fair" level. • 90.96% – in the case of an emission-based calculation of the assurance rate (location-based method). The indicator is at the "good" 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.

[7] Calculated in accordance with the GHG Protocol guidance on uncertainty assessment in GHG inventories and calculating statistical parameter uncertainty

Optional information

Addendum to greenhouse gas emissions report of the ING Bank Śląski S.A. Group For 2022

List of tables

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

Source	2019			2021			2022			Change 2022 vs	
	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	2019	2021[8]
Natural gas	580.53	14.17	594.70	513.77	14.31	528.08	490.49	14.30	504.79	-15%	-4%
Heating oil	65.14	1.59	66.73	31.89	0.89	32.78	42.46	1.24	43.70	-35%	33%[9]
Coal	3.39	0.08	3.47	3.27	0.09	3.36	0.00	0.00	0.00	-100%	-100%[10]
Petrol fuel	1,576.97	175.81	1,752.78	1,814.93	284.32	2,099.25	2,278.69	320.34	2,599.03	48%	24%[11]
Diesel – car fleet	1,795.77	324.98	2,120.75	371.78	45.11	416.88	256.00	28.34	284.35	-87%	-32%[12]
Diesel – power generators	46.24	1.13	47.37	64.44	1.79	66.24	54.82	1.60	56.42	19%	-15%[13]
Refrigerants	617.63	15.08	632.71	73.97	2.06	76.03	313.39	9.14	322.52	-49%	324%[14]
SUM Scope I	**4,685.68**	**532.84**	**5,218.52**	**2,874.05**	**348.57**	**3,222.62**	3,435.86	374.95	**3,810.81**	**-27%**	**18%**
Electricity – market based	656.14	16.02	672.16	579.05	16.13	595.18	0.00	0.00	0.00	-100%	-100%
Electricity – location based	21,779.81	531.73	22,311.53	16,467.35	458.62	16,925.97	16,030.64	467.29	16,497.93	-26%	-3%[15]
Cold	809.56	19.76	829.32	420.46	11.71	432.17	558.80	16.29	575.09	-31%	33%[16]
District heating	4,914.98	119.99	5,034.98	5,119.03	82.71	5,201.74	4,224.77	123.15	4,347.92	-14%	-16%[17]
SUM Scope II – market-based	**6,380.68**	**155.78**	**6,536.46**	**6,118.54**	**110.54**	**6,229.09**	4,783.57	139.44	**4,923.01**	**-25%**	**-21%**
SUM Scope II – location-based	**27,504.35**	**671.48**	**28,175.83**	**22,006.85**	**553.03**	**22,559.88**	20,814.21	606.73	**21,420.95**	**-24%**	**-5%**

[8] A significant contributor to the decrease in carbon emissions is the optimisation of occupied space related to operations, with the decommissioning and relocation of branches in 2021 and 2022, which has contributed to reductions in utility consumption including electricity, district heating and water, and waste generation.

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

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

[11] 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.

[12] 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.

[13] The decrease in emissions from diesel oil used in the generators is due to the lower (by 38 mh) number of hours worked by the generators in the head office buildings. The number of operating hours of the gensets is dependent on scheduled tests of the efficiency of the gensets and their operation during maintenance activities requiring the main power supply to be switched off. It varies from year to year.

[14] The increase in emissions from refrigerant losses was the result of failures of air conditioning systems and equipment. In 2022, 183.13 kg of loss was recorded as a result of 25 failures. In 2021, 44.53 kg of loss was recorded (no data is available on the number of failures resulting in losses). In addition, 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.

[15] 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 and the optimisation of office space as described above.

[16] The increase in emissions related to cold is mainly due to the inclusion in the calculations of additional 3 locations, whose consumption of electricity used to generate cold has so far been reported in electricity. In addition, the higher demand for purchased cold is due to an increase in the average annual air temperature in Poland of 0.8 degrees compared to the annual average of previous years.

[17] The decrease in district heating emissions is the result of lower district heating demand as a result of the office space optimisation as described above and an increase in the annual average air temperature in Poland of 0.8 degrees compared to the annual average of previous years.

