


Annex No. 1
to the absentee resolution of the
Management Board of Otbasys Bank JSC
(Minutes No. 139) dated 23.08.2023

	Superior internal document	Sustainable Development Policy of Otbasys Bank JSC
	Owner of internal document	Human Resources and Organizational Management Department of Otbasys Bank JSC
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Methodology for Greenhouse Gas Emissions Calculation in Otbasys Bank JSC

Almaty, 2023

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Chapter 1. General provisions

1. This Methodology for Greenhouse Gas Emissions Calculation in Otbasý Bank JSC (hereinafter referred to as the Bank/Methodology) regulates the calculation of greenhouse gas emissions generated by the Bank.

2. The purpose of the Methodology is to define the method and procedure for calculating greenhouse gas emissions (Scope 1,2) arising from the Bank's operations, describe the method for quantifying the Bank's greenhouse gas emissions, calculation limits, assumptions and key references used in calculating the Bank's greenhouse gas emissions.

3. This Methodology complies with the Corporate Accounting and Reporting Standard of the Greenhouse Gas Protocol and the Global Reporting Initiative GRI 305 disclosure requirements.

4. This Methodology has been developed in accordance with:

- 1) the laws of the Republic of Kazakhstan;
- 2) Strategy for Achieving Carbon Neutrality of the Republic of Kazakhstan until 2060
- 3) List of benchmarks for regulated sectors of the economy of the Republic of Kazakhstan;
- 4) Methodologies for calculating greenhouse gas emissions and carbon sink;
- 5) IPCC Guidelines for National Greenhouse Gas Inventories (2006);
- 6) International Standard ISO 14064 -1;
- 7) International Standard for Accounting of Greenhouse Gas Emissions (Greenhouse Gas Protocol);
- 8) International Guidelines for Quantification of Greenhouse Gas Emissions (GHG Protocol Scope 2 Guidance);
- 9) United Nations Framework Convention on Climate Change, 1992;
- 10) Kyoto Protocol, 1997;
- 11) IPCC Fourth, Fifth, Sixth Assessment Reports, 2007, 2014, 2022.

5. The following key terms, definitions and abbreviations are used in this Methodology:

- 1) PSAD is the Bank's Planning and Strategic Analysis Department;
- 2) HROMD is the Bank's Human Resources and Organizational Management Department;
- 3) GHG emission factor is a calculated value characterizing the amount of greenhouse gas emitted in relation to the burned fuel. This coefficient relates the Bank's activity data (mass of fuel used) to greenhouse gas emissions;
- 4) IPCC is the Intergovernmental Panel on Climate Change - the organization established to assess the risks of climate change;
- 5) Lower calorific value characterizes the amount of heat released by the complete combustion of a fuel with a mass of 1 kg or volume of 1 m³ (1 L) without condensation of water vapor;
- 6) Scope 1- a) direct emissions from stationary combustion plants that result from the combustion of any type of fuel (fossil or biomass) in stationary (fixed) equipment, e.g. diesel generators, gas boilers. b) direct emissions from mobile combustion plants that result from the combustion of fuel in vehicles, e.g. car engines, trucks;
- 7) Scope 2- a) Indirect emissions from imported electricity, including GHG emissions associated with the production and consumption of electricity imported by the Bank; b) Indirect emissions from imported thermal energy, including GHG emissions, including GHG emissions associated with the production and consumption of thermal energy (steam, heat, cooling and compressed air), excluding electricity;

8) Greenhouse gases (GHGs) are gases with high absorption in the mid- and far-infrared ranges leading to the greenhouse effect, namely carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), organohalogen compounds, chlorofluorocarbons;

9) GWP is Global Warming Potential, a coefficient that determines the extent to which greenhouse gases contribute to global warming;

10) RBs are regional branches of the Bank;

11) EDMS is electronic document management system of the Bank;

12) Territorial method is a method of calculation of indirect greenhouse gas emissions from generation of purchased electricity and heat, where territorial emission factors for energy production for the Republic of Kazakhstan are used, data on which are contained in the List of benchmarks in regulated sectors of the economy of the Republic of Kazakhstan.

