

**Recommendations on  
Climate Risk Management  
for Financial Institutions**

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## Introduction

Climate change and measures taken by government authorities and regulatory bodies aimed at reducing anthropogenic influence on the climate create climate risks, which, depending on the causes of their occurrence, are divided into physical risks (arising due to long-term climate change) and transition risks (arising due to transition to a low-carbon economy).

Given the significant carbon intensity of the Russian economy and the dominance of hydrocarbons in its exports, climate transition risks are of particular importance, since in the long term the energy transition, expansion of electric transport and the introduction of carbon regulation around the world will reduce demand for fossil energy resources and carbon-intensive goods.

In addition, the presence of territories in different climatic zones, including the vast Arctic zone, which is most susceptible to climate change, increases the materiality of physical risks. The rate of increase in average annual temperature on the territory of the Russian Federation after the mid-1970s is almost three times higher than the global average, which also leads to a more significant realisation<sup>1</sup> of both chronic and acute physical risks.<sup>2</sup>

According to the Climate Doctrine of the Russian Federation,<sup>3</sup> active work is being carried out in the Russian Federation to create conditions for the transition to a low-carbon economy. As part of the long-term socio-economic development of the Russian Federation,<sup>4</sup> it is expected, taking into account national interests and development priorities, to achieve a balance between anthropogenic greenhouse gas emissions and their absorption no later than 2060.

The Russian corporate sector is primarily exposed to climate risks. The potential consequences of the realisation of climate risks include: decreased revenue, increased operating expenses and capital expenditures, increased costs of debt financing and, as a result, increased debt burden and the likelihood of loan defaults, as well as a decrease in the value of assets of the most carbon-intensive companies. A decrease in revenues and profits of companies, as well as a decrease in the value of their property, may also affect budget revenues, and, as a result, the sustainability of fiscal policy.

Thus, risks in the non-financial sector create systemic risks in the financial sector. They can be realised in the medium and long term.<sup>5</sup> In order to ensure the stability of the financial market, the Bank of Russia recommends that financial institutions take into account climate risks and improve the quality of their management.

The purpose hereof is to provide guidance on appropriate approaches to climate risk management in financial institutions.

Taking into account that climate risks are a subset of risks associated with ESG factors, if financial institutions already apply the previously issued information letters of the Bank of Russia on sustainable development, the Bank of Russia recommends applying these Recommendations in the context of and as part of the overall activities of the financial institution on the sustainable development agenda.

These Recommendations were developed, first of all, for systemically important credit institutions, as well as for other credit institutions, brokers, joint-stock investment funds, insurance organisations, non-state pension funds, investment fund management companies, mutual funds and non-state pension funds, other financial institutions.

These Recommendations have been prepared taking into account the standards and recommendations of international organisations and foreign regulatory authorities on climate risk management in financial institutions. A list of such international standards and recommendations is given in Appendix 1.

The approaches set out herein are recommended to be applied taking into account the types of activities of the financial institution,<sup>6</sup> the nature and scale of the operations carried out, the level and combination of risks accepted by the financial institution, as well as taking into account the special legislative and regulatory prudential regulation in force in relation to the financial institution to the extent that does not contradict the requirements of such regulation.

<sup>1</sup> Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet): Third Assessment Report on Climate Change and Its Consequences in the Russian Federation, 2022.

<sup>2</sup> Climate physical risks are divided into acute, associated with natural and climatic hazards, and chronic, associated with long-term changes in climatic characteristics and conditions.

<sup>3</sup> Executive Order of the President of the Russian Federation No. 812, dated 26 October 2023, 'On Approval of the Climate Doctrine of the Russian Federation'.

<sup>4</sup> Order of the Government of the Russian Federation No. 3052-r, dated 29 October 2021, 'On Approval of the Strategy for the Social and Economic Development of the Russian Federation with Low Greenhouse Gas Emissions until 2050'.

<sup>5</sup> For details, see [Report of the Bank of Russia for public consultations 'Climate Risks in Changing Economic Conditions', December 2022](#).

<sup>6</sup> For the purposes hereof, the types of activities are understood to be the types of activities provided for in Clause 1 of Article 3 of Federal Law No. 223-FZ, dated 13 July 2015, 'On Self-Regulatory Organisations in the Financial Market', as well as banking activities.

Depending on the type of activity and geographic segmentation of a financial institution's portfolio, the degree of its exposure to climate risks also differs. Given these differences, financial institutions are encouraged to determine their own approach to applying these Recommendations based on their type of activity and business model.

When deciding to follow these Recommendations, a financial institution is recommended to evaluate the ratio of potential costs and the positive effect of their application, as well as take into account the degree of development of the corporate governance system, including risk management, internal control and internal audit, strive to organize and develop them in such a way as to ensure compliance herewith.

## Glossary

**Adaptation (adaptation to climate change)** is the adjustment of ecological, social or economic systems in response to actual or expected climatic stimuli and their effects. Adaptation involves adjustments to processes, practices or structures to moderate potential damages or to benefit from opportunities associated with climate change.

**Carbon intensity** is the mass of greenhouse gas emissions generated when an organisation produces a unit of product or energy.<sup>7</sup>

**Climate change mitigation** is a set of measures to reduce greenhouse gas emissions and increase their absorption. Since there is a direct relationship between global average temperature and the concentration of greenhouse gases in the atmosphere, climate change issue must be addressed, firstly, by reducing emissions into the atmosphere and, secondly, by reducing the concentration of greenhouse gases (GHGs) by enhancing sinks (for example, increasing the area of forests).

**Climate** is a statistical description of weather in terms of the mean<sup>8</sup> and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The relevant quantities are most often near-surface variables such as temperature, precipitation, and wind.<sup>9</sup>

**Climate physical risks** are the likelihood of losses associated with natural hazards arising from climate change. Climate physical risks are divided into acute risks associated with natural hazards and chronic risks associated with long-term changes in climatic characteristics and conditions.

**Climate risks** are the likelihood of losses associated with the impact of climate change, as well as measures aimed at climate change mitigation, adapting to climate change, including those taken by governments and regulatory authorities. Climate risks include climate physical risks and climate transition risks.

**Climate scenario (climate change scenario)** is a probable description of the future state of the climate system, based on historical information about the state of the climate system and its main characteristics (temperature, precipitation, etc.) and assumptions about future changes (in particular, an increase in the concentration of greenhouse gases) and the impact that climate change will have on social and economic indicators.<sup>10</sup>

**Climate transition** is a transition from existing production and consumption models to a low-carbon economic model to achieve the goals of the Paris Agreement. Examples of activities implemented at the national and global level as part of the climate transition are the energy transition, as well as the decarbonisation of industry, agriculture, and transport.

**Climate transition risks** are the likelihood of losses associated with the transition to a low-carbon economy, including measures taken by governments and regulators aimed at climate change mitigation and adapting to climate change, which are divided into political, legal, technological, market and reputational risks.

**Climate-related opportunities** are potentially promising areas of activity that take into account climate change, as well as measures aimed at climate change mitigation taken by governments and regulators of countries being parties to the Paris Agreement, dated 12 December 2015,<sup>11</sup> can be used and developed by organisations to create competitive advantages and maintain the necessary level of trust in the organisation, increasing the assessment of its value by various stakeholders.

<sup>7</sup> The concept is defined in Federal Law No. 34-FZ, dated 6 March 2022, 'On Conducting an Experiment to Limit Greenhouse Gas Emissions in Certain Constituent Entities of the Russian Federation'.

<sup>8</sup> The traditional averaging period for climate indicators, as defined by the World Meteorological Organization, is 30 years.

<sup>9</sup> GOST R ISO 14091-2022. National Standard of the Russian Federation. Climate Change Adaptation. Guidelines for Assessing Vulnerabilities, Exposure and Risk (approved and put into effect by Order of Rosstandart No. 1188-st, dated 25 October 2022).