Category 1: Paper	184.55	5.17	189.72	119.85	1.88	121.73	79.39	1.69	81.08	-57%	-33%[18]
Category 1: Water supply	26.46	1.30	27.76	8.72	0.47	9.19	5.98	0.31	6.29	-77%	-32%[19]
SUM (Category 1)	**211.01**	**6.47**	**217.48**	**128.57**	**2.35**	**130.92**	**85.37**	**2.00**	**87.37**	**-60%**	**-33%**
Category 3: WTT emissions	5,483.08	133.86	5,616.94	6,029.36	97.42	6,126.78	5, 523.77	161.02	5,684.79	1%	-7%
Category 5: Water treatment	54.47	2.67	57.14	15.92	0.85	16.77	10.92	0.57	11.49	-80%	-31%[20]
Category 5: Municipal waste	71.03	3.49	74.52	69.78	3.73	73.51	57.19	2.99	60.17	-19%	-18%[21]
Category 5: Recycled waste	10.88	0.00	10.88	0.39	0.00	0.39	0.26	0.00	0.26	-98%	-33%[22]
SUM (Category 5)	**136.38**	**6.16**	**142.54**	**86.09**	**4.58**	**90.67**	**68.36**	**3.56**	**71.92**	**-50%**	**-21%**
Category 6: Rail travels	183.01	13.51	196.52	10.70	1.82	12.52	58.66	5.50	64.16	-67%	412%
Category 6: Air travel	193.58	6.51	200.10	2.55	0.04	2.60	50.05	2.15	52.20	-74%	1908%
Category 6: Coach travels	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	-100%	-100%
Category 6: Taxi trips	7.30	0.00	7.30	5.78	1.35	7.13	12.06	1.89	13.94	91%	96%
Category 6: Private cars travels	148.82	0.00	148.82	18.38	0.45	18.82	39.85	0.00	39.85	-73%	112%
SUM (Category 6)	**532.71**	**20.05**	**552.77**	**37.41**	**3.66**	**41.07**	**160.62**	**9.53**	**170.16**	**-69%**	**314%[23]**
SUM Scope III	**6,363.18**	**166.55**	**6,529.73**	**6,281.44**	**107.99**	**6,389.43**	5,838.12	176.11	**6,014.23**	**-8%**	**-6%**
SUM Scopes I-III – market-based	**17,429.54**	**855.17**	**18,284.70**	**15,274.04**	**567.10**	**15,841.14**	14,057.56	690.50	**14,748.05**	**-19%**	**-7%**
SUM Scopes I-III – location-based	**38,553.20**	**1,370.87**	**39,924.08**	**31,162.34**	**1,009.59**	**32,171.93**	30,088.20	1,157.79	**31,245.99**	**-22%**	**-3%**

[18] The decrease in emissions resulting from paper is due to lower paper consumption as a result of: the digitalisation of the bank's processes including customer service, customer assistance – encouraging customers to bank electronically without printing paper documents.
[19] The decrease in emissions from water supply and treatment is the result of lower water consumption resulting mainly from the optimisation of office space as described above and lower water consumption in the Head Office buildings (in 2021 data for the Head Office buildings was estimated, in 2022 real data was obtained for the period 01-09.2022 – on the basis of this the data for the period 10-12.2022 was estimated)
[20] as above
[21] The decrease in emissions relating to municipal waste is due to the implementation of an optimisation involving a reduction in the number and size of containers, which translates into data that is used to estimate with a methodology that takes into account the capacity and frequency of container collections.
[22] The decrease in emissions from disposed waste is due to the end of the landline phone disposal campaign, which was organised in 2021.
[23] The increase in emissions from business travel is due to more kilometres travelled by rail, air, taxi and private cars. This follows the lifting of the ban on domestic business travel in 2022. From April 2022, the possibility of international business travel has also been unblocked.