Chapter 2. Objectives of the Methodology

6. The Bank is committed to the national goal of the Republic of Kazakhstan to become carbon neutral by 2060 and contributes to global efforts to mitigate and adapt to global climate change.

7. In its operational activities, the Bank seeks to reduce its carbon footprint and quantifies GHG emissions from its own operations based on the guidelines for national greenhouse gas inventories (IPCC, 2006), GHG Protocol Scope 2 Guidance. The Bank is committed to annual monitoring of fuel and energy consumption, data collection, and public reporting on GHG emissions estimates.

8. Information on the Bank's greenhouse gas emissions is published annually on the Bank's official website in 3 (three) languages (Kazakh, Russian, English) (Scope 1,2).

Chapter 3. Organizational boundaries of the Methodology

9. The Bank aims to reduce the impact from the generation of GHG emissions from stationary and mobile plants, as well as from purchased energy used in the Bank's operational processes, on global climate change. The first step in mitigation is to quantify the GHG emissions (Scope 1, 2) from these processes.

10. An operational control approach to estimating GHG emissions was used, whereby the Bank accounts for all GHG emissions from facilities over which the Bank has operational control. GHG emissions from facilities in which the Bank has an interest but no operational control are not accounted for. Quantification of GHG emissions is carried out for the headquarters, all the Bank's RBs.

11. The input data used are:

1) Consumption of fuel and raw materials for each business process to support the Bank's operations and separately for each division of the Bank (headquarters, RBs) based on the results of data collection;

2) Information on volumes of consumed electricity and heat purchased from external suppliers for each division of the Bank.

12. The reliability, completeness and accuracy of the input data during the calculation of GHG emissions are key factors affecting the accuracy of the final results of the calculation. The following must be taken into account to ensure that the calculation is correct:

1) data sources: the data sources used to obtain energy consumption data are analyzed;

- 2) units of measurement: common units of measurement are used in the calculation process. Mismatched units of measurement can lead to calculation errors and incorrect estimates of GHG emissions;
- 3) time frame: the data collected corresponds to the time period for which GHG emissions are calculated;
- 4) data quality: the quality of data used in the calculation of energy consumption was assessed;
- 5) consistency: a single method is used to calculate GHG emissions for the Bank's headquarters and all of the Bank's RBs. This allows comparisons to be made and ensures the accuracy of the overall result.

Chapter 4. Direct GHG emissions (Scope 1)

13. Definition and limits of calculation:

- 1) direct GHG emissions from the Bank's operations are expressed in tons of CO₂ equivalent;
- 2) the calculation includes emissions of key GHGs specified in the 1992 United Nations Framework Convention on Climate Change, the 1989 Montreal Protocol and the 1997 Kyoto Protocol, such as carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). The calculation is based on organizational boundaries;
- 3) all Bank's GHG emissions are expressed in CO₂ equivalent based on the GWP.

14. The calculation of direct GHG emissions (Scope 1) includes the following types of emission sources:

1) stationary sources:

Power plants (gas boilers, diesel generators) emitting CO₂ during combustion of hydrocarbon fuel, namely:

- a) natural gas;
- b) fuel oil;
- c) diesel fuel.

2) mobile sources:

Combustion of fuel in internal combustion engines of motor vehicles, namely gasoline.

15. The calculation of GHG emissions from stationary and mobile combustion is as follows:

$$\mathbf{GHG\ emission}_{fuel} = \mathbf{Fuel\ consumption}_{fuel} \times \mathbf{GHG\ emission\ factor}_{fuel}$$

where:

$GHG\ emissions_{fuel}$ = emissions of a given GHG by fuel type (tons of GHG)

$Fuel\ consumption_{fuel}$ = amount of fuel burned (tons)

$GHG\ emission\ factor_{fuel}$ = Lower heating value of fuel (TJ/ thousand tons of fuel) x emission factor of a given GHG by fuel type (kg GHG /TJ) x GWP by fuel type /1*10⁶. For CO₂, it includes the carbon oxidation factor assumed to be 1.

