Pillar III Disclosures on a consolidated basis

December 2022

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1 INTRODUCTION & GENERAL INFORMATION

National Bank of Greece S.A. (hereinafter “NBG” or the “Bank”) is a financial institution subject to Greek and EU banking legislation. It was founded in 1841 and operated both as a commercial bank and as the official state currency issuer until 1928, when Bank of Greece was established. NBG has been listed on the Athens Stock Exchange since 1880.

The Bank focuses on complying fully with the regulatory requirements and ensures that these requirements are strictly and consistently met in all countries where NBG Group (the “Group”) operates.

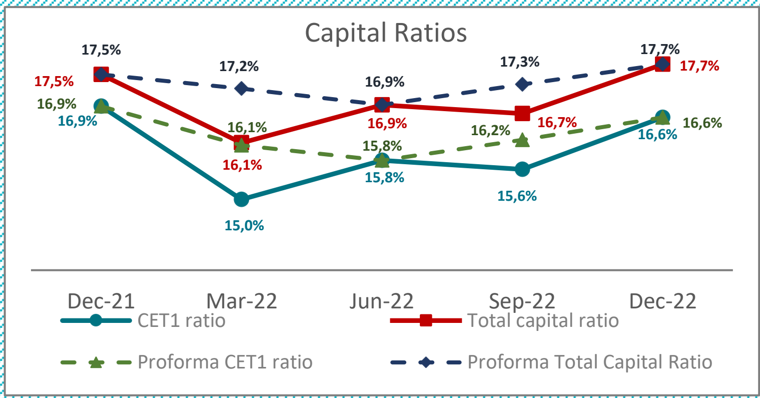
In its 181 years of operation, the Bank has expanded on its commercial banking business by entering into related business areas. The Group operates mainly in Greece but also abroad through its branch in Cyprus and its subsidiaries in North Macedonia, Cyprus, Luxembourg and U.K.

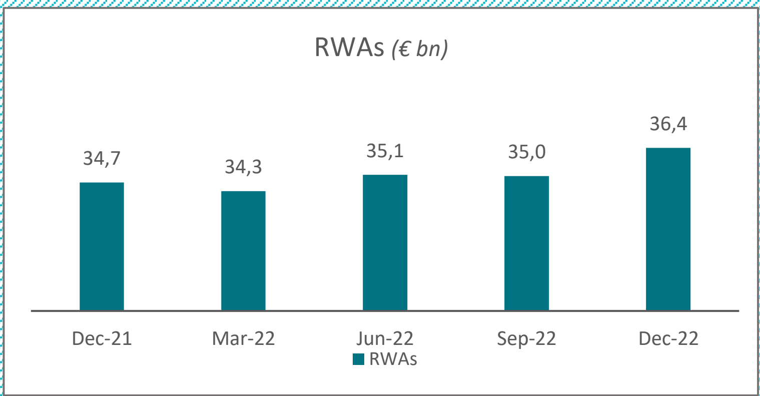
Following the respective Bank’s decision in 2021, the Group ceased its operation in Egypt, Malta and NBG London Branch; and therefore the NBG Egypt Branch, the NBG London Branch and the subsidiaries NBG Malta Ltd (formerly known as NBG Bank Malta Ltd) and NBG Malta Holdings Ltd are currently under liquidation.

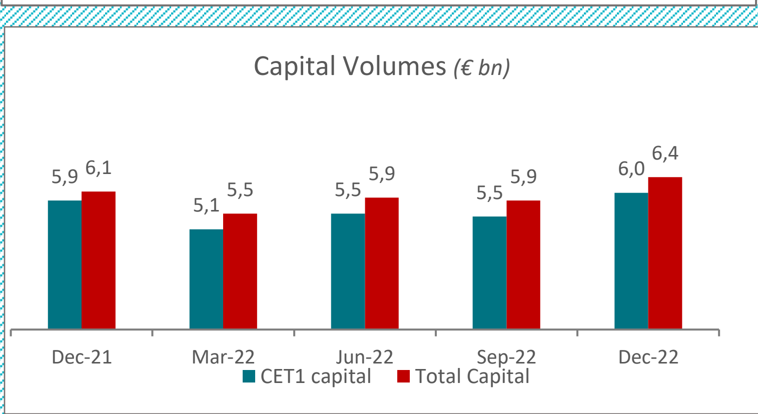
The Bank, as an organization operating in a rapidly growing and changing environment, acknowledges its Group’s exposure to banking risks and the need for these risks to be managed effectively. Risk management forms an integral part of the Group’s commitment to pursue sound returns for its shareholders, maintaining the right balance between risks and reward in the Group’s day-to-day operations, in its balance sheet and in the Group’s capital structure management.

Highlights

- 4Q22 CET1 and Total Capital ratio at 16.6% and 17.7% respectively, reflecting strong profitability and maintaining capital buffers.







1.1 Pillar III Disclosure Policy

Pillar III complements the minimum regulatory capital requirements (Pillar I) and the Internal Capital and Liquidity Adequacy Assessment Processes (ICAAP/ILAAP, i.e. Pillar II). NBG is committed to publicly disclose information in compliance with EU Regulation 575/2013 of the European Parliament and of the Council, as well as all applicable additional EU Regulations and EBA Guidelines, and to have adequate internal processes and systems in place to meet these disclosure requirements.

The Bank has established a Pillar III Disclosures Policy that describes the scope, the principles and the content of public disclosures under Pillar III. Moreover, the Policy defines the relevant disclosures' governance, including the assessment of the appropriateness of the disclosures, their verification and frequency. Disclosures on a consolidated basis provide (inter alia) information on capital structure, capital adequacy, risk profile, and the processes in place for assessing and managing risks.

The Bank is firmly committed to best practices regarding public disclosures and recognizes that Pillar III provides an additional layer of market information and transparency, hence contributing to financial stability. Additional information for investors and other stakeholders (regarding e.g. the members of the management body, the Corporate Governance Code etc) is to be found in the Bank's website www.nbg.gr.

The objectives of the Pillar III Disclosures are:

- To provide investors and other stakeholders with the appropriate, complete, accurate and timely information that they reasonably need to make investment decisions and informed judgements of NBG Group;
- To foster and facilitate compliance with all applicable legal and regulatory requirements.

The Pillar III Disclosures Policy:

- Formulates the disclosure framework, including frequency, location, monitoring and verification process for disclosures;
- Defines the authorities and responsibilities for the management of the Pillar III process;
- Articulates the principles for identifying information that is material, confidential and proprietary;
- Raises awareness of the Bank's approach to disclosure among the Board of Directors, Senior Management and Employees.

2 REGULATORY FRAMEWORK & RECENT DEVELOPMENTS

2.1 Regulatory Framework

2.1.1 The Main Pillars

Several steps have been made towards the European Banking Union (mandatory for all euro area States). The following are the Banking Union's constituent elements:

A. The ***Single Supervisory Mechanism*** that places the ECB as the central prudential supervisor of financial institutions in the euro area. Since November 2014 NBG Group's supervision is assigned directly to the ECB, as NBG is classified as one of the significant banking groups of the Eurozone;

B. The ***Single Resolution Mechanism ("SRM")*** that implements the EU-wide Bank Recovery and Resolution Directive (BRRD – *see next paragraph*) in the euro area. The centralized decision-making is built around the Single Resolution Board ("SRB") and the relevant National Resolution Authorities;

C. The ***Single Rulebook***, a single set of harmonized prudential rules for institutions throughout the EU. Its three basic legal documents are:

   - **CRD IV:** Directive 2013/36/EU of the European Parliament and Council *"on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms"*, transposed into Greek legislation by virtue of Law 4261/2014;
   - **CRR** (Capital Requirements Regulation): Regulation (EU) No. 575/2013 of the European Parliament and Council *"on prudential requirements for credit institutions and investment firms"*, which is legally binding and directly applicable in all Member States; and
   - **BRRD**: Directive 2014/59/EU of the European Parliament and Council *"establishing a framework for the recovery and resolution of credit institutions and investment firms"*, transposed into Greek legislation by virtue of article 2 of Law 4335/2015.

   These documents are complemented by numerous Implementing Technical Standards (ITS), Regulatory Technical Standards (RTS), Guidelines (GL) and Recommendations issued by the European Banking Authority, which specify particular aspects of the CRD IV, the CRR and the BRRD and aim at ensuring harmonization in specific areas. EBA's Technical Standards have to be endorsed by the European Commission (EC) and become EU Regulations in order to be legally binding and directly applicable in all Member States.

   The CRD IV and the CRR constitute the "Basel III" regulatory framework in the EU.

D. ***Deposit Guarantee Schemes***: Directive 2014/49/EU of the European Parliament and Council "on deposit guarantee schemes" (DGSD), transposed into Greek legislation by virtue of Law 4370/2016. A common European Deposit Insurance Scheme (EDIS) is intended to be a pillar of the Banking Union. The EC put forward a relevant proposal in November 2015. However, a common system for deposit protection has not yet been established. Work has started on a roadmap for beginning political negotiations. In December 2018, the European Council stated that it will establish a High-level working group with a mandate to work on next steps. The High-level group should report back by June 2019. On 8 August 2019, EBA published its opinion on the implementation of the Deposit Guarantee Schemes Directive (DGSD) in the EU. The opinion proposes changes in relation to the current provisions on transfers of DGS contributions between DGSs, DGSs' cooperation with various stakeholders, the current list of exclusions from eligibility, current provisions on eligibility, depositor information, the approach to third country branches' DGS membership, the implications of the recent review of the three European Supervisory Authorities (ESAs), and cross-references to other EU regulations and EU directives. The opinion proposed no changes, for example, to the current coverage level of EUR 100,000, provisions on home-host cooperation, cooperation agreements, or the cooperation between the EBA and the European Systemic Risk Board (ESRB).

2.1.2 EU package of Risk Reduction Measures: CRR2 / CRD5 / BRRD2 / SRMR2

On November 23rd, 2016, the EC presented a comprehensive package of reforms aimed at amending CRR, CRD IV, as well as the BRRD and the SRM. The package, known as "CRR2/CRD5", was submitted to the European Parliament and the Council for their consideration and adoption. The Banking Package includes prudential standards adopted by the Basel Committee on Banking Supervision and by the Financial Stability Board (FSB), while its main objective is to reduce risk in the EU banking system.

The Banking Package comprises two regulations and two directives, relating to:

- bank capital requirements (amendments to regulation 575/2013 and directive 2013/36/EU);
- the recovery and resolution of banks in difficulty (amendments to directive 2014/59/EU and regulation 806/2014).

The Banking Package strengthens bank capital requirements and reduces incentives for excessive risk taking, by including a binding leverage ratio, a binding net stable funding ratio and setting risk sensitive rules for trading in securities and derivatives. In addition, it contains measures to improve banks' lending capacity and facilitate a greater role for banks in the capital markets, such as:

- reducing the administrative burden for smaller and less complex banks, linked in particular to reporting and disclosure requirements;
- enhancing the capacity of banks to lend to SMEs and to fund infrastructure projects.

The banking package also contains a framework for the cooperation and information sharing among various authorities involved in the supervision and resolution of cross-border banking groups.

On May 20th, 2019 the relevant legislation 2019/876 was published, and entered into force on 27 June 2019. Furtermore, Greek Law 4799/2021 brought into force Directive (EU) 2019/878 of the European Parliament and of the Council amending Directive 2013/36 / EU as regards excluded entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers and capital conservation measures, as well as Directive (EU) 2019/879 of the European Parliament and of the Council amending Directive 2014/59/EU on absorption capacity losses and recapitalization of credit institutions and investment firms and Directive 98/26/EC.

This marks a milestone in the completion of the Banking Union, in the finalization of the post-crisis regulatory agenda, and in the implementation of international standards. Building on the existing rules, this set of adopted measures addresses the remaining challenges to financial stability, while strengthening the global competitiveness of the EU banking sector. This package had already made subject of an agreement during the inter-institutional negotiations with the Council of the EU.

The main focus areas of Risk Reduction Measures Package are illustrated below:

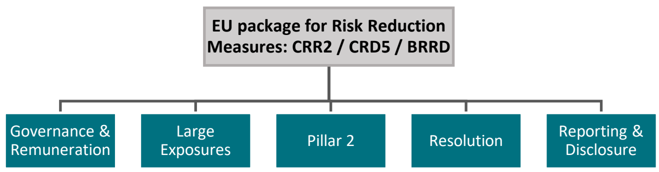


Figure 1: EU package of Risk Reduction Measures

The approved agreement on the package of reforms implements components of the Basel III framework, including the following key aspects:

- Proposal for CRR 2 covers the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, the Standardized Approach for counterparty credit risk (SA-CCR), market risk and the fundamental review of the trading book (FRTB), exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and amends European Market Infrastructure Regulation (EMIR or EU Regulation No 648/2012).
- Proposal for CRD 5 is on exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers, and capital conservation measures.
- Proposal for SRMR 2 is about loss-absorbing and recapitalization capacity for credit institutions and investment firms.
- Proposal for BRRD 2 is on loss-absorbing and recapitalization capacity of credit institutions and investment firms and it amends Directive 98/26/EC, Directive 2002/47/EC, Directive 2012/30/EU, Directive 2011/35/EU, Directive 2005/56/EC, Directive 2004/25/EC, and Directive 2007/36/EC.

However, it excludes the package of Basel reforms that was agreed on 7 December 2017 by the Basel Committee on Banking Supervision (BCBS) often referred to as 'Basel IV' (see relevant section 2.2.4 Basel III / Basel IV).

2.2 Regulatory Developments 2022

2.2.1 Banking Sector in the post COVID-19 era

On December 16th, 2022 the European Banking Authority (EBA) published its closure report of Covid-19 measures, which provides an overview of the wide range of policy measures taken on the back of the pandemic, their state of play and the path out of policy support. Although the EU banking system proved overall resilient, the ample support provided does not give room to complacency, and the framework is to be further strengthened with a loyal and prompt implementation of Basel III. The publication is accompanied by an update to the list of public guarantee schemes (PGS) and general payment moratoria schemes issued in response to the pandemic. Finally, the EBA Guidelines on Covid-19 reporting and disclosure have been repealed in response to the decreasing relevance of the related public support measures, and the overall EBA proportionate approach to reporting.

2.2.2 Supervisory Priorities for 2022-2024

ECB Banking Supervision, in cooperation with the national competent authorities, has performed a thorough assessment of the main risks and vulnerabilities faced by the significant institutions under its direct supervision and has set its strategic priorities for the next three years accordingly. The three priorities identified for 2022-2024 aim to ensure that banks emerge from the pandemic healthy, seize the opportunity to address structural weaknesses via effective digitalization strategies and enhanced governance, and tackle emerging risks, including climate-related and environmental risks, IT and cyber risks. For each priority, ECB Banking Supervision has developed a set of strategic objectives and underlying work programmes, spanning the next three years, which aim to address the most material vulnerabilities identified during this year's risks and priorities exercise.

In November 2022, the Single Resolution Board (SRB) published its 2023 Annual Work Programme, setting out its objectives and priorities for the year ahead. It is the final year of the Multi-Annual Programme (MAP) for 2021-2023. The SRB is committed to ensuring banks make themselves fully resolvable by the end of the coming year, building on the progress achieved so far. The SRB priorities stay unchanged, in line with the SRB's 2021-2023 Multi-Annual Programme. The focus for 2023 will be on achieving resolvability of SRB entities and less significant institutions, fostering a robust resolution framework, carrying out effective crisis management, operationalising the Single Resolution Fund, and targeting improvements to areas such as IT and organisational structure. 2023 will be the last year of a transitional period for the establishment of the main elements of the resolution framework in the Banking Union. All banks and credit institutions under the Single Resolution Board's (SRB's) remit are expected to be resolvable and compliant with the Expectations for Banks (EfB), as well as achieve the final individual banks' Minimum Requirements for Own Funds and Eligible Liabilities (MREL) targets.

2.2.3 Capital

On February 10th, 2022 the ECB announced that it will not extend capital and leverage relief for banks as it sees no need to allow banks to operate below the level of capital defined by their Pillar 2 Guidance beyond December 2022, nor to extend beyond March

2022 the supervisory measure that allows them to exclude central bank exposures from their leverage ratios. Although there is still some uncertainty regarding the impact of the pandemic, banks have ample headroom above their capital requirements and above the leverage ratio requirement.

On December 19th, 2022 the European Banking Authority (EBA) published an updated list of capital instruments that Competent Authorities across the European Union (EU) and for the first time the European Economic Area (EEA) have classified as Common Equity Tier 1 (CET1). Since the publication of the previous update in December 2021, the CET1 instruments compliant with the Capital Requirements Regulation (CRR) and issued by institutions from Iceland, Liechtenstein and Norway have been added to the list. The list will be maintained and updated on a regular basis.

2.2.4 Reporting and Disclosure

Reporting

The EBA reporting framework has evolved over the years with its latest release to have been published on 10 March 2022 (reporting framework 3.2).

The technical package supports the implementation of the reporting framework by providing standard specifications and includes the validation rules, the Data Point Model (DPM) and the XBRL taxonomies for version 3.2. The phase 2 and 3 of the same framework were published in Q2 and Q3 of 2022. The EBA also published a revised list of validation rules for the reporting frameworks currently in use. Phase 1 of the technical package covers the new reporting requirements that include the amendments to the following supervisory reporting frameworks: common reporting (COREP) on own funds, additional liquidity monitoring metrics (ALMM), net stable funding ratio (NSFR), asset encumbrance, global systemically important institutions (G-SII) reporting and Investment Firms). The new reporting requirements apply from December 2022. The technical package for Supervisory Benchmarking and Remunerations will be published respectively in phase 2 and 3.

On December 12th, 2022 the European Banking Authority (EBA) issued a revised list of validation rules for its reporting standards (Implementing Technical Standards, Regulatory Technical Standards and Guidelines), highlighting those which have been deactivated either for incorrectness or for triggering IT problems.

On March 10th, 2023 the European Banking Authority (EBA) issued a revised list of validation rules for its reporting standards (Implementing Technical Standards, Regulatory Technical Standards and Guidelines), highlighting those which have been deactivated either for incorrectness or for triggering IT problems. Competent Authorities throughout the EU are informed that data submitted in accordance with these reporting standards should not be formally validated against the set of deactivated rules.

Disclosure – Pillar III

In November 2021 the EBA published its first draft implementing technical standards (ITS) on Pillar 3 disclosure of institutions' exposures to interest rate risk on positions not held in the trading book (IRRBB). The final draft ITS put forward comparable disclosures that will help stakeholders assess institutions' IRRBB risk management framework as well as the sensitivity of institutions' economic value of equity and net interest income to changes in interest rates. The standards will amend the comprehensive ITS on institutions' public disclosures, in line with the strategic objective of developing a single and comprehensive Pillar 3 package that should facilitate implementation by institutions and further promote market discipline. In addition, given the ongoing EBA work on the policy framework for IRRBB, the standards also include transitional provisions that should facilitate institutions' disclosures while the policy framework is being finalized.

In November 2021, the Basel Committee on Banking Supervision issued revisions to its market risk disclosure requirements to reflect changes to the Minimum Capital Requirements for market risk published in January 2019. The Basel Committee also finalized standards for the voluntary disclosure of sovereign exposures. The final standards comprise three templates covering disclosure of sovereign exposures and risk-weighted assets by jurisdictional breakdown; currency breakdown; and according to the accounting classification of the exposures. The implementation of these templates is only mandatory when required by national supervisors.

2.2.5 EU-wide Stress Test

Stress testing has become an essential tool for supervisors to understand and assess firms' risks, vulnerabilities and risk management capabilities. As concerns about crystallization of significant cyclical economic risks grow, scrutiny of stress testing outcomes is likely to increase.

On November 4th, 2022 the European Banking Authority (EBA) published the final methodology, draft templates and template guidance for the 2023 EU-wide stress test along with the milestone dates for the exercise. The methodology and templates cover all relevant risk areas and have considered the feedback received from industry. On January 31st, 2023 the European Banking Authority (EBA) launched the 2023 EU-wide stress test and released the macroeconomic scenarios. This year's EU-wide stress test is designed to provide valuable input for assessing the resilience of the European banking sector in the current uncertain and changing macroeconomic environment. The adverse scenario is based on a narrative of hypothetical heightened geopolitical tensions, with high inflation and higher interest rates having strong adverse effects on private consumption and investments, both domestically and globally. In terms of GDP decline, the 2023 adverse scenario is the most severe used in the EU wide stress up to now. The severe nature of the adverse scenario reflects a deliberate choice and reflects the purpose of the stress test exercise, which is to assess the resilience of the European banking system to a hypothetical severely deteriorated macro-environment. The results will be published by the end of July 2023.

For the Bank, under the baseline scenario the Fully Loaded ("FL") CET1 ratio reached to 15.5% in 2023 from 12.8% in 2020 (starting point), while under the adverse the FL CET1 ratio, reached to 6.4% in 2023. Given the Static balance sheet methodology, the 2021 SSM Stress Test does not incorporate capital accretive results post 30 December 2020.

2.2.6 Securitisation

Securitisation prudential framework

On December 12th, 2022 the three European Supervisory Authorities (EBA, EIOPA and ESMA – ESAs) published a joint advice in response to the European Commission's October 2021 call for advice on the review of the securitisation prudential framework. The ESAs welcome the current review as an opportunity to assess the performance of the current framework and support the objective of reviving the EU securitisation market. The targeted proposals in the advice aim at improving the consistency and risk sensitivity of the capital framework for banks whereas the liquidity framework for banks and the prudential framework for (re)insurers should be maintained as it currently stands. However, the ESAs believe that re-calibrating the securitisation prudential framework would not be a solution that in itself would ensure the revival of the securitisation market.

2.2.7 ESG Risks

There is a constantly growing concern towards sustainability, green banking and ESG risk measures. In particular, the Publications Office of the European Union has developed tools and mechanisms for the integration of ESG factors into the EU banking prudential framework and into banks' business strategies and investment policies. The study, conducted on behalf of the European Commission, explores the integration of ESG factors into banks' risk management processes, business strategies and investment policies, as well as into prudential supervision. It provides a comprehensive overview of current practices and identifies a range of best practices for the integration of ESG risks within banks' risk management processes and prudential supervision. It outlines challenges and enabling factors associated with the development of a well-functioning EU market for green finance and sustainable investment. The study is based on the collection and aggregation of information from a wide range of representative stakeholders, in order to reflect a full spectrum of views. Findings show that ESG integration is at an early stage, and the pace of implementation needs to be accelerated in order to achieve effective ESG integration into banks' risk management and business strategies, as well as prudential supervision. To support this acceleration, enhancements are particularly required on ESG definitions, measurement methodologies, and associated quantitative indicators. A lack of adequate data and common standards remain key challenges to be overcome to drive ESG integration. Cross-stakeholder collaboration, as well as supervisory initiatives and guidance, will be critical in tackling this global and pervasive topic.

In January 2022, the ECB launched a supervisory climate risk stress test to assess how prepared banks are for dealing with financial and economic shocks stemming from climate risk.

Later in the same year, on December 2022 ECB issued a report on climate stress testing for banks and supervisors to help identify good practices which should serve the industry in advancing in their climate stress testing capabilities and further align with supervisory expectations. The main conclusions derived from the climate stress testing were the following:

- Climate and environmental risks will remain key priorities of the ECB and other European authorities and banks are expected to be able to properly manage their climate and environmental risks by the end of 2024
- Customer relationships will remain key to continuing to close data gaps over the next years
- The ECB observed that banks have developed capabilities to achieve long-term loss projections but at different speeds
- Supervisory climate stress testing will remain a key tool to assess the vulnerability of banks to climate-related risks but also the progress banks make over the next two years.

On 2 February 2022, the European Commission approved in principle a Complementary Climate Delegated Act including, under strict conditions, specific nuclear and gas energy activities in the list of economic activities covered by the EU taxonomy. The criteria for the specific gas and nuclear activities are in line with EU climate and environmental objectives and will help accelerating the shift from solid or liquid fossil fuels, including coal, towards a climate-neutral future.

In February 2022, the European Securities and Markets Authority (ESMA) published a Call for Evidence on Environmental, Social and Governance (ESG) ratings, in order to gather information on the market structure for ESG rating providers in the European Union (EU) and to develop a picture of the size, structure, resourcing, revenues and product offerings of the different ESG rating providers operating in the EU. The ESMA also published an article assessing the implementation of its Guidelines on the disclosure of environmental, social, and governance (ESG) factors in credit rating agency (CRA) press releases, concluding that the overall level of disclosures has increased since the introduction of the Guidelines, but that a high level of divergence across CRAs means there is still room for further improvement. ESMA, to support the EU's efforts in improving the financial sector's resilience and contribution to sustainability, has started developing a climate risk stress testing framework tailored to the specificities of CCPs. The call for evidence seeks stakeholders' views on:

- a proposed classification of climate risks relevant to CCPs;
- the methodology to build an EU-wide climate risk stress testing framework for CCPs;
- how to best calibrate this stress test; and
- the current development of climate risk assessments by CCPs.

On December 13th, 2022 the European Banking Authority (EBA) published its roadmap outlining the objectives and timeline for delivering mandates and tasks in the area of sustainable finance and environmental, social and governance (ESG) risks. The roadmap explains the EBA's sequenced and comprehensive approach over the next three years to integrate ESG risks considerations in the banking framework and support the EU's efforts to achieve the transition to a more sustainable economy. This roadmap on sustainable finance builds on and replaces the EBA's first action plan on sustainable finance published in December 2019. The roadmap ensures continuity of actions assumed under the previous action plan, while accommodating the necessary adjustments following the market and regulatory developments, including new mandates and new areas of focus.

On January 24th, 2023 the European Central Bank (ECB) published a first set of climate-related statistical indicators, to better assess the impact of climate-related risks on the financial sector and to monitor the development of sustainable and green finance, fulfilling another of the commitments of its climate action plan.

On March 13th, 2023 the European Supervisory Authorities (ESAs), together with the European Central Bank (ECB), published a Joint Statement on climate-related disclosure for structured finance products. The Statement encourages the development of disclosure standards for securitised assets through harmonised climate-related data requirements.

ESG Disclosures

Following a public consultation period initiated in March 2021, the EBA published on 24 January 2022 binding standards on Pillar 3 disclosures on ESG risks**.** The final draft ITS put forward comparable disclosures to show how climate change may exacerbate other risks within institutions' balance sheets, how institutions are mitigating those risks, and their ratios, including the GAR, on exposures financing taxonomy-aligned activities, such as those consistent with the Paris agreement goals. Disclosure of information on ESG risks is a vital tool to promote market discipline, allowing stakeholders to assess banks' ESG related risks and sustainable finance strategy. The EBA ESG Pillar 3 package will help to address shortcomings of institutions' current ESG disclosures at EU level by setting mandatory and consistent disclosure requirements, including granular templates, tables and associated instructions. It will also help establish best practices at an international level. In line with the requirements laid down in the Capital Requirements Regulation (CRR), the draft ITS set out comparable quantitative disclosures on climate-change related transition and physical risks, including information on exposures towards carbon related assets and assets subject to chronic and acute climate change events. They also include quantitative disclosures on institutions' mitigating actions supporting their counterparties in the transition to a carbon neutral economy and in the adaptation to climate change. In addition, they include KPIs on institutions' assets financing activities that are environmentally sustainable according to the EU taxonomy (GAR and BTAR), such as those consistent with the European Green Deal and the Paris agreement goals. Finally, the final draft ITS provide qualitative information on how institutions are embedding ESG considerations in their governance, business model, strategy and risk management framework. The EBA has integrated proportionality measures that should facilitate institutions' disclosures, including transitional periods and the use of estimates. The first partial disclosure will take place in 2023 for the disclosure reference date as of the end of December 2022 and will contain only but a part of the information required due to the phase-in of the guidelines.

The EBF response to the above EBA public consultation on draft technical standards on Pillar 3 disclosures of ESG risks period took place in June 2021, where the key points where the following:

- Article 8 reporting requirements should not be included in the Pillar 3 scope and only disclosed under the Taxonomy Regulation Delegated Act.
- ESG Pillar 3 content, scope, and frequency should be aligned with NFRD/ CSRD content, scope, and frequency.
- The ITS requirements should be simplified, aligned with the objective of public risk disclosures, and reflect the maturity of methodological developments as well as the availability of relevant and reliable data. A meaningful reporting to supervisors/survey should be explored until robust methodologies for banks are developed at the EU level.
- The disclosures should focus on the exposures of the banking book which represent the vast majority of banks' risks.
- EBA is recommended to develop a Pillar 3 approach by building blocks. It should commence with a limited number of 'core' templates based on available and high-quality data and methodologies and gradually, the level of granularity should be adapted.

Moreover, the Financial Stability Board backed-up the view that ESG risk disclosures are of high importance, stating in July 2021, that globally consistent and comparable disclosures by firms of their climate-related financial risks are increasingly important to market participants and financial authorities In an environment with a proliferation of third-party frameworks for climate-related disclosures, global alignment of practices will help deliver consistent and comparable disclosures and foster convergence. The implementation of climate-related disclosures, using a framework based on the TCFD Recommendations, would be an important step forward on the path towards convergence with anticipated international reporting standards on climate. Global alignment of practices would help deliver consistent and comparable disclosures and foster convergence.

2.2.8 Recovery & Resolution

On January 13, 2022 the EBA published its final Guidelines for institutions and resolution authorities on improving banks' resolvability. These Guidelines represent a significant step in complementing the EU legal framework in the field of resolution based on international standards and leveraging on EU best practices. On the same day, the EBA launched its consultation paper on Guidelines for institutions and resolution authorities on transferability of parts of or a whole bank in the context of resolution to complement the resolvability assessment for transfer strategies. The **resolvability Guidelines**, taking stock of the best practices developed so far by EU resolution authorities on resolvability topics, set-out requirements to improve resolvability in the areas of operational continuity in resolution, access to financial market infrastructure, funding and liquidity in resolution, bail-in execution, business reorganisation and communication. These Guidelines are addressed to both authorities and institutions in the EU so as to ensure consistent progress on resolvability for all institutions and facilitate resolvability work for cross-border groups and its monitoring in resolution colleges. Institutions and authorities should comply with these Guidelines in full by 1 January 2024. The **draft transferability Guidelines** under consultation aim at assessing the feasibility and credibility of transfer strategies and encompass requirements relating to the implementation of transfer tools when considered as the preferred or alternative strategies for institutions.

In June 2022, the SRB published its updated approach to setting a Minimum Requirement for Own Funds and Eligible Liabilities (MREL). The policy takes into account new regulatory developments, such as the end of the supervisory leverage relief measures of the European Central Bank, changes to the Capital Requirement Regulation (CRR) recently agreed by the EU co-legislators on the indirect holding of internal MREL (iMREL) and the MREL calibration for banks with a multiple point-of-entry resolution strategy.

The policy has also further enlarged the coverage of entities under internal MREL and made the subordination policy more dynamic, taking into account evolving balance sheets prior to resolution. It also complements the SRB approach to internal MREL waiver applications in a new annex.

On November 4th, 2022 the Single Resolution Board (SRB) published its minimum requirement for own funds and eligible liabilities (MREL) dashboard for Q2.2022. The expanded dashboard provides more transparency by category of bank and resolution strategy. The latest dashboard shows that, up to the second quarter of the year, banks have kept the pace when it comes to MREL build-up. Market funding conditions deteriorated in 2022 in light of inflationary pressure and the invasion of Ukraine. In this market environment, sound funding plans are of utmost importance to ensure that all banks are resolvable.

On December 14th, 2022 the European Banking Authority (EBA) published a consultation paper on its draft Guidelines on the overall recovery capacity (ORC) in recovery planning. The Guidelines aim to set up a consistent framework for the determination of the ORC by institutions in their recovery plans and the respective assessment by competent authorities. The consultation run until 14 March 2023. The Guidelines are composed of two sections. The first one addressed to institutions, aims at providing guidance on the relevant steps to set-up a reliable ORC framework. The second one, addressed to competent authorities, complements the framework by harmonising the core elements of the competent authorities' assessment of the ORC from both a quantitative and qualitative perspective.

On February 27th, 2023 the Single Resolution Board (SRB) published its minimum requirement for own funds and eligible liabilities (MREL) dashboard for Q3.2022.

Key findings:

- For resolution entities, the average MREL final target remained broadly stable compared to Q2.2022
- The MREL shortfall (including the CBR) with respect to the final targets continued to decline
- For non-resolution entities, the MREL shortfall against the final targets (including the CBR) rose over the quarter
- The maturity profile of the MREL instruments showed that around 39% of the stock was made of instruments with residual maturities between two and 10 years, while the share of short-term MREL debt (maturing between one and two years) remained low, equal to about 7% of the total.
- Overall, SRB banks issued EUR 75 bn of MREL-eligible instruments, a higher level compared to the previous quarter as well as year-on-year.
- In the final months of the year, market conditions improved significantly and investors' demand in unsecured primary markets was strong. At the end of September, funding costs reached the highest levels since the beginning of 2022, but decreased throughout the last quarter of the year, reaching in December the lowest levels since mid-August. However, they were higher than pre-pandemic levels of the beginning of February 2020.