<sup>10</sup> Intergovernmental Panel on Climate Change (IPCC), 2014: Annex II: Glossary [Mach, K.J., S. Planton and C. von Stechow (eds.)]. In: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, pp. 117-130.

<sup>11</sup> Adopted by Decree of the Government of the Russian Federation No. 1228, dated 21 September 2019, 'On the Adoption of the Paris Agreement', came into force for the Russian Federation on 6 November 2019 (Collected Legislation of the Russian Federation, 2019, No. 39, Article 5430).

**Decarbonisation** is measures to reduce greenhouse gas emissions into the atmosphere. Examples of decarbonisation include switching to alternative energy sources, increasing energy efficiency, and carbon capture and storage.

**Energy transition** is a global structural change in the energy system, consisting of a transition from fossil fuel-based generation to carbon-free energy resources (for example, renewable energy sources) and energy resources with low greenhouse gas emissions. Decarbonisation is recommended to be complemented by measures to improve energy efficiency, digitalisation and decentralisation of the energy sector.<sup>12</sup>

**ESG factors**<sup>13</sup> are factors related to the environment (including environmental factors and factors related to climate change), society (social factors) and corporate governance.

**Exposure** is the presence of people, livelihoods, species or ecosystems, ecological functions, services, resources, infrastructure or economic, social or cultural assets in places and settings that may be affected by climate risks.<sup>14</sup>

**Financed emissions** are the indirect greenhouse gas emissions of financial institutions associated with their participation in providing capital to or financing companies that emit greenhouse gases. In accordance with the classification of the Greenhouse Gas Protocol (GHG Protocol), such emissions are classified as Scope 3 Category 15: Investment<sup>15</sup> or financed emissions in accordance with the Partnership for Carbon Accounting Financials (PCAF) standard.<sup>16</sup>

**Greenhouse gas emissions** are emissions of greenhouse gases into the atmospheric air resulting from economic and other activities over a certain period of time.<sup>17</sup>

**Greenhouse gases** are gaseous substances of natural or anthropogenic origin that absorb and re-emit infrared radiation.<sup>18</sup> The list of greenhouse gases in accordance with Appendix 1 to the methodology for quantitative determination of greenhouse gas emissions, approved by Order of the Ministry of Natural Resources of Russia No. 371, dated 27 May 2022, includes: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (dinitrogen oxide, N<sub>2</sub>O), hexafluoride sulphur (SF<sub>6</sub>), perfluorocarbons (CF<sub>4</sub>), hydrofluorocarbons (CHF<sub>3</sub>), hexafluoroethane (C<sub>2</sub>F<sub>6</sub>).

**Greenwashing** is unfair practice, consisting of an organisation distributing false or unreliable information about the consideration of ESG factors and/or sustainable development issues in its activities and/or in the characteristics of a product (including financial), as well as failure to provide or provision of incomplete information on these issues for the purpose of misleading the client (counterparty) and obtaining unjustified benefits.

**Natural hazard** is an event of natural origin or the state of elements of the natural environment as a result of the activity of natural processes, which, by their intensity, scale of distribution and duration, can cause a damaging effect on people, economic entities and the environment. These recommendations cover only natural hazards associated with climate change and do not include such natural hazards as volcanic eruptions, earthquakes, tsunamis and others.

**Paris Agreement** is an international agreement adopted at the Conference of the Parties to the UN Framework Convention on Climate Change on 12 December 2015, the main goal of which is to keep the increase in global average temperature well below 2 °C above pre-industrial levels and to make efforts to limit the increase in temperature to 1.5 °C. The agreement calls for all countries to commit to reducing their greenhouse gas emissions and working together to adapt to the impacts of climate change. The Russian Federation is a party to the Paris Agreement (Decree of the Government of the Russian Federation No. 1228, dated 21 September 2019, 'On the Adoption of the Paris Agreement').

**Risk appetite** (acceptable amount of risk) is the maximum amount of risk that a financial institution is willing to accept in the process of achieving its goals.

**Scope 1** – direct emissions of greenhouse gases from sources owned or controlled by the reporting entity. For example, emissions from production of products, emissions from the company's own vehicle fleet.

**Scope 2** – indirect energy emissions of greenhouse gases from the production of purchased and consumed heat and electricity.

<sup>12</sup> The 3Ds or 4Ds of Energy Transition: <https://www.caf.com/en/knowledge/views/2019/11/the-3-ds-of-energy-decarbonization-digitization-and-decentralization/>

<sup>13</sup> In international practice, the term 'ESG - Environmental, Social and Governance' is used.

<sup>14</sup> GOST R ISO 14091-2022. National Standard of the Russian Federation. Climate Change Adaptation. Guidelines for Assessing Vulnerabilities, Exposure and Risk (approved and put into effect by Order of Rosstandart No. 1188-st, dated 25 October 2022).

<sup>15</sup> GHG Protocol. Technical Guidance for Calculating Scope 3 Emissions (version 1.0). Supplement to the Corporate Value Chain (Scope 3) Accounting & Reporting Standard. Read more [https://ghgprotocol.org/sites/default/files/standards/Scope3\\_Calculation\\_Guidance\\_0.pdf](https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf)

<sup>16</sup> PCAF The Global GHG Accounting and Reporting Standard Part A: Financed Emissions (2022). See more <https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf>

<sup>17</sup> The concept is defined in Federal Law No. 296-FZ, dated 2 July 2021, 'On Limiting Greenhouse Gas Emissions'.

<sup>18</sup> The concept is defined in Federal Law No. 296-FZ, dated 2 July 2021, 'On Limiting Greenhouse Gas Emissions'.

**Scope 3** – other indirect greenhouse gas emissions of the reporting entity (not including indirect energy emissions) that occur in the value chain of the economic entity, including on the side of consumers and suppliers. For example, emissions associated with transportation and processing of products, business travel, franchises, investments, etc.

**Stakeholders (interested parties)** are government bodies, local governments, public legal entities, legal entities and individuals who may be interested in the results of the financial institution's activities and value creation and/or may have a significant impact on the activities, products and the financial institution's services or decisions or actions that may affect the financial institution's ability to create value, successfully implement its strategies and achieve its objectives, as well as the individuals and entities affected by the financial institution's activities.

**Vulnerability** is a propensity or predisposition to be adversely affected, including sensitivity or susceptibility to harm and limited ability to adapt.<sup>19</sup>

## 1. Impact of climate risks on the financial sector and its stability

Herein, climate risks mean the likelihood of losses associated with the impact of climate change, as well as measures aimed at climate change mitigation and adapting to climate change, including those taken by governments and regulatory authorities. Depending on the source of the negative impact, climate risks are divided into two categories: physical and transition risks.

Climate physical risks are divided into acute, arising as a result of the onset of natural hazards associated with climate change, and chronic, associated with long-term changes in climatic characteristics and conditions. Despite the fact that natural hazards<sup>20</sup> and long-term changes occur regardless of human activity, the anthropogenic factor accelerates the rate of change and the frequency of hazardous events. Physical risks are associated with an increase in the likelihood of the occurrence of natural and climatic hazards and damage from them due to long-term changes in climatic characteristics and conditions. At the moment, the current loss from hazardous events is poorly estimated, which complicates further calculation of physical risk. A possible solution to the problem is to evaluate historical and current losses together with potential losses.

Climate transition risks are associated with the transition to a low-carbon economy, including measures taken by governments and regulators to mitigate climate change. Climate transition risks are divided into political, legal, technological, market and reputational risks.

The impact of climate risks is realised through traditional types of risks. At the same time, for companies in the financial sector, their influence is realised mainly indirectly through the impact on borrowers and the portfolio as a whole (for examples of channels of influence of climate risks on the financial sector through risks for borrowers, see Fig. 1 hereof). This is their main difference from non-financial companies, which are directly affected by the realisation of physical and transition risks.