16. GHG emission factors for stationary and mobile combustion are taken by default from the IPCC Guidelines for National Greenhouse Gas Inventories, 2006.

17. Calculation of direct GHG emissions is based on the requirements and principles of the International Standard for Accounting of Greenhouse Gas Emissions (Greenhouse Gas Protocol) and is performed in accordance with the IPCC Guidelines for National Greenhouse Gas Inventories, 2006.

18. The following input data are used to calculate GHG emissions¹:

Fuel type	Lower heating value, TJ/ thousand tons (thousand m ³ for gas)	Emission factor CO ₂ , kg/TJ (million cubic meters for gas)	Emission factor CH ₄ , kg/TJ	Emission factor N ₂ O, kg/TJ
Stationary sources				
Natural gas	48.00	56 100.00	1.00	0.10
Fuel oil	40.40	77 400.00	3.00	0.60
Diesel fuel	43.00	74 100.00	3.00	0.60
Mobile sources				
Gasoline	44.30	69 300.00	3.80	5.70

19. To convert emissions of CH₄, N₂O gases to CO₂ equivalent, the emissions are multiplied by the GWP. GWP for CH₄ = 25, for N₂O = 298. These GWP factors are established by the IPCC Fourth Assessment Report, 2007.

Chapter 5. Indirect energy emissions of GHGs (Scope 2)

20. Quantification of the Bank's indirect energy emissions (Scope 2) is done using the International Methodological Guidance for Quantifying Greenhouse Gas Emissions - GHG Protocol Scope 2 Guidance and the IPCC Guidelines for National Greenhouse Gas Inventories (2006).

21. Emissions from the production of purchased and consumed electricity, steam, heat or cooling (collectively referred to as "energy") are quantified under Scope 2. Emissions from this energy production fall under Scope 2 and are considered indirect because they are a consequence of the Bank's operations but actually originate from sources not owned by the Bank (e.g., external combined heat and power plants, power plants).

22. Indirect energy GHG emissions resulting from actual consumption of purchased electricity by the Bank are expressed in tons of CO₂ equivalent.

23. GHG emissions under the Bank's Scope 2 are calculated using the area-based method. The territorial method of quantifying indirect energy emissions reflects the average GHG emission intensity of the facilities generating electricity and heat consumed by the Bank. The location-based method is based on statistical data on emissions and electricity generation averaged within certain geographical boundaries and over a certain period of time.

Regional indirect energy emission factors are applied, calculated by the Bank on the basis of statistical data on fuel consumption and on the volumes of electricity and heat supplied from all external generating facilities.

¹ The lower heating value of all fuels is adopted from the IPCC Guidelines for National Greenhouse Gas Inventories, 2006, Volume 2 Energy, Chapter 1 Introduction.

GHG emission factors are taken by default from the IPCC Guidelines for National Greenhouse Gas Inventories, 2006 (Energy Volume 2, Chapter 2 Stationary Combustion - Table 2.2-2.3, Energy Volume 2, Chapter 3 Mobile Combustion - Tables 3.2.1- 3.2.2).

24. GHG emission factors for the Republic of Kazakhstan were taken from the List of benchmarks for regulated sectors of the economy, namely:

- 1) GHG emission factor from power generation (used fuel type - coal) is 0.985 tCO₂/MWh;
- 2) GHG emission factor from power generation (other fuels) is 0.621 tCO₂/MWh;
- 3) GHG emission factor from heat generation (used fuel type - coal) is 0.484 tCO₂/Gcal;
- 4) GHG emission factor from heat generation (other fuels) is 0.310 tCO₂/Gcal.