On January 16th, 2023 the European Banking Authority (EBA) published its annual quantitative Report on minimum requirement for own funds and eligible liabilities (MREL) with data as of December 2021. The Report is complemented by an analysis looking into the impact of the MREL framework on a number of relevant dimensions. As of 31 December 2021, the EBA estimated that 70 banks reported an MREL shortfall of EUR 33bn out of a sample of 245. This is down by 42% compared to last years' quantitative report on MREL on a comparable basis. The Report shows progress in closing MREL shortfalls, albeit at a lower rate for smaller banks, and concludes that the impact of MREL on banks' profitability is manageable, although heterogeneous across types of banks and Member States.

3 NBG's TRANSFORMATION PROGRAM

Following a clear mandate from NBG's Board of Directors, NBG launched a rigorous Transformation Program in the second half of 2018, committing to the delivery of aspiring financial and operational targets. Through more than 4 years of implementation, the Transformation Program has enabled the delivery of impressive results in terms of core profitability – fully in line with the Bank's financial and business targets and tangible improvements to NBG's business and operating model.

NBG's Transformation Program has been designed and is being delivered across Workstreams, each led by a senior executive of the Bank. While Workstreams broadly coincide with the accountable executives' functional areas, cross-functional collaboration is strongly encouraged and enabled by the Transformation Program.

During 2022, the Program was structured along specific Workstreams as follows:

- **Best Bank for our Clients:** Enhancement of income generation capacity through increasing focus on sales and servicing across all customer touchpoints in Corporate & Retail; market leadership in digital business and expansion of offering through strategic partnerships.
- **Healthy Balance Sheet:** Completion of the NPE clean-up, resolution of legacy balance sheet issues and leveraging of internal capabilities in NPE management to capture emerging market opportunities.
- **Efficiency & Agility:** Rigorous control of staff costs, through capacity planning and targeted exit schemes, and non-staff costs, through continued spend discipline.
- **Technology & Processes:** Modernisation of technology infrastructure, including the launch of the Core Banking System (CBS) replacement program, and reengineering of core processes through centralisation and automation.
- **People, Organization & Culture:** Development, motivation and reward of our people through a modern HR framework, and enhancement of our culture in line with our purpose and values.
- **Environment, Society & Governance (ESG)/ Enterprise Risk Management (ERM):** Enhancement of ESG & ERM framework, with a focus on build-up of internal practices with respect to climate-related & environmental risk strategy & management.

The Program was initially structured into six-month Seasons. This setup helped gain the necessary pace in the early years and ensured that the Bank remained focused. From 2022 onwards, recognizing the increased maturity and ownership of the involved stakeholders, the Program transitioned to an annual planning horizon, in line with the budget, IT plan and performance management cycles of the Bank.

The Bank maintains its agility as new initiatives can be added to the Transformation Program, while existing ones are adjusted or removed throughout the year, in line with business developments and strategic priorities.

Transformation Program priorities for 2023

During 2023, the Bank is pursuing the following strategic priorities:

- **Best Bank for our Clients:** Boosting revenue generation through an increased focus on cross-selling and fee generation opportunities in Retail banking, and through deepening large client relationships and broadening the SME client base in Corporate banking;
    - In the case of Retail banking, we continue to strengthen our relationship managers' frontline (primarily for the Small Business and Premium segments), a stronger focus on fee-generating products (e.g., investment products, cards and bancassurance), and further enhancement of sales capacity through third party partnerships (e.g., retailers, e-commerce, agents).
    - In the case of Corporate banking, we are strengthening the relationship managers' frontline with a comprehensive set of commercial tools, enabling them to spend more time on sales of lending and non-lending products in collaboration with the CTB unit.
    - Across Retail and Corporate, we are enhancing our range of solutions to enable the transition of households and businesses to a more sustainable model. A core part of our strategy remains to support Greek businesses in capturing opportunities in the context of the Recovery & Resilience Facility ("RRF"), including funding for investments in the context of green transition.
    - Across segments, advanced analytics use improves clients' targeting, while digital channels and strategic partnerships with third parties play an increasingly important role in onboarding, engaging, and selling to customers.
- **Specialized Asset Solutions:** Capturing revenue generation opportunities in the emerging ecosystem of investors and servicers (e.g., acquisition financing, REOCo financing).
- **Efficiency & Agility:** Further enhancing efficiency and productivity through continuous improvements in the Bank's business and operating model, and reducing areas of high external spend such as real estate, factoring in a flexible working model.
- **Technology & Processes:** Implementing the new CBS to enable revenue generation and cost efficiencies in the medium term, enhancing digital and data infrastructure, as well as migrating to a cloud-enabled environment; rolling out the required infrastructure to transition to a paperless operating model across the organisation; further optimizing core processes (both customer-facing and internal) through simplification, centralization, and automation levers (incl. the application of new technologies, such as RPAs, AI and OCR).
- **People, Organization & Culture:** Continuing to modernise HR processes and practices to attract, mobilise and incentivise our people; further developing talent through flagship leadership programs for high potential talent, coupled with "on demand" learning and targeted curricula for priority roles; rolling out comprehensive actions to enhance the Bank's corporate culture and desired behaviours in line with our core values.

- **ESG:** Incorporating climate-related and environment considerations in the Bank's business strategy, including: Setting specific targets with respect to our direct and indirect GHG emissions, and capturing business opportunities in green, sustainable and transition finance, as households and businesses transition to a more sustainable model.
    - Addressing the business challenges and managing the risks emanating from climate and environment change and adhering to the highest disclosure standards, including non-financial and ESG reporting.

Table 1: ESG related Transformation Program initiatives

Initiative	Objectives
Net Zero ambition	• 2022 Financed Emissions measurement; • Financed Emissions methodology documentation & internal model for the calculation of proxies where required; • Net Zero (scope 1&2) targets setting & approval by the ESG Management Committee; • Net Zero (scope 3 incl. Financed Emissions) targets setting & approval by the ESG Management Committee; Net Zero Banking Alliance go / no-go decision.
EU Taxonomy implementation	• Eligibility Coverage Ratio calculation as at YE:2022; • Methodology development for flagging 'Green' & 'Transition' financing; • Business specs definition for systemically applying EU Taxonomy on Bank's back-book; • Green Asset Ratio calculation as at YE:2023.
C&E Credit Risk Capabilities	• ESG scorecards testing to ensure provision of adequate risk-based info; • C&E risks integration in lending policies; • C&E credit risk classification & monitoring enhancement; • Risk mitigation measures for collaterals (where appropriate); • Incorporation of C&E risks into loan pricing (commercial margin).
C&E Scenario Analysis & Stress testing	• Gap analysis of toolkit and high-level roadmap for development of forward-looking Scenario Analysis & Stress Testing capabilities; • Adoption of methodology for portfolio diversification and associated impact analysis, in conjunction with Net Zero targets; • Execution of a set of forward-looking Climate risk Stress.
ESG Reporting Platform	• Systemic implementation of internal ESG reporting, with enhanced & tailored 'dashboards' for different managerial reporting needs; • External reports & disclosure requirements' mapping and key metrics (and the calculation thereof) link on to the ESG Software solution being developed.
C&E Pillar 3 Disclosures	• Submission of Phase 1 C&E Pillar 3 templates in line with regulatory timeline as well as FY:2022 Financial results; • Business Requirements for systemic implementations to IT infrastructure for Phase 1; • Identification of C&E Pillar 3 quantitative & qualitative requirements, data gaps and data owners for phase 2, decide for proxies for phase 2 missing information; • Specifications completion for systemic implementations serving Pillar 3 phase 2 and subsequent submissions; • Identification of C&E Pillar 3 quantitative & qualitative requirements, data gaps and data owners for phase 3, decision for proxies for phase 3 missing information.
C&E Combined Risk reporting	• Enterprise-level C&E risk reporting (primarily for internal purposes) to enable the holistic monitoring and control of C&E KRIs (phased-in approach, leveraging across risk types).
ESG data architecture	• Functionality implementation in EDW to support data needs of H1:2023 Pillar 3 C&E disclosures; • Design of homogenized ESG reporting architecture and initiation of building thereof; • Implementation of centralized capability in EDW to address ESG data requirements ensuring data availability and scalability for future needs.
Climate & Environment awareness	• Completion of Climate and Environmental awareness course to Top Management and ESG working teams.

4 RISK MANAGEMENT FRAMEWORK

4.1 Basic Principles and governance structure of the Group risk management

Risk management and control play a fundamental role in the overall strategy of the Group, aiming to both effectively manage the risks of the organization and to align with the legal and regulatory requirements.

The Group aims at adopting best practices regarding risk governance, taking into account all relevant guidelines and regulatory requirements, as set by the Basel Committee on Banking Supervision (BCBS), the European Banking Authority (EBA), the European Central Bank (ECB) \ Single Supervisory Mechanism (SSM), the Bank of Greece (BoG), the Hellenic Capital Market Commission (HCMC) legislation, as well as any decisions of the competent authorities supervising the Group's entities.

Group Risk Management Governance Framework

Group Risk management at NBG has a structured and tiered approach, based on a number of governance bodies, internal policies and procedures, and controls framework.

The Board of Directors bears ultimate accountability for NBG's risk position. It signs off on the risk strategy and risk appetite, and monitors the effectiveness of risk governance and management advised by its two specialized committees: the Board Risk Committee (BRC) and the Board Audit Committee (BAC). The Bank's Senior Executive Committee (ExCo) and other committees, supporting the Senior Executive Committee are in charge of daily management actions and steer of the business. The Group Chief Risk Officer (CRO) is a member of the Senior Executive Committee. The CRO has direct access to the Board of Directors, has delegated decision-authority for executive matters over Risk and leads the Group Risk Management Function.

The Group Risk management Function has specialized teams per risk type. The Group Risk Management Function's teams conduct day-to-day risk management activities according to policies and procedures as approved by the BRC, the Senior Executive Committee and other executive committees. The perimeter is based on the industry standard "Three Lines of Defense" model (please see below). The Group Risk Management Function's activities are supported by underlying systems and infrastructure. Finally, risk culture is viewed as a core component of effective risk management, with the tone and example set by the Board of Directors and the Senior Management. Objective of the Bank is to establish a consistent Risk Culture across all Units.

Hence, there are four layers relevant to Risk Management, all rolling up into the Board of Directors:

1. Oversight and approval

At the top of the house, the members of the Board are responsible for oversight and approval on governance structures of NBG, ensuring the right frameworks and policies are in place to ensure the bank can be effectively managed.

2. Executive management actions & sign-off

The Executive management layer (ExCo and other executive committees) decides on management actions, signs off on materials produced and reported, and actively steers the bank.

3. Methodology and framework

Procedures and methodologies are in place to guide risk management, e.g. credit approval procedures, model development and validation, product assessments.

4. Execution and analysis

The execution layer is in charge of implementing the frameworks, models and policies set forth by the aforementioned layers, and provide the Board and the executive committees with relevant analyses and results to base their decisions upon.

The Board Risk Committee

The Group has clearly defined its risk appetite and has established a risk strategy and risk management policies. Ultimately responsible for the development and application of this general framework of risk management at a Group level is the Board of Directors (the Board) supported by the Board Risk Committee (BRC).

The BRC reviews and proposes to the Board on an annual basis, or more frequently if necessary, the Bank's risk strategy and risk appetite for approval, and ensures that the Bank's risk appetite and risk strategy are clearly communicated throughout the Bank and form the basis on which risk policies and risk limits are established at group, business and/or regional level. It also reviews and proposes to the Board of Directors for approval all risk management frameworks, methodologies and policies for identifying, measuring, evaluating, monitoring, reporting and mitigating risks, including frameworks, methodologies and policies related to credit risk (inclusive of material aspects of the credit rating systems), market risk, liquidity risk, interest rate risk in the banking book, operational risk, model risk and model validation. The BRC has the responsibility to review reports and evaluate the overall risk exposure of the Bank and the Group on a regular basis, taking into account the approved risk strategy and the business plan of the Group, to develop proposals and recommend corrective actions for consideration by the Board regarding any matter within its purview. The proposals to the BRC are submitted by the Group Chief Risk Officer (CRO).

The Committee has competence over matters relevant to Risk Management, as well as Non-Performing Loans/Exposures (NPLs/NPEs).

Within the context of the Board Working Model of the Bank, topics related to areas of responsibility of the Committee shall also be discussed at the Board of Directors level as this may be required particularly as regards issues pertaining to important matters which shall be discussed at Board of Directors level.

The BRC convenes regularly at least on a monthly basis, and on an ad hoc basis whenever the Committee Chair deems fit.

During 2022, the Board Risk Committee convened eleven times. In the context of its responsibilities and during the course of the year, key workings of the Committee included:

- Review and update of ICAAP/ILAAP Annual Review and Update of ICAAP/Stress Test Frameworks, Risk Appetite Framework with additions among others in the area of ESG/Climate & Environmental Risk, New Obligors Leveraged Transactions, Concentration Risk and refinements/reclassifications aimed at enhancing oversight and monitoring processes & Risk and Capital Strategy and ongoing monitoring of compliance.

- Enhancements in risk reporting.
- Review of Operational Risk Management Framework & Policy documents, incorporating BCBS Principles (Sound Management of Operational Risk & Operational Resilience) and aligned to the new NBG Risk Taxonomy Framework.
- Ongoing-monthly updates on Risk Management issues and ad hoc briefings on developments.
- Review of NBG's Operational Risk KRI Dashboard, as well as KRI Dashboards for major domestic and foreign subsidiaries.
- Submission of ICAAP, ILAAP, NPE Plan & NPE Strategy Implementation report.
- Oversight of matters/risks relevant to Geopolitical Crisis.
- Review of regulatory reports and disclosures (Pillar III Disclosures, Bank of Greece Report of Loans in Arrears, Annual Report to the Bank of Greece on Risk Management Function activity).
- Oversight of the Bank's Risk related ESG project (e.g. qualitative scorecard development & calibration, internal Stress testing framework, to incorporate ESG components and other updates).
- Review of Policies (e.g., Group Property Valuation Policy Business Continuity and Disaster Recovery Policy), review of the Recovery Plan.
- Review of top corporate exposures, NBG Loan portfolio Quality Benchmarking, NBG cybersecurity posture.
- Review of Credit Risk Models used (IFRS 9 SME Retail PD, IFRS 9 SME Retail LGD, IFRS 9 Consumer Term Loans LGD).
- Briefings and monitoring of results of 2022 ECB Climate Stress Test.
- Review of Stress scenarios & sensitivity analyses contributing to the Strategy setting and evaluation process, including Budget approval for 2023.
- Review of NPE Strategy & Targets 2022-24.
- Implementation of Risk Awareness Enhancement Initiatives.
- Oversight of NBG Risk Culture Program.
- Review and monitor the Top Operational Risks of the Group.

The BRC shall be composed exclusively of non-executive Board members. One member shall be the HFSF Representative at the Board of Directors. Committee members shall be at least three in number, the majority of which (excluding the HFSF representative), including the Chair, shall be independent non-executive members of the Board, in accordance with the definition of independence included in NBG's Corporate Governance Code and in any case according to the provisions of the legal and regulatory framework in force . The members of the Committee (including the Chair and Vice-Chair) are appointed by the Board of the Bank, following recommendation by the Board's Corporate Governance and Nominations Committee. The Committee is currently composed of four non-executive Members, of which three are independent and one is the HFSF Representative at the Board of Directors. The Committee members shall be appointed for a term of one year, which shall be automatically renewed for successive one-year renewal terms, unless otherwise decided. In any case, the mandates of the Committee members shall automatically expire if they cease to be members of the NBG Board of Directors.

The Committee Charter was last updated in March 2022, and is available on the Bank's website www.nbg.gr

"Three Lines of defence" model in the Group's risk management

The Group's risk management is spread on three different levels, in order to create Three Lines of Defense, as follows:

- **First line:** The risk taking units (e.g. credit originating departments, Treasury) are responsible for assessing and minimizing risks for a given level of expected return by establishing and implementing internal rules and controls to the on-going business.
- **Second line:** The Group Risk Management Function oversees, monitors, controls and quantifies risks; provides appropriate tools and methodologies, coordination and assistance to lines of business; provides input towards the measurement of risk adjusted performance across business line; participates in the credit approval process for the Group's corporate banking, retail banking and subsidiaries portfolios; performs independent assessment of credit risk undertaking in respect of each portfolio and has the right of veto; proposes appropriate risk mitigation measures, supported by local Risk Management (for subsidiaries) and specialized units (for the Bank):
  - Additionally, under the Second line, the Group Compliance Function ensures that all front line Units meet regulatory and other compliance requirements, through monitoring, advising and training.
  - Moreover, the Group Risk Management Function cooperates with the Organization & Planning Division, the Group Internal Control Function, the Group CyberSecurity Division, the Group Security Division and the Legal Division. These Divisions provide support, advice, appropriate tools and methodologies, acting as control units for specific Operational Risk Themes (e.g. Legal risk, Information & Communication Technology (ICT) risk) as well as ensuring the Bank's business continuity and mitigation of physical threats.
- **Third line:** The Internal Audit function of the Group, which reports directly to the Board of Directors through the Audit Committee, complements the risk management framework, acting as an independent reviewer, focusing on the effectiveness of the risk management framework and control environment.

The duties and responsibilities of all lines of defense are clearly identified and separated, and the relevant Units are sufficiently independent.

The Group Risk Management Function

The organizational chart and reporting lines of NBG Group Risk Management Function are depicted in the figure below:

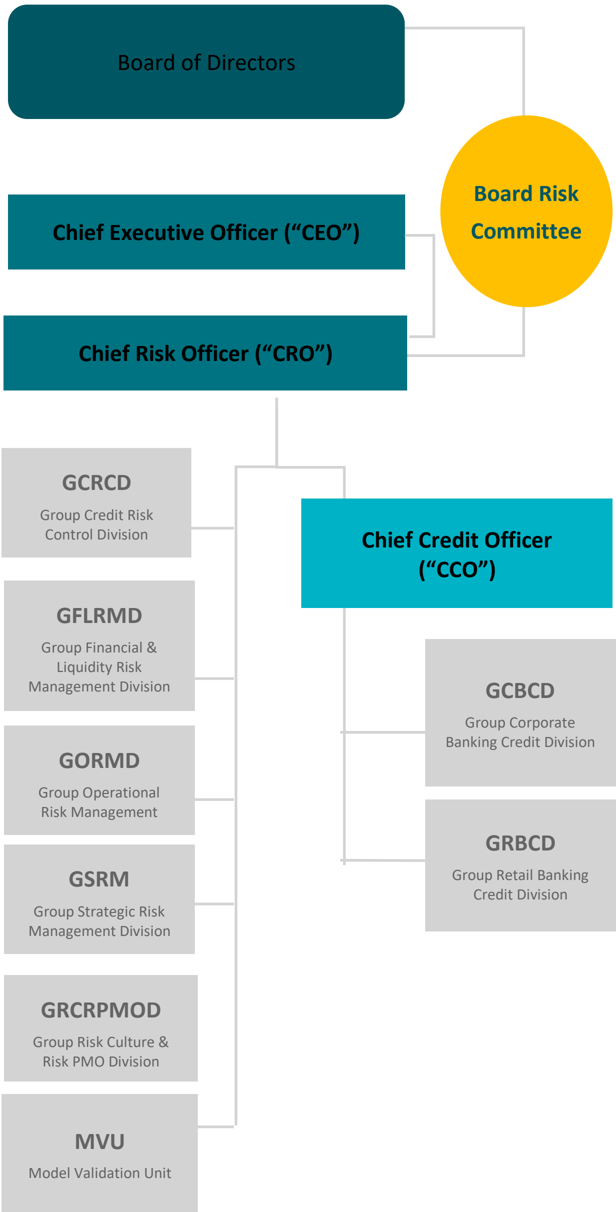


Figure 2: Organizational Chart of Risk Function

The CRO reports to the CEO, has direct access to the BRC and is its main rapporteur. The CCO, is operating under the CRO, supervises two Credit Divisions, as above, which are involved in the credit approval process for the Group's corporate banking, retail banking and subsidiaries' portfolios.

Group Risk Management

The Bank acknowledges the need for efficient risk management and has established five specialized Divisions and one Unit: the Group Credit Risk Control Division (GCRCD), the Group Financial and Liquidity Risk Management Division (GFLRMD), the Group Operational Risk Management Division (GORMD), the Group Strategic Risk Management Division (GSRM), the Group Risk Culture and Risk PMO Division (GRCRPMOD) and the Model Validation Unit (MVU), to properly identify, measure, analyze manage, and report the risks, entailed in all its business activities. All risk management units of the Group subsidiaries adequately report to the aforementioned Divisions/Unit.

In addition, the two Credit Divisions, which are independent of the credit granting units, are involved in the credit approval process for the Group's corporate banking, retail banking and subsidiaries portfolios. They perform an independent assessment of the credit risk undertaking in respect of each portfolio and have the right of veto (see Section 4.2).

Based on its charter, the mission and the constitution of each Division/Unit are as follows:

Group Credit Risk Control Division (GCRCD)

The mission of the GCRCD is to:

- design, specify and implement the Bank's policy in matters of credit risk management (provision, identification, measurement, monitoring, control) and ensuring the Bank's capital adequacy, according to the guidelines set by the Bank's Board of Directors, emphasizing on rating systems, risk assessment models and risk parameters;
- and implement credit risk policies emphasizing on rating systems, risk assessment models and risk parameters, according to the guidelines set by the Bank's Board of Directors;
- establish guidelines for the development of methodologies for Expected Credit Loss (ECL) and its components, i.e. Probability of Default (PD), Loss Given Default (LGD) and Exposure at Default (EAD) for each segment of corporate and retail asset class;
- implement a number of clearly defined and independent credit risk controls on credit risk models, which enable an effective oversight of risks emerging from credit activities at all levels. These controls are appropriately executed, and the results are documented and communicated to the business units on a quarterly basis. GCRCD itself monitors these controls on a quarterly basis, assuring they are operating effectively and remain altogether sufficient for the purposes they were established;
- provide regular assurance that models continue to perform adequately, thus complementing the periodic monitoring and usage reviews;
- assess the adequacy of methods and systems that aim to analyze, measure, monitor, control and report credit risk undertaken by the Bank and other financial institutions of the Group;
- coordinate all involved units and stakeholders for the estimation of Internal Capital against all material risks (ICAAP), perform scenario and sensitivity analysis for specific credit risk cases, prepare and submit the required ICAAP package to the regulatory authorities;
- prepare credit risk reports, in collaboration, when required, with the relevant units, for the purpose of either internal evaluation and information or supervisory evaluation procedures;
- coordinate all involved Units and stakeholders during the review and update of the RAF document, provide significant input to the update of the RAF across RAF elements, including, in addition to RAF indicators and thresholds, governance arrangements, principles that govern the Risk Appetite Framework ("RAF") promptly inform the upper management for any threshold breach thereof; and
- provide advisory support to every other unit of the Bank and the Group in matters concerning the entire range of its responsibilities, through models, procedures and analyses.

The GCRCD consists of the :

- Credit Risk Control & Model Development Sector, which in turn consists of the Corporate Credit Risk Control Subdivision, the Retail Credit Risk Control Subdivision, the Corporate Credit Risk Model Development Subdivision, and the Retail Credit Risk Model Development Subdivision;
- Credit Risk Reporting (Regulatory & Internal) Sector, which in turn consists of the Credit Risk Regulatory Reporting Subdivision and Credit Risk Internal Reporting Subdivision;
- ICAAP, & Risk Appetite Framework Monitoring Subdivision.

Group Financial & Liquidity Risk Management Division (GFLRMD)

The mission of the GFLRMD is to:

- plan, specify, implement and introduce market, counterparty, liquidity and Interest Rate Risk in the Banking Book (IRRBB) risk policies, under the guidelines of the Bank's Board of Directors;
- develop and implement in-house models for pricing and risk measurement purposes;
- run appropriate tests to ensure that the models continue to perform adequately, thus complementing the periodic validation reviews;
- assess the adequacy of methods and systems that aim to analyze, measure, monitor, control and report the aforementioned risks undertaken by the Bank and other financial institutions of the Group;
- independently evaluate financial products, assets and liabilities of the Bank and the Group;
- estimate Regulatory Capital required in respect with market risk and counterparty credit risk, calculate the regulatory metrics for Liquidity Risk and IRRBB and prepare relevant regulatory and MIS reports; and
- provide timely and accurate information to the Bank's senior competent bodies (the BRC and the Asset Liability Committee (ALCO) and the Regulator (SSM)), with sufficient explanatory and investigation capabilities on the materiality and trend of the aforementioned risks, as well as handle all issues pertaining to market, counterparty, liquidity and IRRBB risks, under the guidelines and specific decisions of the BRC, the ALCO and the SSM.

The GFLRMD consists of the:

- Market Risk & Counterparty Credit Risk Management Sector, which in turn consists of the:
  - Market Risk Management Subdivision;
  - Counterparty Credit Risk Subdivision;
  - Market Risk and Counterparty Credit Risk Stress-testing and ICAAP framework monitoring Subdivision.
- IRRBB and Liquidity Risk Management Sector which in turn consists of the:
  - IRRBB Management Subdivision;
  - Liquidity Risk Management Subdivision;
  - ILAAP Framework Monitoring Subdivision;
  - IRRBB Stress-testing Subdivision.
- Financial Risks' Models Development Subdivision.

Group Operational Risk Management Division (GORMD)

The mission of the GORMD is to:

- design, propose, support and periodically validate the Operational Risk Management Framework ("ORMF"), ensuring that it is aligned with the best practices, the regulatory requirements and the directions set by the Board of Directors;
- ensure the development of policies, methods and systems for the identification, measurement and monitoring of operational risks and their periodic assessment and ratification;
- design and implement training programs on operational risk, the use and implementation of programs, methods and systems as well as any other action aiming at knowledge sharing and the establishment of operational risk culture Group-wide;
- address all operational risk related issues as per the directions and decisions of the BRC;
- continuously monitor and review the Group operational risk profile and report to the Management and the Supervisory Authorities.

The GORMD consists of the:

- Operational Risk Framework Implementation Sector, which in turn consists of the Operational Risk Program Implementation, the Information & Communication Technology ("ICT") Risks Oversight and the Operational Risk Internal Events Collection Subdivisions;
- Operational Risk Framework Development Subdivision;
- Operational Risk Reporting Subdivision; and
- Operational Risk Awareness and Training Subdivision.

Group Strategic Risk Management Division (GSRM)

The mission of GSRM, is shaped taking into account the wide spectrum of risks that may be correlated to the Group's Strategy, in alignment with the prevailing business needs. GSRM is responsible for:

- monitoring, analyzing and evaluating risks that are evident or related to the Business Strategy of the Group and may negatively impact the profitability and the dynamic structure of the Balance Sheet for both the Bank and/or the Group;
- analyzing the hypothesis and assumptions embedded in the Strategic Planning, Business Planning (business model mapping), and Future Profitability;
- analyzing of risks related to the implementation of the Business Strategy;
- analyzing risks and potential impacts measured via appropriate Key Risk Indicators (KRI's) and stemming from deviations in relation to the expressed targets set in the Business Strategy & Business Planning;
- developing scenarios and the execution of Stress Testing Exercises;
- performing sensitivity analyses related to the risks entailed in the dynamic profitability evolution and of the Asset & Liability Structure;
- monitoring the development, execution, and revising of financial targets related to the Strategy of NPE's;
- selecting and using appropriate performance measures which are adjusted based on risk (risk-adjusted performance metrics) aiming to evaluate the Strategy Risks;
- executing industry wide Stress Test exercises according to regulatory demands and guidelines (EBA, SSM, etc) in cooperation with the involved units;
- executing modelling and sensitivity analyses under different scenarios;
- monitoring of the evolution of NPEs;
- monitoring of the dynamic evolution of Assets & Liabilities (Dynamic Asset Liability Management ("ALM")), and

- exercising a holistic overview on Climate and Environmental (C&E) risk management activities, being the central C&E reference point within Risk Management and the primary liaison between Risk Management and Business Strategy stakeholders for ESG matters, with a main focus on C&E aspects. It aims to align C&E risk management processes involving the different risk divisions/experts across risk types (including the C&E Stress testing).

The GSRM consists of the:

- Business Strategy Risk Monitoring Sector which in turn consists of the Profitability Risk Monitoring Subdivision, the Business model Risk & Risk Adjusted Performance Monitoring Subdivision & the Strategic Risk Evaluation & Action Planning Subdivision;
- Scenario Planning & Analysis Sector which in turn consists of the NPE Monitoring Subdivision, the Stress Testing & Sensitivity Analysis Subdivision & the Integrated Forecasting & Stress Testing Platform Management & Strategic Risk Evaluation Tools Subdivision and
- Dynamic Modelling & Asset Liability Management Subdivision.

Group Risk Culture &Risk PMO Division (GRCRPMOD)

The mission of the GRCRPMOD is to:

- measure, monitor, control and report the Group's Risk Culture to Senior Management, as well as to develop and coordinate, in collaboration with the Risk Culture stakeholders, the Risk awareness enhancement activities for the reinforcement of Risk Culture across the Group;
- coordinate project management activities related to Risk Management Function projects;
- support the Risk Management Function's Units with regards to activities that fall under the responsibilities of the Segment Risk and Control Officer ("SRCO").

The GRCRPMOD consists of the following :

- the Risk Culture Subdivision;
- the Risk PMO Subdivision;
- the Risk Segment Risk & Control Subdivision.

Model Validation Unit (MVU)

MVU's responsibility is to:

- establish, manage, and enforce the Model Validation Policy based on applicable regulatory guidance and requirements;
- develop new and enhance the existing Model Risk Management standards;
- update the Model Validation Policy based on applicable regulatory guidance and requirements;
- communicate and escalate model risk assessments to the Board of Directors, the BRC, the CRO and the Senior Management;
- independently validate and approve new and existing models based on their materiality;
- document material model changes in the validation reports;
- recertify models on a regular basis, depending on their materiality and review the results of on-going model monitoring.

The MVU consists of the:

- Market Risk Models Validation Subdivision;
- Retail Credit Risk Models Validation Subdivision; and
- Corporate Credit Risk Models Validation Subdivision.

Group Corporate Banking Credit Division (GCBCD)

The mission of the GCBCD is to participate in the independent function of credit risk management of the corporate portfolio of the Bank and its Subsidiaries and Branches outside Greece. GCBCD's key responsibilities are:

- participation in the Credit Committees for corporate clients with the right of veto;
- review all Corporate (incl. SAU and SAS) credit proposals, submitted for assessment and approval by the competent credit committees;
- review the outcome of the individual assessment for impairment of lending exposures performed by the Credit Granting units for the corporate portfolio of the Bank;
- participation in the formulation/revision of Corporate Credit Policies and Credit Procedures Manuals and other relative regulations;
- drafting and circulation of guidelines/instructions for the effective implementation of relevant policies and regulations;
- participation in the classification process of Obligors;
- Monitoring of the implementation and the timely management of the Early Warning alerts for each corporate client of the Bank as well as the outcome of relevant actions;
- Monitoring, on a quarterly basis, the proper use of existing internal rating models for corporate clients of the Bank; and
- Monitoring on a monthy basis of the timely renewal of credit ratings and limits of corporate clients of the Bank.

Group Retail Banking Credit Division (GRBCD)

The mission of the GRBCD is to provide an independent assessment of domestic and international retail credit. This is achieved through the following:

- manage the Retail Credit Policy in co-operation with GCRCD;
- form the relevant Retail Banking Regulations;
- participate in the development of Retail products in all stages of the credit cycle (new credit, rescheduling, restructuring) and determine the framework and dynamic controls of the relevant credit criteria;
- set in detail through the frameworks referred in the relevant Regulations the appropriate approval procedure;
- participate in decision-making, in accordance with the approval authority tables, based on the credit proposals of the relevant Credit Granting units, which are solely responsible for the correct presentation of the quantitative and qualitative data contained in those. The GRBCD reviews the correct implementation of the Credit Policy and Regulations.

The GRBCD consists of the:

- Retail Banking Credit Policy Subdivision (Domestic);
- Applications Assessment Subdivision (Domestic);
- Portfolio Analysis (Domestic) & International Subsidiaries Retail Credit Subdivision; and
- Credit Policy Implementation Review Subdivision.

Each Division/Unit has distinct responsibilities and covers specific types of risk and all Divisions/Units report ultimately to the CRO.