It should also be noted that the impact of climate physical risks may affect a financial institution directly, for example, through the destruction or impairment of its own assets. The direct impact of transition risks may also be associated with the need to clarify the structure of the loan or investment portfolio in favour of more sustainable borrowers,<sup>21</sup> as well as due to increased operating costs, including costs of information disclosure.

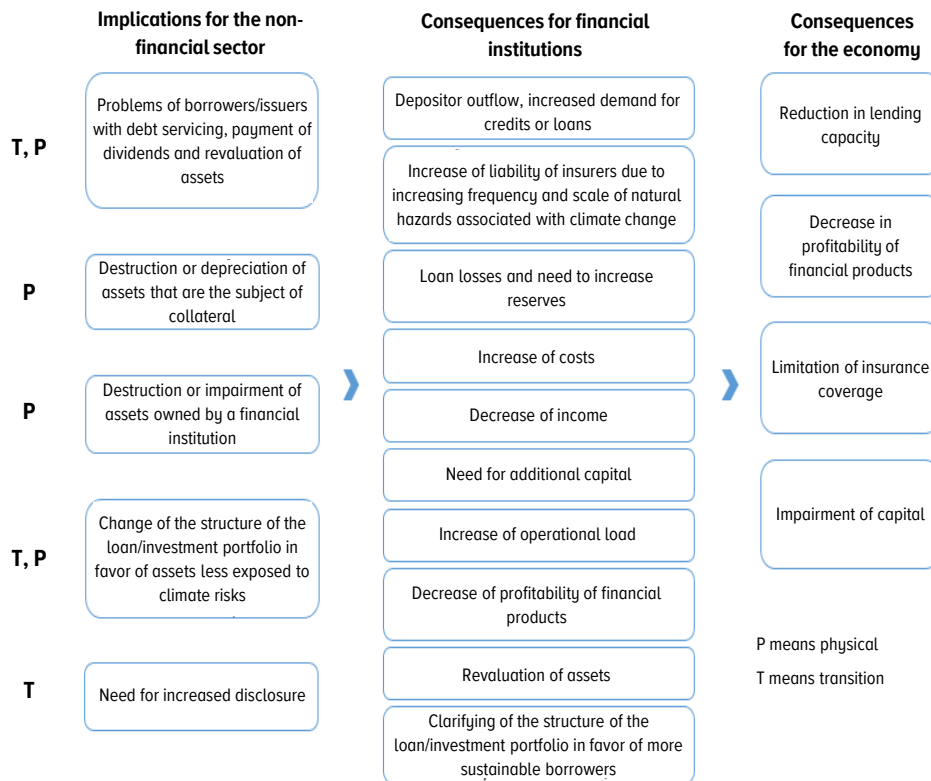
Thus, climate risks may lead to systemic risks for the financial system and its stability, as well as the economy as a whole, in the form of, for example, risks of reduced lending capacity, reduced profitability of financial products, limited insurance coverage, depreciation of capital, etc.

<sup>19</sup> Methodological Recommendations for Assessing Climate Risks were approved by Order of the Ministry of Economic Development of Russia No. 267, dated 13 May 2021.

<sup>20</sup> See Appendix A 'Typical List and Criteria of Meteorological Hazards' Manual on Short-Term Weather Forecasts for General Purposes, RD 52.27.724-2019, Ministry of Natural Resources and the Environment of the Russian Federation Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet), Moscow, 2019 URL: <https://meteoinfo.ru/hazards-definitions>.

<sup>21</sup> For an example of factors that reduce climate risks, see Section 2.4.1 'Identification, analysis and assessment of climate risks' hereof.

FIG. 1. CONSEQUENCES OF CLIMATE RISKS FOR ECONOMIC SECTORS THROUGH INFLUENCE CHANNELS



## 2. Basics of effective integration of climate risks into the risk management system

### 2.1. Basic principles for integrating climate risks into the risk management system

It is recommended to build climate risk management taking into account special legal requirements,<sup>22</sup> general principles of risk management in the organisation, as well as taking into account Information Letter No. IN-06-28/143, dated 1 October 2020, 'On Recommendations for Organising Risk Management, Internal Control, Internal Audit, the Work of the Audit Committee of the Board of Directors (Supervisory Board) in Public Joint-Stock Companies'.

When considering climate risks in the organisation of risk management and internal control systems, it is recommended to take into account the unique nature of climate risks, which may not be taken into account by existing risk assessment procedures, in particular:

- Climate risks lie outside the boundaries of the traditional investment and business planning cycle. Risk factors (for example, greenhouse gas concentrations in the atmosphere) can increase over decades, and once thresholds are reached, the scale and intensity of climate risks can increase significantly, triggering feedback chains where the scale, intensity and drivers of climate risks reinforce each other's effects with irreversible consequences.
- Humanity has not yet encountered many of the possible consequences of climate change or has not collected and stored the necessary indicators, which violates the condition of stationarity of series and complicates the use of statistical and trend analysis based on historical data.
- Climate change is heterogeneous and manifests itself differently in different territories and in different economy sectors. This has various implications for the individual company, the value chain, the market for certain products, etc.

<sup>22</sup> Thus, credit institutions should first of all be guided by the requirements of the legislation of the Russian Federation and regulations of the Bank of Russia, in particular, Bank of Russia Regulation No. 242, dated 16 December, 2003-P 'On the Organisation of Internal Control in Credit Institutions and Banking Groups' and Bank of Russia Ordinance No. 3624-U, dated 15 April 2015, 'On the Requirements to the Risk and Capital Management System of a Credit Institution and a Banking Group'.

- Climate risks are interconnected with other types of risks. Such relationships can cause secondary and cascading effects that require a comprehensive approach to assess.

It is recommended to integrate climate risks into the risk management system in several stages, starting with the identification and initial assessment of climate risks and their components (hazard, exposure and vulnerability).<sup>23</sup> After determining the materiality of the risks for the organisation,<sup>24</sup> it is recommended to formulate a conclusion with a list of material climate risks identified and assessed at the top level (for details, see Section 2.4 'Climate risk management in a financial institution' hereof).

Financial institutions are encouraged to implement scenario analysis to assess these risks and analyse the effectiveness of possible corrective measures aimed at mitigating the impact of climate risks (for details, see Section 2.4.2 'Scenario analysis of climate risks' hereof).

In the future, it is recommended to focus on building a monitoring system for material and potentially material risks. Such a system, among other things, requires the establishment of threshold values for monitored climate risk indicators and the introduction of internal reporting procedures (for details, see Section 2.4.3 'Monitoring climate risks' hereof).

Based on the results of the climate risk assessment, it is recommended that the financial institution determine the necessary measures to reduce climate risk and develop appropriate policies (for details, see Section 2.4.4 'Control and measures to reduce climate risk' hereof).

## 2.2. Activities of management bodies of financial institutions in climate risk management

To most effectively address climate risks, corporate governance mechanisms are required, including the active participation of the board of directors (supervisory board) and executive bodies in the formation of a risk-oriented culture, as well as the implementation of a reliable internal control system.

In addition hereto, it is also recommended to refer to the following:

- Bank of Russia Information Letter No. IN-06-28/96, dated 16 December 2021, 'On Recommendations for Taking into Account ESG Factors and Sustainable Development Issues by the Board of Directors of a Public Joint-Stock Company'.
- Bank of Russia Information Letter No. IN-02-28/145, dated 28 December 2022, 'On Recommendations for Financial Institutions to Take into Account ESG Factors, as well as Sustainable Development Issues when Organising Corporate Governance'.

It is recommended that the determination of principles and approaches to climate risk management fall within the competence of the board of directors (supervisory board),<sup>25</sup> and in its absence, within the competence of the highest management body of the financial institution or other authorised body of the financial institution.

Awareness of the institution's shareholders (participants), members of the board of directors (supervisory boards), members of executive bodies and key executives about the institution's exposure to climate risks contributes to the most effective integration of these risks into the risk management system. An assessment of the current situation, taking into account climate risks and predicted events, as well as their impact on the institution's activities in the short, medium and long term, seems to be the starting point for working on the climate agenda of both the board of directors (supervisory board) and executive bodies.