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

Source	2019			2021			2022			Change 2022 vs	
	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	ING BSK	Subsidiaries	TOTAL	2019	2021
Natural gas	3,203,190	78,202	3,281,392	2,834,848	78,951	2,913,799	2,706,358	78,890	2,785,248	-15%	-4%
Heating oil	248,829	6,075	254,904	121,814	3,393	125,206	162,207	4,728	166,935	-35%	33%
Coal	10,138	248	10,386	9,773	272	10,045	0	0	0	-100%	-100%
Petrol fuel	6,299,177	702,269	7,001,446	7,249,665	1,135,709	8,385,374	9,102,176	1,279,575	10,381,752	48%	24%
Diesel – car fleet	6,709,996	1,214,297	7,924,293	1,389,164	168,538	1,557,702	956,574	105,908	1,062,482	-87%	-32%
Diesel – power generators	172,767	4,218	176,984	240,800	6,706	247,507	204,843	5,971	210,814	19%	-15%
SUM Scope I	**16,644,098**	**2,005,308**	**18,649,406**	**11,846,064**	**1,393,568**	**13,239,632**	**13,132,158**	**1,475,073**	**14,607,231**	**-22%**	**10%**
Electricity – location based	32,131,934	784,459	32,916,393	25,331,448	705,483	26,036,931	24,210,425	705,731	24,916,157	-24%	-4%
Cold	1,194,210	29,155	1,223,365	644,853	17,959	662,812	839,033	24,458	863,491	-29%	30%
District heating	14,249,808	347,890	14,597,698	15,051,206	419,178	15,470,384	12,266,767	357,575	12,624,342	-14%	-18%
SUM Scope II – location-based	**47,575,951**	**1,161,505**	**48,737,456**	**41,027,507**	**1,142,620**	**42,170,127**	**37,316,225**	**1,087,764**	**38,403,990**	**-21%**	**-9%**
SUM Scopes I-II – location-based	**64,220,049**	**3,166,813**	**67,386,862**	**52,873,571**	**2,536,188**	**55,409,759**	**50,448,383**	**2,562,837**	**53,011,221**	**-21%**	**-4%**

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

Source	2019		2021		2022	
	Actual data	Estimates	Actual data	Estimates	Actual data	Estimates
Natural gas	35%	65%	36%	64%	33%	67%
Heating oil	90%	10%	82%	18%	91%	9%
Coal	0%	100%	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 I	**92%**	**8%**	**87%**	**13%**	**89%**	**11%**
Electricity – market based	99%	1%	99%	1%	-	-
Electricity – location based	99%	1%	99%	1%	98%	2%
Cold	100%	0%	100%	0%	83%	17%
District heating	69%	31%	67%	33%	65%	35%
SUM Scope II – market-based	**76%**	**24%**	**72%**	**28%**	**68%**	**32%**
SUM Scope II – location-based	**94%**	**6%**	**91%**	**9%**	**91%**	**9%**
Paper	100%	0%	100%	0%	100%	0%
WTT – transmission losses	96%	4%	95%	5%	95%	5%
Water supply	70%	30%	2%	98%	51%	49%
Water treatment	70%	30%	2%	98%	51%	49%
Municipal waste	0%	100%	4%	96%	29%	71%
Recycled waste	100%	0%	100%	0%	100%	0%
Rail travels	100%	0%	100%	0%	100%	0%
Air travels	100%	0%	100%	0%	100%	0%
Coach travels	100%	0%	-	-	-	-
Taxi trips	100%	0%	81%	19%	100%	0%
Private cars travels	100%	0%	100%	0%	100%	0%
SUM Scope III	**95%**	**5%**	**94%**	**6%**	**94%**	**6%**
SUM Scopes I-III – market-based	**87%**	**13%**	**84%**	**16%**	**84%**	**16%**
SUM Scopes I-III – location-based	**94%**	**6%**	**91%**	**9%**	**92%**	**8%**

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

Source	2019		2021		2022	
	Actual data	Estimates	Actual data	Estimates	Actual data	Estimates
Natural gas	35%	65%	36%	64%	33%	67%
Heating oil	90%	10%	82%	18%	91%	9%
Coal	0%	100%	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%	99%	1%	98%	2%
Cold	100%	0%	100%	0%	83%	17%
District heating	70%	30%	68%	32%	68%	32%

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://krajowabaza.kobize.pl/docs/Wska%C5%BAniki_ma%C5%82e_%C5%BAr%C3%B3dla_spalania_paliw_2022.pdf https://www.epa.gov/system/files/documents/2022-04/ghg_emission_factors_hub.pdf
Heating 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/uploads/materialy/materialy_do_pobrania/wskazniki_emisyjnosci/Wska%C5%BAniki_emisyjno%C5%9Bci_dla_energii_elektrycznej_grudzie%C5%84_2022.pdf https://www.tauron.pl/tauron/o-tauronie/spolki-grupy/tauron-sprzedaz/struktura-paliw
Cold	
District heating	https://www.ure.gov.pl/pl/cieplo/energetyka-cieplna-w-l/10763,2021.html
Paper	https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022
WTT – transmission losses	
Water supply	
Water treatment	
Municipal waste	
Recycled waste	
Rail travels	https://www.epa.gov/system/files/documents/2022-04/ghg_emission_factors_hub.pdf
Air travels	
Coach travels	
Taxi trips	
Private cars travels	