Risk Appetite Framework

Following work during 2018 and early 2019, the Bank recently established a new, enhanced Risk Appetite Framework (RAF) adhering to the best international practices.

GCRCD has in place Risk Appetite Framework (RAF). The objective of the RAF is to set out the level of risk that the Group is willing to take in pursuit of its strategic objectives, also outlying the key principles and rules that govern the risk appetite setting. The RAF constitutes an integral part of the Group's Risk Strategy and the overall Group Risk Management Framework. The RAF has been developed in order to be used as a key management tool to better align business strategy, financial targets and risk management, and enable a balance between risk and return. It is perceived as a reference point for all relevant stakeholders within the Bank, as well as the supervisory bodies, for the assessment of whether the undertaken business endeavors are consistent with the respective risk appetite.

An effective RAF is fundamental to a strong risk management and governance framework. The RAF is not just a Key Performance Indicator (KPI) monitoring system; it constitutes an essential mechanism to support the Board of Director's oversight of the strategy execution within the risk boundaries that the Group is willing to operate. Through the RAF, overall aspirations of the Board of Directors are translated to specific statements and risk metrics, enabling planning and execution, while promoting firm-wide thinking. In 2021, the RAF was updated to reflect the latest developments and to get aligned with the new Business Plan of the Group.

NBG has in place an effective RAF that:

- is formed by both top-down Board of Directors guidance and leadership and bottom-up involvement of the Senior Management and other Stakeholders, and understood and practiced across all levels of the Bank;
- incorporates quantitative risk metrics and qualitative Risk Appetite statements that are easy to communicate and assimilate;
- supports Group's business strategy by ensuring that business objectives are pursued in a risk-controlled manner that allows to preserve earnings stability and protect against unforeseen losses;
- reflects the types and level of risk that the Bank is willing to operate within, based on its overall risk appetite and risk profile, sets the guidelines for new products development, as well as the maximum level of risk that the Group can withstand, through the risk capacity;
- contributes in promoting a risk culture across the Group;
- is aligned with other associated key processes of the Bank.

Within this context, the RAF allows:

- to strengthen the ability to identify, assess, manage and mitigate risks;
- to facilitate the monitoring and communication of the Bank's risk profile quickly and effectively.

The assessment of the Bank's risk profile against the RAF is an ongoing and iterative process. With regards to the timing that the RAF update takes place (as part of the regular annual update process), the interaction with other key processes of the Bank is taken into consideration. Specific focus is placed to RAF's interplay with the Business Plan, as the two processes feed into each other: in certain cases the risk appetite is expected to act as backstop/constraint to the Business Plan, while for other cases, the Business Plan provides input for setting risk tolerance levels. RAF is also interrelated with other key processes such as ICAAP, ILAAP, Recovery Plan, NPE Plan.

Risk Profile Assessment

In February 2022, the Bank enhanced its Risk Taxonomy and developed a stand-alone Risk Taxonomy Framework document in order to define and outline risk types and ensure the full alignment in ICAAP and RAF.

The Group assesses the materiality of risks in a forward looking, dynamic approach. The process takes into account information collected from various sources and internal expertise, in order to address the full spectrum of risks which may have a material impact on its capital position. These sources include, but are not limited to, business and risk analyses, consultation with internal and external stakeholders, regulatory and supervisory analyses and publications and audit report findings. With regards to the risk identification and materiality assessment process, the Bank follows the gross approach, as suggested by the regulator, using a common (internal) definition of materiality across all the employed Business Units. On top of this, qualitative and quantitative criteria have been established. More specifically, a risk type is categorised as material, in case at least one of the following criteria is satisfied:

- **Quantitative:** a significant impact (specific threshold) is estimated in CET1 capital, upon the realization of these risks.
- **Qualitative:** any risk that may affect the future profitability and capital adequacy of the Bank.

The outcome of the materiality assessment is used in the ICAAP exercise as described in the following section. The Risk Profile is also assessed through the RAF Dashboard that is reported on a monthly basis to the Senior Management, as well as in the ICAAP Report where its forward-looking dimension is presented.

Internal Capital Adequacy Assessment Process (ICAAP)

The guides on ICAAP and ILAAP published by the ECB, which are not legally binding, expect Banks to assess the risks they face, and ensure, in a forward-looking manner, that all material risks are identified, effectively managed and covered by adequate capital and liquidity levels at all times. The ICAAP and ILAAP are, above all, internal processes and remain the responsibility of individual institutions to implement in a proportionate manner. As the ICAAP and ILAAP are expected to play an even greater role in the SREP in the future, Banks are encouraged to continuously improve these processes, taking into consideration the seven ECB principles, below:

- **Principle 1:** The management body is responsible for the sound governance of the ICAAP/ILAAP.
- **Principle 2:** The ICAAP/ILAAP is an integral part of the overall management framework.
- **Principle 3:** The ICAAP/ILAAP contribute fundamentally to the continuity of the institution by ensuring its capital/liquidity adequacy from different perspectives.
- **Principle 4:** All material risks are identified and taken into account in the ICAAP/ILAAP.
- **Principle 5:** For ICAAP the internal capital is of high quality and clearly defined. For ILAAP the internal liquidity buffers are of high quality and clearly defined: the internal stable sources of funding are clearly defined.
- **Principle 6:** ICAAP/ILAAP risk quantification methodologies are adequate, consistent and independently validated.

- **Principle 7:** Regular stress testing aims at ensuring capital/liquidity adequacy in adverse circumstances.

NBG Group has devoted substantial resources to the assessment of its capital adequacy, relating to both risk and capital management. The process is continuously developed and formalized so as to enhance business benefits and support the strategic aspirations of NBG Group.

ICAAP objectives are the:

- proper identification, measurement, control and overall assessment of all material risks;
- development of appropriate systems to measure and manage those risks;
- evaluation of capital required to cover those risks (the "internal capital").

The term "internal capital" refers to the amount of own funds adequate to cover losses at a specified confidence level within a certain time horizon (both set in accordance with the RAF).

The Group has created an analytical ICAAP Framework for the annual implementation of the ICAAP. The ICAAP Framework is formally documented and describes the components of ICAAP at both Group and Bank level in detail. The respective framework comprises the following:

- Group risk profile assessment;
- Risk measurement and internal capital adequacy assessment;
- Stress testing development, analysis and evaluation;
- ICAAP reporting;
- ICAAP documentation.

Both the Board of Directors and the Bank's Executive Committees are actively involved and support the ICAAP. Detailed roles and responsibilities are described in the ICAAP Framework document. The BRC approves the confidence interval for "internal capital", reviews the proper use of risk parameters and/or scenarios where appropriate, and ensures that all forms of risk are effectively covered, by means of integrated controls, specialized treatment, and proper coordination at Group level. The BoD bears ultimate responsibility for the adequacy and proper execution of the ICAAP.

ICAAP's Framework concerns the entire Group's material risks. The parameters taken into account are the size of the relevant Business Unit/Group's Subsidiary, the exposure per risk type and the risk methodology and measurement approach for each type of risk.

The identification, evaluation and mapping of risks to each relevant Business Unit/Group subsidiary is a core ICAAP procedure. Risks' materiality assessment is performed on the basis of certain quantitative (e.g. exposure as percentage of the Group RWAs) and qualitative criteria (e.g. established framework of risk management policies, procedures and systems, governance framework and specific roles and responsibilities of relevant units, limits setting and evaluation).

Following the risk materiality assessment process, the material risk types are outlined in the following table:

Table 2: Risk Materiality Assessment

Risk Type (Level 1)	Action following materiality assessment
Credit Risk	Calculation of internal capital / Assessment per business unit & entity
Credit Risk	Calculation of internal capital / Assessment per business unit & entity
Counterparty Credit Risk	Calculation of internal capital
Market Risk	Calculation of internal capital
Operational Risk	Calculation of internal capital / Scenario Analysis
Liquidity Risk	Analytical assessment through the ILAAP exercise
IRRBB	Calculation of internal capital
Real Estate Risk	Calculation of internal capital
Country Risk (incl. Sovereign)	Calculation of internal capital
Strategic/ Business Model Risk	Scenario Analysis / Assessment of Bank's actions to mitigate risk
Securitization Risk	Assessment of Bank's action to mitigate risk

Credit risk is considered as the most significant risk to capital, while market, operational, Strategic/Business Model risks and other risk types have also been identified as material.

Furthermore, the ICAAP process involves the evaluation of Strategic/Business Risk also from a solvency perspective, as their analysis includes forward looking scenarios, which primarily intend to inform the strategic planning and decision-making and increase the Bank's awareness of potential vulnerabilities in relation to its Business model/Strategy and sustainable profitability. In this respect, it is concluded that no additional internal capital is required to be held against Strategic/Business Model risk.

The calculation of NBG Group "Total Internal Capital" consists of two steps: In the first step, internal capital per risk type is calculated on a Group basis. NBG Group has developed methodologies allowing the calculation of the required internal capital for quantifiable risks. These are reassessed on a regular basis and upgraded in accordance with the global best practices. In the second step, internal capital per risk type is summed up to yield the Group's "Total Internal Capital".

Capital allocation aims at distributing the "Internal Capital" to the Business Units and Subsidiaries so that ICAAP connects business decisions and performance measurement.

For 2022, the Bank implemented the ICAAP by estimating the relevant internal capital for all major risk types at Group level. Calculations were based on methodologies already developed in the ICAAP Framework. Moreover, the Group conducted a bank-wide macro Stress Test exercise, relating to the evolution of its CET 1 Capital under adverse scenarios (so as to ensure relevance and adequacy of the outcome with a realistic and non-catastrophic forward-looking view of downside tail risks).

In addition to the institution-wide bottom-up solvency stress test, a number of Business risk and portfolio stress tests as well as reverse stress tests and sensitivity analysis were also performed, aiming at increasing the Group's awareness of its vulnerabilities.

It should be noted that the Bank implements, monitors and uses the ICAAP aiming at achieving full compliance with the EBA and ECB guidelines and standards concerning ICAAP/ILAAP, the Supervisory Review and Evaluation Process ("SREP") and Stress Testing.

Internal Liquidity Adequacy Assessment Process (ILAAP)

The scope of ILAAP is to assess that the Group has adequate liquidity sources to ensure that its business operations are not disrupted, both in a going concern status, as well as under stressed conditions. Within the ILAAP the Group evaluates its liquidity and funding risk in the context of a management framework of established policies, systems and procedures for their identification, management, measurement and monitoring.

The ILAAP is an integrated process, therefore it is aligned with the Group's Risk Management Framework and takes into account its current operating environment. Moreover, besides describing the Group's current liquidity state, it further serves as a forward-looking assessment, by depicting the prospective liquidity position, upon the execution of the Bank's Funding Plan. Finally, the ILAAP examines the potential impact of the realization of extreme stress scenarios, on the Bank's liquidity position, ensuring that the Group can withstand such severe shocks and continue operating.

BCBS 239

BCBS 239 is the Basel Committee on Banking Supervision's standard with an overall objective to strengthen banks' risk data aggregation capabilities and internal risk reporting practices, in turn, enhancing the Group risk management and decision making processes at banks.

NBG initiated BCBS 239 program in April 2019 to reach the desired target state of compliance with the 3 main pillars, namely Governance and Infrastructure, Risk Data Aggregation Capabilities and Risk Reporting Practices, which embed all the main principles set by the standard. More specifically, the Bank completed the implementation of a set of mitigating actions, such as:

- Development of 40 Service Level Agreements, standardizing data exchanges between Risk Divisions and Non-Risk Divisions or Subsidiaries of the Bank and providing a clear mapping of the data flow and the dependencies among the involved counterparties;
- Review of the IRRBB framework;
- Establishment of a formal adjustment log within Data Governance Tool and monitoring functionality;
- Standardization of Risk documentation and alignment to a common template;
- Assessment of NPE reporting process and establishment of quality metrics for the NPE stock;
- Integration of the BCBS 239 self-assessment function.

The Bank further enhances compliance with all 11 overarching principles for effective risk data aggregation, governance and reporting, through actions such as improvement in automation in data management and reporting process, monitoring and documentation of data quality controls.

Risk Culture Program

Risk Culture is defined as an institution's norms, attitudes and behaviors related to risk awareness, risk taking and risk management, and the controls that shape decisions on risk. Risk Culture influences the decisions of management and employees during the day-to-day activities and has an impact on the risks they assume.

The objective of NBG is to establish a sound and consistent Risk Culture across all Units that is appropriate for the scale, complexity, and nature of the Bank's business, in line with regulatory/supervisory requirements and in accordance with best business practices, based on solid values which are articulated by the Bank's Board of Directors and Group's Senior Management.

The Group Risk Management Function, as part of the Risk Culture Program, established the Risk Culture Framework ("RCF"), with the objective to define and document the principles, processes and methodologies that pertain to the identification, measurement, monitoring and reporting of Risk Culture in NBG. The RCF is a key element for the establishment of a sound Risk Culture within the Group. It constitutes an essential tool for the Board of Directors and Senior Management to ensure that the Risk Culture is monitored and measured consistently over time and risk awareness enhancement actions are taken when necessary, while at the same time meets the Supervisory Authorities' expectations on efficient risk governance, based on common perception of risk culture-related issues.

NBG has in place an effective RCF that:

1. Is aligned with the core Human Resources values;
2. Is formed by both top-down Board and Senior Management guidance and leadership and bottom-up involvement of management and other stakeholders, and is understood and applied across all levels of the Bank;
3. Incorporates Risk Culture Principles that are easy to communicate and assimilate;
4. Describes the process for the definition and implementation of personnel's risk awareness and corresponding behaviors' enhancement initiatives;
5. Incorporates a forward-looking view about the Group's Risk Culture profile expectations through setting the corresponding Risk Culture Principles;
6. Establishes the governance arrangements for its update and monitoring.

Risk Culture: Foundational Elements and Assessment Indicators

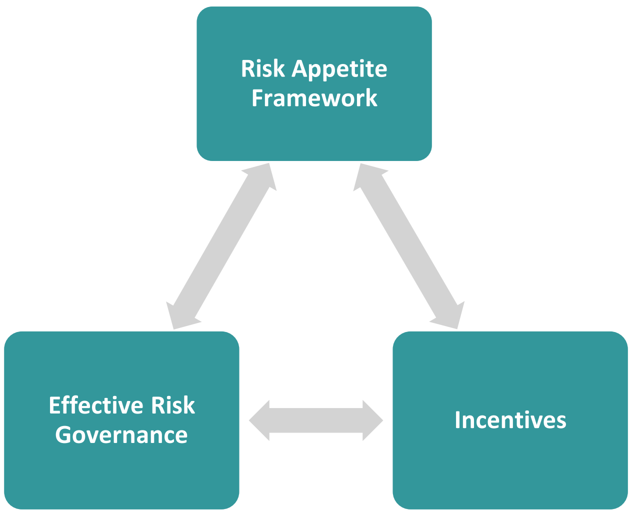


Figure 3: Elements of Risk Culture Program

Risk Culture: Assessment Indicators

Figure 4: Risk Culture assessment indicators

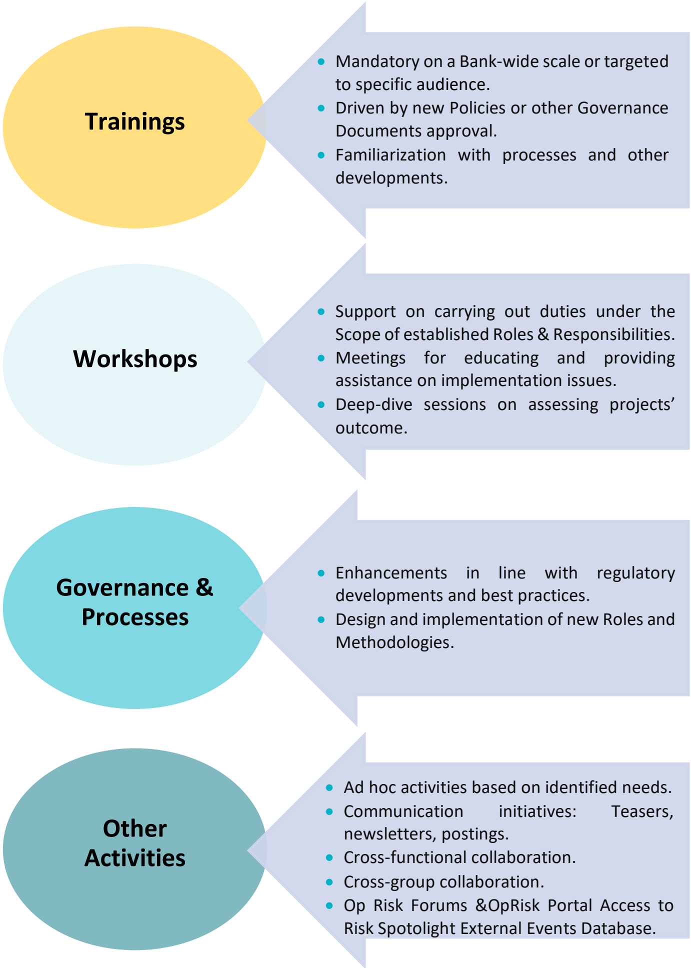


Figure 5: 2022 Risk awareness enhancement initiatives

Risk Culture Program: Risk Awareness Enhancement Initiatives overview

Given NBG's objective to promote risk and control awareness, seeking that all employees are fully aware of the risks arising in the course of their work and have adequate skills for their management, including the establishment of adequate and efficient controls, the Risk Culture Stakeholders develop and implement, on an annual basis, Risk Awareness Enhancement Activities around the following:

New developments within 2022 and 2023 initiatives

NBG Risk Taxonomy

In order to integrate Enterprise Risk Management ("ERM") practices and enhance the overall risk Group Management Framework, the Risk Management Function reviewed and updated the NBG Risk Taxonomy Framework, in collaboration with all involved parties. NBG Risk Taxonomy Framework was approved by the Senior Executive Committee in February 2022.

The Framework aims to:

- establish a common language allowing for the effective classification and coverage of the entire range of the risks that NBG faces;
- describe the associated governance and review process;
- update and outline the Risk Types that the Group is exposed to, in order to serve as a unique point of reference for all relevant risk management processes.

In terms of taxonomy content, Risk Types were reviewed and updated with additional emphasis on the Non-Financial Risks (Operational Risk and Strategic Risk) as well as on the pursuit of alignment with new regulatory requirements (i.e. the incorporation of ESG risk factors) and best practices.

The Bank recognizes ESG as transversal, cross-cutting risks rather than stand-alone risks and considers them as drivers of existing types of financial and non-financial risks. Moreover, for the Non- Financial Risks (Operational risk and Strategic risk), ESG risks are treated as distinct Risk Themes as per the table below.

The main objectives of the NBG Risk Taxonomy Framework are to improve:

- Risk identification by providing a benchmark that can be used as a prompt in determining the particular risks faced by the organization;
- Risk assessment by facilitating comparison and aggregation of related data and providing a basis for validation;
- Risk monitoring by providing a common frame of reference that enables meaningful analysis and oversight of the outputs generated by any risk management tool;
- Risk reporting by providing a consistent way of describing risks enabling comparison across different business entities, business lines and geographic regions.

NBG's Risk Taxonomy comprises of Risk Types which support a multi-level tree categorization in which NBG's risks are classified and of Risk Themes which are sub-categories of Non-Financial Risks, the inclusion of which in the NBG Risk Taxonomy Framework provides an additional dimension improving the overall risk classification. Risk Themes are also used in order to accommodate additional regulatory compliance requirements and internal risk analysis and reporting needs.

Risk Themes

- Legal Risk
- Compliance Risk
- Financial Crime Risk
- Conduct Risk
- Model Risk
- ICT Risk
- ICT Failure
- Cyber-attack (internal & external)
- Data Quality Risk
- Vendor/3rd Party Risk
- Outsourcing Risk
- Environmental Risk
- Social Risk
- Business Continuity Risk
- Project Risk
- Human Resources Risk
- Reputational Risk

Table 3: Risk Types

Risk Type Level 1	Risk Type Level 2
Credit Risk	Concentration Risk
	Residual Risk
	Underwriting Risk
Counterparty Credit Risk	Pre-settlement Risk
	Settlement Risk
	CVA Risk
	Wrong-way-Risk
	Concentration Risk
Market Risk	Interest rate Risk
	Equity Risk
	Foreign Exchange (FX) Risk
	Commodity Risk
	Vega Risk
	Market Liquidity Risk
	Credit Spread Risk
	Issuer Risk
	Concentration Risk
	Correlation Risk
	Underwriting Risk
Liquidity Risk	Funding Risk
	Asset Encumbrance Risk
	Concentration Risk
Interest rate risk in the banking book (IRRBB)	Gap Risk
	Basis Risk
	Option Risk
	Credit spread risk from non-trading book activities ("CSRBB")
Real Estate Risk	
Pension Risk	
Country Risk	Sovereign Risk
	Transfer Risk
	Convertibility Risk
Strategic/Business Model Risk	Strategic Positioning Risk
	Strategy Execution Risk
Securitization Risk	
Operational risk	Internal Fraud
	External Fraud
	Employment Practices and Workplace Safety
	Clients, products and business practice
	Damage to Physical Assets
	Business disruption and systems failure
	Execution, delivery and process management

In 2022 the Bank continued to drive the improvement of its OR management through a range of initiatives. Among these, the most significant are:

- As part of the **Enterprise Risk Management Project** which is part of the Bank's Transformation Plan, GORMD performed an analysis of the Outsourcing, Vendor/3d Party and Cyber Attack (Internal/External) Risk Themes. The scope of the Project comprised the following steps:
    - Definition of Roles and Responsibilities and depiction in a RACI matrix
    - Assessment of the adequacy of all related documents such as Mandates, Policies, Frameworks
    - Design or update of the reporting and monitoring procedures
    - Definition of the relative risk metrics (KRIs).
- The review and update of **NBG's Key Risk Indicators ("KRIs") Dashboard.** All KRIs were reviewed in order to further improve their relevancy and consistency with Bank's Risk Profile, whereas all KRIs thresholds were also reviewed and calibrated. Furthermore, new KRI Dashboards were developed for major Domestic (NBG Leasing, NBG Factors) and Foreign (NBG Cyprus, Stopanska Banka) Subsidiaries.
- The successful implementation of the **Operational Risk Management Module of the Governance, Risk and Compliance ("GRC") Platform.** The transition to the new platform was completed on time and ORM module is fully operational since Q1.22. Additionally, GORMD's certified personnel provides Group wide training on the new capabilities of the platform on an ongoing basis.
- The enhancement of the **Outsourcing Risk** monitoring process. The Bank updated its Outsourcing Policy in June 2022 and developed a detailed Outsourcing Procedure, which encapsulates the whole outsourcing process lifecycle. GORMD continued with the ongoing monitoring of the Outsourcing Risk that includes, among others, the review of all Outsourcing Risk Assessments, the evaluation of Critical Outsourcing Arrangements and the relevant Exit Plans, as well as the preparation of regular reporting to the Outsourcing Committee.

Other projects which were completed in 2022 and are related to the enhancement of management of Operational Risk are the following:

- The **Operational Risk Management Framework** as well as the relevant **Policy and Guidelines** documents were revised in order to incorporate all new regulatory developments (BCBS Principles on the Sound Management of Operational Risk and Operational Resilience.
- **The Risk & Control Self Assessment exercise**, which emphasises in the systematic identification and efficient mitigation of potential operational risk exposures, was completed throughout all Bank's Business Units and Group's Subsidiaries..
- Aiming at the identification and measurement of potential future, significant operational risk exposures, the Bank's Executive and Senior Management conducted for a fourth consecutive year, an **evaluation of the Group's main risks (Top Operational Risks)** based on the Scenario Analysis Methodology.
- The monitoring of **Cyber Risk** and the review of all **ICT and Business Continuity** documents was an additional priority given by Group Operational Risk in 2022. Besides, GORMD continued with consulting and advising on services delivered on Cloud and participated in the Power Outage Scenario Implementation.
- GORMD reviewed and commented upon approximately 60 **Bank Policies**, as well as on **New and Updated Products and Services** designed and implemented by the Bank.

Finally, and in order to establish and develop a number of Risk Culture initiatives, Group Operational Risk applied an extensive **Operational Risk training program** that was provided throughout the Group. A new initiative was the training on Outsourcing Risk Management that was delivered to the Bank's BU Heads in Q4 2022. Additional training sessions for URCOs have been scheduled for 2023 in cooperation with HR. In addition, GORMD launched Operational Risk Forums within Greece as well as for international subsidiaries and continued updating the Operational Risk Portal, which serves as a centralized access point for all relevant Operational Risk material.

Strategic / Business Model Risk

In the context of the review of the NBG Risk Taxonomy (see above), the current or prospective risks of the Group's Business Model on the viability and sustainability, i.e. the Business Model becoming obsolete or irrelevant and/or losing the ability to generate results aligned with the Group's strategic objectives and stakeholders' expectations, were redefined.

These risks are associated with vulnerabilities in Strategic Positioning or Strategy Execution (delivery) as a result of external or endogenous risk factors and possible inability to effectively react thereon.

The impact of Strategic risks is demonstrated through:

- failure to deliver the expected results, i.e. material deviations from a defined Business plan in terms of Profitability, Capital and/or Brand perception; and
- long term deterioration of competitiveness, i.e. worsening relative position compared to peers benchmarks in strategically important areas.

More specifically:

Strategic Positioning risk: the prospective risk in the Group's long-term competitive position, i.e. the Business model becoming obsolete or irrelevant. The Strategic positioning risk impact is demonstrated through relative underperformance compared to peers benchmarks in strategically important areas. The risk sources are potential vulnerabilities in the strategic design, lack of diversification in revenue generation, external disruptive factors (such as new market entrants) and inability to effectively/timely adapt the Business model components to the market dynamics (adaptability in terms of value proposition, customer segments, servicing channels, partnerships, internal resources utilization and efficiency).

Strategy Execution risk: The current or prospective risk to profitability and/or Franchise (Brand) perception, due to failed or inadequate delivery of a defined Business plan Execution risks are arising from changes in the external business environment (competition, regulation, market conditions) or from endogenous failure to successfully conclude strategic initiatives and projects in line with the Business plan, and the inability to react effectively thereon.

Basel III reforms (Basel IV)

The European Banking Authority and the European Central Bank affirmed the importance of timely and faithful implementation of the outstanding Basel III reforms in the European Union, to ensure banks can withstand future crises and a necessary condition for the proper functioning of the European and global financial systems, and supported the decision of the Basel Committee to delay the implementation date of the final Basel III reforms by two years to 2025.

Thus, Basel IV /Basel III reforms specific modifications are effective from 1st January of 2025. More specifically, the Bank has to properly implement in its processes, systems and practices the respective reforms that improve risk capture and risk granularity of Standardized Approach and in parallel to seek for best practices, in collaboration with Business Units, regarding loan granting taking into account the risk diversification implied by the new rules.

❖ Credit Risk

The main changes in Credit Risk under Standardized approach introduced in the legislative package are the following:

- Increased CCF for off-balance sheet items.
- Higher RWAs% of 250% and 400% in riskier speculative investments.
- Introduction of Grades for the unrated institutions based on quantitative and qualitative criteria.
- Introduction of two methods for risk weighting for Residential / Commercial Real Estate, namely “loan splitting approach” and “Loan to Value (“LTV’) approach”, each applicable upon satisfaction of specific eligibility criteria.
- Introduction of new asset classifications for Residential / Commercial Real Estate, namely “Income producing real estate” and “Loans financing land acquisition, development or construction”.
- Introduction of new category of performing retail exposures (transactors) with RWAs% of 45%.

❖ Market Risk

The revised Market Risk framework under Basel III (i.e., the Fundamental Review of the Trading Book (“FRTB”) outlines two approaches for the calculation of the respective capital requirements:

1. The Standardized Approach (“SA-FRTB”), with the following key risk measures:

- Sensitivity Based Risk Charge (“SBRC”).
- Default Risk Charge (“DRC”).
- Residual Risk Add-on (“RRAO”).

2. The Internal Model Approach (“IMA-FRTB”), with the following key risk measures:

- Expected Shortfall (“ES”).
- Default Risk Charge (“DRC”).
- Non-Modellable Risk Factors (“NMRFs”).

SA-FRTB serves as a fallback approach and as a benchmark to the internal model outcome, thus it is compulsory for all banks.

Moreover, SA-FRTB came into effect for reporting purposes in 3Q.21.

❖ Counterparty Credit Risk (“CCR”)

NBG has fully implemented and applies the revised standardized approach for the calculation of CCR capital requirements (“SA-CCR”) on the relevant module of NBG’s market risk engine since 2Q.21.

❖ Operational Risk

All existing approaches for the calculation of own funds requirements for Operational Risk are replaced by a single, non-model-based approach based on the following components:

- Business Indicator: A financial-statement-based proxy for operational risk, which comprises three components: (i) the interest, leases and dividend component, (ii) the services component, and (iii) the financial component
- Business Indicator Component is calculated by multiplying the Business Indicator by a set of regulatory determined marginal coefficients
- Internal Loss multiplier: it is a scaling factor based on a Bank’s average historical losses incurred over the previous 10 years and the Business Indicator Component.

New Reporting Tool for Credit Risk Purposes

Synergies among IT and Credit Risk Units for the architecture and implementation of a new in-house module for the union and blending of credit risk data, supported mainly from the IT infrastructure as well as from excel files in order to be consistent with the Financial Statements, i.e. other assets. The new module will carry out the automation and integration of all credit risk reporting requirements according to the Basel III framework. Moreover, the module will be updated accordingly with the new rules of Basel IV (Basel III reforms specific modifications), effective from 1st January of 2025.

Pricing and Credit Risk Models

The Bank has in place a well-defined risk-adjusted pricing framework that is based on fundamental pricing principles and is governed by relevant guidelines, robust methodologies and tools.

The Bank, in Q4 2022, has initiated the revision and update of the components factored in the Risk-based Corporate & Retail Pricing models, i.e. incorporating actual Funding cost curves, Operational Expenses & Credit Risk. The update will be completed within 2023 and all relevant amendments will be incorporated in Pricing Guidelines.

Furthermore, the Bank in a continuous effort to improve its efficiency and the quality of the services provided, is moving to a more advanced credit risk models suite for the retail portfolios.

Following the previous years’ re-development of the retail household application scorecards and development of customer level behavioral scores, a new suite of models for the Small Business (SB) portfolio was developed. The new models will facilitate the Bank’s strategic expectation regarding Small Business (SB) segment. More specifically, 23 new models were developed, utilizing a wide range of both company’s and key owners’ information, innovative transactional data (i.e. current accounts and credit cards transactions), as well as novel elements such as the ecosystem of the related companies (network models). The model outcome is combined with the existing SB behavioral model and the Retail behavioral model for company owners, resulting to enhanced predictive power, while optimizing the use of different models for different use scenarios: empowerment of credit approval process, targeted product offering to non-lending customers, cross selling and marketing campaigns.

The systemic implementation of the newly developed models and the alignment with the existing Small Business Swimlane framework is expected to be completed within 2023. Additionally, a set of new data sources (e.g. open banking data) will be explored aiming to further enhance SB modelling.

New Corporate Rating Model

In February 2022, the implementation of the New Corporate Rating Model ("CRM") was completed and the model was launched into production. The New CRM which is the core model of NBG's Underwriting Platform, "Moody's CreditLens (CL)", is an optimized model, with more recent, representative data which is also enhanced with Early Warning System capabilities (i.e. integration of customer behavioral score in the evaluation process) and is expected to provide more accurate ratings, facilitating the Bank's lending activities.

IFRS 9 Models Review in 2022

❖ IFRS 9 SME Retail PD and LGD

In 2022, NBG finalized and launched two new models for the Retail SME portfolio which are utilized for IFRS 9 purposes from 4Q.22 onwards. The new models are considered as major developments in the Bank because, in contrast to the previous methodologies used, they have the ability to produce obligor specific risk sensitive estimates. The SME Retail PD produces estimates at an account level and the SME Retail LGD considers three basic model components that lead to the implementation of conceptually sound estimates.

❖ IFRS 9 / Consumer Term Loans LGD

Within 2022, the Bank re-developed, finalized and launched a new Consumer Term Loans LGD model which is utilized for IFRS 9 purposes from 4Q.22 onwards. This fully re-designed new model incorporates the new Definition of Default, utilizes macro FLI in all of its components and handles various issues concerning the initial model version.

IFRS 9 Models Review in 2023

In the context of IFRS 9 Models Review project, a re-development phase of Retail Non-SME Revolving Products models is underway. This is the sole remaining loan segment where the initial models' version is still applied, and the scope of the project is to help the Bank achieve high quality and sound implementation of IFRS 9 principles that meet regulatory expectations across loan portfolios. Moreover Corporate and SME Retail EAD models' development will be finalized and will be implemented in the Bank's systems.