The board of directors (supervisory board), as part of the function of organising a risk management system, is recommended to take a decisive role in integrating the climate risk management unit into such a system, namely, to formulate general principles and approaches to climate risk management, the role and significance of the climate agenda in the institution and determine strategic vector for taking into account climate risks in the management procedures and practices of the institution.

In the board of directors (supervisory board), issues on the climate agenda can be distributed among its committees (for example, risk management committee, audit committee, strategy committee, etc.) for deeper consideration. In case of high materiality of climate risks for the institution, a separate committee may be created to take into account ESG factors and sustainable development,<sup>26</sup> which will, among other things, deal with the impact of climate change on the activities of a financial institution.

<sup>23</sup> For details, see, for example, GOST R ISO 14091-2022 'National Standard. Climate Change Adaptation. Guidelines for Assessing Vulnerabilities, Exposure and Risk'.

<sup>24</sup> For details, see Bank of Russia Information Letter No. IN-06-28/96, dated 16 December 2021, 'On Recommendations for Taking into Account ESG Factors and Sustainable Development Issues by the Board of Directors of a Public Joint-Stock Company'.

<sup>25</sup> Principle 2.1 of the Corporate Governance Code (Bank of Russia Letter No. 06-52/2463, dated 10 April 2014).

<sup>26</sup> See Bank of Russia Information Letter No. IN-06-28/96, dated 16 December 2021, 'On Recommendations for Taking into Account ESG Factors and Sustainable Development Issues by the Board of Directors of a Public Joint-Stock Company'.



To perform the function of ensuring the sustainability of a financial institution to the adverse effects of climate change, it is advisable for the board of directors (supervisory board) to, at least on an annual basis, review the results of an assessment of risks, as well as opportunities (if any) arising in connection with climate change, and take them into account when assessing and approving the strategy and business plan of a financial institution.<sup>27</sup>

The board of directors (supervisory board) is recommended to analyse the effectiveness of the financial institution's organisational structure and determine the roles and responsibilities of key departments in supporting the financial institution's strategies for adaptation to climate change and climate risk management.<sup>28</sup>

If the materiality of climate risks of a financial institution is identified, it is recommended to identify a responsible employee with sufficient competencies to ensure the necessary attention to managing these risks. The relevant competencies may be concentrated within a separate structural unit that coordinates issues in the field of taking into account ESG factors and sustainable development.<sup>29</sup>

Executive bodies are encouraged to take proactive steps to implement practices related to climate risk management and their integration into business processes.

It is advisable for executive bodies to implement policies approved by the board of directors (supervisory board)<sup>30</sup> and procedures to create and maintain climate resilience, including promoting a just and orderly climate transition that ensures a transition to a low-carbon economy while maintaining decent living conditions for clients and counterparties.

It is advisable for the executive body to provide, at least on an annual basis, to the board of directors (supervisory board), and in its absence, to the shareholders (participants) of the financial institution, information about the climate-related risks and opportunities for the implementation of control functions. If there are significant threats (for example, an increase in the probability) of the realisation of a material climate risk that exceeds the acceptable level of risk (risk appetite) of a financial institution, or the direct realisation of a material risk, including a natural hazard, it is recommended to immediately inform the board of directors (supervisory board), and in its absence - the highest management body of the financial institution or another authorised body of the financial institution.

It is advisable for financial institutions to increase competencies in the field of climate risk management and adaptation to climate change, including through the implementation of training programs for the board of directors (supervisory board), executive body and employees whose activities are related to this area.

Financial institutions are recommended to take climate risks into account when organising risk management and internal control systems, guided by the principle of building three lines of defence: at the level of business units (the first line of defence), specially created units that monitor the activities of business units to identify and manage risks (the second line of defence), internal audit (the third line of defence).<sup>31</sup>

### 2.3. Taking into account climate risks in the strategy of financial institutions

Financial institutions are encouraged to appropriately identify and assess the potential impact of climate risks and take them into account when developing corporate-wide strategies, climate transition strategies or sustainable development strategies, taking into account Sustainable Development Goal<sup>32</sup> 13 Climate Action.<sup>33</sup>

When considering the long-term materiality of climate risks, financial institutions are encouraged to use scenario analysis to assess the impact of climate factors on their operations over different time horizons and under different climate change scenarios.<sup>34</sup>

<sup>27</sup> For details, see Clause 3.2 of Bank of Russia Information Letter No. IN-06-28/96, dated 16 December 2021, 'On Recommendations for Taking into Account ESG Factors and Sustainable Development Issues by the Board of Directors of a Public Joint-Stock Company'.

<sup>28</sup> For example, as part of the process of integrating climate risk into material risk management, financial institutions may consider establishing ad hoc committees or subcommittees early on to ensure sufficient focus and oversight on the management of climate change-related risks and opportunities.

<sup>29</sup> For details, see Clause 2.3 of Bank of Russia Information Letter No. IN-06-28/96, dated 16 December 2021, 'On Recommendations for Taking into Account ESG Factors and Sustainable Development Issues by the Board of Directors of a Public Joint-Stock Company'.

<sup>30</sup> See Clause 2.3 of Bank of Russia Information Letter No. IN-06-28/96, dated 16 December 2021, 'On Recommendations for Taking into Account ESG Factors and Sustainable Development Issues by the Board of Directors of a Public Joint-Stock Company'.

<sup>31</sup> For details, see Bank of Russia Information Letter No. IN-06-14/180, dated 24 December 2020, 'On Recommendations to the Heads of the Internal Control Service, Internal Audit Service, and Risk Management Service of Financial Institutions'.

<sup>32</sup> The Sustainable Development Goals were developed by the UN General Assembly and adopted by UN member states in 2015 as part of the 2030 Agenda for Sustainable Development.

<sup>33</sup> <https://sdgs.un.org/goals/goal13>.

<sup>34</sup> Scenario analysis is one of the most important tools for identifying and assessing climate risks due to the uncertainty associated with the future impacts of climate change and challenges to the financial sector that have not yet materialised. Section 2.4.2 hereof provides detailed information on the use of climate risk scenario analysis by financial institutions.

Given the uncertainty associated with the unique nature of climate risks, financial institutions are encouraged to consider the possible realisation of climate risks over different time horizons when developing strategies and business plans.

Additionally, financial institutions are encouraged to consider how climate factors may impact key business areas, including the products and services they offer or plan to offer.

Financial institutions are advised to consider the following time horizons:

- short-term horizon (1 to 3 years) to present impacts over the normal business planning horizon;
- medium-term horizon (4 to 10 years);
- long-term horizon (10 years to at least 30 years) to gain insight into the implications of evolving climate risks (including physical ones) as they materialize over time.

The strategy's climate goal is a measurable, long-term commitment to mitigate climate change. This goal is the link between the strategy of a financial institution<sup>35</sup> and its risk management system. For example, the financed emissions reduction targets help reduce the financial institution's climate transition risk.

Significant deviations from targets require a revision of the assumptions underlying climate risk assessments.

Where there are significant changes in the approach or level of material climate risk assumed, financial institutions are encouraged to take these changes into account when updating their strategy and related strategic planning documents.

## 2.4. Climate risk management in a financial institution

Financial institutions are encouraged to integrate climate risk into their risk management framework to identify, measure and manage all material climate risks.

Internal procedures for identifying, assessing, monitoring and managing climate risks are recommended to be correlated with the nature and scale of the operations being carried out, the level and combination of risks assumed. Financial institutions are encouraged to ensure that material climate risks are taken into account in their risk management systems and processes.

Material climate risks are likely to significantly impact the financial condition of financial institutions and their clients,<sup>36</sup> their operations, investment and loan portfolios, products and stakeholders. It is recommended to determine materiality based on a combination of the following criteria,<sup>37</sup>

- **Criterion 1.** Probability of climate risks realisation.<sup>38</sup>
- **Criterion 2.** Scale of potential consequences<sup>39</sup> from the realisation of climate risks,<sup>40</sup> taking into account exposure and vulnerability to climate risks.