25. The calculation of indirect GHG energy emissions (Scope 2) is made using the following formula:

Indirect energy GHG emissions (tons of CO₂) = Volume of purchased electric power consumed (kWh)
* CO₂ emission factor (tons/kWh)

Indirect energy GHG emissions (tons of CO₂) = Volume of consumed purchased heat (Gcal) * CO₂
emission factor (tons /Gcal)

Chapter 6. Interaction of the Bank's divisions when calculating GHG emissions

26. To calculate the Bank's GHG emissions, the Bank's subdivisions interact: HROMD, RBs, PSAD.

27. The responsible employee of the HROMD shall request actual data from the RBs on burnt fuel and actual consumption of purchased heat and electricity for the previous calendar year in the form of Appendix No. 1 and Appendix No. 2 to this Methodology using EDMS not later than January 31 of the year following the reporting year;

28. The responsible employee of HROMD shall, no later than February 15 of the year following the reporting year, calculate the Bank's GHG emissions (Scope 1,2), including per employee (including employees under civil law contracts who directly perform their activities in the Bank's administrative buildings);

29. Within the period not later than March 1 of the year following the reporting year, the HROMD shall submit the final data in the form of Appendix No. 3 and Appendix No. 4 to this Methodology to the PSAD using the EDMS for inclusion of this information in the Bank's Sustainability Report for the reporting year and the Bank's Annual Report for the reporting year.

Chapter 7. Final Provisions

30. Issues not regulated by this Methodology shall be resolved in accordance with the laws of the Republic of Kazakhstan and internal documents of the Bank.

31. The Methodology is subject to revision as necessary in accordance with the Bank's internal documents.

32. The responsibility for timely updates and compliance with this Methodology rests with HROMD.

33. RBs Directors shall be responsible for reliability, correctness and timely submission of actual data on burnt fuel, actual consumption of purchased heat and electricity by the RB to HROMD.

34. It is the responsibility of HROMD to ensure that the Bank's GHG emissions calculations (Scope 1,2) are correct and that the data are submitted to PSAD in a timely manner.

to the Methodology for Greenhouse Gas Emissions Calculation in Otbasy Bank JSC
approved by the Resolution of the Management Board of Otbasy Bank JSC (Minutes No. 139) dated 23.08.2023

Actual consumption of fuel and energy resources by Otbasy Bank JSC for ____

No.	RB name	Type of emission source (stationary/mobile)	Name of emission source (diesel generator/service vehicle fleet/gas boiler, etc.)	Type of raw material or fuel (diesel/gasoline/gas, etc.)	Actual fuel consumption for ____ year	Unit of measurement	Description
1							
	...						

RB Director _____ (signature)

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Actual consumption of purchased heat and electricity for ____ year

No.	RB name	Actual consumption of purchased heat and electricity for ____ year	Units of measurement (kWh, Gcal)	CO2 factor (tons of CO2/MWh / tons of CO2/Gcal)	Total, tons of CO2	Name of TPP, CHPP supplying heat and electricity (Supplier)	Type of fuel used for heat and power generation (coal/natural gas/oil associated gas/ fuel oil, etc.)
1			kWh				
			Gcal				
	...						

RB Director _____ (signature)

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Calculation of the Bank's direct GHG emissions for ____ year (Scope 1)

No.	Bank's division name	Type of emission source (stationary/mobile)	Fuel type	Quantity of fuel burned for ____ year	Lower heat value, TJ/ thousand tons (mln cu m)	CO2 emission factor, kg CO2/TJ	CO2 emitted in ____ year, tons	CH4 emission factor, kg/TJ	N2O emission factor, kg/TJ	CH4 emitted in ____ year, tons	CH4 in CO2 equivalent	N2O emitted in ____ year, tons	N2O in CO2 equivalent	Total GHG emissions in CO2 equivalent

Director of HROMD _____ (signature)

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Calculation of the Bank's indirect energy GHG emissions for _____ year (Scope 2)

No.	Bank division name	Actual consumption of purchased heat and electricity for ___ year	Units of measurement	CO2 factor (tons of CO2/MWh / tons of CO2/Gcal)	Total tCO2e

Director of HROMD _____ (signature)