In addition, the optimization of the Project Finance (PF) scorecard has been initiated and is expected to be completed and implemented by the end of 2023. Project Finance is one of the 5 different rating models comprising NBG's Corporate Credit Rating System (CCRS) and is used in order to assess Corporate exposures, where the purpose is to finance the development or acquisition of large, complex and expensive installations. The new scorecard will ensure full alignment with the regulatory expectation.

❖ Update of Credit Risk Model Development Policy

In 2023, the Bank will finalize the update of the Model Development Policy ("Policy") which will be submitted for approval to the competent committees. The purpose of the Policy is to set out a coherent framework of principles and standards governing the development, and documentation of credit risk models, providing guidance for their quantitative monitoring . The Policy applies to all models used for credit risk measurement purposes, including financial reporting and credit impairment calculation, regulatory, credit decision making, as well as Internal Capital Adequacy and Stress Testing purposes. The Policy is in line with the requirements of the regulatory guidelines and market leading practices and ensures that credit risk models are "fit for purpose" taking into account their ability to generate accurate and consistent estimates for the measurement of credit risk on an on-going basis.

Market Risk and Counterparty Credit Risk

Given the Bank's continuous effort to enhance the robustness and completeness of its Market Risk and Counterparty Credit Risk management processes and in order to comply with the revised regulatory framework (Basel III), the key developments related to these risks within 2022 are summarized below:

- Following the successful completion of SSM's onsite investigation, NBG received ECB's approval for the inclusion of Vega risk in the VaR model, which improves the risk factor coverage, accuracy and robustness of the model and, consequently, the estimation of Market Risk capital charges;
- Implementation of a new methodology based on ISDA's Standard Initial Margin Model (SIMM) model for the calculation of the Potential Future Exposure (PFE) of derivative transactions with corporate clients.

Moreover, the following actions are scheduled for 2023:

- Inclusion of Vega risk in the VaR/sVaR calculations since January 2nd 2023, based on ECB's approval letter
- Transition of all PFE calculations to a new simulation engine, which utilizes the existing Market and Counterparty Credit Risk infrastructure
- Implementation of the revised standardized approach for the calculation of CVA capital charges under Basel III (BA-CVA), as well as of the current regulatory framework, in the same risk platform used for Counterparty Credit Risk capital requirements
- Update of Market Risk Policy and Methodology documents, to reflect the inclusion of Vega risk in the VaR model
- Delivery of the EBA 2023 Stress Test templates related to Market Risk, Counterparty Credit Risk and Liquidity Reserves.

Interest Rate Risk in the Banking Book

Policy interest rates have been increasing steadily since H2.2022, mainly as a monetary policy response to recent inflationary pressures linked to the rise of energy prices and exacerbated by the war in Ukraine. This important development marks the transition from near-zero to new, substantially increased interest rate levels, which has propagated to all major market interest rate benchmarks. The Bank has monitored closely the effect of these developments to the core interest rate risk metrics of the Balance Sheet and designed appropriate RAF metrics changes, in order to better capture the Bank's Risk Appetite in this shifting interest rate environment.

In this context, the RAF update project, which is due to be completed in Q1.2023, will include substantial changes in the IRRBB NII sensitivity metrics, in order to align the Bank's Risk Appetite to this risk type in the current interest rate environment.

Additionally, the GFLRMD formulated and presented to the ALCO Committee a new framework for monitoring and managing Credit Spread Risk in the Banking Book, in order to comply with the updated Regulatory requirements. The Bank plans to conclude during 2023 the definition of the Credit Spread Risk in the Banking Book framework, with the completion and approval of the relevant Policy Document.

Liquidity Risk

In the context of continuously improving its Liquidity Risk Management Framework and respond to the regulatory requirements, the Bank completed in 2022 the following exercises / enhancements:

- The submission of the updated documents "Identification of Key Liquidity Entities" and "Identification of Key Liquidity Drivers", as part of the wider SRB Resolution;
- The enhancement of operational efficiency of the in-house liquidity application with the implementation of archiving and restoring processes.

Moreover, several enhancements and new initiatives are planned to be implemented during 2023. More specifically:

- Update of Liquidity Risk Management Policy and Contingency Funding Plan, as per the supervisory requirements;
- Submission the required by SRB document in the context of the 2023 liquidity in resolution project;
- Implementation of the new guidelines for the supervisory Additional Liquidity Monitoring Metrics ("ALMM").

4.2 Credit Risk

4.2.1 Credit granting processes and controls

Credit risk is the risk of financial loss relating to the failure of a borrower to honor its contractual obligations. It arises in lending activities as well as in various other activities where the Group is exposed to the risk of counterparty default, such as its trading, capital markets and settlement activities. Credit risk is the largest single risk the Group faces. The Credit risk processes are conducted separately by the Bank and each of its subsidiaries. The credit risk procedures established by the subsidiaries are coordinated by the GCRCD.

The Group's credit granting processes include:

- Credit-granting criteria based on the particular target market, the borrower or counterparty, as well as the purpose and structure of the credit and its source of repayment;
- Credit limits that aggregate in comparable and meaningful manner different types of exposures at various levels;
- Clearly established procedures for approving new credits as well as the amendment, renewal and re-financing of existing
- credits.

The Group maintains on-going credit administration, measurement and monitoring processes, including in particular:

- Documented credit risk policies;
- Internal risk rating systems;
- Information systems and analytical techniques that enable measurement of credit risk inherent in all relevant activities.

The Group's controls implemented for the above processes include:

- Proper management of the credit-granting functions;
- Periodical and timely remedial actions on deteriorating credits;
- Independent, periodic audit of the credit risk management processes by the Group Internal Audit Function, covering in particular the credit risk systems/models employed by the Group.

Additionally, the GCRCD measures and monitors credit risk on an on-going basis through documented credit risk policies, internal rating systems, as well as information systems and analytical techniques that enable measurement of credit risk inherent in all relevant activities. Thus, the Group achieves active credit risk management through:

- The application of appropriate limits for exposures to a particular single or group of obligors;
- The use of credit risk mitigation techniques;
- The estimation of risk adjusted pricing for most products and services;
- A formalized validation process, encompassing all risk rating models, conducted by the Bank's independent MVU.

4.2.2 Credit Policy for Corporate Portfolios

The Credit Policies for the Corporate portfolios of the Bank and its Subsidiaries ("the Subsidiaries") present the fundamental policies for the identification, measurement, approval and monitoring of credit risk related to the Corporate Portfolio and ensure equal treatment for all obligors.

The Corporate Credit Policy of the Bank is approved by the Board of Directors (BoD) upon recommendation of the Board Risk Committee (BRC) following proposal by the Group CRO to the BRC and the Executive Committee and is reviewed on an annual basis and revised whenever deemed necessary and in any case every two years.

The Credit Policy of each Subsidiary is approved by the competent local Boards/Committees, following a recommendation by the responsible Officers or Subsidiaries' Bodies, according to the decisions of the Bank and the provisions of the Credit Policies. Each proposal must bear the prior consent of the Group Chief Credit Officer (CCO) in cooperation with the Head of NBG's Group Credit Risk Control Division (GCRCD) for issues falling under their responsibility. The subsidiaries' Credit Policies are reviewed on an annual basis and revised whenever deemed necessary and in any case every two years.

4.2.3 Credit Policy for Retail Banking

The Credit Policy for the Retail Portfolio (Credit Policy) sets out the fundamental principles and the minimum rules and conditions for the control (identification, measurement, approval, monitoring and generation of management information) of the credit risk deriving from retail financing, both at Bank and Group level.

The Credit Policy is designed in such a manner as to be an integral part of the Risk Appetite Framework, meeting the requirements of the current legal and regulatory framework and in any case, ensures equal treatment for all counterparties.

Its main scope is to enhance, guide and regulate the effective and adequate management of credit risk, thus achieving a viable balance between risk and return.

All credit risk control procedures, always in compliance with the Credit Policy, are set out in the Procedures and Management Regulation Manuals of the relevant Retail Divisions. These procedures are subject to amendments, which facilitate the Bank's alignment with the business environment.

The Retail Regulations are made to serve three basic objectives:

- to set the framework for basic credit criteria, policies and procedures;
- to consolidate Retail Credit policies of the Group; and
- to establish a common approach for managing Retail Banking risks.

The Credit Policy is approved by the Board of Directors of the Bank (BoD) upon the recommendation of the Board Risk Committee (BRC), following proposal by the General Manager of Group Risk Management (Chief Risk Officer), to the Executive Committee and the BRC. Credit policy is reviewed on an annual basis and revised whenever deemed necessary and in any case at least every two years.

The Retail Credit Policy of each Subsidiary is approved and can be amended or revised by the competent local Boards/Committees, following a recommendation by the responsible Officers or Subsidiaries' Bodies, according to the decisions of the Bank and the provisions of the Credit Policies. Each proposal must bear the prior consent of the Group CCO or the Head of NBG's Group Retail Credit Division in cooperation with the Head of NBG's Group Risk Control and Architecture Division for issues falling under their responsibility. The subsidiaries' Credit Policies are subject to periodical revision.

The NBG Group Retail Banking Credit Division reports directly to the Group CCO. Its main task is to evaluate, design and approve the credit policy that governs the retail banking products, both locally and abroad. Furthermore, the Division closely monitors the consistent implementation of both credit policy provisions and credit granting procedures.

Through the implementation of the Credit Policy, the evaluation and estimation of credit risk, for new as well as for existing products, are effectively facilitated. The ongoing assessment of the credit facilities is considered as an integral part of the credit risk monitoring.

NBG's Senior Management is regularly informed on all aspects regarding the Credit Policy. Remedial action plans are set to resolve the issues, whenever necessary, within the risk appetite and strategic orientation of the Bank.

4.2.4 Concentration Risk

The Bank manages the extension of credit, controls its exposure to credit risk and ensures its regulatory compliance based on an internal limits system. The GCRCD is responsible for limits setting, limits monitoring and regulatory compliance.

The fundamental instruments for controlling Corporate Portfolio concentration are Obligor Limits reflecting the maximum permitted level of exposure for a specific Obligor given its Risk Rating, and sector limits that set the maximum allowed level of exposure for any specific industry of the economy; industries are classified in groups on the basis of NACE (General Industrial Classification of Economic Activities within the European Communities) codes. Sector limits constitute part of the Bank's Risk Appetite Framework and are revised at least annually. Excesses of the Industry Concentration Limits should be approved by the Board Risk Committee following a proposal of the General Manager of Group Risk Management (CRO). Any risk exposure in excess of the authorized internal Obligor Limits must be approved by a higher level Credit Approving Body, based on the Credit Approval Authorities as presented in the Corporate Credit Policy.

Credit risk concentration arising from a large exposure to a counterparty or group of connected clients whose probability of default depends on common risk factors is monitored, through the Large Exposures reporting framework.

Finally, within the ICAAP, the Bank has adopted a methodology to measure the risk arising from concentration to economic sectors (sectoral concentration) and to individual companies (name concentration). Additional capital requirements are calculated, if necessary, and Pillar 1 capital adequacy is adjusted to ultimately take into account such concentration risks.

4.3 Counterparty Credit Risk

Counterparty Credit Risk (CCR) arises from the potential failure of the obligor to meet its contractual obligations and stems from derivative and other interbank secured and unsecured funding transactions, as well as commercial transactions.

Complementary to the risk of the counterparty defaulting, CCR also includes the risk of loss due to the deterioration in the creditworthiness of the counterparty to a derivative transaction.

NBG's CCR predominantly stems from Over the Counter (OTC) and Exchange Traded (Listed) derivative products and, to a lesser extent, from interbank secured and unsecured funding transactions, as well as commercial transactions to which the Bank has limited CCR exposure.

The Group has established and maintains adequate measurement, monitoring, and control functions for counterparty credit risk, including:

- CCR measurement systems and methodologies that aim to capture and quantify all material sources of CCR, in ways that are consistent with the scope of the Group's activities.
- The calculation of the key CCR metrics, namely the Exposure at Default ("EAD"), the PFE and the Credit Valuation Adjustment ("CVA") relevant to the aforementioned transactions. These metrics are used for limits monitoring purposes, for the calculation of the CCR capital requirements, as well as for accounting valuation adjustment and collateral management purposes.
- Back-testing procedures, which aim to assure the validity and robustness of the models used for the calculation of the PFE of derivative transactions.
- Adequate and effective processes and information systems for measuring, monitoring, controlling, and reporting CCR exposures.
- Related IT systems are sophisticated enough to capture the complexity of the trading activities of the Group. Reports must be provided on a timely basis to the Board of Directors, Senior Management and all other appropriate levels, as well as to the Regulatory Authorities.

NBG seeks to further mitigate CCR by standardizing the terms of the agreements with counterparties through ISDA and Global Master Repurchase Agreement ("GMRA") contracts that encompass all necessary netting and margining clauses. CSAs have also been signed with almost all active FIs, so that net current exposures are managed through margin accounts, on a daily basis, by exchanging mainly cash or debt securities as collateral. Moreover, NBG performs OTC transactions with CCPs, either directly or through qualified clearing brokers.

Also, NBG avoids taking positions on derivative contracts where the values of the underlying assets are highly correlated with the credit quality of the counterparty (wrong way risk).

All the methodologies and processes followed by NBG for the estimation, monitoring and management of the counterparty credit risk, both for internal purposes, as well as for regulatory compliance are detailed in the Counterparty Credit Risk Framework document.

4.4 Market Risk

Market Risk is the current or prospective risk to earnings and capital arising from adverse movements in interest rates, equity and commodity prices and exchange rates, as well as, their levels of volatility. The main contributor to market risk in the Group is the Bank. NBG seeks to identify, estimate, monitor and effectively manage market risk through a robust framework of principles, measurement processes and a valid set of limits that apply to all the Treasury's transactions. The most significant types of market risk to which the Bank is exposed are the following: interest rate risk, equity risk, foreign exchange risk and commodity risk.

- **Interest Rate Risk** is the risk arising from fluctuations of interest rates and/or their implied volatility. A principal source of interest rate risk stems from the Bank's interest rate, over-the-counter ("OTC") and exchange traded derivative transactions, as well as from the Trading and the Held to Collect and Sell ("HTCS") bond portfolios.
  More specifically, the Bank maintains a material derivatives portfolio of mainly vanilla interest rate products, which are mostly cleared in Central Counterparties ("CCPs") or managed through bilateral International Swaps and Derivatives Association ("ISDA") and Credit Support Annexes ("CSAs") agreements. Their main function is to hedge the IR risk of the bonds classified in the HTCS and Held to Collect ("HTC") portfolios or the exposure of other derivative products in the Trading Book.
  Additionally, the Bank retains a significant securities portfolio, mainly comprising of Greek and other periphery sovereign bonds, which is primarily held in the Baking Book and predominantly in the HTC portfolio. Furthermore, NBG holds a moderate portfolio of bonds issued by Greek and international banks and limited positions in corporate bonds.
  Overall, NBG has moderate exposure to interest rate risk in the Trading Book, while it enters into vanilla IRS transactions in order to mitigate the interest rate risk of the bonds listed in the Banking Book.
- **Equity Risk** is the risk arising from fluctuations of equity prices or equity indices and/or their implied volatility. The Bank holds moderate positions in cash stocks traded in the Athens Stock Exchange and a limited position in equity-index linked exchange traded derivatives. The cash portfolio comprises of trading (i.e. short-term) and held to collect and sell (i.e. long-term) positions. The portfolio of equity derivatives is mainly used for the hedging of equity risk arising from the Group's cash position and equity-linked products offered to customers and to a lesser extent for proprietary trading. Additionally, the Bank retains positions in mutual funds, through the embedded options in structured deposits sold to clients, along with their cash hedge.
- **Foreign Exchange Risk** is the risk arising from fluctuations of currency exchange rates and/or their implied volatility. The Open Currency Position ("OCP") of the Bank primarily arises from foreign exchange spot and forward transactions, as well as from the mark-to-market of NBG's OTC derivatives' trades denominated in foreign currency. The OCP is distinguished between trading and structural. The structural OCP contains all of the Bank's assets and liabilities in foreign currency (for example loans, deposits, etc.), along with the foreign exchange transactions performed by the Treasury Division. Apart from the Bank, the foreign exchange risk undertaken by the rest of the Group's subsidiaries is insignificant. The Group trades in all major currencies, holding mainly short-term positions for trading purposes and for servicing its institutional /corporate, domestic and international customers.
- **Commodity Risk** is the risk arising from fluctuations of commodity prices or commodity indices and/or their implied volatility. The Bank has limited exposure to commodity risk, since the clients' positions in commodity derivatives are mostly hedged with exchange traded commodity futures.

The Bank uses market risk models and dedicated processes to assess and quantify its portfolio market risk, based on best practice and industry-wide accepted risk metrics. More specifically, the Bank estimates the market risk of its Trading and HTCS portfolios, using the Value-at-Risk (VaR) methodology. The VaR estimates are used both for internal management and regulatory purposes. In order to verify the predictive power of the VaR model, the Bank conducts back-testing on its Trading Book, on a daily basis. Moreover, since the daily VaR estimations refer to "normal" market conditions, a supplementary analysis is necessary for capturing the potential loss that might arise under extreme and unusual circumstances in the financial markets. Thus, the Bank conducts stress testing on a weekly basis, on both the Trading and HTCS portfolios, based on specific scenarios per risk factor category (interest rates, stock index prices, exchange rates).

The Bank has also established a framework of VaR limits in order to control and manage the risks to which it is exposed in a more efficient way. These limits are based on the Bank's Risk Appetite, as outlined in the Risk Appetite Framework (RAF), the anticipated profitability of the Treasury, as well as on the level of the Bank's own funds (capital budgeting), in the context of the Group strategy. The VaR limits refer not only to specific types of market risk, such as interest rate, foreign exchange and equity, but also to the overall market risk of the Bank's trading and HTCS portfolios taking into account the respective diversification between portfolios. Moreover, the same set of limits are used to monitor and manage risk levels on the Trading book, on an overall basis and per risk type, since this is the aggregation level relevant for the calculation of the own funds requirements for Market Risk under the Internal Model Approach (IMA).

All key principles that govern the Bank's activities in the financial markets, along with the framework for the estimation, monitoring and management of market risk are incorporated in the Bank's Market Risk Policy ("Policy"). The Policy is established to evidence the Bank's commitment to develop and adhere to the highest standards for assessing, measuring, monitoring and controlling market risk arising from trading and non-trading activities. The Policy has been approved by the Board Risk Committee and is reviewed and updated on an annual basis, or when deemed necessary. Additionally, the VaR model as well as the processes followed by the GFLRMD for the measurement and monitoring of Market Risk are described in the VaR/sVaR Model Methodology document, which is subordinate to the Market Risk Management Policy and is subject to changes, in accordance with amendments to the Policy.

The adequacy of the Market Risk Management Framework as a whole, as well as the appropriateness of the VaR model, were successfully reassessed twice by the SSM, in the context of the Targeted Review of Internal Models ("TRIM") and during the Internal Model Investigation ("IMI") for the inclusion of Vega risk in the VaR model. As per the ECB's Decision, NBG may continue calculating the own funds requirements for general market risk with the internal model approach, which verifies the robustness of the Bank's Market Risk management model. Furthermore, the Bank's independent Model Validation Unit (MVU) assesses the validity of the VaR model, on an annual basis, while the Internal Audit Division evaluates the effectiveness of the relevant controls, on a periodic basis.

NBG employs a three-line of defense framework, as per the NBG Risk Strategy, to monitor market risk and comply with market risk limits. The first line of defense is at the risk-taking level, where NBG's various market risk taking Business Lines are responsible to monitor and maintain compliance with the set market risk limits, on a continuous basis. The GFLRM Division constitutes the second line of defense, and is responsible to monitor and report NBG's market risk exposures and market risk limits utilization. Finally, NBG's Internal Audit is responsible to validate that the Group, as a whole, as well as the various departments individually, are compliant with the set market risk policies and procedures.

Regarding NBG Group's subsidiaries, they have independent market risk management units and report their positions and other market risk metrics to NBG's Market Risk Management Subdivision on a daily basis. However, given the low materiality and limited market risk exposure of NBG's subsidiaries, these entities do not use internal models for market risk capital calculations. To this extent, NBG uses internal models for monitoring market risk and calculates capital requirements only at a Bank level and subsequently consolidates the subsidiaries, at a Group level.

4.5 Operational Risk

4.5.1 Introduction

The Bank acknowledges its exposure to operational risk stemming from its day-to-day business activities. It also acknowledges the need for managing this type of risk, as well as the necessity for holding adequate capital in order to deal with any potential exceptional operational risk loss.

The Bank has established and maintains a group-wide, effective framework for the management of operational risk (Operational Risk Management Framework - ORMF). This Framework complies with regulatory requirements and is reviewed regularly.

4.5.2 Definition and objectives

The Bank defines operational risk (OR) as the risk of loss resulting from inadequate or failure in internal processes, people and systems or from external events. This definition includes legal risk, excludes strategic and business risk, but takes into consideration the reputational impact of Operational Risk.

The main Operational Risk subcategories cover the following Risk Themes as described in the NBG Risk Taxonomy Framework:

- **Legal Risk** is the risk of loss caused to a business, in this instance the Bank, which is mainly due to one of the following causes: i) irregular transaction, or ii) claim (including defence-claims or counterclaims) raised or any other event that follows and leads to the establishment of legal grounds for liability on the part of the credit institution or another kind of loss (e.g. because of termination of contract), or iii) failure to adopt the necessary measures for the protection of assets owned by the institution, or iv) change in the legislation.
- **Compliance risk** refers to the risk that NBG, in the course of conducting its business or risk management activities, may be found, in circumstances of a breach of the institution's guidelines/policies as well as the regulatory framework as defined in certain international, EU and Greek laws and regulations, as well as the risk deriving from legal or regulatory sanctions, material financial loss or loss of reputation the Bank might suffer as a result of such breach. Consequently, the Bank's reputation, business model and financial position are negatively affected.
- **Conduct risk** as the risk of loss arising from inappropriate supply of financial services including cases of wilful or negligent misconduct, e.g. mis-selling, conflicts of interest, pushed cross-selling, automatic renewals of products or exit penalties etc. It also relates to corruption risk, i.e. the risk deriving from abuse of entrusted power by the Group's executives or employees with the purpose of private gain.
- **Information & Communication Technology risk**, which is the risk of loss due to breach of confidentiality, failure of integrity of systems and data, inappropriateness or unavailability of systems and data or inability to change IT within a reasonable time and costs when the environment or business requirements change. This includes security risks resulting from inadequate or failed internal processes or internal/external cyber-attacks or inadequate physical security.
- **Model risk**, which is the potential loss that may occur as a consequence of decisions that could be principally based on the output of all models deployed, due to errors in the development, implementation or use of such models.
- **Financial Crime risk**, which is the risk that the Bank faces when an individual or legal entity/ties obtain financial advantage relating to the following offences and will cause Financial, Regulatory & reputational impact to the Bank: Money laundering, terrorist financing, bribery and corruption, tax evasion, misuse of sensitive information, evasion of economic or trade sanctions or any other violation of laws regulating these matters.
- **Environmental risk**, which is the risk of suffering an adverse consequence, or the potential threats of negative effects on the firm due to environmental factors, including factors resulting from the climate change and factors resulting from other environmental degradation.
- **Vendor/Third Party risk**, which is the risk that engaging a vendor/3rd party, by virtue of an arrangement of any form between the Group and a vendor/3rd party, which adversely impacts the Bank's performance and risk management.

Operational risk is inherent to all products, activities, processes and systems and is generated in all business and support areas. For this reason, all employees are responsible for managing and controlling OR generated in their sphere of action. Consequently, managers throughout the Group are accountable for operational risks related to their business area, and responsible for managing these risks within their risk appetite, in accordance with the ORMF.

The Bank's objective is to effectively identify, assess, monitor, control and mitigate its operational risk.

4.5.3 Operational risk management framework

The ORMF has been approved by the Board Risk Committee, in order to effectively address operational risks and meet the regulatory requirements (CRR / CRD IV / Basel III).

In 2022 the ORMF was implemented in the Bank and its subsidiaries. The basic elements of the Bank's ORMF are the following:

- **The Risk and Control Self-Assessment (RCSA) process:** it is a recurring, forward looking process performed on an annual basis aiming at the identification and assessment of the operational risks faced by the Group. The scope of RCSA extends to all business lines, thereby to all business, support or specialized Units;
- **The Internal Events Management process:** NBG requires accurate and timely knowledge of operational risk related internal events and has therefore established an appropriate event management process that covers the event life cycle, comprising the event identification, categorization, analysis, on-going management, remediation actions and reporting;
- **The Key Risk Indicators definition and monitoring process:** NBG defines as Key Risk Indicator any simple or combined data variable, which allows the assessment of a situation exposing the Bank to operational risk, as well as its trend, by monitoring/comparing its values over time. Therefore, KRIs are metrics providing early warning signs, preventing and detecting potential risks and vulnerabilities in the activities of the Bank;
- **The Scenario Analysis process:** NBG defines Risk Scenario as the creation of a potential event or consequence of events that expose the organization to significant operational risks and can lead to severe operational losses. Scenario Analysis is the process that reveals all the long term exposures to major and unusual operational risks which can have substantial negative impacts on the organization's profitability and reputation;
- **The Training Initiatives and Risk Culture awareness actions:** Group Operational Risk Management Division designs and implements training programs on operational risk and the ORMF, the use and implementation of programs, methods and systems as well as other actions aiming at knowledge sharing and the establishment of Operational Risk culture Group-wide.

4.5.4 Governance

The ORMF is supported by an appropriate organizational structure with well-defined roles and responsibilities which is based on the three lines of defense model. The ORM Governance aims to ensure that all Bank's stakeholders, including the Board of Directors, Executive and Senior Management and Staff, manage operational risk within a formalized Framework that is aligned to business objectives and compliant with the regulatory requirements.

Governance responsibility for operational risk management resides in the Board Risk Committee (BRC). The BRC reviews and approves the Bank's operational risk appetite and tolerance, is informed on material risks and exposures and sets the tone and the expectations of the Board.

GORMD also reports to the Operational Risk Management Committee (ORCO), a sub-committee of the Executive Committee (ExCo). ORCO, that has the overview of the ORMF implementation, meets regularly on a quarterly basis, providing a semi-annual report to the ExCo. An Outsourcing Committee, responsible for overseeing the outsourcing arrangements' risk of the Group was established and operates in accordance with the applicable legal and regulatory framework.

The Chief Risk Officer (CRO) promotes the development and implementation of a consistent Group ORMF and provides overall vision and leadership for the function across the Group.

GORMD is responsible for overseeing and monitoring the risks assessments, providing appropriate tools and methodologies, coordination and assistance to the Business Units and proposing appropriate risk mitigation measures. Furthermore, it regularly reviews the ORM Framework in order to ensure that all relevant regulatory requirements are met.

The overall responsibility for the management of Operational Risk relies within the 1st Level of Defense Business Units, that are responsible and accountable for directly identifying, assessing, controlling and mitigating operational risk within their business activities in compliance with the Bank's standards and policies.

Segment and Unit Risk & Control Officer have been established and appointed in the main Business Functions/General Divisions of NBG. They act as liaisons to the GORMD and are responsible for coordinating the ORMF implementation, assisting in the development of the culture of operational risk and communicating relevant information throughout to the GORMD.

4.6 Analysis and Reporting

NBG places great emphasis on achieving a high level of quality regarding its risk data and reporting. The three Group Risk Management Divisions (GCRCD, GFLRMD, GORMD) and the independent Model Valuation Unit have developed a comprehensive framework of analysis and reporting, in order to provide the Bank's Board Risk Committee, Senior Management, regulatory authorities, the market and investors with consistent quantitative and qualitative information. Specialized applications are used to produce this analysis, collecting relevant data from the Bank's and Group's core systems (such as loans and credit limits systems, trading position-keeping systems, collateral management system etc.). NBG's software is fully configured to calculate Risk Weighted Assets for the entire Group according to the regulatory approach chosen for each portfolio, in accordance with the current CRR / CRD IV (Basel III) regulatory framework.

Among others, the following are analyzed and reported:

- Capital requirements for Credit Risk, Market Risk, Operational Risk and Counterparty Risk on a solo and on a Group basis;
- Large exposures on a solo and on a Group basis;
- Leverage exposure measure on a solo and on a Group basis;
- Large debtors;
- Quality and vintage analysis of the Bank's and its subsidiaries portfolios;
- Benchmarking of the Bank's Market Risk internal models;
- Daily Liquidity Reports pertaining to the Bank's liabilities, liquidity structure, counterbalancing capacity, as well as subsidiary-funding;
- Quarterly report of the Bank's Value at Risk and P&L results for backtesting purposes;
- Sensitivity analysis of the Bond and Derivatives portfolios on a solo and a Group basis;
- Data regarding RCSA results, Actions mitigating OpRisk status and Operational Risk losses;
- Exposures to Financial Institutions;
- Cross border exposures.

5 REGULATORY OWN FUNDS & PRUDENTIAL REQUIREMENTS

5.1 Key metrics

The following table presents an overview of Group's prudential regulatory metrics.

Table 4: EU KM1 – Key metrics template

Key Metrics		Q4 22*	Q3 22	Q3 22*	Q2 22*	Q1 22	Q1 22*	Q4 21
								€ mio
	Available own funds (amounts)							
1	Common Equity Tier 1 (CET1) capital	6,047	5,451	5,670	5,524	5,126	5,522	5,853
2	Tier 1 capital	6,047	5,451	5,670	5,524	5,126	5,522	5,853
3	Total capital	6,446	5,850	6,069	5,923	5,525	5,921	6,077
	Risk-weighted exposure amounts							
4	Total risk-weighted exposure amounts	36,368	35,011	35,061	35,077	34,287	34,377	34,708
	Capital ratios (as a percentage of risk-weighted exposure amount)							
5	Common Equity Tier 1 ratio (%)	16.63%	15.57%	16.17%	15.75%	14.95%	16.06%	16.86%
6	Tier 1 ratio (%)	16.63%	15.57%	16.17%	15.75%	14.95%	16.06%	16.86%
7	Total capital ratio (%)	17.72%	16.71%	17.31%	16.88%	16.11%	17.22%	17.51%
	Additional own funds requirements to address risks other than the risk of excessive leverage (as a percentage of risk-weighted exposure amount)							
EU 7a	Additional own funds requirements to address risks other than the risk of excessive leverage (%)	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
EU 7b	*of which: to be made up of CET1 capital (percentage points)*	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%
EU 7c	*of which: to be made up of Tier 1 capital (percentage points)*	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
EU 7d	Total SREP own funds requirements (%)	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
	Combined buffer requirement (as a percentage of risk-weighted exposure amount)							
8	Capital conservation buffer (%)	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
9	Institution specific countercyclical capital buffer (%)	0.03%	-	-	-	-	-	-
EU 10a	Other Systemically Important Institution buffer	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%	0.50%
11	Combined buffer requirement (%)	3.28%	3.25%	3.25%	3.25%	3.25%	3.25%	3.00%
EU 11a	Overall capital requirements (%)	14.28%	14.25%	14.25%	14.25%	14.25%	14.25%	14.00%
12	CET1 available after meeting the total SREP own funds requirements (%)	6.72%	5.71%	6.31%	5.88%	5.11%	6.22%	6.51%
	Leverage Ratio							
13	Total exposure measure	78,797	81,146	81,166	80,056	79,618	79,654	79,919
14	Leverage ratio (%)	7.67%	6.72%	6.99%	6.90%	6.44%	6.93%	7.32%
	Additional own funds requirements to address the risk of excessive leverage (as a percentage of total exposure measure)							
EU 14a	Additional own funds requirements to address the risk of excessive leverage (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
EU 14b	*of which: to be made up of CET1 capital (percentage points)*	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
EU 14c	Total SREP leverage ratio requirements (%)	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
	Leverage ratio buffer and overall leverage ratio requirement (as a percentage of total exposure measure)							
EU 14d	Leverage ratio buffer requirement (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
EU 14e	Overall leverage ratio requirements (%)	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
	Liquidity Coverage Ratio							
15	Total high-quality liquid assets (HQLA) (Weighted value - average)	23,170	22,870	22,870	22,642	21,999	21,999	21,203
16	Total net cash outflows (adjusted value)	9,217	9,139	9,139	8,892	8,648	8,648	8,389
17	Liquidity coverage ratio (%)	251.58%	250.48%	250.48%	254.70%	254.69%	254.69%	252.85%
	Net Stable Funding Ratio							
18	Total available stable funding	56,275	58,811	59,010	57,686	61,896	62,292	62,349
19	Total required stable funding	38,467	41,031	41,031	40,715	45,528	45,528	45,746
20	NSFR ratio (%)	146.30%	143.34%	143.82%	141.68%	135.95%	136.82%	136.49%

** including profit for the period*

5.2 Reconciliation of regulatory own funds to balance sheet in the audited financial statements

The table below presents the reconciliation between the balance sheet prepared for statutory and regulatory scope of consolidation. References in this table link to the corresponding references in table "EU CC1 - Transitional Own Funds", identifying balances relating to own funds calculation.