Climate risks, despite their distinctive features, are realised through traditional risks inherent in the activities of financial institutions. In this regard, financial institutions are recommended to consider and evaluate the channels of influence of climate risks through traditional types of risks.

The impact of climate risks on banks and other financial institutions is realised through traditional types of risks:<sup>41</sup>

- **Credit risk.** If climate risks realise, a number of borrowers may have a worsening financial situation, which may negatively affect the ability to fulfil loan obligations; the value of collateral may decrease, which may lead to an increase in losses for a financial institution in the event of a borrower's default and, as a result, an increase in credit risks. Credit risk can materialise in the form of a decrease in value or complete depreciation of bonds, for example, in the event of physical risks realisation for the issuer.
- **Market risk.** Financial institutions may experience increased volatility or declines in the value of their securities and derivatives portfolios. Natural disasters, climate policy, technological innovation and the energy

<sup>35</sup> In particular, climate transition strategies, sustainable development strategies taking into account Sustainable Development Goal No. 13 'Climate Action' or the overall corporate strategy (if there is a climate section in it).

<sup>36</sup> It is possible to use an industry approach when determining the materiality of transition risks over the medium or long term.

<sup>37</sup> When determining materiality in the absence of quantitative data, qualitative risk scales may be used for assets and/or activities exposed to climate physical/transition risks (low/medium/high).

<sup>38</sup> Including the results of stress testing.

<sup>39</sup> It is also recommended to use methodological recommendations from Order of the Ministry of Economic Development of Russia No. 267, dated 13 May 2021, 'On Approval of the Methodological Recommendations and Indicators on Adaptation to Climate Change' (together with the Methodological Recommendations for Assessing Climate Risks, the Methodological Recommendations for Ranking Adaptation Measures by Degree of Their Priority, the Methodological Recommendations for the Formation of Sectoral, Regional and Corporate Plans for Adaptation to Climate Change).

<sup>40</sup> Taking into account the presence of damage or other negative consequences from the realisation of the risk at the current moment and the results of stress testing in the future.

<sup>41</sup> This list is based on the international standard for determining the channels of influence of climate risks on the financial sector 'A call for action. Climate change as a source of financial risk'. The Network for Greening the Financial System (NGFS), April 2019, and 'The green swan. Central banking and financial stability in the age of climate change'. BIS, January 2020.

transition, increased fiscal sustainability risks, and negative investor, client and consumer sentiment could lead to sharp revaluations of financial assets. For example, changes by foreign countries in payment terms as part of climate regulation may significantly affect the cost of securities of Russian issuers-exporters that are part of the securities portfolios of financial market participants and their clients.<sup>42</sup>

From an investment perspective, financial institutions may also face portfolio risk when investing in assets from carbon-intensive industries,<sup>43</sup> or assets exposed to climate physical risks. For example, investors may place greater demand on the securities of borrowers they perceive to be greener and more climate-sustainable. Conversely, demand for climate-exposed companies and their financial instruments may decline, leading to a revaluation of stocks and bonds in financial sector portfolios.

- **Insurance risk.**<sup>44</sup> The occurrence of this type of risk is possible for insurance and reinsurance companies in the event of underestimation of losses due to an increase in the frequency and scale of natural hazards, as well as due to a lack of data from previous periods on the frequency and amount of damage. These factors may lead to errors in calculating premiums or reserves, as well as affect the insurer's obligations under insurance contracts in the form of an increase in the number and amount of insurance payments.

In addition, due to the tightening of government policy, an increase in payments in the area of liability for damage caused to the environment is possible.

- **Risk of decreased availability of insurance services** is relevant for the activities of insurance companies. The amount of the insurance premium rate (insurance tariff), taking into account the nature and calculation of climate risk, can significantly increase relative to the price elasticity of demand, which will lead to the reluctance of consumers (insurers) to use the services of insurance companies.

The risk may also arise from changing consumer preferences and the unwillingness of insurance organisations to create a suitable product.

However, a large volume of losses due to the realisation of climate physical risks may remain outside the insurance perimeter, which will affect the growth of expenses of households, companies and the state. At the macroeconomic level, uninsured losses from the realisation of climate physical risks can impact the availability of resources and economic productivity across sectors, the profitability of companies and assets, disrupt supply chains, and ultimately impact demand in the insurance market.

Companies in carbon-intensive industries may face increased insurance rates or refusal by insurers to provide services due to increased risks of losses due to natural hazards, as well as reputational risks.

The availability of insurance (as well as the risk of high noninsurance due to high-risk company profiles) can have a large impact on the investment and credit climate in the economy (for example, on the issuance of collateral).

- **Liquidity risk.** The energy transition and natural hazards associated with climate change may impact the liquidity of financial institutions. Raising funds against assets from carbon-intensive industries or selling them if transition risks increase may be significantly more difficult, which could impact financial institutions with large investments to carbon-intensive industries. Liquidity risk of financial institutions is associated with the credit and market risk of their assets. The high quality of the bank's assets ensures a stable cash flow to fulfil obligations to its clients, and also makes it possible to attract borrowed funds against such assets.

The realisation of physical risks can lead to a sharp increase in the demand of financial institutions for liquidity – affected economic agents can withdraw deposits, show increased demand for loans or borrowings, and also apply for the provision of funds through credit lines already opened in their favour. For insurance companies, liquidity risk can be realised in an increased number and size of payments due to the realisation of climate risks.

- **Concentration risk.** Concentration risk may arise due to the simultaneous realisation of climate risk for several similar companies, which could lead to significant losses that could pose a threat to the solvency of the financial institution and its ability to continue its activities. The similarity of companies (clients and counterparties) may be shown in a common exposure to physical risk (for example, thawing permafrost) or transition risk (for example, a sustained decline in energy prices).
- **Operational risk.** The realisation of climate risks may lead to interruptions in telecommunication services and interruptions in the operation of information systems, loss of fixed assets, dismissal of workers or temporary disability of employees, and create risks of reliability and consistency of energy supply.

<sup>42</sup> Bank of Russia Information Letter No. IN-015-38/64, dated 17 August 2021, 'On Taking into Account Climate Risks in the Activities of Individual Financial Market Participants'.

<sup>43</sup> Hereinafter, the assets of companies from carbon-intensive industries are understood to be the assets of regulated organisations, defined within the meaning of Federal Law No. 296-FZ, dated 2 July 2021, 'On Limiting Greenhouse Gas Emissions'.

<sup>44</sup> See also Bank of Russia Information Letter No. IN-015-53/1, dated 12 January 2021, 'On Taking into Account Climate Risks'.

- **Legal risk.** Legal risk for the borrower is possible primarily in case of failure to comply with legal requirements in the field of carbon regulation,<sup>45</sup> which may lead to a decrease in solvency.
- **Reputational risk.** Reputational risks may arise for financial institutions that provide financing (services) to companies or projects that negatively affect the climate. Negative public perception of the activities of these companies or projects may adversely affect the ability to maintain business relationships and attract and retain customers. Failure to meet climate targets within their own strategies can also negatively impact financial institutions.

Another factor of reputational risk can be greenwashing (for example, the dissemination of false information about the product's compliance with the criteria for financial products of sustainable development aimed at financing green projects).<sup>46</sup>

#### 2.4.1. Identification, analysis and assessment of climate risks

Financial institutions can use one or a combination of the following approaches to identify and measure climate risks:

- the top-down approach: designation of risk exposure at an aggregate level using key factors, such as the materiality of the risk by geographic location, economic sector, type of financial product;
- the bottom-up approach: identifying material risks at the asset or counterparty level and then summing up these risks to assess them at the portfolio level.

As part of any of the approaches, financial institutions are recommended to analyse the channels of influence of climate risks through traditional types of risks.