Table 5: EU CC2- Reconciliation of regulatory own funds to balance sheet in the audited financial statements

€ mio	*Ref*	31 December 2022		30 June 2022	
		Balance Sheet as in published financial statements	Under regulatory scope of consolidation	Balance Sheet as in published financial statements	Under regulatory scope of consolidation
ASSETS					
Cash and balances with central banks		14,226	14,226	15,261	15,261
Due from banks		2,900	2,900	2,711	2,711
Financial assets at fair value through profit or loss		395	395	312	312
Derivative financial instruments		1,962	1,962	2,417	2,417
Loans and advances to customers		35,561	35,561	34,362	34,362
Investment securities	*d*	13,190	13,190	13,900	13,900
Investment property		71	71	74	74
Investments in subsidiaries		0	0	0	0
Equity method investments	*d*	175	175	20	20
Goodwill, software and other intangible assets	*c*	431	431	390	390
Property and equipment		1,565	1,565	1,602	1,602
Deferred tax assets (DTAs)		4,705	4,705	4,825	4,825
of which: DTAs that rely on future profitability and arise from temporary differences	*e*	*792*	*792*	*854*	*854*
of which: DTAs that rely on future profitability and do not arise from temporary differences	*e*	*3*	*3*	*2*	*2*
of which: DTAs that do not rely on future profitability		*3,910*	*3,910*	*3,969*	*3,969*
Current income tax advance		208	208	244	244
Other assets		2,229	2,229	2,721	2,721
Non-current assets held for sale		495	495	607	607
Total assets		**78,113**	**78,113**	**79,446**	**79,446**
LIABILITIES					
Due to banks		9,811	9,811	13,580	13,580
Derivative financial instruments		1,923	1,923	2,026	2,026
Due to customers		55,192	55,192	54,292	54,292
Debt securities in issue		1,731	1,731	933	933
Other borrowed funds		63	63	63	63
Deferred tax liabilities		16	16	14	14
Retirement benefit obligations		248	248	265	265
Current income tax liabilities		2	2	5	5
Other liabilities		2,627	2,627	2,315	2,315
Liabilities associated with non-current assets held for sale		25	25	25	25
Total liabilities		**71,638**	**71,638**	**73,518**	**73,518**
SHAREHOLDERS' EQUITY					
Share capital		915	915	915	915
Share premium account		3,542	3,542	13,866	13,866
Less: treasury shares		0	0	0	0
Reserves and retained earnings		1,995	1,995	(8,875)	(8,875)
Equity attributable to NBG shareholders	*a*	**6,452**	**6,452**	**5,906**	**5,906**
Non-controlling interests	*b*	23	23	22	22
Total equity		**6,475**	**6,475**	**5,928**	**5,928**
Total equity and liabilities		**78,113**	**78,113**	**79,446**	**79,446**

5.3 Balance sheet reconciliation between financial and regulatory reporting

The table below presents the differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories. References in this table link to the corresponding references in table “Own Funds Structure”, identifying balances relating to own funds calculation.

Table 6: EU LI1 - Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories

		a	b	c	d	e	f	g
€ mio	*Ref*	Accounting Balance Sheet	Regulatory Balance Sheet	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitization framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
ASSETS								
Cash and balances with central banks		14,226	14,226	14,226				
Due from banks [1,2,3]		2,900	2,900	1,988	2,803		838	
Financial assets at fair value through profit or loss		395	395	6		7	382	
Derivative financial instruments [2,3]		1,962	1,962	0	1,962		1,844	
Loans and advances to customers		35,561	35,561	29,360	3,315	2,787		99
Investment securities	*d*	13,190	13,190	13,190				
Investment property		71	71	71				
Investments in subsidiaries		0	0	0				
Equity method investments	*d*	175	175	30				145
Goodwill, software and other intangible assets	*c*	431	431	143				288
Property and equipment		1,565	1,565	1,565				
Deferred tax assets (DTAs)		4,705	4,705	4,499				206
of which: DTAs that rely on future profitability and arise from temporary differences	*e*	*792*	*792*	*589*				*203*
of which: DTAs that rely on future profitability and do not arise from temporary differences	*e*	*3*	*3*	*0*				*3*
of which: DTAs that do not rely on future profitability		*3,910*	*3,910*	*3,910*				
Current income tax advance		208	208	208				
Other assets		2,229	2,229	1,907			298	24
Non-current assets held for sale		495	495	495				
Total assets[1,2,3]		**78,113**	**78,113**	**67,688**	**8,080**	**2,794**	**3,362**	**762**

1. The fair value of OTC derivatives is presented under the Derivative Asset or Derivative Liability line in the Balance Sheet and Derivatives used for Hedge Accounting respectively while the fair value of derivatives with CCPs is netted with the respective cash collateral received or paid to the respective counterparty, and the net amount is presented in the Balance Sheet line “Due from Banks” (column b). On the other hand, in columns (d) and (f) the fair value of derivatives with CCPs is depicted. Respectively for Repos and Reverse repos performed at the same date with the same counterparty and the same maturity date and for almost the same amount, we follow the same netting approach in line with IAS 32 para 42, in the Balance sheet line “Due from Banks”. The latter approach is in line with the IFRS accounting framework and in particular with IAS 32 para 42.
2. Items in the trading book portfolio are subject to both Market and Counterparty Credit Risk frameworks.
3. The derivative financial instruments that are subject to the Market Risk framework are those held with a trading intent, thus included in the daily, regulatory, VaR and stressed VaR calculations. The remaining derivative transactions are used either as economic hedges or they are part of an accounting hedge relationship of banking book items.
4. Non-current assets held for sale at 31 December 2022 comprise of Probank Leasing S.A. (Project “Pronto”) as well as loan portfolio contemplated disposals mainly relating to Projects “Frontier II”, “Solar” and “Pronto” while non-current assets held for sale at 31 December 2021 included also NIC and CAC Coral Ltd deconsolidated during Q1 and Q2 2022 respectively.

Table 6: EU LI1 - Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories *(continued)*

€ mio	*Ref*	a Accounting Balance Sheet	b Regulatory Balance Sheet	c Subject to the credit risk framework	d Subject to the CCR framework	e Subject to the securitization framework	f Subject to the market risk framework	g Not subject to capital requirements or subject to deduction from capital
LIABILITIES								
Due to banks		9,811	9,811		122			
Derivative financial instruments		1,923	1,923		1,923		1,600	
Due to customers		55,192	55,192					
Debt securities in issue		1,731	1,731					
Other borrowed funds		63	63					
Deferred tax liabilities		16	16					
Retirement benefit obligations		248	248					
Current income tax liabilities		2	2					
Other liabilities		2,627	2,627					
Liabilities associated with non-current assets held for sale		25	25					
Total liabilities		**71,638**	**71,638**	**0**	**2,045**	**0**	**1,600**	**0**
SHAREHOLDERS' EQUITY								
Share capital		915	915					915
Share premium account		3,542	3,542					3,542
Less: treasury shares		0	0					0
Reserves and retained earnings		1,995	1,995					1,995
Equity attributable to NBG shareholders	***a***	**6,452**	**6,452**					**6,452**
Non-controlling interests	***b***	23	23					23
Total equity		**6,475**	**6,475**					**6,475**
Total equity and liabilities		**78,113**	**78,113**					**6,475**

[1] The amount of €411mio which is reported under the Market Risk framework is related to guaranteed deposits with embedded equity options offered to clients. Please note, that the fair valued item is the embedded equity option.

Table 7: EU LI2 - Main sources of differences between regulatory exposure amounts and carrying values in financial statements

€ mio		a **Total**	b Subject to the credit risk framework	c Subject to the CCR framework	d Subject to the securitization framework	e Subject to the market risk framework
1	**Assets carrying value amount under the scope of regulatory consolidation**	**78,113**	**67.688**	8,080	**2.794**	3,362
2	Liabilities carrying value amount under the regulatory scope of consolidation	71,638		2,045		1,600
3	Total net amount under the regulatory scope of consolidation	6,475	67.688	**6,035**	2.794	**1,762**
4	Off-balance-sheet amounts	19,209	1.184			
5	Differences in valuations					
6	*Differences due to different netting values, other than those already included in row 2*					
7	*Differences due to consideration of provisions*		180			
8	*Differences due to prudential filters*					
9	*Other adjustments related to credit risk mitigation techniques*		2.230		(2.787)	
10	**Exposure amounts considered for regulatory purposes**		**71.282**		**7**	

5.4 Regulatory vs accounting consolidation

All Group subsidiaries (companies which the Bank controls either directly or indirectly, regardless of their line of business) are consolidated in accordance with International Financial Reporting Standards (IFRS). For further information please refer to Note 2.4 of the 2022 Annual Financial Report.

In accordance with the regulatory requirements for consolidation as defined by the CRR and CRD IV, Group subsidiaries that are classified as banks, financial institutions or supplementary service providers are consolidated under the regulatory scope of consolidation. In addition, subsidiaries that are not fully consolidated for regulatory purposes (e.g. insurance entities) are required to be accounted by applying the equity method.

The table below provides information regarding the consolidation method applied for each entity within the accounting and the regulatory scopes of consolidation.

In addition, participations exceeding 10% in the share capital or voting rights in financial sector entities (including insurance companies) are deducted from Common Equity Tier I capital (CET1) if exceeding threshold rules set in CRR.

Table 8: **EU LI3** - Outline of the differences in the scope of consolidation

Name of entity	Method of accounting consolidation	Method of regulatory consolidation	Description of the entity
National Bank of Greece (Cyprus) Ltd	Full	Full	Special Purpose Entity
Merbolium Limited (Special Purpose Entity) (3)	Full	Full	Special Purpose Entity
Cortelians Limited (Special Purpose Entity) (3)	Full	Full	Special Purpose Entity
Ovelicium Ltd (Special Purpose Entity) (3)	Full	Full	Special Purpose Entity
Pacolia Holdings Ltd (Special Purpose Entity) (3)	Full	Full	Financial Institution
NBG Malta Ltd (4)	Full	Full	Special Purpose Entity
Stopanska Banka A.D.-Skopje	Full	Full	Financial Institution
Stopanska Leasing DOOEL Skopje	Full	Full	Financial Leasing
National Securities Single Member S.A.	Full	Full	Capital Markets & Investment Services
National Securities Co (Cyprus) Ltd (1)	Full	Full	Capital Markets Services
EKTENEPOL Construction Company Single Member S.A.	Full	Full	Construction Company
Ethniki Factors S.A.	Full	Full	Factoring Company
Ethniki Leasing S.A.	Full	Full	Financial Leasing
NBG Leasing S.R.L.	Full	Full	Financial Leasing
Probank Leasing S.A. (2)	Full	Full	Financial Leasing
NBG Finance (Dollar) Plc (1)	Full	Full	Financial Services
NBG Finance (Sterling) Plc (1)	Full	Full	Financial Services
NBG Finance Plc	Full	Full	Financial Services
NBG International Ltd	Full	Full	Financial Services
I-Bank Direct S.A. (1)	Full	Full	Financial Services
NBG Greek Fund Ltd	Full	Full	Fund Management
NBG Asset Management Luxembourg S.A.	Full	Full	Holding Company
NBG International Holdings B.V.	Full	Full	Holding Company
NBG Malta Holdings Ltd (4)	Full	Full	Holding Company
NBG Insurance Brokers S.A	Full	Full	Insurance Brokerage and Other Services
NBG Management Services Ltd	Full	Full	Management Services
NBG Asset Management Mutual Funds S.A.	Full	Full	Mutual Funds Management
NBGI Private Equity Ltd (1)	Full	Full	Private Equity
DIONYSOS S.A.	Full	Full	Real Estate Services
Ethniki Ktimatikis Ekmetalefsis Single Member S.A.	Full	Full	Real Estate Services
Hellenic Touristic Constructions S.A.	Full	Full	Real Estate Services
KADMOS S.A.	Full	Full	Real Estate Services
Mortgage Touristic PROTYPOS Single Member S.A.	Full	Full	Real Estate Services
NBG Property Services Single Member S.A.	Full	Full	Real Estate Services
ARC Management One SRL	Full	Full	Real Estate Services
ARC Management Two EAD	Full	Full	Real Estate Services
Bankteco EOOD	Full	Full	Information Technology Services
Pronomiouchos Single Member S.A. Genikon Apothikon Hellados	Full	Full	Warehouse activities
Social Securities Funds Management S.A.	Equity Method	Equity Method	Associate Company
Larco S.A.	Equity Method	Equity Method	Associate Company
Eviop Tempo S.A.	Equity Method	Equity Method	Associate Company
Teiresias S.A.	Equity Method	Equity Method	Associate Company
Planet S.A.	Equity Method	Equity Method	Associate Company
Pyrrichos Real Estate S.A.	Equity Method	Equity Method	Associate Company
Sato S.A.	Equity Method	Equity Method	Associate Company
Olganos S.A.	Equity Method	Equity Method	Associate Company
NBG Pay S.A.	Equity Method	Equity Method	Associate Company
Perigenis Business Properties S.A.	Equity Method	Equity Method	Associate Company

(1) Under Liquidation.

(2) The entity has been reclassified to Non-current assets held for sale.

(3) The entities are 100% subsidiaries of National Bank of Greece (Cyprus) Ltd from November 2022.

(4) In October 2021, the Bank decided to cease its operation in Malta through its subsidiary NBG Bank Malta Ltd and from 31 August 2022, the subsidiaries are under liquidation. NBG Malta Limited, formerly known as NBG Bank Malta Limited surrendered its banking licence on 11 August 2022 and subsequently placed into liquidation.

There is no NBG Group subsidiary or associate, which is proportionately consolidated for regulatory or accounting purposes.

Based on the current regulatory framework there is no substantial, practical or legal incapacity in capital transfers or payment of obligations between parent Bank and its subsidiaries. The time of full repayment of the subordinated loans, which have already been granted by the parent Bank to its subsidiaries, has been notified to the appropriate Supervisory Authorities and abides by the relative regulations of each country. Potential early prepayment of the above mentioned loans requires prior permission from appropriate Regulatory Authorities.

Sinepia Designated Activity Company (SPE)

The liquidation of the entity was completed during the year.

5.5 Structure of own funds

Regulatory capital, according to CRR rules falls into two categories: Tier 1 and Tier 2 capital. Tier 1 capital is further divided into Common Equity Tier 1 (CET1) capital and Additional Tier 1 capital.

CET1 capital includes the Bank's ordinary shareholders' equity, share premium, reserves and retained earnings and minority interest allowed in consolidated CET1.

The following items are deducted from the above:

- positive or negative adjustments in the fair value of financial derivatives used for cash flow hedging;
- fair value gains and losses arising from the institution's own credit risk related to derivative liabilities;
- prudent valuation adjustment calculated according to article 105 of Regulation (EU) No 575/201
- goodwill and intangibles;
- deferred tax assets not arising from temporary differences;
- deferred tax assets arising from temporary differences; and significant investments that exceed 10%/17.65% of CET1 filter.

Tier 2 capital includes the issuance of a Tier 2 note, totalling €399 million.

The following table presents the analysis of NBG Group's regulatory capital structure.

Table 9: Own Funds Structure

Group's Own Funds Structure *(€ mio)*	*Q4 22**	*Q3 22*	*Q3 22**
Shareholders' Equity per balance sheet	**6,452**	**5,989**	**5,989**
Non-controlling interests	**12**	**10**	**10**
Non-controlling interests per balance sheet	*23*	*23*	*23*
Non-controlling interests not recognized in CET1	*(11)*	*(13)*	*(13)*
Regulatory Adjustments	**222**	**54**	**253**
Profit for the period not eligible		*(134)*	
IFRS9 transitional arrangements	*382*	*368*	*368*
Own credit risk	*(61)*	*(80)*	*(80)*
Prudent valuation adjustment	*(11)*	*(11)*	*(11)*
Cash flow hedging reserve	*0*	*0*	*0*
Other regulatory adjustments	*(88)*	*(89)*	*(24)*
Deductions	**(639)**	**(602)**	**(582)**
Goodwill and other intangibles	*(433)*	*(290)*	*(290)*
Significant Investments	*0*	*0*	*0*
Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)	*(3)*	*(3)*	*(3)*
Deferred tax assets that rely on future profitability and arise from temporary differences	*(203)*	*(309)*	*(289)*
Common Equity Tier 1 Capital (CET1)	**6,047**	**5,451**	**5,670**
Additional Tier 1 Capital (AT1)	**0**	**0**	**0**
Total Tier 1 Capital	**6,047**	**5,451**	**5,670**
Capital instruments and subordinated loans eligible as Tier 2 Capital	**399**	**399**	**399**
Deductions	**0**	**0**	**0**
Subordinated loans of financial sector entities where the institution has a sign. Inv. in those entities	*0*	*0*	*0*
Tier 2 Capital	**399**	**399**	**399**
Total Regulatory Capital	**6,446**	**5,850**	**6,069**

** including profit for the period*

The main features of capital instruments issued by the Group are presented in the table below.

Table 10: EU CCA - Capital Instruments main features

	Capital instruments' main features template		€ mio
1	Issuer	National Bank of Greece, S. A. (Greece)	National Bank of Greece S.A.
2	Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement	GRS003003035	XS2028846363
2a	Public or private placement	Public	Public
3	Governing law(s) of the instrument	Greek	English law, save that subordination provisions applicable to the Notes and provisions on statutory loss absorption powers will be governed by, and construed in accordance with, the laws of the Hellenic Republic
3a	Contractual recognition of write down and conversion powers of resolution authorities	N/A	Yes
	Regulatory treatment		
4	Transitional CRR rules	Common Equity Tier 1	Tier2
5	Post-transitional CRR rules	Common Equity Tier 1	Tier2
6	Eligible at solo/(sub-)consolidated/solo & (sub-)consolidated	Solo & Consolidated	Solo & Consolidated
7	Instrument type (types to be specified by each jurisdiction)	Ordinary Shares	Tier 2
8	Amount recognized in regulatory capital (currency in million, as of most recent reporting date)	915	400
9	Nominal amount of instrument	915 (914,715,153 shares @ €1.00 each)	400
9a	Issue price	-	100%
9b	Redemption price	-	100%
10	Accounting classification	Share Capital	Liability
11	Original date of issuance	Various	18/7/2019
12	Perpeptual or dated	Perpetual	Dated
13	Original maturity date	-	18/7/2029
14	Issuer call subject to prior supervisory approval	N/A	Yes
15	Optional call date, contingent call dates, and redemption amount	N/A	18/7/2024
16	Subsequent call dates, if applicable	N/A	No. Call date is one-off
	Coupons / dividends		
17	Fixed or floating dividend/coupon	N/A	Fixed Coupon
18	Coupon rate and any related index	N/A	8.25%. MS (-0.214%) + Reset Margin (+8.464%)
19	Existence of a dividend stopper	N/A	No
20a	Fully discretionary, partially discretionary or mandatory (in terms of timing)	partially discretionary	Mandatory
20b	Fully discretionary, partially discretionary or mandatory (in terms of amount)	partially discretionary	Mandatory
21	Existence of step up or other incentive to redeem	No	No
22	Noncumulative or cumulative	Non cumulative	Non-Cumulative
23	Convertible or non-convertible	Non convertible	Non-Convertible
24	If convertible, conversion trigger (s)	N/A	N/A
25	If convertible, fully or partially	N/A	N/A
26	If convertible, conversion rate	N/A	N/A
27	If convertible, mandatory or optional conversion	N/A	N/A
28	If convertible, specifiy instrument type convertible into	N/A	N/A
29	If convertible, specifiy issuer of instrument it converts into	N/A	N/A
30	Write-down features	No	No
31	If write-down, write-down trigger (s)	N/A	N/A
32	If write-down, full or partial	N/A	N/A
33	If write-down, permanent or temporary	N/A	N/A
34	If temporary write-down, description of write-up mechanism	N/A	N/A
34a	Type of subordination (only for eligible liabilities)	N/A	N/A
34b	Ranking of the instrument in normal insolvency proceedings	1	3
35	Position in subordination hierachy in liquidation (specify instrument type immediately senior to instrument)	Additional Tier 1	The Notes constitute direct, unsecured and subordinated obligations of the Issuer and rank at all times (i) pari passu without any preference among themselves and pari passu with all other present and future subordinated and unsecured obligations of the relevant Issuer which rank or are expressed to rank pari passu with the Subordinated Notes,(ii) junior to present and future obligations of the relevant Issuer in respect of Unsubordinated Notes and Unsubordinated MREL Notes (and all other present and future obligations of the relevant Issuer which rank or are expressed to rank pari passu with Unsubordinated Notes and Unsubordinated MREL Notes) and Senior Non-Preferred Notes (and all other present and future obligations of the relevant Issuer which rank or are expressed to rank pari passu with Senior Non-Preferred Notes) and any other obligations of the relevant Issuer which rank or are expressed to rank senior to the Subordinated Notes, including (where the relevant Issuer is the Bank) deposits of the Bank and (iii) in priority to present and future subordinated and unsecured obligations of the relevant Issuer (A) which rank or are expressed to rank junior to the Subordinated Notes and (B) in respect of the share capital of such Issuer.
36	Non-compliant transitioned features	No	No
37	If yes, specifiy non-compliant features	N/A	N/A
37a	Link to the full term and conditions of the intrument (signposting)	https://www.nbg.gr/english/the-group/corporate-governance/regulations-principles/Documents/ARTICLES_OF_ASSOCIATION.pdf	https://www.nbg.gr/en/the-group/investor-relations/dept-investors/globalmediumtermnoteprogramme

5.6 IFRS 9 impact on own funds

On 12 December 2017 the European Parliament and the Council of the European Union adopted Regulation (EU) 2017/2395 (the "Regulation"), which amended Regulation 575/2013 with Article 473a, allowing credit institutions to gradually apply the impact of the application of IFRS 9 to own funds.

In particular, upon adoption of IFRS 9, credit institutions are allowed to include in the Common Equity Tier 1 capital (CET1), a portion of the increased ECL provisions over a 5-year transitional period starting in 2018. The portion of ECL provisions that can be included in CET1 should decrease over time down to zero to ensure the full implementation of IFRS 9, after the end of the transitional period.

In addition, in accordance with paragraph (4) of the Regulation, if the ECL provisions for Stages 1 and 2 incurred after the first adoption of IFRS 9 are increased, credit institutions are allowed to include the increase in the transitional arrangements.

The percentages of recognition in CET1 of the increased ECL provisions during the 5-year transition period are as follows:

- 0.95 during the period from 01/01/2018-31/12/2018
- 0.85 during the period from 01/01/2019-31/12/2019
- 0.70 during the period from 01/01/2020-31/12/2020
- 0.50 during the period from 01/01/2021-31/12/2021
- 0.25 during the period from 01/01/2022-31/12/2022

The Group has decided to apply the transitional arrangements set out in Article 1 of the aforementioned Regulation, including the provisions of paragraph (4), during the transitional period.

According to the amendments of IFRS9 transitional arrangements due to CRR II "quickfix", transitional period is extended in order to mitigate the impact on own funds from the potential sudden increase in ECL allowance. More specifically, the reference date for any increase in ECL allowance (the "dynamic component"), is moved to 1 January 2020 and the CET1 add-back percentages for the new ECL provisions recognized in 2020 are set to:

- 1.00 during the period from 01/01/2020 – 31/12/2021
- 0.75 during the period from 01/01/2022 – 31/12/2022
- 0.50 during the period from 01/01/2023 – 31/12/2023
- 0.25 during the period from 01/01/2024 – 31/12/2024.

Furthermore, the calculation of the RWAs according to the reduction of the ECL provisions by the scaling factor (sf) is replaced by the application of a standard risk weight of 100% to the amounts added back to CET1 capital.

The table below presents a comparison of own funds, capital ratios and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs.

Table 11: IFRS 9 impact

Comparison of own funds, capital ratios and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs

€ mio

	Q4 22*	Q3 22	Q3 22*	Q2 22	Q1 22	Q1 22*	Q4 21
Available capital (amounts)							
Common Equity Tier 1 (CET1) capital	6,047	5,451	5,670	5,524	5,126	5,522	5,853
Common Equity Tier 1 (CET1) capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	5,665	5,084	5,302	5,156	4,758	5,154	5,118
Tier 1 capital	6,047	5,451	5,670	5,524	5,126	5,522	5,853
Tier 1 capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	5,665	5,084	5,302	5,156	4,758	5,154	5,118
Total capital	6,446	5,850	6,069	5,923	5,525	5,921	6,077
Total capital as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	6,064	5,483	5,702	5,555	5,157	5,553	5,342
Risk-weighted assets (amounts)							
Total risk-weighted assets	36,368	35,011	35,061	35,077	34,287	34,377	34,708
Total risk-weighted assets as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	36,188	34,846	34,896	34,911	34,121	34,211	34,377
Capital ratios							
Common Equity Tier 1 (as percentage of risk exposure amount)	16.63%	15.57%	16.17%	15.75%	14.95%	16.06%	16.86%
Common Equity Tier 1 (as percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	15.65%	14.59%	15.19%	14.77%	13.95%	15.07%	14.89%
Tier 1 (as percentage of risk exposure amount)	16.63%	15.57%	16.17%	15.75%	14.95%	16.06%	16.86%
Tier 1 (as percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	15.65%	14.59%	15.19%	14.77%	13.95%	15.07%	14.89%
Total capital (as percentage of risk exposure amount)	17.72%	16.71%	17.31%	16.88%	16.11%	17.22%	17.51%
Total capital (as percentage of risk exposure amount) as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	16.76%	15.73%	16.34%	15.91%	15.11%	16.23%	15.54%
Leverage ratio							
Leverage ratio total exposure measure	78,797	81,146	81,166	80,056	79,618	79,654	79,919
Leverage ratio	7.67%	6.72%	6.99%	6.90%	6.44%	6.93%	7.32%
Leverage ratio as if IFRS 9 or analogous ECLs transitional arrangements had not been applied	7.21%	6.28%	6.55%	6.45%	5.99%	6.48%	6.43%

** Including profits for the period*

5.7 DTC Law

Article 27A of Greek Law 4172/2013 (“DTC Law”), as currently in force, allows credit institutions, under certain conditions, and from 2017 onwards to convert deferred tax assets (“DTAs”) arising from (a) private sector initiative (“PSI”) losses, (b) accumulated provisions for credit losses recognized as at 30 June 2015, (c) losses from final write off or the disposal of loans and (d) accounting write offs, which will ultimately lead to final write offs and losses from disposals, to a receivable (“Tax Credit”) from the Greek State. Items (c) and (d) above were added with Greek Law 4465/2017 enacted on 29 March 2017. The same Greek Law 4465/2017 provided that the total tax relating to cases (b) to (d) above cannot exceed the tax corresponding to accumulated provisions recorded up to 30 June 2015 less (a) any definitive and cleared Tax Credit, which arose in the case of accounting loss for a year according to the provisions of par.2 of article 27A of Greek Law 4172/2013, which relate to the above accumulated provisions, (b) the amount of tax corresponding to any subsequent specific tax provisions, which relate to the above accumulated provisions and (c) the amount of the tax corresponding to the annual amortization of the debit difference that corresponds to the above provisions and other losses in general arising due to credit risk.

The main condition for the conversion of DTAs to a Tax Credit is the existence of an accounting loss at Bank level of a respective year, starting from accounting year 2016 and onwards. The Tax Credits will be calculated as a ratio of IFRS accounting losses to net equity (excluding the year’s losses) on a solo basis and such ratio will be applied to the remaining Eligible DTAs in a given year to calculate the Tax Credit that will be converted in that year, in respect of the prior tax year. The Tax Credit may be offset against income taxes payable. The non-offset part of the Tax Credit is immediately recognized as a receivable from the Greek State. The Bank is obliged to issue conversion rights to the Greek State for an amount of 100% of the Tax Credit in favour of the Greek State and will create a specific reserve for an equal amount. Common shareholders have pre-emption rights on these conversion rights. The reserve will be capitalized with the issuance of common shares in favour of the Greek State. This legislation allows credit institutions to treat such DTAs as not “relying on future profitability” according to CRD IV, and as a result such DTAs are not deducted from CET1, hence improving a credit institution’s capital position.

Furthermore, Greek Law 4465/2017 amended article 27 “Carry forward losses” by introducing an amortization period of 20 years for losses due to loan write offs as part of a settlement or restructuring and losses that crystallize as a result of a disposal of loans. In addition, in 2021 Greek Law 4831 further amended article 27 of Greek Law 4172/2013 (see Note 27 “Deferred tax assets and liabilities”).

On 7 November 2014, the Bank convened an extraordinary General Shareholders Meeting which resolved to include the Bank in the DTC Law. An exit by the Bank from the provisions of the DTC Law requires regulatory approval and a General Shareholders meeting resolution.

As of 31 December 2022, the amount of DTAs that were eligible for conversion to a receivable from the Greek State subject to the DTC Law was €3.9 billion (31 December 2021: €4.1 billion). The conditions for conversion rights were not met in the year ended 31 December 2022 and no conversion rights are deliverable in 2023.

5.8 Transitional own funds disclosure template

The table below provides information regarding the amounts and nature of specific items on own funds during the IFRS9 transitional period, in accordance with Annex IV of the Commission Implementing Regulation (EU) No 1423/2013.

Table 12: EU CC1 - Transitional Own Funds 31.12.2022

	Transitional own funds disclosure template as of 31.12.2022	€ mio	ref
Common Equity Tier 1 capital: Instruments and Reserves			
1	Capital instruments and the related share premium accounts	4,457	a
	of which: ordinary shares	4,457	
2	Retained earnings	1,553	a
3	Accumulated other comprehensive income and other reserves	427	a
EU-3a	Funds for general banking risk	15	a
5	Minority Interests (amount allowed in consolidated CET1)	12	b
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**6,464**	
	Common Equity Tier 1 capital: Regulatory Adjustments		
7	Additional Value Adjustments	(11)	
8	Intangible assets (net of related tax liability)	(433)	c
9	Part of interim or year-end profit not eligible	-	
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences	(3)	e
11	Fair value reserves related to gain or losses on cash flow hedges	0	
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	0	
16	Direct and indirect holdings by an institution of own CET1 instruments	0	
19	CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold)	0	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold)	(203)	e
27a	Other regulatory adjustments	233	
28	**Total regulatory adjustments to Common equity Tier 1 (CET1)**	**(417)**	
29	**Common Equity Tier 1 (CET1) capital**	**6,047**	
	Additional Tier 1 (AT1) capital		
36	Additional Tier 1 (AT1) capital before regulatory adjustments	0	
	Additional Tier 1 (AT1) capital: regulatory adjustments		
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**0**	
44	Additional Tier 1 (AT1) capital	-	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**6,047**	
	Tier 2 (T2) capital		
46	Capital instruments and the related share premium accounts	399	
51	**Tier 2 capital (T2) capital before regulatory adjustments**	**399**	
	Tier 2 (T2) capital: Regulatory adjustments		
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities	0	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	**0**	
58	**Tier 2 (T2) capital**	**399**	
59	**Total capital (TC = T1 + T2)**	**6,446**	
60	**Total risk exposure amount**	**36,368**	
Capital Adequacy Ratios		**%**	
61	**Common Equity Tier 1**	**16.63%**	
62	**Tier 1**	**16.63%**	
63	**Total capital**	**17.72%**	
64	Institution CET1 overall capital requirement	**9.47%**	
65	***of which: capital conservation buffer requirement***	**2.5%**	
66	***of which: countercyclical capital buffer requirement***	**0.03%**	
67	***of which: systemic risk buffer requirement***	**0.00%**	
EU-67a	***of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer***	**0.75%**	
EU-67b	***of which: additional own funds requirements to address the risks other than the risk of excessive leverage***	**1.69%**	
68	**Common Equity Tier 1 available after meeting the minimum capital requirements**	**6.72%**	
	Amounts below the thresholds for deduction (before risk weighting)		
72	Direct and indirect holdings of own funds and eligible liabilities of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions	406	
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 17.65% thresholds and net of eligible short positions)	34	d
75	Deferred tax assets arising from temporary differences (amount below 17.65% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	589	e

** Including profits for the period*

Table 12: EU CC1 - Transitional Own Funds 30.06.2022

	Transitional own funds disclosure template as of 30.06.2022	€ mio	ref
Common Equity Tier 1 capital: Instruments and Reserves			
1	Capital instruments and the related share premium accounts	14,781	a
	of which: ordinary shares	14,781	
2	Retained earnings	(14,366)	a
3	Accumulated other comprehensive income and other reserves	5,476	a
3a	Funds for general banking risk	15	a
5	Minority Interests (amount allowed in consolidated CET1)	10	b
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**5,916**	
Common Equity Tier 1 capital: Regulatory Adjustments			
7	Additional Value Adjustments	(9)	
8	Intangible assets (net of related tax liability)	(269)	c
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability where the conditions in Article 38 (3) CRR are met)	(2)	e
11	Fair value reserves related to gain or losses on cash flow hedges of financial instruments that are not valued at fair value	-	
16	Direct and indirect holdings by an institution of own CET1 instruments	-	
19	CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold)	-	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold)	(305)	e
27a	Other regulatory adjustments to CET1 capital (including IFRS 9 transitional adjustments)	193	
28	**Total regulatory adjustments to Common equity Tier 1 (CET1)**	**(392)**	
29	**Common Equity Tier 1 (CET1) capital**	**5,524**	
Additional Tier 1 (AT1) capital			
36	Additional Tier 1 (AT1) capital before regulatory adjustments	-	
Additional Tier 1 (AT1) capital: regulatory adjustments			
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**-**	
44	Additional Tier 1 (AT1) capital	**-**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**5,524**	
Tier 2 (T2) capital			
46	Capital instruments and the related share premium accounts	399	
51	**Tier 2 capital (T2) capital before regulatory adjustments**	**399**	
Tier 2 (T2) capital: Regulatory adjustments			
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities		f
57	**Total regulatory adjustments to Tier 2 (T2) capital**		
58	**Tier 2 (T2) capital**	**399**	
59	**Total capital (TC = T1 + T2)**	**5,923**	
60	**Total Risk Weighted Assets (RWAs)**	**35,077**	
Capital Adequacy Ratios		%	
61	**Common Equity Tier 1**	**15.75%**	
62	**Tier 1**	**15.75%**	
63	**Total capital**	**16.88%**	
64	Institution CET1 overall capital requirement	**9.44%**	
65	***of which: capital conservation buffer requirement***	**2.5%**	
66	***of which: countercyclical capital buffer requirement***	**0.0%**	
67	***of which: systemic risk buffer requirement***	**0.0%**	
EU-67a	***of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer***	**0.75%**	
EU-67b	***of which: additional own funds requirements to address the risks other than the risk of excessive leverage***	**1.69%**	
68	**Common Equity Tier 1 available after meeting the minimum capital requirements**	**5.88%**	
Amounts below the thresholds for deduction (before risk weighting)			
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions	279	
73	Direct and indirect holdings by the institution of CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	24	d
75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in 38 (3) are met)	549	e

5.9 Capital requirements under Pillar I

The next table presents the risk exposure amounts (or Risk Weighted Assets - RWAs) and the capital requirements at Group level under Pillar I as of 31.12.2022 and 30.09.2022, according to the CRR/CRD IV regulatory framework. The capital requirements under Pillar I are equal to 8% of the risk exposure amounts.

Total RWAs are broken down in 85.6% Credit (including Counterparty Credit Risk), 5.7% Market and 8.7% Operational RWAs, respectively.

On a quarterly basis total Group RWAs increased to €36.4Bn. Concerning Credit RWAs the increase (+€1.3Bn) is attributed mainly to growth in Corporate portfolio (+€831mio) & new disbursements in subsidiaries (+€256mio). Market & Operational Risk RWAs increased by €163mio & €351mio, due to Internal Model (VaR) & higher 2022 Gross Income, respectively.

Table 13: EU OV1 - Overview of RWAs

	Overview of RWAs	RWAs		Minimum Capital Requirements
		31.12.22	30.09.22	31.12.22
1	**Credit risk (excluding CCR)**	**30,564**	**29,858**	**2,445**
2	*Of which the standardised approach*	30,564	29,858	2,445
3	*Of which the foundation IRB (FIRB) approach*			
4	*Of which: slotting approach*			
EU 4a	*Of which: equities under the simple riskweighted approach*			
5	*Of which the advanced IRB (AIRB) approach*			
6	**Counterparty credit risk – CCR**	**683**	**524**	**55**
7	*Of which the standardised approach*	459	321	37
8	*Of which internal model method (IMM)*	0	0	
EU 8a	*Of which exposures to a CCP*	8	10	1
EU 8b	*Of which credit valuation adjustment-CVA*	215	192	17
9	*Of which other CCR*	1	1	0
15	**Settlement risk**	**0**	**0**	
16	**Securitisation exposures in the non-trading book (after the cap)**	**77**	**77**	**6**
17	*Of which SEC-IRBA approach*			
18	*Of which SEC-ERBA (including IAA)*			
19	*Of which SEC-SA approach*	77	77	6
EU 19a	*Of which 1250%/ deduction*			
20	**Position, foreign exchange and commodities risks (Market risk)**	**1,866**	**1,726**	**149**
21	*Of which the standardised approach*	515	524	41
22	*Of which IMA*	1,351	1,203	108
EU 22a	**Large exposures**			
23	**Operational risk**	**3,178**	**2,826**	**254**
EU 23a	*Of which basic indicator approach*			
EU 23b	*Of which standardised approach*	3,178	2,826	254
EU 23c	*Of which advanced measurement approach*			
24	**Amounts below the thresholds for deduction (subject to 250% risk weight) (For information)**	**1,557**	**1,431**	**125**
29	**Total**	**36,368**	**35,011**	**2,909**

5.10 Overall Capital Requirement (OCR)

According to the ECB decision it is required for National Bank of Greece to maintain, on a consolidated basis, a total SREP capital requirement of 11%.

The TSCR of 11% includes:

- the minimum Pillar I own funds requirement of 8% to be maintained at all times in accordance with Article 92(1) of Regulation (EU) No 575/2013; and
- an additional Pillar II own funds requirement (P2R) of 3% to be maintained at all times in accordance with Article 16(2)(a) of Regulation (EU) No 1024/2013, to be covered at least by CET1 capital by 56.25% and by Tier 1 capital by 75%.

In addition to the TSCR, the Group is also subject to the Overall Capital Requirement (OCR). The OCR consists of the TSCR and the combined buffer requirement as defined in point (6) of Article 128 of Directive 2013/36/EU.

The combined buffer (CB) requirement is defined as the sum of:

- the Capital Conservation Buffer;
- the institution specific Countercyclical Capital Buffer (CcyB);
- the systemic risk; and
- the systemically important institutions buffer, as applicable.

The Capital Conservation Buffer stands at 2.5% for all banks in the EU.

The systemic risk is 0% and the systemically important institutions buffer for 2022 is 0.75% for all four systemically important banks in Greece, due to the imposition of such an O-SII buffer by the Bank of Greece and will be phased in to 1% in 2023.

The CCyB is implemented as an extension of the capital conservation buffer and has the primary objective of protecting the banking sector from periods of excess aggregate credit growth that have often been associated with the build-up of system-wide risk. It is calculated as the weighted average of the buffers in effect in the jurisdictions to which a bank has significant credit exposures.

Bank of Greece defined its methodology for determining the CCyB and set the CCyB at 0% for Greece throughout 2018-2021 according to its quarterly decisions, as well as the second half of 2022. CCyB is also currently 0% in all other countries in which NBG Group has significant exposures apart from country Great Britain (GB) where CCyB stands at 1% for Q4 2022.

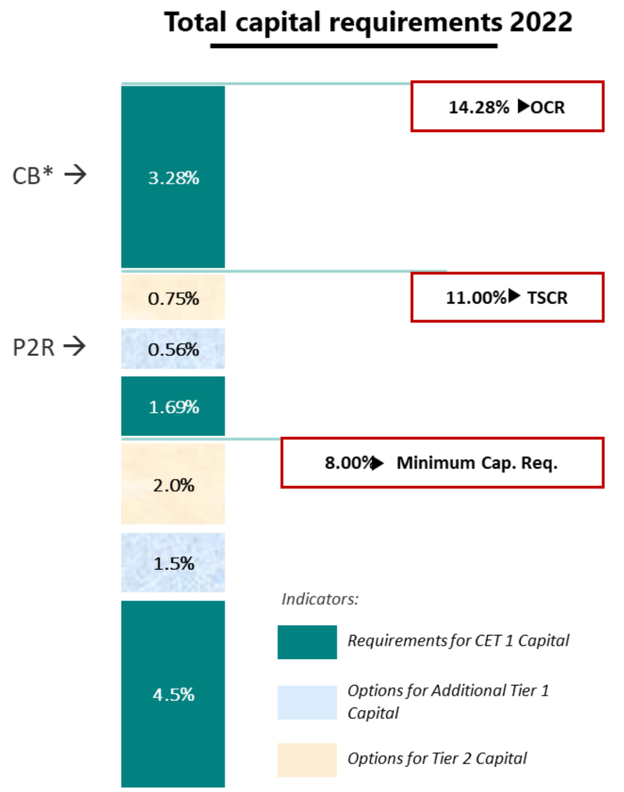
Thus, the institution specific Countercyclical Capital Buffer for NBG Group is currently 0.03%, as depicted in the following table.

Table 14: EU CCyB2 - Amount of institution-specific countercyclical capital buffer

	a
Total risk exposure amount	36,368
Institution specific countercyclical capital buffer rate	0.03%
Institution specific countercyclical capital buffer requirement	**10**

NBG's total capital requirement for 2022, taking into account the short term waiver of Capital Conservation and O-SII buffers, have been set to 11.78%.

The stacking order of the various own funds requirements for 2022 is shown in the figure below.



*Waiver for suspension of the Capital Conservation Buffer and of the phase-in of the OSII (+0.25%) for 2022

Figure 6: Stacking order of own funds requirements

On December 31, 2022, NBG Group's CET1 capital ratio and Total capital ratio stood at 16.6% and 17.7% respectively, well above the required capital requirement of 6.97% for CET1 Capital and of 11.78% for Total Capital.

The table below presents figures of credit and market exposures relevant for the calculation of the Countercyclical Capital Buffer for 31.12.2022 broken down by country.

Table 15: **EU CCyB1** - Geographical distribution of credit exposures relevant for the calculation of the countercyclical buffer 31.12.2022

	a	b	c	d	e	f	g	h	i	j	k	l	m
	General Credit Exposures		Relevant Credit exposures – Market Risk		Securitisation exposures	Total exposure value	Total exposure value				Risk-weighted exposure amounts	Own fund requirements weights (%)	Counter cyclical buffer rate (%)
	Exposure value under the standardised approach	Exposure value under the IRB approach	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for internal models	Exposure value for non-trading book		Relevant credit risk exposures - Credit risk	Relevant credit exposures – Market risk	Relevant credit exposures – Securitisation positions in the non-trading book	Total			
Breakdown by country													
Greece	86.178	0	31	0	7	86.216	1.608	3	6	1.617	20.212	84,34%	0,00%
North Macedonia	1.509	0	0	0	0	1.509	77	0	0	77	966	4,03%	0,00%
Marshall Islands*	1.232	0	0	0	0	1.232	99	0	0	99	1.232	5,14%	0,00%
Liberia*	895	0	0	0	0	895	72	0	0	72	895	3,73%	0,00%
Great Britain	471	0	0	0	0	471	53	0	0	53	660	2,75%	1,00%
Total	90.285	0	31	0	7	90.323	1.908	3	6	1.917	23.965	-	-

5.11 MREL Requirements

Under the Directive 2014/59 (Bank Recovery and Resolution Directive or ("BRRD"), as amended by Directive 2019/879 (BRRD II), banks in the European Union are required to maintain a Minimum Requirement for own funds and Eligible Liabilities ("MREL"), which ensures sufficient loss-absorbing capacity in resolution. MREL includes a risk- and a leverage-based dimension. MREL is therefore expressed as two ratios that both have to be met: (i) as a percentage of Total Risk Exposure Amount ("TREA"), (the "MREL-TREA"); and (ii) as a percentage of the Leverage Ratio Exposure ("LRE"), (the "MREL-LRE").

Instruments qualifying for MREL are own funds (Common Equity Tier 1, Additional Tier 1 and Tier 2), as well as certain eligible liabilities (mainly senior unsecured bonds). Regulation (EU) No 806/2014 of the European Parliament and of the Council, as amended by Regulation (EU) No 877/2019 of the European Parliament and of the Council allows the Single Resolution Board ("SRB") to set in addition to the MREL requirement, a "subordination" requirement, within MREL, against which only subordinated liabilities and own funds count.

The Bank is identified by the SRB as the Single Point of Entry ("SPE") of the Group and the only entity required to maintain MREL capacity. On 14 December 2022, NBG received from the Bank of Greece the SRB's decision that should meet by 31 December 2025; an MREL target of 23.53% of TREA and an LRE target of 5.88%, both on a consolidated basis. In addition, from 1 January 2022 onwards, the Bank should always meet the requirement of 14.79% of TREA and 5.85% of LRE on a consolidated basis. Through the linear build-up of the requirements the Bank should meet from 1 January 2023 onwards, the requirement of 16.91% of TREA and 5.88% of LRE, both on a consolidated basis. To the above mentioned MREL requirements the capital buffer requirement ("CBR") must be added. CBR stood at 3.25% on 1 January 2022, it is expected to increase to 3.50% from 1 January 2023 and stay at that level until 31 December 2025. The Bank meets both the LRE requirements and the 1 January 2023 interim non-binding target of 20.41% of TREA (including CBR).

Finally, according to the abovementioned SRB's decision, no subordination requirement is set for the Bank.

5.12 Leverage Ratio

Leverage Leverage ratio is calculated in accordance with the methodology set out in article 429 of the regulation (EU) No 575/2013 of the European Parliament and of the Council, as amended by European Commission delegated Regulation 62/2015 of 10 October 2014. It is defined as an institution's capital measure divided by that institution's total leverage exposure measure and is expressed as a percentage. The Group submits to the competent authority the leverage ratio on a quarterly basis. The following table includes the summary of the Group's leverage ratio with reference dates 31.12.2022 and 30.09.2022 (amounts in € mio):

Table 16: Leverage ratio

Leverage Ratio	Q4 22*	Q3 22	Q3 22*
Tier I	6,047	5,451	5,670
Total Exposure Measure	78,797	81,146	81,166
Leverage Ratio	**7,67%**	**6.72%**	**6.99%**

** including profit for the period*

During the fourth quarter of 2022, the Group's leverage ratio, according to the transitional definition of Tier I and the EU Regulation 62/2015, increased by 0.7%, driven mainly by Tier 1 capital rise by €377mio qoq along with Total Leverage exposures decrease by €2.4Bn, attributed mainly to reduction of Deposits to BoG (-€3.4Bn) partially counterbalanced by new disbursements in Corporate portfolio (+€1Bn), well above the proposed minimum threshold of 3%.

The following tables include the detailed disclosures on the Group's leverage ratio with reference date 31.12.2022 and 30.06.2022 (amounts in € mio):

Table 18: EU LR3, LRSpl – Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures) as of 31.12.2022 compared to 30.06.2022

	CRR leverage ratio exposures	Q4 22	*€ mio* Q2 22
EU-1	**Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:**	**71,285**	**72,645**
EU-2	*Trading book exposures*	*687*	*496*
EU-3	Banking book exposures, of which:	70,598	72,148
EU-4	*Covered bonds*	*-*	*-*
EU-5	*Exposures treated as sovereigns*	*36,892*	*38,916*
EU-6	*Exposures to regional governments, MDB, international organisations and PSE **not** treated as sovereigns*	*762*	*841*
EU-7	*Institutions*	*1,616*	*1,776*
EU-8	*Secured by mortgages of immovable properties*	*8,852*	*9,297*
EU-9	*Retail exposures*	*2,863*	*2,958*
EU-10	*Corporate*	*14,103*	*12,648*
EU-11	*Exposures in default*	*1,236*	*1,440*
EU-12	*Other exposures (eg equity, securitisations, and other non-credit obligation assets)*	*4,274*	*4,272*

Table 17: EU LR1, LRSum – Summary reconciliation of accounting assets and leverage ratio exposures as of 31.12.2022 and 30.06.2022

€ mio		Applicable amount Q4 22	Applicable amount Q2 22
1	**Total assets as per published financial statements**	**78,113**	**79,446**
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	0	
3	*(Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference)*	0	
4	*(Adjustment for temporary exemption of exposures to central bank (if applicable))*	0	
5	*(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio total exposure measure in accordance with point (i) of Article 429a(1) CRR)*	0	
6	Adjustment for regular-way purchases and sales of financial assets subject to trade date accounting	0	
7	Adjustment for eligible cash pooling transactions	0	
8	Adjustments for derivative financial instruments	(1,012)	(1,101)
9	Adjustment for securities financing transactions (SFTs)	324	312
10	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	2,540	2,433
11	*(Adjustment for prudent valuation adjustments and specific and general provisions which have reduced Tier 1 capital)*	0	
EU-11a	*(Adjustment for exposures excluded from the leverage ratio total exposure measure in accordance with point (c) of Article 429a(1) CRR)*	0	
EU-11b	*(Adjustment for exposures excluded from the leverage ratio total exposure measure in accordance with point (j) of Article 429a(1) CRR)*	0	
12	Other adjustments	(1,168)	(1,034)
13	**Leverage ratio Total exposure measure**	**78,797**	**80,056**

Table 19: EU LR2, LRCom –Leverage ratio common disclosure 31.12.2022

		CRR leverage ratio exposures
		Q4 2022
	On-balance sheet exposures (excluding derivatives and SFTs)	
1	On-balance sheet items (excluding derivatives, SFTs, but including collateral)	72,697
2	Gross-up for derivatives collateral provided, where deducted from the balance sheet assets pursuant to the applicable accounting framework	0
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(547)
4	(Adjustment for securities received under securities financing transactions that are recognised as an asset)	0
5	(General credit risk adjustments to on-balance sheet items)	0
6	(Asset amounts deducted in determining Tier 1 capital)	(483)
7	**Total on-balance sheet exposures (excluding derivatives and SFTs)**	71,667
	Derivative exposures	
8	Replacement cost associated with SA-CCR derivatives transactions (ie net of eligible cash variation margin)	89
EU-8a	Derogation for derivatives: replacement costs contribution under the simplified standardised approach	0
9	Add-on amounts for potential future exposure associated with SA-CCR derivatives transactions	861
EU-9a	Derogation for derivatives: Potential future exposure contribution under the simplified standardised approach	0
EU-9b	Exposure determined under Original Exposure Method	0
10	(Exempted CCP leg of client-cleared trade exposures) (SA-CCR)	0
EU-10a	(Exempted CCP leg of client-cleared trade exposures) (simplified standardised approach)	0
EU-10b	(Exempted CCP leg of client-cleared trade exposures) (Original Exposure Method)	0
11	Adjusted effective notional amount of written credit derivatives	0
12	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	0
13	**Total derivatives exposures**	951
	Securities financing transaction (SFT) exposures	
14	Gross SFT assets (with no recognition of netting), after adjustment for sales accounting transactions	3,315
15	(Netted amounts of cash payables and cash receivables of gross SFT assets)	0
16	Counterparty credit risk exposure for SFT assets	324
EU-16a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Articles 429e(5) and 222 CRR	0
17	Agent transaction exposures	0
EU-17a	(Exempted CCP leg of client-cleared SFT exposure)	0
18	**Total securities financing transaction exposures**	3,639
	Other off-balance sheet exposures	
19	Off-balance sheet exposures at gross notional amount	18,026
20	(Adjustments for conversion to credit equivalent amounts)	(15,486)
21	(General provisions deducted in determining Tier 1 capital and specific provisions associated associated with off-balance sheet exposures)	0
22	**Off-balance sheet exposures**	2,540
	Excluded exposures	
EU-22a	(Exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) CRR)	0
EU-22b	(Exposures exempted in accordance with point (j) of Article 429a(1) CRR (on and off balance sheet))	0
EU-22c	(Excluded exposures of public development banks (or units) - Public sector investments)	0
EU-22d	(Excluded exposures of public development banks (or units) - Promotional loans)	0
EU-22e	(Excluded passing-through promotional loan exposures by non-public development banks (or units))	0
EU-22f	(Excluded guaranteed parts of exposures arising from export credits)	0
EU-22g	(Excluded excess collateral deposited at triparty agents)	0
EU-22h	(Excluded CSD related services of CSD/institutions in accordance with point (o) of Article 429a(1) CRR)	0
EU-22i	(Excluded CSD related services of designated institutions in accordance with point (p) of Article 429a(1) CRR)	0
EU-22j	(Reduction of the exposure value of pre-financing or intermediate loans)	0
EU-22k	(Total exempted exposures)	0
	Capital and total exposure measure	
23	**Tier 1 capital**	6,047
24	**Total exposure measure**	78,797
	Leverage ratio	
25	Leverage ratio (%)	0
EU-25	Leverage ratio (excluding the impact of the exemption of public sector investments and promotional loans) (%)	0
25a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) (%)	0
26	Regulatory minimum leverage ratio requirement (%)	0
EU-26a	Additional own funds requirements to address the risk of excessive leverage (%)	0
EU-26b	of which: to be made up of CET1 capital	0
27	Leverage ratio buffer requirement (%)	0
EU-27a	Overall leverage ratio requirement (%)	0
	Choice on transitional arrangements and relevant exposures	
EU-27b	Choice on transitional arrangements for the definition of the capital measure	
	Disclosure of mean values	
28	Mean of daily values of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivable	3,332
29	Quarter-end value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables	3,315
30	Total exposure measure (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	78,814
30a	Total exposure measure (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	78,814
31	Leverage ratio (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	0
31a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	0

Table 19: EU LR2, LRCom –Leverage ratio common disclosure 31.12.2021

		CRR leverage ratio exposures
		Q4 2021
	On-balance sheet exposures (excluding derivatives and SFTs)	
1	On-balance sheet items (excluding derivatives, SFTs, but including collateral)	75,996
2	Gross-up for derivatives collateral provided, where deducted from the balance sheet assets pursuant to the applicable accounting framework	
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(1,301)
4	(Adjustment for securities received under securities financing transactions that are recognised as an asset)	
5	(General credit risk adjustments to on-balance sheet items)	
6	(Asset amounts deducted in determining Tier 1 capital)	(432)
7	**Total on-balance sheet exposures (excluding derivatives and SFTs)**	74,264
	Derivative exposures	
8	Replacement cost associated with SA-CCR derivatives transactions (ie net of eligible cash variation margin)	2,635
EU-8a	Derogation for derivatives: replacement costs contribution under the simplified standardised approach	
9	Add-on amounts for potential future exposure associated with SA-CCR derivatives transactions	671
EU-9a	Derogation for derivatives: Potential future exposure contribution under the simplified standardised approach	
EU-9b	Exposure determined under Original Exposure Method	
10	(Exempted CCP leg of client-cleared trade exposures) (SA-CCR)	
EU-10a	(Exempted CCP leg of client-cleared trade exposures) (simplified standardised approach)	
EU-10b	(Exempted CCP leg of client-cleared trade exposures) (Original Exposure Method)	
11	Adjusted effective notional amount of written credit derivatives	
12	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	
13	**Total derivatives exposures**	3,307
	Securities financing transaction (SFT) exposures	
14	Gross SFT assets (with no recognition of netting), after adjustment for sales accounting transactions	30
15	(Netted amounts of cash payables and cash receivables of gross SFT assets)	
16	Counterparty credit risk exposure for SFT assets	65
EU-16a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Articles 429e(5) and 222 CRR	
17	Agent transaction exposures	
EU-17a	(Exempted CCP leg of client-cleared SFT exposure)	
18	**Total securities financing transaction exposures**	95
	Other off-balance sheet exposures	
19	Off-balance sheet exposures at gross notional amount	14,931
20	(Adjustments for conversion to credit equivalent amounts)	(12,829)
21	(General provisions deducted in determining Tier 1 capital and specific provisions associated associated with off-balance sheet exposures)	
22	**Off-balance sheet exposures**	2,101
	Excluded exposures	
EU-22a	(Exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) CRR)	
EU-22b	(Exposures exempted in accordance with point (j) of Article 429a(1) CRR (on and off balance sheet))	
EU-22c	(Excluded exposures of public development banks (or units) - Public sector investments)	
EU-22d	(Excluded exposures of public development banks (or units) - Promotional loans)	
EU-22e	(Excluded passing-through promotional loan exposures by non-public development banks (or units))	
EU-22f	(Excluded guaranteed parts of exposures arising from export credits)	
EU-22g	(Excluded excess collateral deposited at triparty agents)	
EU-22h	(Excluded CSD related services of CSD/institutions in accordance with point (o) of Article 429a(1) CRR)	
EU-22i	(Excluded CSD related services of designated institutions in accordance with point (p) of Article 429a(1) CRR)	
EU-22j	(Reduction of the exposure value of pre-financing or intermediate loans)	
EU-22k	(Total exempted exposures)	
	Capital and total exposure measure	
23	**Tier 1 capital**	4,833
24	**Total exposure measure**	79,766
	Leverage ratio	
25	Leverage ratio (%)	6.06%
EU-25	Leverage ratio (excluding the impact of the exemption of public sector investments and promotional loans) (%)	6.06%
25a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) (%)	6.06%
26	Regulatory minimum leverage ratio requirement (%)	3.00%
EU-26a	Additional own funds requirements to address the risk of excessive leverage (%)	0.00%
EU-26b	of which: to be made up of CET1 capital	0.00%
27	Leverage ratio buffer requirement (%)	0.00%
EU-27a	Overall leverage ratio requirement (%)	3.00%
	Choice on transitional arrangements and relevant exposures	
EU-27b	Choice on transitional arrangements for the definition of the capital measure	
	Disclosure of mean values	
28	Mean of daily values of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivable	3,477
29	Quarter-end value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables	30
30	Total exposure measure (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	83,213
30a	Total exposure measure (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	83,213
31	Leverage ratio (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	5.81%
31a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	5.81%

6 CREDIT RISK

6.1 Definitions and general information

The Group has aligned the definition of default for financial reporting purposes, with the NPE definition used for regulatory purposes, as per the EBA ITS, thus a financial asset is considered as credit impaired, and is classified into Stage 3, when it is classified as NPE in accordance with the Group's NPE and Forbearance Classification Policy. Furthermore, EBA published the Final Guidelines (EBA/GL/2016/07) on the application of the definition of default under Article 178 of Regulation (EU) No. 575/2013 and Regulation (EU) 2018/1845 of the European Central Bank (ECB), in relation to the threshold for assessing the materiality of credit obligations past due, with the intention of harmonizing its application among European Financial institutions and improving consistency in the way these institutions estimate regulatory requirements to their capital positions, being applied from 1 January 2021.

The new definition of default results in classification of exposures (except for those held for trading or debt securities where the borrower has no other exposures with the Group) into Stage 3 according to the following main criteria:

A. Unpaid payments of over €100 for Retail €500 for Non-retail for more than 90 consecutive days, representing at least 1% of the total exposure of the obligor. For the Corporate portfolio, the assessment takes place at obligor level across the Group, as opposed to a facility level assessment for Retail exposures. In case of credit cards, the exposure is considered non-performing in case of more than three (3) unpaid monthly instalments. Only missed payments related to business litigations, specific contractual features or IT failures (i.e. 'technical past due' situations) may avoid automatic transfer into Stage 3 after 90 days.

B. A 3-month probation period for non-forborne exposures, during which no default trigger applies.

C. Identification of other criteria that evidence, even in the absence of missed payments, that it is unlikely that the counterparty could meet all its financial obligations (UTPs), including indicatively the following:

   - the granting of concessions towards obligors facing or about to face difficulties in meeting their financial commitments that result in a decrease in the present value of cash flows of more than 1% of its initial value (a distressed restructuring resulting in a diminished financial obligation);
   - the partial or full sale of credit obligations at a material credit-related economic loss, i.e. >5%;
   - losses recognised in the Income Statement for instruments measured at fair value that represent credit risk impairment.

A commitment is regarded as NPE if, when withdrawn or otherwise used, it would lead to exposures that present a risk of not being paid back in full without realisation of collateral. Financial guarantees written by the Bank are regarded as NPE for their nominal value when the financial guarantee is at risk of being called by the holder of the guarantee, including, in particular, when the underlying guaranteed exposure meets the criteria to be considered as NPE.

A debt security is considered as credit impaired under an objective approach, and classified into Stage 3, when at least one payment of capital or interest is overdue by the issuer, based on the contractual terms of the instrument, irrespective of the days past due. In addition, a debt security is assessed as credit impaired if there is at least one external credit rating on the security or the issuer (if no external rating on the security is available) corresponding to Default or Selective Default.

6.2 Impairment - Expected credit losses

ECL are recognised for all financial assets measured at amortised cost, debt financial assets measured at FVTOCI, lease receivables, financial guarantees and certain loan commitments. ECL represent the difference between contractual cash flows and those that the Group expects to receive, discounted at the financial asset's EIR. For loan commitments and other credit facilities in scope of ECL, the expected cash shortfalls are determined by considering expected future drawdowns.

Recognition of expected credit losses

At initial recognition, an impairment allowance is required for ECL resulting from default events that are possible within the next 12 months (12-month ECL), weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in Stage 1. For instruments with a remaining maturity of less than 12 months, ECL are determined for this shorter period.

In the event of a significant increase in credit risk ("SICR"), an ECL allowance is required, reflecting lifetime cash shortfalls that would result from all possible default events over the expected life of the financial instrument ("lifetime ECL"), weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in Stage 2.

Lifetime ECL are always recognised on financial assets for which there is objective evidence of impairment, that is they are considered to be in default or otherwise credit-impaired. Such instruments are referred to as instruments in Stage 3.

Write-off

A write-off is made when the Group does not have a reasonable expectation to recover all or part of a financial asset. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are generally credited to "Credit provisions and other impairment charges". Write-offs and partial write-offs represent derecognition or partial derecognition events.

Measurement of expected credit losses

The Group assesses on a forward-looking basis the ECL associated with all financial assets subject to impairment under IFRS 9. The Group recognises an ECL allowance for such losses at each reporting date. The measurement of ECL reflects:

- An unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. The Group uses three macroeconomic scenarios and estimates the ECL that would arise under each scenario. A weighting is allocated to each scenario, such that the weighted probabilities of all three scenarios are equal to one. The distribution of possible ECL may be non-linear, hence three distinct calculations are performed, where the associated ECLs are multiplied by the weighting allocated to the respective scenario. The sum of the three weighted ECL calculations represents the probability-weighted ECL.
- The time value of money.
- Reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

For the purposes of measuring ECL, the estimate of expected cash shortfalls reflects the cash proceeds expected from collateral liquidation (if any) and other credit enhancements that are part of the contractual terms and are not recognised separately by the Group. The estimate of expected cash shortfalls on a collateralized loan exposure reflects the assumptions used regarding the amount and timing of cash flows that are expected from foreclosure on the collateral less the costs of obtaining and selling the collateral, irrespective of whether the foreclosure is probable or not.

The ECL calculations are based on the following factors:

- **Exposure at Default ("EAD")**: This is an estimate of the exposure at a future default date, taking into account expected changes in the exposure after the reporting date, including repayments of principal and interest, and expected drawdowns on committed facilities.
- **Probability of Default ("PD")**: Represents the likelihood of a borrower/issuer defaulting on its financial obligation, assessed on the prevailing economic conditions at the reporting date, adjusted to take into account estimates of future economic conditions that are likely to impact the risk of default either over the next 12 months for Stage 1 financial assets, or over the remaining lifetime, for Stage 2 financial assets.
- **Loss given default ("LGD")**: Represents the Group's expectation of the extent of loss on a defaulted exposure. The LGD varies by type of counterparty, type and seniority of claim and availability of collateral or other credit support. The determination of LGD takes into account expected future cash flows from collateral and other credit enhancements or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims. LGD is expressed as a percentage loss per unit of EAD.
- **Discount Rate**: The implied discount factor based on the original EIR of the financial asset or an approximation thereof.

The PD and LGD are determined for three different scenarios whereas EAD projections are treated as scenario independent.

The ECL is determined by projecting the PD, LGD and EAD for each time step between future cash flow dates and for each individual exposure or collective segment. These three components are multiplied together and adjusted for the likelihood of survival, if appropriate. This effectively calculates an ECL for each future period, which is then discounted back to the reporting date and summed.

The Group recognises an ECL allowance on irrevocable commitments to extend credit, financial guarantee contracts (LGs) and letters of credit (LCs), on the date that the Group becomes a party to the irrevocable commitment. No ECL allowance is recognised on revocable loan commitments, as such commitments do not meet the definition of a financial instrument. For revolving lending exposures (i.e. facilities that include both a loan and a revocable undrawn commitment component), the EAD represents the expected balance at default, taking into account any expected drawdowns, based on the Group's historical experience. The ECL allowance on financial guarantees and letters of credit written by the Group, is based on the Credit Conversion Factor ("CCF") applicable to the relevant financial instrument type, which converts the off-balance sheet amount to an EAD amount.