Financial institutions are recommended to determine a set of quantitative and qualitative climate indicators to quickly identify current and potential climate risks and respond to them, taking into account the specifics and characteristics of their activities.

Since indirect risks associated with the exposure of clients and counterparties to climate risks are of great importance for financial institutions, financial institutions are recommended to use the following climate indicators:<sup>47</sup>

- financed emissions;
- the share of assets and/or activities of clients and counterparties exposed to climate physical risks;
- the share of assets and/or activities of clients and counterparties exposed to climate transition risks.

Assessing the financed emissions is critical for financial institutions and their stakeholders to analyse how the climate affects financial institutions. Assessment of financed emissions is also the basis for identifying and managing climate transition risks. It is recommended to calculate financed emissions using the methods presented in the list of Appendix 2 hereto.

The indicator 'share of assets and/or activities of clients and counterparties exposed to climate physical risks' is based on an analysis of the exposure (and vulnerability) of assets and/or activities of clients and counterparties to natural hazards associated with climate change, as well as gradual changes in climate conditions.

The indicator 'share of assets and/or activities of clients and counterparties exposed to climate transition risks' is based on an analysis of the exposure (and vulnerability) of assets and/or activities of clients and counterparties to changes in national regulation during the transition to a low-carbon economy, as well as technological changes and changes in market preferences.

When determining the concentration of risks, it is recommended to conduct an analysis in several key areas, for example: by asset class, by their maturity, by their industry and geographic distribution, by product type, by area of operating activity.

To identify and assess risks over the forecast horizon, it is recommended to use scenario analysis (see Section 2.4.2. 'Scenario analysis of climate risks' hereof).

When assessing the climate risks of clients or counterparties, financial institutions are encouraged to further consider how clients and counterparties manage their climate risks. This information can be used as factors to reduce exposure to climate risks. The list of such factors is given in Appendix 3 hereto.

Assessing climate risks and their transformation into traditional risks is usually difficult due to a lack of data. In this regard, it is recommended to implement processes for collecting and aggregating climate risk data within a financial institution, while ensuring its accuracy and reliability.

<sup>45</sup> For example, Federal Law No. 296-FZ, dated 2 July 2021, 'On Limiting Greenhouse Gas Emissions' and Federal Law No. 34-FZ, dated 6 March 2022, 'On Conducting an Experiment to Limit Greenhouse Gas Emissions in Certain Constituent Entities of the Russian Federation'.

<sup>46</sup> See Information Letter No. IN-02-28/38, dated 24 May 2023, 'Recommendations for the Provision (Disclosure) by Financial Institutions of Information to Clients about Financial Products of Sustainable Development'.

<sup>47</sup> Task Force on Climate-related Financial Disclosures Guidance on Metrics, Targets, and Transition Plans (2021).

In addition, it is recommended to collaborate with key clients and counterparties to obtain the data necessary to assess climate risks against the above indicators.

In accordance with the principle of proportionality, small financial institutions, in order to reduce costs, may not collect information and assess risks on their own, but use the resources of information agencies, scientific and research organisations and publicly available information posted on the official websites of government bodies, local governments, and the Bank of Russia.

When working with clients, it is advisable to improve existing due diligence policies and procedures to correctly identify climate risks and assess them from the very beginning of contractual relations, as well as on an ongoing basis at the portfolio, counterparty and transaction levels.

#### 2.4.2. Scenario analysis of climate risks

It is advisable for financial institutions to use scenario analysis<sup>48</sup> as one of the main tools for assessing and managing risks associated with climate change.<sup>49</sup>

Financial institutions are encouraged to use the results of scenario analysis to develop corrective measures aimed at mitigating the impact of climate risks and maintaining them at an acceptable level.

Scenario analysis of climate risks is recommended to be carried out annually. This process includes the following:

- identifying and defining scenarios that take into account climate risks, both in the short and long term;
- analysis of the relevance and feasibility of business strategies and business models under various climate scenarios;
- taking into account traditional risk categories through which the impact of climate risks is realised;
- using information obtained from scenario analysis to adjust business strategies.

To conduct scenario analysis, financial institutions are recommended to use the Bank of Russia's climate scenarios. Financial institutions can refine the Bank of Russia's scenarios, as well as develop and use their own scenarios, if this will increase the relevance of scenario analysis for their activities. The following steps are recommended when developing scenarios:

- determination of assumptions for assessing climate physical risks, namely expected changes in global temperature<sup>50</sup> and its corresponding effects at the country and regional levels;<sup>51</sup>
- determination of assumptions for assessing climate transition risks, namely the speed and scale of the decline in global consumption of fossil energy resources, the decline in their prices and the timing of the introduction of carbon regulation;
- determination of time horizons for scenario analysis, taking into account the time frames specified in Section 2.3 'Taking into account climate risks in the strategy of financial institutions' hereof;
- assessment of physical and transition risks within each scenario used, while it is advisable to include both qualitative and quantitative factors in the scenarios;
- measuring the impact of climate risks on companies' financial performance, including solvency, liquidity and ability to meet their obligations;
- adjustment of scenario analysis taking into account possible technological innovations, development and implementation of climate strategies/policies by financial institutions and their clients (counterparties);
- ensuring internal consistency of scenarios.

When developing their own scenarios, financial institutions are encouraged to use science-based scenarios based on global climate models, which currently include scenarios from the Central Banks and Supervisors Network for Greening the Financial System (NGFS), the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC).<sup>52</sup> NGFS scenarios may be used to initially conduct scenario analysis.

It is advisable to supplement global climate scenarios with assumptions reflecting the Russian specifics of climate transition and physical risks mentioned earlier in the introduction hereof.

<sup>48</sup> Scenario analysis is a technique used by financial institutions to identify and assess the potential impacts of a series of events on financial stability. In the context of climate change, scenario analysis allows financial institutions to analyse the resilience of their business and strategies to climate-related risks and measure portfolio change under different scenarios.

<sup>49</sup> Additionally, it is proposed to use the Task Force on Climate-related Financial Disclosures as methodological recommendations for scenario analysis. The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities (2017).

<sup>50</sup> For example, keeping global average temperature rise to 1.5° C by 2100 would help reduce the risk of long-term physical risks. An increase in global average temperature of more than 3° C could lead to greater physical risks.

<sup>51</sup> For example, the impact of climate change on the incidence of droughts, fires, precipitation, sea level rise, etc., which may affect customers and counterparties.

<sup>52</sup> See also the climate model of the Institute of Computational Mathematics of the Russian Academy of Sciences INM-CM5 or its subsequent generations.

When selecting input data for scenario analysis of climate risks, financial institutions are recommended to consider the following:

- the time horizon of the data sets used, as well as their frequency (for example, some physical risks may require seasonal and daily data, while for other risks annual or decadal data may be appropriate);
- geographical specificity, which gives an idea of the distribution at the local level of natural hazards to which both the organisation itself and its assets, portfolio, clients and counterparties may be exposed;
- the range of global emission trends included in the data set, recognising that testing scenarios at extreme ranges is more likely to identify risks.

Financial institutions are advised to select the level of granularity in their climate scenario analysis. This can range from high-level assessments based on sensitivity to climate risks that impact specific business lines or economic sectors, to more detailed assessments based on specific portfolios that also consider the impact of climate risks on clients' core activities.

### 2.4.3. Monitoring climate risks

Financial institutions are recommended to monitor material and potentially material climate risks and promptly inform the board of directors (supervisory board) about them.<sup>53</sup> Conclusions about risks must be supported by relevant data, analysis and formed in accordance with internal reporting procedures.