The Bank has initiated the process of enhancing its credit risk assessment process, incorporating climate and environmental factors for the purposes of evaluating borrower's risk of default and ultimately the ECL calculation. Acknowledging the importance and potential impact of Environmental, Social and Governance (ESG) risks, the Bank has proceeded with the identification and materiality assessment of such risks and their incorporation in the overall risk management framework, and is committed to monitoring, assessing and managing the particular risks going forward. To that end, in alignment with relevant supervisory expectations and good market practices, the Bank, through a set of initiatives, is planning to further enhance the incorporation of ESG factors in its Risk Management Framework (including link with borrower's default risk and ECL) as methodological approaches mature, quantification and analytical capabilities develop and additional climate and environmental data become available

Management adjustments to expected credit losses

Management adjustments may be performed to factor in certain conditions and circumstances prevailing at the reporting date which are not fully captured into the ECL models, based on management judgment. These relate to post-model adjustments ("PMAs") to the ECL model output which are calculated and allocated at a granular level following relevant risk assessment and analysis, resulting in either an increase or a decrease in the total ECL allowance, and to in-model adjustments to model inputs.

Forward looking economic inputs

Forward looking information (FLI) is incorporated in the ECL measurement of collectively assessed loans and debt securities through the PD and LGD models. The expected recoveries (cash flow recoveries or liquidation of collateral) used in the ECL measurement of wholesale lending exposures individually assessed, takes into account FLI based on the Bank's forecasts of the relevant macroeconomic factors.

The Group applies three scenarios, i.e. baseline, optimistic, adverse, developed by the Bank's Economic Analysis Division ("EADN"). The macroeconomic scenarios used for measuring ECL are the same with the ones used for evaluating SICR.

The main macroeconomic variables utilized by the Group, affecting the level of ECL are the following:

- GDP growth rate
- House price index (HPI)

Significant increase of credit risk

A financial asset is classified as Stage 2 when a SICR since its initial recognition has occurred and the financial asset does not meet the definition for Stage 3. At each reporting date, the Group performs the SICR assessment on the individual financial instrument level by comparing the risk of a default occurring over the remaining expected lifetime of the exposure with the expected risk of a default as estimated at origination.

The Group's process to assess SICR is multi-factor and has three main components:

- **a quantitative element**, i.e. reflecting a quantitative comparison of PD or credit rating at the reporting date versus the respective metric at initial recognition;
- **a qualitative element**, i.e. all Forborne Performing Exposures (FPE), in accordance with EBA ITS, internal watch list for corporate obligors; and
- **"backstop" indicators**. The Group applies on all lending exposures the IFRS 9 presumption that a SICR has occurred when the financial asset is more than 30 days past due. In addition, for accounts not pertaining to the low credit risk segment, the Bank also applies the EBA backstop indicator of the threefold increase in PD as a rule for Stage 2 allocation.

COVID-19 outbreak

In the first quarter of 2020, the World Health Organization declared the outbreak of COVID-19 a pandemic. COVID-19 has caused a significant global economic downturn which has adversely affected, and is expected to continue to adversely affect, the Group's business and results of operations. The future impacts of the COVID-19 pandemic on the Greek and/or global economy and the Group's business, results of operations and financial condition remain uncertain.

Due to COVID-19 pandemic, authorities implement numerous measures attempting to contain its spread and impact, such as travel bans and restrictions, quarantines, shelter in place orders, and limitations on business activity, including closures. These measures severely restrict economic activity, businesses, market participants, our counterparties and customers, as well as the Greek and/or global economy for a prolonged period of time. These restrictions took place in March 2020, while in May 2020 the restrictions were slowly eased. However, worsened epidemic trends in October-November 2020 led to a reintroduction of protective restrictions on economic and social activity at a national level starting on 7 November 2020 up to early May 2021. This poses significant downside risks to Gross Domestic Product ("GDP") growth in 2021 and could amplify the recessionary hit on households and businesses. These risks are partly offset by a set of measures provided in 2020 and continued in 2021.

The Group also evaluated its assets, including intangibles and equity investments, for potential impairment, and assessed fair values of financial instruments that are carried at fair value. Based upon our assessment as of 31 December 2022, no significant impairments have been recorded and there have been no significant changes in fair values nor in the fair value hierarchy classifications.

6.3 Maturity classification of Credit exposures

The table below presents the remaining maturity of Loans and advances and Debt securities broken down by maturity buckets for 30.06.2022 and 31.12.2021.

Table 20: EU CR1 A – Maturity of exposures 31.12.2022

	a	b	c	d	e	f
Exposure Class	Net exposure value					
	On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
Loans and Advances	843	5,687	12,800	18,905	0	38,235
Debt Securities		7,173	546	5,376	0	13,095
Total	**843**	**12,860**	**13,346**	**24,280**	**0**	**51,330**

***Table 20: EU CR1 A** – Maturity of exposures 30.06.2022*

	a	b	c	d	e	f
Exposure Class	Net exposure value					
	On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
Loans and Advances	904	5,352	12,828	17,659		**36,743**
Debt Securities		2,326	557	10,933		**13,816**
Total	**904**	**7,678**	**13,385**	**28,592**		**50,559**

6.4 Covid-19 Reporting

In the first quarter of 2020, the World Health Organization declared the outbreak of COVID-19 pandemic. Two years after the outbreak of the COVID-19 pandemic, the global environment remains impacted by the unprecedented crisis. The measures introduced by governments and regulators to tackle the pandemic have affected global supply chains as well as demand for goods and services and therefore had a significant impact on global growth. At the same time, fiscal and monetary policies have been eased to sustain the economy and the deployment of vaccines in 2021 has also greatly contributed to sustaining the economy.

The Group also evaluated its assets, including intangibles and equity investments, for potential impairment, and assessed fair values of financial instruments that are carried at fair value. Based on our assessment as of 31 December 2022, no significant impairments have been recorded for the Group and the Bank, and there have been no significant changes in fair values and in fair value hierarchy classifications as a result of the COVID-19.

Extension of moratoria, offered to NBG's customers within the context of EBA guidelines, government and sector initiatives, for capital or instalment payments for:

- performing Small Businesses;
- businesses with performing exposures as at 30 September 2020 and not included, so far, in moratoria for capital or instalment payments that have been proven to be affected by the COVID-19 pandemic, were eligible to apply for their inclusion in a relevant program by 31 March 2021 and for a maximum duration of up to nine months from the date of inclusion in the moratorium;
- businesses affected by the COVID-19 pandemic and have already been included in moratoria for capital or instalment payments, were eligible to apply by 31 March 2021 for an extension of their instalment suspension program, provided that their total participation in the program does not exceed the period of nine months.

Following the EBA closure report of Covid-19 measures published on December 16th, 2022 NBG present in the tables below all relevant Covid-19 figures for the last time, as there is no regulatory requirements for such a disclosure from January 1st, 2023 and onwards.

Table 21 : Information on loans and advances subject to legislative and non-legislative moratoria 31.12.2022

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
		Gross carrying amount							Accumulated impairment, accumulated negative changes in fair value due to credit risk							Gross carrying amount
			Performing			Non performing				Performing			Non performing			
				Of which: exposures with forbearance measures	Of which: Instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: Unlikely to pay that are not past-due or past-due <= 90 days			Of which: exposures with forbearance measures	Of which: Instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: Unlikely to pay that are not past-due or past-due <= 90 days	Inflows to non-performing exposures
1	Loans and advances subject to moratorium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	of which: Households	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	*of which: Collateralised by residential immovable property*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	of which: Non-financial corporations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	*of which: Small and Medium-sized Enterprises*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	*of which: Collateralised by commercial immovable property*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

__Table 21 :__ Information on loans and advances subject to legislative and non-legislative moratoria 30.06.2022

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
		Gross carrying amount							Accumulated impairment, accumulated negative changes in fair value due to credit risk							Gross carrying amount
		Performing				Non performing			Performing				Non performing			
				Of which: exposures with forbearance measures	Of which: Instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: Unlikely to pay that are not past-due or past-due <= 90 days			Of which: exposures with forbearance measures	Of which: Instruments with significant increase in credit risk since initial recognition but not credit-impaired (Stage 2)		Of which: exposures with forbearance measures	Of which: Unlikely to pay that are not past-due or past-due <= 90 days	Inflows to non-performing exposures
1	Loans and advances subject to moratorium	**0**	**0**	**0**	**0**											
2	of which: Households															
3	*of which: Collateralised by residential immovable property*	0	0	0	0											
4	of which: Non-financial corporations	0	0	0	0											
5	*of which: Small and Medium-sized Enterprises*	*0*	*0*	*0*	*0*											
6	*of which: Collateralised by commercial immovable property*	*0*	*0*	*0*	*0*											

Table 22 : Breakdown of loans and advances subject to legislative and non-legislative moratoria by residual maturity of moratoria 31.12.2022

		a	b	c	d	e	f	g	h	i
		Number of obligors	Gross carrying amount							
				Of which: legislative moratoria	Of which: expired	Residual maturity of moratoria				
						<= 3 months	> 3 months <= 6 months	> 6 months <= 9 months	> 9 months <= 12 months	> 1 year
1	Loans and advances for which moratorium was offered	108,588	2,463							
2	Loans and advances subject to moratorium (granted)	100,024	2,142	269	2,142	0	0	0	0	0
3	of which: Households		1,099	211	1,099	0	0	0	0	0
4	*of which: Collateralised by residential immovable property*		929	82	929	0	0	0	0	0
5	of which: Non-financial corporations		1,020	58	1,020	0	0	0	0	0
6	*of which: Small and Medium-sized Enterprises*		417	27	417	0	0	0	0	0
7	*of which: Collateralised by commercial immovable property*		564	0	564	0	0	0	0	0

***Table 22 :** Breakdown of loans and advances subject to legislative and non-legislative moratoria by residual maturity of moratoria 30.06.2022*

		a	b	c	d	e	f	g	h	i
		Number of obligors	Gross carrying amount							
				Of which: legislative moratoria	Of which: expired	Residual maturity of moratoria				
						<= 3 months	> 3 months <= 6 months	> 6 months <= 9 months	> 9 months <= 12 months	> 1 year
1	Loans and advances for which moratorium was offered	118,083	3,133							
2	Loans and advances subject to moratorium (granted)	108,892	2,796	316	2,796					
3	of which: Households		1,187	252	1,187					
4	*of which: Collateralised by residential immovable property*		*981*	*92*	*981*					
5	of which: Non-financial corporations		1,583	64	1,583					
6	*of which: Small and Medium-sized Enterprises*		*482*	*29*	*482*					
7	*of which: Collateralised by commercial immovable property*		*851*	*0*	*851*					

Table 23 : Information on newly originated loans and advances provided under newly applicable public guarantee schemes introduced in response to COVID-19 crisis 31.12.2022

		a	b	c	d
		Gross carrying amount		Maximum amount of the guarantee that can be considered	Gross carrying amount
			of which: forborne	Public guarantees received	Inflows to non-performing exposures
1	**Newly originated loans and advances subject to public guarantee schemes**	888	0	711	4
2	of which: Households	0			0
3	of which: Collateralised by residential immovable property	0			0
4	of which: Non-financial corporations	873	0	699	4
5	of which: Small and Medium-sized Enterprises	525			3
6	of which: Collateralised by commercial immovable property	1			0

***Table 23:** Information on newly originated loans and advances provided under newly applicable public guarantee schemes introduced in response to COVID-19 crisis 30.06.2022*

		a	b	c	d
		Gross carrying amount		Maximum amount of the guarantee that can be considered	Gross carrying amount
			of which: forborne	Public guarantees received	Inflows to non-performing exposures
1	**Newly originated loans and advances subject to public guarantee schemes**	**1,073**		**859**	**5**
2	of which: Households				
3	of which: Collateralised by residential immovable property				
4	of which: Non-financial corporations	1,055		844	5
5	of which: Small and Medium-sized Enterprises	618			5
6	of which: Collateralised by commercial immovable property	1			

6.5 Non-performing and forborne exposures

The Bank continues to operate in a challenging economic environment as a result of the Greek financial crisis. Against this backdrop, the Bank is executing a well-developed strategy that aims to reduce its NPE ratio and maximize collections from the Bank's troubled assets portfolio. This strategy includes a set of detailed operational targets and Key Performance Indicators as well as a time-bound action plan for their implementation with a view to significantly reducing NPE stocks.

The strategy establishes realistic but sufficiently ambitious targets, and NBG assesses its effectiveness and adequacy on a regular basis. The strategy is both consistent with, and linked to, the Bank's business plan and the current ICAAP.

6.5.1 Disposal of NPE portfolios

Project "Frontier II"

In the context of deleveraging its NPEs through inorganic actions and according to its NPE Divestment Policy, the Bank decided the disposal of a portfolio of Greek Non-Performing Exposures in the form of a rated securitization that will utilize the provisions of Hellenic Asset Protection Scheme ("HAPS"), known as ("Hercules II"). The portfolio includes secured Large Corporate, Small and Medium Enterprises, Small Business Lending, Residential Mortgage loans and Consumer loans with a total gross book value of c. €1 billion (as of the cut-off date 31 December 2021).

On 29 July 2022, the Bank announced that it has entered into a definitive agreement with funds managed by Bracebridge Capital LLC for the sale of 95% of the Mezzanine and Junior notes. NBG will retain the 100% of the Senior notes and 5% of the Mezzanine and Junior notes.

The transaction is estimated to be completed within the 3Q.23, subject to required approvals.

Project "Pronto"

The Bank decided the disposal of the Non-Performing leasing exposures through: i) the sale of the shares of the Probank Leasing S.A. and ii) the sale of the Bank's leasing portfolio (ex-FBB) and NBG Leasing S.A. ("NBGL") leasing portfolio, with a total gross book value of €51 million as of the 31 December 2022.

The transaction is estimated to be completed within the 2H.23, subject to required approvals.

Project "Solar"

In December 2021, the Bank decided to launch the divestment of the secured portfolio of SMEs (Project "Solar") with a gross book value c. €170 million (as of the cut-off date 30 September 2021), through a joint securitization process with the other Greek financial institutions under HAPS. In August 2022, the Bank together with the other Greek financial institutions submitted to the Greek Ministry of Finance a joint application for inclusion of the senior notes to be issued in the context of the Solar Securitization in the HAPS scheme.

The transaction is expected to be completed within the 3Q.23, subject to required approvals.

The tables below present Non performing and Forborne figures excluding held for sale assets.

Table 24: **EU CQ1** - Credit quality of forborne exposures 31.12.2022

		a	b	c	d	e	f	g	h
		Gross carrying amount/ nominal amount of exposures with forbearance measures				**Accumulated impairment**		**Collateral received and financial guarantees received on forborne exposures**	
		Performing forborne	**Non performing forborne**	Of which defaulted	Of which impaired	On performing forborne exposures	On non-performing forborne exposures		Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
005	Cash balances at central banks and other demand deposits	0	0	0	0	0	0	0	0
010	Loans and advances	2,082	831	831	831	(160)	(397)	2,057	394
020	*Central Banks*	0	0	0	0	0	0	0	0
030	*General Governments*	19	6	6	6	(2)	(4)	19	2
040	*Credit Institutions*	0	0	0	0	0	0	0	0
050	*Other Financial Corporations*	11	2	2	2	(4)	(1)	8	1
060	*Non-Financial Corporations*	366	517	517	517	(54)	(275)	399	208
070	*Households*	1,686	306	306	306	(101)	(117)	1,631	184
080	Debt Securities	0	0	0	0	0	0	0	0
090	Loan Commitments given	0	0	0	0	0	0	0	0
100	**Total**	**2,082**	**831**	**831**	**831**	**(160)**	**(397)**	**2,057**	**394**

***Table 24**: **EU CQ1** - Credit quality of forborne exposures 30.06.2022*

		a	b	c	d	e	f	g	h
		Gross carrying amount/ nominal amount of exposures with forbearance measures				**Accumulated impairment**		**Collateral received and financial guarantees received on forborne exposures**	
		Performing forborne	**Non performing forborne**	Of which defaulted	Of which impaired	On performing forborne exposures	On non-performing forborne exposures		Of which collateral and financial guarantees received on non-performing exposures with forbearance measures
005	Cash balances at central banks and other demand deposits								
010	Loans and advances	2,235	1,022	1,022	1,021	(118)	(477)	2,339	482
020	*Central Banks*								
030	*General Governments*	*20*	*6*	*6*	*6*	*(2)*	*(4)*	*20*	*2*
040	*Credit Institutions*								
050	*Other Financial Corporations*	*2*	*13*	*13*	*13*	*(0)*	*(5)*	*9*	*7*
060	*Non-Financial Corporations*	*306*	*664*	*664*	*664*	*(32)*	*(349)*	*460*	*261*
070	*Households*	*1,907*	*338*	*338*	*338*	*(84)*	*(119)*	*1,850*	*211*
080	Debt Securities								
090	Loan Commitments given								
100	**Total**	**2,235**	**1,022**	**1,022**	**1,021**	**(118)**	**(477)**	**2,339**	482

Table 25: **EU CQ2** - Quality of forbearance 31.12.2022 and 30.06.2022

		a	a
		Gross carrying amount of forborne exposures 31.12.2022	**Gross carrying amount of forborne exposures 30.06.2022**
1	Loans and advances that have been forborne more than twice	989	1,055
2	Non-performing forborne loan and advances that failed to meet the non-performing exit criteria	786	976

Table 26: **EU CQ3** - Credit quality of performing and non-performing exposures by past due days 31.12.2022

		a	b	c	d	e	f	g	h	i	j	k	l
		Gross carrying amount/ nominal amount											
		Performing exposures			**Non performing exposures**								
			Not past due or past due ≤30 days	Past due >30 days ≤90 days		Unlikely to pay that are not past due or are past due ≤90 days	Past due >90 days ≤180 days	Past due >180 days ≤1 year	Past due >1 year ≤2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
05	Cash balances at central banks and other demand deposits	13,711	13,711										
1	Loans and advances	37,952	37,748	204	1,793	809	86	120	143	139	478	18	1,793
2	*Central Banks*												
3	*General Governments*	*3,830*	*3,826*	*4*	*15*	*2*					*13*		*15*
4	*Credit Institutions*	*2,673*	*2,673*										
5	*Other Financial Corporations*	*3.908*	*3,908*		*6*	*2*	*1*				*1*	*3*	*6*
6	*Non-Financial Corporations*	*18,153*	*17,994*	*159*	*1,161*	*499*	*38*	*47*	*102*	*78*	*385*	*12*	*1,161*
7	*Of which SMEs*	*5,785*	*5,690*	*95*	*545*	*174*	*24*	*33*	*29*	*38*	*237*	*12*	*545*
8	*Households*	*9,387*	*9,346*	*41*	*611*	*307*	*47*	*73*	*40*	*61*	*80*	*4*	*611*
9	Debt Securities*	13,180	13,180										
10	*Central Banks*												
11	*General Governments*	*12,153*	*12,153*										
12	*Credit Institutions*	*476*	*476*										
13	*Other Financial Corporations*	*306*	*306*										
14	*Non-Financial Corporations*	*245*	*245*										
15	Off-balance sheet exposures	19,079			131								131
16	*Central Banks*												
17	*General Governments*	*353*											
18	*Credit Institutions*	*2*											
19	*Other Financial Corporations*	*895*											
20	*Non-Financial Corporations*	*16,392*			*126*								*126*
21	*Households*	*1,436*			*4*								*4*
22	**Total**	**83,921**	**64,639**	**204**	**1,923**	**809**	**86**	**120**	**143**	**139**	**478**	**18**	**1,923**

**Included only Debt securities classified as HTC*

*Table 26: **EU CQ3** – Credit quality of performing and non-performing exposures by past due days 31.12.2021*

		a	b	c	d	e	f	g	h	i	j	k	l
		Gross carrying amount/ nominal amount											
		Performing exposures			**Non performing exposures**								
			Not past due or past due ≤30 days	Past due >30 days ≤90 days		Unlikely to pay that are not past due or are past due ≤90 days	Past due >90 days ≤180 days	Past due >180 days ≤1 year	Past due >1 year ≤2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
05	Cash balances at central banks and other demand deposits	**15,429**	**15,429**										
1	Loans and advances	**33,366**	**33,263**	**103**	**2,294**	**1,144**	**67**	**96**	**124**	**829**	**5**	**29**	**2,294**
2	*Central Banks*												
3	*General Governments*	*504*	*500*	*3*	*30*	*15*	*2*			*13*			*30*
4	*Credit Institutions*	*3,352*	*3,352*										
5	*Other Financial Corporations*	*3,670*	*3,670*		*18*	*14*				*1*		*3*	*18*
6	*Non-Financial Corporations*	*16,135*	*16,080*	*55*	*1,524*	*726*	*47*	*66*	*78*	*580*	*4*	*23*	*1,524*
7	*Of which SMEs*	*5,232*	*5,188*	*44*	*590*	*213*	*17*	*20*	*9*	*310*	*1*	*21*	*590*
8	*Households*	*9,706*	*9,661*	*45*	*721*	*388*	*18*	*30*	*46*	*236*	*1*	*3*	*721*
9	Debt Securities*	**14,948**	**14,948**										
10	*Central Banks*												
11	*General Governments*	*14,465*	*14,465*										
12	*Credit Institutions*	*242*	*242*										
13	*Other Financial Corporations*	*4*	*4*										
14	*Non-Financial Corporations*	*237*	*237*										
15	Off-balance sheet exposures	**13,072**			**139**								**139**
16	*Central Banks*												
17	*General Governments*	*336*											
18	*Credit Institutions*	*2*											
19	*Other Financial Corporations*	*222*			*2*								*2*
20	*Non-Financial Corporations*	*11,219*			*134*								*134*
21	*Households*	*1,293*			*4*								*4*
22	**Total**	***76,815***	***63,640***	***103***	***2,433***	***1,144***	***67***	***96***	***124***	***829***	***5***	***29***	***2,433***

**Included only Debt securities classified as HTC*

Table 27: **EU CR1** - Performing and non-performing exposures and related provisions 31.12.2022

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	Gross carrying amount/ nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write-offs	Collaterals and financial guarantees received	
	Performing exposures			Non performing exposures			Performing exposures- accumulated impairment and provisions			Non-performing exposures- accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions				On performing exposures	On non-performing exposures
		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3			
Cash balances at central banks and other demand deposits	**13,711**	**13,711**													
Loans and advances	**37,952**	**32,862**	**4,596**	**1,793**		**1,771**	**(506)**	**(213)**	**(293)**	**(1,003)**		**(987)**	**(138)**	**18,812**	**667**
Central Banks															
General Governments	3,830	3,781	49	15		15	(10)	(7)	(3)	(13)		(13)		153	2
Credit Institutions	2,673	2,673													
Other Financial Corporations	3,908	3,418	12	6		6	(28)	(24)	(4)	(5)		(5)		2,836	1
Non-Financial Corporations	18,153	16,368	1,770	1,161		1,139	(282)	(125)	(157)	(706)		(690)	(93)	8,544	387
Of which SMEs	5,785	4,605	1,180	545		525	(164)	(49)	(115)	(319)		(304)	(27)	3,198	201
Households	9,387	6,622	2,764	611		611	(187)	(57)	(130)	(280)		(280)	(45)	7,279	277
Debt Securities	**13,180**	**11,775**	**1,400**				**(85)**	**(32)**	**(54)**						
Central Banks															
General Governments	12,153	10,767	1,386				(78)	(25)	(53)						
Credit Institutions	476	474					(4)	(4)							
Other Financial Corporations	306	302													
Non-Financial Corporations	245	232	13				(3)	(3)							
Off-balance sheet exposures	**19,079**	**18,177**	**902**	**131**		**131**	**(12)**	**(5)**	**(7)**	**(39)**		**(39)**		**20**	
Central Banks															
General Governments	353	349	4												
Credit Institutions	2	2													
Other Financial Corporations	895	895	1												
Non-Financial Corporations	16,392	15,514	878	126		126	(11)	(5)	(7)	(39)		(39)		20	
Households	1,436	1,417	19	4		4								1	
Total	**83,921**	**76,524**	**6,898**	**1,923**		**1,901**	**(604)**	**(250)**	**-354**	**(1,042)**		**(1,026)**	**(138)**	**18,832**	**667**

Table 27: ***EU CR1*** *- Performing and non-performing exposures and related provisions 30.06.2022*

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	Gross carrying amount/ nominal amount						**Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions**						**Accumulated partial write-offs**	**Collateral and financial guarantees received**	
	Performing exposures			**Non performing exposures**			**Performing exposures- accumulated impairment and provisions**			**Non-performing exposures- accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions**				On performing exposures	On non-performing exposures
		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which stage 1	Of which stage 2		Of which stage 2	Of which stage 3			
Cash balances at central banks and other demand deposits	**14,918**	**14,918**													
Loans and advances	**36,278**	**31,186**	**4,676**	**2,097**		**2,072**	**(452)**	**(194)**	**(258)**	**(1,180)**		**(1,160)**	**(16)**	**19,214**	**752**
Central Banks															
General Governments	*3,567*	*3,515*	*52*	*15*		*15*	*(9)*	*(6)*	*(3)*	*(13)*	*0*	*(13)*	*0*	*161*	*2*
Credit Institutions	*2,381*	*2,381*													
Other Financial Corporations	*3,493*	*3,089*	*3*	*18*		*18*	*(21)*	*(21)*	*(1)*	*(9)*	*0*	*(9)*	*0*	*2,874*	*7*
Non-Financial Corporations	*17,351*	*15,527*	*1,808*	*1,440*		*1,415*	*(268)*	*(113)*	*(155)*	*(891)*	*0*	*(872)*	*(5)*	*8,771*	*452*
Of which SMEs	*5,451*	*4,266*	*1,185*	*619*		*596*	*(160)*	*(40)*	*(121)*	*(375)*	*0*	*(358)*	*(5)*	*2,986*	*204*
Households	*9,487*	*6,675*	*2,813*	*624*		*624*	*(154)*	*(54)*	*(100)*	*(266)*	*0*	*(266)*	*(11)*	*7,407*	*289*
Debt Securities	**13,904**	**12,478**	**1,411**				**(88)**	**(26)**	**(62)**						
Central Banks															
General Governments	*12,912*	*11,518*	*1,394*				*(83)*	*(21)*	*(62)*						
Credit Institutions	*421*	*409*					*(2)*	*(2)*							
Other Financial Corporations	*305*	*301*					*(0)*	*(0)*							
Non-Financial Corporations	*267*	*250*	*17*				*(3)*	*(3)*							
Off-balance sheet exposures	**15,861**	**14,644**	**1,217**	**170**		**170**	**(12)**	**(5)**	**(7)**	**(39)**		**(39)**		**39**	
Central Banks															
General Governments	*286*	*285*	*1*												
Credit Institutions	*1*	*1*													
Other Financial Corporations	*526*	*525*	*1*	*1*		*1*									
Non-Financial Corporations	*13,722*	*12,514*	*1,207*	*164*		*164*	*(11)*	*(4)*	*(7)*	*(39)*		*(39)*		*38*	
Households	*1,327*	*1,318*	*9*	*5*		*5*	*(1)*	*(1)*	*(0)*	*(0)*		*(0)*		*1*	
Total	**80,962**	**73,226**	**7,304**	**2,266**	**0**	**2,241**	**(552)**	**(225)**	**(327)**	**(1,219)**	**0**	**(1,200)**	**(16)**	**19,253**	**752**

Table 28: **EU CQ4** - Quality of non-performing exposures by geography 31.12.2022

		a	b	c	d	e	f	g
		Gross carrying amount/ nominal amount				Accumulated impairment*	Provisions on off-balance-sheet commitments and financial guarantees given	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			Of which non-performing		Of which subject to impairment			
				Of which defaulted				
1	**On-balance-sheet exposures**	**52,924**	**1,793**	**1,793**	**52,404**	**(1,579)**		**(16)**
2	*Greece*	*40,410*	*1,664*	*1,664*	*39,894*	*(1,478)*		*(16)*
3	*Italy*	*2,763*			*2,763*	*(6)*		
4	*Spain*	*1,936*			*1,936*	*(2)*		
5	*North Macedonia*	*1,728*	*87*	*87*	*1,728*	*(65)*		
6	*Marshall Islands***	*1,135*			*1,135*			
7	*Germany*	*775*			*775*			
8	*Cyprus*	*613*	*39*	*39*	*613*	*(21)*		
9	*United Kingdom*	*563*			*563*			
10	*Other countries***	*3,002*	*3*	*3*	*2,997*	*(5)*		
11	**Off-balance-sheet-exposures**	**19,209**	**131**	**131**			**51**	
12	*Greece*	*18,320*	*116*	*116*			*50*	
13	*Italy*							
14	*Spain*							
15	*North Macedonia*	*343*	*12*	*12*			*0*	
16	*Marshall Islands***							
17	*Germany*							
18	*Cyprus*	*545*	*1*	*1*			*0*	
19	*United Kingdom*							
20	*Other countries***	*1*	*1*	*1*			*1*	
21	**Total**	**72,134**	**1,923**	**1,923**	**52,404**	**(1,579)**	**51**	**(16)**

** Accumulated impairement is not reported for off balance-sheet exposures*

*** Exposures to Marshall Islands are related to ocean shipping. The same applies for Other Counries that include exposures to Liberia.*

Table 28: **EU CQ4** - *Quality of non-performing exposures by geography 30.06.2022*

		a	b	c	d	e	f	g
		Gross carrying amount/ nominal amount				Accumulated impairment*	Provisions on off-balance-sheet commitments and financial guarantees given	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			Of which non-performing		Of which subject to impairment			
				Of which defaulted				
1	On-balance-sheet exposures	52,279	2,097	2,097	51,822	(1,701)		(20)
2	*Cyprus*	*638*	*58*	*58*	*638*	*(30)*		
3	*Germany*	*956*			*946*			
4	*Spain*	*2,228*			*2,228*	*(1)*		
5	*United Kingdom*	*730*			*730*			
6	*Greece*	*39,062*	*1,928*	*1,928*	*38,625*	*(1,579)*		*(20)*
7	*Italy*	*3,018*			*3,018*	*(3)*		
8	*Marshall Islands***	*1,241*			*1,241*			
9	*North Macedonia*	*1,689*	*101*	*101*	*1,689*	*(74)*		
10	*Other countries***	*2,717*	*10*	*10*	*2,707*	*(14)*		
11	Off-balance-sheet-exposures	16,031	170	170			51	
12	*Cyprus*	*504*	*1*	*1*				
13	*Germany*							
14	*Spain*							
15	*United Kingdom*	*26*						
16	*Greece*	*15,206*	*155*	*155*			*50*	
17	*Italy*							
18	*Marshall Islands*							
19	*North Macedonia*	*293*	*12*	*12*			*1*	
20	*Other countries*	*2*	*2*	*2*			*0*	
21	Total	68,310	2,266	2,266	51,822	(1,701)	51	(20)

** Accumulated impairement is not reported for off balance-sheet exposures*

Table 29: **EU CQ5** - Credit quality of loans and advances by industry 31.12.2022

		a	b	c	d	e	f
		Gross carrying amount				Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			of which non-performing		Of which loans and advances subject to impairment		
				of which defaulted			
1	Agriculture, forestry and fishing	385	45	45	385	(44)	
2	Mining and quarrying	19	4	4	19	(2)	(1)
3	Manufacturing	4,377	373	373	4,361	(318)	(11)
4	Electricity, gas, steam and air conditioning supply	2,036	8	8	2,036	(28)	
5	Water supply	51	1	1	51	(1)	
6	Construction	426	30	30	425	(29)	
7	Wholesale and retail trade	3,509	304	304	3,507	(233)	(1)
8	Transport and storage	4,047	49	49	4,031	(41)	(2)
9	Accommodation and food service activities	1,729	165	165	1,729	(133)	
10	Information and communication	382	30	30	382	(26)	
11	Real estate activities	1,307	60	60	1,307	(48)	
12	Financial and insurance actvities	24	0	0	24		
13	Professional, scientific and technical activities	168	29	29	168	(25)	
14	Administrative and support service activities	178	2	2	178	(4)	
15	Public administration and defense, compulsory social security						
16	Education	24	1	1	24	(2)	
17	Human health services and social work activities	154	2	2	154	(5)	
18	Arts, entertainment and recreation	36	6	6	36	(5)	
19	Other services	460	50	50	460	(27)	
20	**Total**	**19,314**	**1,161**	**1,161**	**19,277**	**(971)**	**(16)**