To effectively and timely monitor climate risks, financial institutions are recommended to:

- integrate climate indicators (see Section 2.4.1 'Identification, analysis and assessment of climate risks' hereof) into the existing system for monitoring risks, reporting and informing the board of directors (supervisory board) about them;
- establish thresholds for climate indicators (taking into account vulnerability assessments) and their monitoring for timely adoption of measures for the purpose of proactive climate risk management;
- take into account and reflect the appropriate magnitude and level of granularity of data, considering the concentration of climate risks at a minimum by portfolios, economic sectors, geographic location and large clients/counterparties;
- take into account the exposure of their own assets to climate impacts;<sup>54</sup>
- establish timely frequency of internal reporting to provide the board of directors (supervisory board) and other management bodies with up-to-date information on the current state of business processes exposed to climate risks, including unscheduled reports in the event of the realisation of material risks or established risk appetite indicators being exceeded;<sup>55</sup>
- monitor the implementation of measures to eliminate the consequences of the realisation of climate risks and compliance with the financial institution's policy in relation to them.

To monitor climate indicators and analyse factors that reduce exposure to climate risks (see Section 2.4.1 'Identification, analysis and assessment of climate risks' hereof), if it is impossible to obtain information from open sources, it is recommended to request information from clients and counterparties.

### 2.4.4. Control and measures to reduce climate risks

Financial institutions are encouraged to implement appropriate risk controls when managing material climate risks. Financial institutions should implement controls in a timely manner to mitigate the adverse impacts of climate risks and their potential escalation, taking into account their risk appetite and business strategy.

Financial institutions are encouraged to develop policies to manage climate risks, which, taking into account the specifics of certain sectors of the economy, may include determining the risk appetite of existing or potential clients, establishing criteria for introducing limits on risk concentration or criteria for applying additional conditions for insurance coverage and reinsurance, and as well as coordination of climate change mitigation and adaptation measures.

Financial institutions are strongly discouraged from using climate risk management policies that include restrictions on access to financial services and exclusion criteria from financial services coverage for customers in certain industries (negative screening). The implementation of climate risk management policies should not limit access to financial services, including insurance services, the mandatory receipt of which is provided for by federal law.

<sup>53</sup> In its absence, the highest management body of the financial institution or another authorised body of the financial institution.

<sup>54</sup> For example, data centres may be damaged/destroyed as a result of the realisation of a physical risk.

<sup>55</sup> Information and analysis may relate to the ongoing transition to a low-carbon economy; activities related to adverse climate change, as well as natural hazards affecting internal operations or business lines.

For clients and counterparties that are not managing climate risks appropriately, a financial institution is advised to consider the following measures to reduce risks and mitigate the impact of the realisation of climate risks:

- inclusion in the contract of obligations for clients/counterparties to improve climate risk management practices, indicating specific deadlines and, if applicable, activities, as well as threshold values of indicators that cannot be exceeded or must be achieved;
- reducing loan terms, increasing discounts when valuing assets for financing, reducing limits on financing, investment and insurance;
- review of covenants in financing, investment, insurance and reinsurance agreements.

Financial institutions are encouraged to provide assistance<sup>56</sup> to clients and counterparties to encourage them to adopt climate risk management practices and increase resilience to them.

Financial institutions are advised to take into account the risks of greenwashing associated with the possible dissemination by clients and counterparties of false, inaccurate or incomplete information about the consideration of climate risks in their activities. To do this, own assessment may be conducted or the opinion of third parties may be used. Appropriate controls and periodic reviews may be carried out to ensure that the information is up to date.

### 3. Disclosure of climate-related information

When disclosing climate-related information, financial institutions are recommended to follow the approaches set out in Bank of Russia Information Letter No. IN-02-28/44, dated 13 June 2023, 'On Recommendations for the Disclosure of Information in the Field of Sustainable Development by Financial Institutions', including regarding the timing and procedure for disclosing such information.

If climate risks are considered material, it is recommended to pay special attention to the disclosure of information related to them. In this case, it is necessary to take into account sanctions risks, the requirements of the legislation of the Russian Federation on state, commercial, official and other secrets protected by law when disclosing information.

It is advisable for financial institutions to promptly review information disclosure policies to improve the level of completeness and relevance of disclosed information. When revising the policy, it is recommended to take into account internal changes in the company, as well as Russian regulation of the disclosure of information by financial institutions in the field of sustainable development and climate change, including the implementation of the IFRS S2 disclosure standard,<sup>57</sup> based on the recommendations of the TCFD, in accordance with the procedure established by Russian legislation.

<sup>56</sup> For example, conducting training on the analysis and accounting of climate risks, joint development of climate scenarios for stress testing. It is also possible to finance projects that meet the criteria for sustainable (including green) development projects in the Russian Federation in accordance with Decree of the Government of the Russian Federation No. 1587, dated 21 September 2021, 'On Approval of Criteria for Sustainable (Including Green) Development Projects in the Russian Federation and Requirements to the Verification System of Financing Instruments for Sustainable Development in the Russian Federation' and the criteria for technological sovereignty projects in accordance with Decree of the Government of the Russian Federation No. 603, dated 15 April 2023, 'On Approval of Priority Areas of Technological Sovereignty Projects and Projects for Structural Adaptation of the Economy of the Russian Federation and the Regulations on the Conditions Classifying Projects as Projects of Technological Sovereignty and Projects for Structural Adaptation of the Economy of the Russian Federation, on Submitting Information about Projects of Technological Sovereignty and Projects on Structural Adaptation of the Economy of the Russian Federation and Maintaining a Register of These Projects, as well as on Requirements to Organisations Authorised to Submit Conclusions on the Compliance of Projects with the Requirements to Projects Technological Sovereignty and Projects for Structural Adaptation of the Economy of the Russian Federation' in terms of promoting the energy transition.

<sup>57</sup> IFRS Sustainability Disclosure Standard S2 Climate-Related Disclosures.  
<https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards-issb/english/2023/issued/part-a/issb-2023-a-ifrs-s2-climate-related-disclosures.pdf?byypass=on>.

## Appendix 1. List of international standards and recommendations

In preparing these Recommendations, we took into account the approaches used in international standards and recommendations on climate risk management, including the following:

1. Task Force on Climate-related Financial Disclosures Guidance on Risk Management Integration and Disclosure (2020);
2. Task Force on Climate-related Financial Disclosures. The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities (2017);
3. Task Force on Climate-related Financial Disclosures Guidance on Metrics, Targets, and Transition Plans (2021);
4. Integrating climate-related and environmental risks into prudential supervision (Guide for Supervisors), Network for Greening the Financial System (2020);
5. Principles for the effective management of climate-related risks, Basel Committee on Banking Supervision (2022);
6. Application Paper on the Supervision of Climate-related Risks in the Insurance Sector, International Association of Insurance Supervisors (2021);
7. Recommendations on Sustainability-Related Practices, Policies, Procedures and Disclosure in Asset Management, International Organization of Securities Commissions (2021);
8. Climate Risk Management. Supervisory Policy Manual, Hong Kong Monetary Authority (2021);
9. Climate Risk Management and Scenario Analysis, Bank Negara Malaysia (2022);
10. Managing climate-related risks. Guidance for regulated entities, Reserve Bank of New Zealand (2023);
11. Climate Risk Management Guideline, Office of the Superintendent of Financial Institutions, Canada (2023).



## Appendix 2. Financed emissions. List of calculation methods for financial institutions

Financed emissions is a general term for the indirect greenhouse gas emissions of financial institutions associated with their involvement in providing capital or financing to companies that emit greenhouse gases. In accordance with the classification of the GHG Protocol, such emissions are classified as Scope 3, Category 15: Investment<sup>58</sup> or Financed Emissions in accordance with PCAF.<sup>59</sup>

Assessing the financed emissions is critical for financial institutions and their stakeholders to analyse the climate impact of the institutions' lending and investment activities. In addition, this assessment provides a basis for identifying and managing transition risks and opportunities associated with climate change. For example, the financed emissions can be used as a metric to stress test the resilience of portfolios to changes in national and international climate policies that could have a significant impact on the viability of the financial institution (for example, carbon pricing). This information is useful for developing risk management strategies and identifying business opportunities that can support the transition to a low-carbon economy. In this regard, banks and other financial institutions are encouraged to measure and disclose the financed emissions.

Accounting for greenhouse gas emissions allows for comparative analysis. Measuring the financed emissions in absolute terms, i.e. the absolute carbon footprint, provides financial institutions with the necessary basis for taking climate action in accordance with the Paris Agreement and existing national regulations. However, normalised data is often useful for banks and financial institutions to manage climate change risks, set goals or create new products. Data normalisation means converting absolute values to specific values (emissions per specific unit). Different intensities can be used for different purposes. Table 1 presents the most common carbon intensity measures.

TABLE 1. KEY INDICATORS FOR CALCULATING FINANCED EMISSIONS

Indicator	Description	Advantages and disadvantages
Absolute Carbon Emissions (ACE) or Carbon Footprint (t CO2-eq)	Allows to assess the contribution (or responsibility) of a financial institution to the total gross greenhouse gas emissions of the financed company	<ul style="list-style-type: none"> <li>+ Allows to determine which company or industry in a portfolio is making the largest contribution to climate change, as well as track changes in contribution over time;</li> <li>+ Allows to assess the overall contribution of a portfolio to climate change;</li> <li>- Has a high sensitivity to the financial position of the company, especially to overstatement or understatement of market value, as well as to fluctuations in the market value of the portfolio;</li> <li>- Limits the possibility of benchmarking;</li> <li>- Does not measure specific carbon intensity at the portfolio level.</li> </ul>
Weighted Carbon Emissions (WCE) or Capital Carbon Intensity (t CO2-eq / million rubles of investment)	Allows you to estimate the carbon footprint of a financial institution's portfolio per unit of investment	<ul style="list-style-type: none"> <li>+ Allows for benchmarking;</li> <li>+ Measures carbon efficiency per unit of investment, making it more understandable for financial institutions;</li> <li>- Has a high sensitivity to overestimated or underestimated market value of the portfolio, as well as to its fluctuations;</li> <li>- Does not take into account the sales of the investee and therefore is not a measure of operating efficiency (for this, see the Operating Carbon Intensity indicator, expressed in t CO2-eq per income received by the investee).</li> </ul>
Carbon Intensity (CI) or Operational Carbon Intensity or Efficiency (t CO2-eq / million rubles)	Allows to assess the responsibility of a financial institution for greenhouse gas emissions of each individual company per unit of revenue, sales or assets. Shows the operating carbon efficiency of underlying assets and the ability to generate more income or assets with lower greenhouse gas emissions	<ul style="list-style-type: none"> <li>+ Allows for benchmarking;</li> <li>+ Takes into account company sales;</li> <li>- Has a high sensitivity to overestimated or underestimated market value of the portfolio, as well as to its fluctuations.</li> </ul>

<sup>58</sup> GHG Protocol. Technical Guidance for Calculating Scope 3 Emissions (version 1.0). Supplement to the Corporate Value Chain (Scope 3) Accounting & Reporting Standard. Read more

[https://ghgprotocol.org/sites/default/files/standards/Scope3\\_Calculation\\_Guidance\\_0.pdf](https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf)

<sup>59</sup> PCAF The Global GHG Accounting and Reporting Standard Part A: Financed Emissions (2022). See more

<https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf>

Weighted Average Carbon Intensity (WACI) or Portfolio Exposure to high carbon assets (t CO <sub>2</sub> -eq / million rubles)	Calculated based on the carbon intensity of each individual investment and its weight across the entire portfolio. Allows to assess a portfolio's exposure to carbon-intensive companies	+ Allows for benchmarking; + Measures a portfolio's exposure to carbon-intensive companies, industries or regulatory risks (for example, the introduction of a carbon tax); - Does not provide information on the financial institution's total emissions; - Has high sensitivity to emissions metrics, especially for small portfolios.
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Sources: NGFS<sup>60</sup>.

- Currently, three international guidelines have been published with methodologies and approaches for assessing the financed emissions that can be used by financial institutions: GHG Protocol (2013). Technical Guidance for Calculating Scope 3 Emissions (version 1.0). Supplement to the Corporate Value Chain (Scope 3) Accounting & Reporting Standard;
- TCFD (2021). Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures;
- Partnership for Carbon Accounting Financials (PCAF) (2022). The Global GHG Accounting and Reporting Standard Part A: Financed Emissions. Second Edition.

The PCAF has also developed a standard for accounting and disclosure of emissions from insurance.<sup>61</sup>

Table 2 presents the relationship between asset types and the GHG Protocol, PCAF and TCFD methodologies available for calculating their financed GHG emissions. When carrying out calculations, it seems advisable to use the PCAF methodology due to its greater versatility.

TABLE 2. METHODOLOGIES BY ASSET TYPE FOR CALCULATING FINANCED EMISSIONS

Type of assets	GHG Protocol	PCAF	TCFD
Listed equity	✓	✓	✓
Corporate bonds	✓	✓	✓
Business loans	✓	✓	✓
Unlisted equity		✓	✓
Project financing	✓	✓	✓
Commercial real estate		✓	✓
Mortgage		✓	✓
Motor vehicle loans		✓	✓
Sovereign debt		✓	

<sup>60</sup> NGFS (2020) Occasional Papers. Case Studies of Environmental Risk Analysis Methodologies. Chapter 33 ClimFIT: A Portfolio Carbon & Climate Accounting Tool.

[https://www.ngfs.net/sites/default/files/medias/documents/case\\_studies\\_of\\_environmental\\_risk\\_analysis\\_methodologies.pdf](https://www.ngfs.net/sites/default/files/medias/documents/case_studies_of_environmental_risk_analysis_methodologies.pdf)

<sup>61</sup> Partnership for Carbon Accounting Financials (PCAF) (2022). The Global GHG Accounting and Reporting Standard Part C: Insurance-Associated Emissions. First Version.

<https://carbonaccountingfinancials.com/files/downloads/pcaf-standard-part-c-insurance-associated-emissions-nov-2022.pdf>

### Appendix 3. Information on climate risk management by clients and counterparties

#### 1. Information on climate risk management:

- scheme for the distribution of responsibilities on climate change issues within the corporate governance system;
- information on the inclusion of climate risks in the company's policy regarding the organisation of a risk management system and internal control;
- analysis of the organisation's exposure to climate risks (physical and transition);
- scenario analysis based on IPCC models to assess the materiality of climate risks;
- analysis of the organisation's capabilities related to climate change;
- quantitative (financial) assessment of climate risks;
- measures to adapt to climate transition and physical risks.

#### 2. Climate policy/strategy/roadmap/plan<sup>62</sup>

The document is expected to contain the following:

##### 2.1. Regarding climate change mitigation:

- GHG reduction targets, including base and target years, emissions coverage;
- targets to achieve carbon neutrality (net zero emissions), including base and target years, emissions coverage;
- list and description of activities aimed at achieving emission reduction goals (for example, modernisation of production, use of renewable energy sources, etc.);
- targets for the development and implementation of climate projects;
- targets for compensating the organisation's greenhouse gas emissions with carbon offsets from the implementation of climate projects.

##### 2.2. Regarding adaptation:

- climate change adaptation targets;
- climate change adaptation plan;
- list and description of activities aimed at achieving adaptation goals.

3. Information on attracting financing and obtaining financial services for the purpose of implementing the climate transition (including attracting financing through the issuance of green, adaptation, sustainable bonds,<sup>63</sup> sustainability-linked bonds,<sup>64</sup> as well as climate transition bonds);

4. Information on the implementation of sustainable (including green) development projects.

<sup>62</sup> In the absence of a climate policy/strategy/roadmap/plan, it is allowed to use a sustainable development strategy to analyse the exposure of assets and/or activities to climate physical and transition risks, if they contain climate goals and other components of the climate policy/strategy/roadmap/plan.

<sup>63</sup> Subject to the allocation of funds to a project related to climate change mitigation and adaptation.

<sup>64</sup> Subject to the inclusion of climate goals and measures to achieve them.