Table 29: EU CQ5 *- Credit quality of loans and advances by industry 30.06.2022*

		a	b	c	d	e	f
		Gross carrying amount				Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			of which non-performing		Of which loans and advances subject to impairment		
				of which defaulted			
1	Agriculture, forestry and fishing	281	46	46	281	(34)	
2	Mining and quarrying	18	3	3	17	(2)	(1)
3	Manufacturing	4,482	509	509	4,463	(406)	(15)
4	Electricity, gas, steam and air conditioning supply	1,550	8	8	1,550	(20)	
5	Water supply	50	1	1	50	(1)	
6	Construction	399	36	36	398	(32)	
7	Wholesale and retail trade	3,254	342	342	3,253	(281)	(2)
8	Transport and storage	4,149	71	71	4,132	(47)	(2)
9	Accommodation and food service activities	1,625	192	192	1,624	(140)	
10	Information and communication	359	33	33	359	(27)	
11	Real estate activities	1,551	123	123	1,551	(84)	
12	Financial and insurance actvities	11	0	0	11	(0)	
13	Professional, scientific and technical activities	294	29	29	294	(26)	
14	Administrative and support service activities	147	3	3	147	(3)	
15	Public administration and defense, compulsory social security						
16	Education	25	1	1	25	(2)	
17	Human health services and social work activities	158	3	3	158	(6)	
18	Arts, entertainment and recreation	34	14	14	34	(6)	
19	Other services	405	25	25	405	(24)	
20	**Total**	**18,790**	**1,440**	**1,440**	**18,750**	**(1,140)**	**(20)**

Table 30: **EU CQ6** - Collateral valuation - loans and advances 31.12.2022

		a	b	c	d	e	f	g	h	i	j	k	l
		Loans and advances											
			Performing		**Non- performing**								
						Unlikely to pay that are not past due or past due ≤90 days	**Past due >90 days**						
				of which past due>30 days ≤90 days				of which past due > 90 days ≤180 days	of which past due > 180 days ≤ 1 year	of which past due > 1 year ≤ 2 years	of which past due > 2 years ≤ 5 years	of which past due > 5 years ≤ 7 years	of which past due > 7 years
1	**Gross carrying amount**	**39,744**	**37,952**	**204**	**1,793**	**809**	**983**	**86**	**120**	**143**	**139**	**478**	**18**
2	*Of which: secured*	30,057	28,616	178	1,442	716	726	66	94	83	83	389	11
3	*Of which: secured with Immovable property*	12,464	11,365	58	1,098	602	497	55	66	54	56	258	8
4	*Of which: instruments with LTV higher than 60% and lower or equal to 80%*	*2,781*	*2,622*		*160*	*90*	*70*						
5	*Of which: instruments with LTV higher than 80% and lower or equal to 100%*	*1,712*	*1,560*		*151*	*100*	*51*						
6	*Of which: instruments with LTV higher than 100%*	*2,666*	*2,221*		*445*	*292*	*152*						
7	Accumulated impairment for secured assets	(1,047)	(334)	(7)	(713)	(306)	(408)	(20)	(28)	(29)	(42)	(281)	(7)
8	Collateral												
9	*Of which value capped at the value of exposure*	*14,722*	*14,150*	*156*	*572*	*367*	*205*	*41*	*47*	*39*	*19*	*56*	*2*
10	*Of which: Immovable property*	*10,408*	*9,905*	*101*	*503*	*315*	*188*	*40*	*44*	*38*	*19*	*45*	*2*
11	*Of which value above the cap*	*17,066*	*15,565*	*58*	*1,501*	*509*	*992*	*57*	*56*	*43*	*95*	*713*	*27*
12	*Of which: Immovable property*	*11,127*	*10,037*	*48*	*1,089*	*432*	*658*	*54*	*49*	*33*	*72*	*438*	*12*
13	Financial guarantees received	4,756	4,661	6	95	24	71	2	4	5	10	50	
14	Accumulated partial write-off	(138)	(2)		(136)	(34)	(102)	(2)	(1)		(35)	(64)	

Table 30: ***EU CQ6*** *- Collateral valuation - loans and advances 30.06.2022*

		a	b	c	d	e	f	g	h	i	j	k	l
		Loans and advances											
			Performing		Non- performing								
						Unlikely to pay that are not past due or are past due ≤90 days	Past due >90 days						
				of which past due>30 days ≤90 days				of which past due > 90 days ≤180 days	of which past due > 180 days ≤ 1 year	of which past due > 1 year ≤ 2 years	of which past due > 2 years ≤ 5 years	of which past due > 5 years ≤ 7 years	of which past due > 7 years
1	**Gross carrying amount**	38,375	36,278	168	2,097	940	1,157	94	149	120	720	40	34
2	*Of which: secured*	*29,595*	*27,885*	*140*	*1,710*	*827*	*882*	*72*	*96*	*83*	*577*	*40*	*16*
3	*Of which: secured with Immovable property*	*13,002*	*11,698*	*79*	*1,304*	*696*	*608*	*63*	*55*	*71*	*389*	*26*	*5*
4	*Of which: instruments with LTV higher than 60% and lower or equal to 80%*	*3,208*	*3,013*		*195*	*125*	*69*						
5	*Of which: instruments with LTV higher than 80% and lower or equal to 100%*	*1,709*	*1,549*		*160*	*107*	*53*						
6	*Of which: instruments with LTV higher than 100%*	*2,758*	*2,216*		*542*	*323*	*219*						
7	Accumulated impairment for secured assets	(1,193)	(310)	(14)	(884)	(311)	(573)	(17)	(33)	(50)	(431)	(30)	(11)
8	Collateral												
9	*Of which value capped at the value of exposure*	*15,143*	*14,483*	*109*	*659*	*452*	*207*	*49*	*42*	*22*	*83*	*9*	*2*
10	*Of which: Immovable property*	*10,807*	*10,246*	*84*	*561*	*376*	*185*	*46*	*40*	*20*	*68*	*8*	*2*
11	*Of which value above the cap*	*17,141*	*15,585*	*114*	*1,556*	*539*	*1,017*	*58*	*57*	*44*	*822*	*19*	*16*
12	*Of which: Immovable property*	*11,242*	*10,113*	*103*	*1,129*	*477*	*651*	*53*	*35*	*39*	*492*	*18*	*15*
13	Financial guarantees received	4,823	4,731	9	92	25	67	4	12	1	51		
14	Accumulated partial write-off	(16)			(16)	(9)	(7)				(7)		

Table 31: **EU CR2** - Changes in the stock of non-performing loans and advances 31.12.2022

		a
		Gross carrying amount
1	**Initial stock of non-performing loans and advances, Dec 31, 2021**	**2,294**
2	Inflows to non-performing portfolios	638
3	Outflows from non-performing portfolios	(1,139)
4	Outflows due to write-offs	(212)
5	Outflow due to other situations	(927)
6	**Final stock of non-performing loans and advances, Dec 31, 2022**	**1,793**

***Table 31**: **EU CR2** - Changes in the stock of non-performing loans and advances 30.06.2022*

		a
		Gross carrying amount
1	**Initial stock of non-performing loans and advances, Dec 31, 2021**	**2,294**
2	Inflows to non-performing portfolios	343
3	Outflows from non-performing portfolios	(541)
4	Outflows due to write-offs	(64)
5	Outflow due to other situations	(476)
6	**Final stock of non-performing loans and advances, Jun 30, 2022**	**2,097**

Table 32: **EU CR2a** - Changes in the stock of non-performing loans and advances and related net accumulated recoveries 31.12.2022

		a	b
		Gross carrying amount	Related net accumulated recoveries
1	**Initial stock of non-performing loans and advances, Dec 31, 2021**	**2,294**	
2	Inflows to non performing portfolios	638	
3	Outflows from non-performing portfolios	(1,139)	
4	Outflow to performing portfolio	(514)	
5	Outflow due to loan repayment, partial or total	(189)	
6	Outflow due to collateral liquidations	(22)	21
7	Outflow due to taking possession of collateral	(21)	13
8	Outflow due to sale of instruments		
9	Outflow due to risk transfers		
10	Outflows due to write-offs	(212)	
11	Outflow due to Other Situations	(61)	
12	Outflow due to reclassification as held for sale	(120)	
13	**Final stock of non-performing loans and advances, Dec 31, 2022**	**1,793**	

***Table 32: EU CR2a** - Changes in the stock of non-performing loans and advances and related net accumulated recoveries 30.06.2022*

		a	b
		Gross carrying amount	Related net accumulated recoveries
1	**Initial stock of non-performing loans and advances, Dec 31,2021**	**2,294**	
2	Inflows to non-performing portfolios	343	
3	Outflows from non-performing portfolios	(541)	
4	Outflow to performing portfolio	(221)	
5	Outflow due to loan repayment, partial or total	(96)	
6	Outflow due to collateral liquidation	(10)	8
7	Outflow due to taking possession of collateral	(1)	1
8	Outflow due to sale of instruments		
9	Outflow due to risk transfers		
10	Outflow due to write-off	(64)	
11	Outflow due to other situations	(55)	
12	Outflow due to reclassification as held for sale	(95)	
13	**Final stock of non-performing loans and advances, Jun 30, 2022**	**2,097**	

Table 33: **EU CQ7** - Collateral obtained by taking possession and execution processes 31.12.2022

		a	b
		Collateral obtained by taking possession	
		Value at initial recognition	Accumulated negative changes
1	Property Plant and Equipment (PP&E)		
2	Other than Property Plant and Equipment	639	(165)
3	*Residential immovable property*	237	(24)
4	*Commercial Immovable property*	320	(68)
5	*Movable property (auto, shipping, etc.)*	1	(1)
6	*Equity and debt instruments*	71	(71)
7	*Other*	8	(1)
8	**Total**	**639**	**(165)**

***Table 33: EU CQ7** - Collateral obtained by taking possession and execution processes 30.06.2022*

		a	b
		Collateral obtained by taking possession	
		Value at initial recognition	Accumulated negative changes
1	Property Plant and Equipment (PP&E)		
2	Other than Property Plant and Equipment	**588**	**(104)**
3	*Residential immovable property*	249	(25)
4	*Commercial Immovable property*	328	(70)
5	*Movable property (auto, shipping, etc.)*	1	(1)
6	*Equity and debt instruments*	8	(8)
7	*Other*	1	(1)
8	Total	**588**	**(104)**

Table 34: **EU CQ8** - Collateral obtained by taking possession and execution process - vintage breakdown 31.12.2022

		a	b	c	d	e	f	g	h	i	j	k	l
		Debt balance reduction		Total collateral obtained by taking possession									
		Gross carrying amount	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Foreclosed ≤ 2 years		Foreclosed >2 years and ≤ 5 years		Foreclosed >5 years		of which non-current assets held-for-sale	
						Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes
1	Collateral obtained by taking possession classified as Property Plant and Equipment (PP&E)												
2	Collateral obtained by taking possession other than classified Property Plant and Equipment	666	(247)	639	(165)	148	(65)	333	(30)	157	(70)	345	(50)
3	*Residential immovable property*	324	(106)	237	(24)	9		195	(10)	33	(14)	167	(16)
4	*Commercial Immovable Property*	316	(123)	320	(68)	69	(2)	128	(11)	124	(55)	177	(33)
5	*Movable property (auto, shipping, etc.)*	2	(1)	1	(1)			1		0		1	
6	*Equity and debt instruments*	17	(17)	71	(71)	63	(63)	8	(8)	0		0	
7	*Other*	8		8	(1)	8	0	1		0		0	
8	***Total***	**666**	**(247)**	**639**	**(165)**	**148**	**(65)**	**333**	**(30)**	**157**	**(70)**	**345**	**(50)**

***Table 34: EU CQ8** - Collateral obtained by taking possession and execution process - vintage breakdown 30.06.2022*

		a	b	c	d	e	f	g	h	i	j	k	l
		Debt balance reduction		Total collateral obtained by taking possession									
		Gross carrying amount	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Foreclosed ≤ 2 years		Foreclosed >2 years and ≤ 5 years		Foreclosed >5 years		of which non-current assets held-for-sale	
						Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes	Value at initial recogn.	Accum. neg. changes
1	Collateral obtained by taking possession classified as PP&E												
2	Collateral obtained by taking possession other than that classified as PP&E	669	(242)	588	(104)	160	(11)	272	(19)	156	(74)	376	(56)
3	*Residential immovable property*	*335*	*(110)*	*249*	*(25)*	*74*	*(1)*	*139*	*(9)*	*36*	*(16)*	*196*	*(22)*
4	*Commercial immovable property*	*328*	*(126)*	*328*	*(70)*	*78*	*(2)*	*132*	*(9)*	*119*	*(58)*	*179*	*(34)*
5	*Movable property (auto, shipping etc.)*	*2*	*(1)*	*1*	*(1)*			*1*				*1*	
6	*Equity and debt instruments*	*6*	*(6)*	*8*	*(8)*	*8*	*(8)*						
7	*Other*			*1*	*(1)*			*1*					
8	**Total**	**669**	**(242)**	**588**	**(104)**	**160**	**(11)**	**272**	**(19)**	**156**	**(74)**	**376**	**(56)**

6.6 Credit risk mitigation techniques

Since 2007, NBG uses a specialized Collateral Management system, both for corporate and retail exposures. The system aims to:

- Record Bank's collaterals;
- Establish a connection between loan contract and collateral;
- Assess qualitatively all collaterals;
- Monitor collaterals' market value and estimate coverage ratio;
- Provide information regarding each and every obligor's collaterals;
- Retrieve necessary data for the estimation of capital requirements per facility;
- Automatically monitor the obligor's entire credit risk position.

The Collateral Management system provides a large number of control elements, reducing operational risk, also keeping track of all securities offered to the Bank, both those that are currently active and those that matured.

The system calculates and/or keeps the following values per collateral:

- Value as of input day;
- Current market value (for traded securities, etc.);
- Guarantee value: this is lower than the Current market value by a fixed proportion which, in turn, is based on the collateral's liquidation feasibility;
- Market value, Tax value, Forced Sale value, Land and Buildings value and Construction Cost for all real estate collaterals.

In principle, NBG accepts the following credit risk mitigation types (funded and unfunded) for capital calculation purposes under the Standardised Approach:

- Guarantees from:
  - Legal entities, both from the Private and Public Sector
  - Central governments, Regional governments, local authorities and PSEs
  - Financial institutions
  - The Greek Government
  - The Hellenic Development Bank (HDB)
  - The European Investment Fund (EIF)
  - The European Investment Bank (EIB)
- Pledges of
  - Securities (cheques and bills of exchange)
  - Deposits
  - Equity, Mutual funds and Non-tangible securities (bonds, etc.)
  - Claims against Central Government, Public and Private Sector Entities
  - Letters of Guarantee
  - Claims on Insurance Contracts
- Liens
  - On Real Estate

Credit and Counterparty Risk exposures secured by CRR eligible credit risk mitigation instruments (collateral and guarantees) as of 31.12.2022 (in € mio) were as follows:

Table 35 : EU CR3 – CRM techniques overview: Disclosure of the use of credit risk mitigation techniques 31.12.2022

		a	b	c	d	e
		Exposures unsecured - Carrying amount	Exposures secured - Carrying amount	*Of which: secured by collateral*	*Of which: secured by financial guarantees*	*Of which: secured by credit derivatives*
1	Total loans	9,224	29,011	21,724	7,287	
2	Total debt securities	13,095	0	0	0	
3	**Total exposures**	**22,319**	**29,011**	**21,724**	**7,287**	
4	*Of which non-performing exposures*	61	728	597	131	
5	*Of which defaulted**					

**According to the EBA Guidelines on definition of default (EBA/GL/2016/07), in force from 1 January 2021, default is fully aligned with the NPE definition.*

***Table 35 : EU CR3** – CRM techniques overview: Disclosure of the use of credit risk mitigation techniques 30.06.2022*

		a	b	c	d	e
		Exposures unsecured - Carrying amount	**Exposures secured - Carrying amount**	**Of which: secured by collateral**	**Of which: secured by financial guarantees**	**Of which: secured by credit derivatives**
1	Total loans	8,341	28,402	21,545	6,856	
2	Total debt securities	13,816				
3	**Total exposures**	**22,158**	**28,402**	**21,545**	**6,856**	
4	*Of which non-performing exposures*	91	826	655	171	
5	*Of which defaulted**					

**According to the EBA Guidelines on definition of default (EBA/GL/2016/07), in force from 1 January 2021, default is fully aligned with the NPE definition.*

6.7 Portfolios under the Standardised Approach

External Credit Assessment Institutions (ECAI) used to risk weight exposures under the Standardised Approach are Standard & Poor's, Moody's Investors Service Ltd and Fitch Ratings Ltd. There is no process to transfer the issuer and issue credit assessments onto items not included in the trading book, as this is not applicable to NBG Group's portfolios.

The asset classes for which ECAI ratings are used are the following:

- Central Governments and Central Banks
- Regional Governments and Local Authorities
- Public Sector Entities
- Financial Institutions
- Corporate

The table on the right depicts the mapping of external credit assessments to the corresponding credit quality steps.

Table 37: Mapping of Credit quality steps

Fitch	Standard & Poor's	Moody's	Credit Quality Steps
From AA to AAA	From AA to AAA	From Aa1 to Aaa	1
From A to A+	From A to A+	From A1 to A3	2
From BBB to BBB+	From BBB to BBB+	From Baa1 to Baa3	3
From BB to BB+	From BB to BB+	From Ba1 to Ba3	4
From B to B+	From B to B+	From B1 to B3	5
From C to CCC+	From C to CCC+	From C1 to Caa3	6

The table below presents the Exposures (net of accounting provisions), before and after Credit Risk Mitigation (CRM), as of 31.12.2022, according to the supervisory exposure classes (amounts are in € mio):

Table 36: EU CR4 - Standardised approach - Credit Risk Exposure and CRM effects 31.12.2022

	a	b	c	d	e	f
Exposure classes	Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	On-balance-sheet amount	Off-balance-sheet amount	On-balance-sheet amount	Off-balance-sheet amount	RWAs*	RWA density
Central governments or central banks	31,630	0	34,869	0	5,588	16%
Regional governments or local authorities	12	1	11	0	2	20%
Public sector entities	984	209	1,636	10	745	45%
Multilateral development banks	100	0	856	0	0	0%
International organisations	58	0	58	0	0	0%
Institutions	2,130	515	2,163	110	701	31%
Corporates	15,267	15,292	13,688	1,004	13,584	92%
Retail	3,514	1,792	2,778	14	1,938	69%
Secured by mortgages on immovable property	8,852	89	8,852	37	3,198	36%
Exposures in default	1,330	69	1,196	8	1,255	104%
Exposures associated with particularly high risk	548	8	547	1	823	150%
Covered bonds						
Institutions and corporates with a short-term credit assessment						
Collective investment undertakings						
Equity	118	0	118	0	169	143%
Other items	3,324	0	3,324	0	2,563	77%
Total	**67,868**	**17,975**	**70,098**	**1,184**	**30,564**	**43%**

**Counterparty Credit Risk RWAS are not included*

Table 36: EU CR4 - Standardised approach - Credit Risk Exposure and CRM effects 30.06.2022

	a	b	c	d	e	f
Exposure classes	**Exposures before CCF and CRM**		**Exposures post CCF and CRM**		**RWAs and RWA density**	
	On-balance-sheet amount	Off-balance-sheet amount	On-balance-sheet amount	Off-balance-sheet amount	RWAs*	RWA density
Central governments or central banks	33,722	0	37,352	0	5,538	15%
Regional governments or local authorities	13	1	12	0	3	20%
Public sector entities	855	174	1,664	7	821	49%
Multilateral development banks	100	0	343	0	0	0%
International organisations	64	0	64	0	0	0%
Institutions	2,430	424	2,447	89	658	26%
Corporates	13,626	15,168	12,279	906	12,362	94%
Retail	3,481	1,850	2,874	13	1,971	68%
Secured by mortgages on immovable property	9,297	93	9,297	37	3,390	36%
Exposures in default	1,521	86	1,387	9	1,452	104%
Exposures associated with particularly high risk	475	19	474	4	717	150%
Covered bonds						
Institutions and corporates with a short-term credit assessment						
Collective investment undertakings						
Equity	112	0	112	0	148	132%
Other items	3,551	0	3,551	0	2,850	80%
Total	**69,246**	**17,816**	**71,856**	**1,064**	**29,910**	**41%**

**Counterparty Credit Risk RWAS are not included*

Table 38 : EU CR5 - Standardised approach 31.12.2022

	Exposure classes	**Risk Weight**							
		0%	2%	4%	10%	20%	35%	50%	70%
1	Central governments or central banks	30,145	0	0	0	1	0	41	0
2	Regional governments or local authorities	0	0	0	0	12	0	0	0
3	Public sector entities	902	0	0	0	0	0	0	0
4	Multilateral development banks	856	0	0	0	0	0	0	0
5	International organisations	58	0	0	0	0	0	0	0
6	Institutions	1,234	0	0	0	370	0	116	0
7	Corporates	0	0	0	0	0	0	0	0
8	Retail	0	0	0	0	0	0	0	0
9	Secured by mortgages on immovable property	0	0	0	0	0	6,413	2,475	0
10	Exposures in default	0	0	0	0	0	0	0	0
11	Exposures associated with particularly high risk	0	0	0	0	0	0	0	0
12	Covered bonds	0	0	0	0	0	0	0	0
13	Institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0	0
14	Collective investment undertakings	0	0	0	0	0	0	0	0
15	Equity	0	0	0	0	0	0	0	0
16	Other items	758	0	0	0	4	0	0	0
17	**Total**	**33,954**	**0**	**0**	**0**	**387**	**6,413**	**2,632**	**0**

Table 38: EU CR5 - Standardised approach 31.12.2022 *(continued)*

	Exposure classes	Risk Weight							Total	*Of which unrated*
		75%	100%	150%	250%	370%	1250%	Others		
1	Central governments or central banks	0	4,094	0	589	0	0	0	**34,870**	
2	Regional governments or local authorities	0	0	0	0	0	0	0	**12**	*12*
3	Public sector entities	0	744	0	0	0	0	0	**1,647**	*1,445*
4	Multilateral development banks	0	0	0	0	0	0	0	**856**	
5	International organisations	0	0	0	0	0	0	0	**58**	
6	Institutions	0	520	33	0	0	0	0	**2,273**	*607*
7	Corporates	0	14,670	21	0	0	0	0	**14,691**	*14,126*
8	Retail	2,793	0	0	0	0	0	0	**2,793**	
9	Secured by mortgages on immovable property	0	0	0	0	0	0	0	**8,888**	
10	Exposures in default	0	1,103	101	0	0	0	0	**1,204**	
11	Exposures associated with particularly high risk	0	0	549	0	0	0	0	**549**	
12	Covered bonds	0	0	0	0	0	0	0	**0**	
13	Institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0	**0**	
14	Collective investment undertakings	0	0	0	0	0	0	0	**0**	
15	Equity	0	85	0	34	0	0	0	**118**	
16	Other items	0	2,562	0	0	0	0	0	**3,324**	
17	**Total**	**2,793**	**23,778**	**703**	**623**	**0**	**0**	**0**	**71,282**	

***Table 38 : EU CR5** - Standardised approach 30.06.2022*

	Exposure classes	Risk Weight							
		0%	2%	4%	10%	20%	35%	50%	70%
1	Central governments or central banks	32,615				1		44	
2	Regional governments or local authorities					12			
3	Public sector entities	850							
4	Multilateral development banks	343							
5	International organisations	64							
6	Institutions	1,315				644		126	
7	Corporates								
8	Retail								
9	Secured by mortgages on immovable property						6,446	2,888	
10	Exposures in default								
11	Exposures associated with particularly high risk								
12	Covered bonds								
13	Institutions and corporates with a short-term credit assessment								
14	Collective investment undertakings								
15	Equity								
16	Other items	690				13			
17	**Total**	**35,876**				**670**	**6,446**	**3,058**	

Table 38 : EU CR5 - Standardised approach 30.06.2022 (continued)

Exposure classes		Risk Weight							Total	*Of which unrated*
		75%	100%	150%	250%	370%	1250%	Others		
1	Central governments or central banks		4,145		548				**37,352**	
2	Regional governments or local authorities								**12**	12
3	Public sector entities		821						**1,671**	1,671
4	Multilateral development banks								**343**	
5	International organisations								**64**	
6	Institutions		420	31					**2,535**	643
7	Corporates		12,990	194					**13,184**	12,584
8	Retail	2,887							**2,887**	
9	Secured by mortgages on immovable property								**9,334**	
10	Exposures in default		1,281	114					**1,395**	
11	Exposures associated with particularly high risk			478					**478**	
12	Covered bonds								**0**	
13	Institutions and corporates with a short-term credit assessment								**0**	
14	Collective investment undertakings								**0**	
15	Equity		89		24				**112**	
16	Other items		2,848						**3,551**	
17	**Total**	**2,887**	**22,593**	**817**	**572**				**72,920**	**14,898**

7 COUNTERPARTY CREDIT RISK

Counterparty Credit Risk (CCR) mainly stems from the OTC derivative and secured interbank transactions, namely repurchase agreements, included in the trading portfolio and the banking book. The main contributor to CCR within NBG Group is the Bank.

The approach for the calculation of the exposure values for CRR depends on the type of transaction. For OTC and exchange-traded derivative transactions, the exposure at default (EAD) is calculated based on the SA-CCR methodology which has replaced both the Mark-to-Market Method (MtMM) and the Standardized Method.

More specifically, the EAD is calculated as the product of an alpha factor – which equals to 1.4 -- and the sum of the replacement cost (RC) and the potential future exposure (PFE), i.e., EAD=alpha * (RC + PFE). The RC reflects the current value adjusted for the effects of net collateral (including independent amounts, thresholds and minimum transfer amounts).

The PFE add-on consists of a multiplier that allows for the partial recognition of excess collateral or negative mark-to-market value for the transactions and an aggregate add-on which is derived from the respective add-ons of each asset class (interest rate, foreign exchange, credit, equity and commodity). Therefore, the RC is calculated at the netting set level, whereas the PFE add-ons are calculated for each asset class, within a given netting set and then aggregated.

In the case of repurchase agreements, the EAD is calculated in accordance with the financial collateral comprehensive method.

In addition, the GFLRM Division calculates the capital requirements against Credit Valuation Adjustment (CVA) risk. CVA is an adjustment to the fair value of derivative instruments to account for CCR, due to possible changes in the creditworthiness of the counterparty. As per the current regulatory framework, the calculations only pertain to transactions with financial institutions. NBG employs the Standardized approach for the calculation of the respective capital charges, whereas the EADs are calculated in accordance with the SA-CCR framework.

The components of CCR, on a Group level, are shown in the tables below, as of 31 December 2022.

Table 39: EU CCR1 - Analysis of CCR exposure by approach (€ mio) 31.12.2022

		Replacement cost (RC)	Potential Future Exposure (PFE)	EEPE	Alpha used for computing regulatory exposure value	Exposure value pre CRM	Exposure value post CRM	Exposure value	RWEAs
EU1	EU - Original Exposure Method (for derivatives)								
EU2	EU - Simplified SA-CCR (for derivatives)								
1	SA-CCR (for derivatives)	210	294	-	1.4	2,317	706	684	459
2	IMM (for derivatives and SFTs)								
2a	*Of which securities financing transactions netting sets*								
2b	*Of which derivatives and long settlement transactions netting sets*								
2c	*Of which from contractual cross-product netting sets*								
3	Financial collateral simple method (for SFTs)								
4	Financial collateral comprehensive method (for SFTs)					3,319	324	324	1
5	VaR for SFTs								
6	**Total**					**5,637**	**1,030**	**1,008**	**460**

Table 39: EU CCR1 *- Analysis of CCR exposure by approach (€ mio) 30.06.2022*

		Replacement cost (RC)	Potential Future Exposure (PFE)	EEPE	Alpha used for computing regulatory exposure value	Exposure value pre CRM	Exposure value post CRM	Exposure value	RWEAs
EU1	EU - Original Exposure Method (for derivatives)								
EU2	EU - Simplified SA-CCR (for derivatives)								
1	SA-CCR (for derivatives)	191	154	-	1.4	2,677	483	454	265
2	IMM (for derivatives and SFTs)								
2a	*Of which securities financing transactions netting sets*								
2b	*Of which derivatives and long settlement transactions netting sets*								
2c	*Of which from contractual cross-product netting sets*								
3	Financial collateral simple method (for SFTs)								
4	Financial collateral comprehensive method (for SFTs)					3,142	312	312	5
5	VaR for SFTs								
6	Total					**5,820**	**796**	**766**	**270**

Table 40: EU CCR2 – CVA capital charge (€ mio) 31.12.2022

		Exposure value	RWEAs
1	Total transactions subject to the advanced method		
2	(i) VaR component (including the 3x multiplier)		
3	(ii) stressed VaR component (including the 3x multiplier)		
4	Transactions subject to the Standardized method	268	215
EU4	Transactions subject to the Alternative Approach (Based on the Original Exposure Method)		
5	**Total transactions subject to own funds requirements for CVA risk**	**268**	**215**

Table 40: EU CCR2 *– CVA capital charge (€ mio) 30.06.2022*

		Exposure value	RWEAs
1	Total transactions subject to the advanced method		
2	(i) VaR component (including the 3x multiplier)		
3	(ii) stressed VaR component (including the 3x multiplier)		
4	Transactions subject to the Standardized method	231	190
EU4	Transactions subject to the Alternative Approach (Based on the Original Exposure Method)		
5	**Total transactions subject to own funds requirements for CVA risk**	**231**	**190**

Table 41: **EU CCR8** – Exposures to CCPs (€ mio) 31.12.2022

		Exposure Value	RWEAs
1	**Exposures to QCCPs* (total)**		**8**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	282	6
3	*(i) OTC derivatives*	*274*	*5*
4	*(ii) Exchange-traded derivatives*	*8*	*0.2*
5	*(iii) SFTs*		
6	*(iv) Netting sets where cross-product netting has been approved*		
7	Segregated initial margin	1,186	
8	Non-segregated initial margin	38	0.8
9	Prefunded default fund contributions	6	2
10	Alternative calculation of own funds requirements for exposures		
11	**Exposures to non-QCCPs* (total)**		
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which		
13	*(i) OTC derivatives*		
14	*(ii) Exchange-traded derivatives*		
15	*(iii) SFTs*		
17	Segregated initial margin		
18	Non-segregated initial margin		
19	Prefunded default fund contributions		
20	Unfunded default fund contributions		

**QCCP: Qyalifying Central Counterparty*

Table 41: EU CCR8 – Exposures to CCPs (€ mio) 30.06.2022

		Exposure Value	RWEAs
1	**Exposures to QCCPs* (total)**		**8**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	273	5
3	*(i) OTC derivatives*	*261*	*5*
4	*(ii) Exchange-traded derivatives*	*12*	*0.2*
5	*(iii) SFTs*		
6	*(iv) Netting sets where cross-product netting has been approved*		
7	Segregated initial margin	982	
8	Non-segregated initial margin	48	1
9	Prefunded default fund contributions	26	2
10	Alternative calculation of own funds requirements for exposures		
11	**Exposures to non-QCCPs* (total)**		
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which		
13	*(i) OTC derivatives*		
14	*(ii) Exchange-traded derivatives*		
15	*(iii) SFTs*		
17	Segregated initial margin		
18	Non-segregated initial margin		
19	Prefunded default fund contributions		
20	Unfunded default fund contributions		

Table 42: EU CCR3 - Standardized approach - CCR exposures by regulatory portfolio and risk (€ mio) 31.12.2022

	Exposure classes	Risk Weight											Total
		0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	
1	Central governments or central banks	355											**355**
2	Regional governments or local authorities												
3	Public sector entities												
4	Multilateral development banks												
5	International organisations												
6	Institutions		320			99	226			3			**648**
7	Corporates									324			**324**
8	Retail												
9	Institutions and corporates with a short-term credit assessment												
10	Other items												
11	**Total**	**355**	**320**			**99**	**226**			**327**			**1,328**

Table 42: EU CCR3 - Standardized approach - CCR exposures by regulatory portfolio and risk (€ mio) 30.06.2022

	Exposure classes	Risk Weight											Total
		0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Others	
1	Central governments or central banks	333								3			**337**
2	Regional governments or local authorities												
3	Public sector entities					0							**0**
4	Multilateral development banks												
5	International organisations												
6	Institutions		321			79	198			3	0.02		**601**
7	Corporates									149	0		**149**
8	Retail												
9	Institutions and corporates with a short-term credit assessment												
10	Other items												
11	**Total**	**333**	**321**			**79**	**198**			**155**	**0.02**		**1,087**

Table 43: EU CCR5 – Composition of collateral for CCR exposures (€ mio) 31.12.2022

	Collateral type	Collateral used in derivative transactions				Collateral used in SFTs			
		Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received		Fair value of posted collateral	
		Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated
1	Cash – domestic currency		3,487	895	654			2	
2	Cash – other currencies		217		5				
3	Domestic sovereign debt		450				3,003		34
4	Other sovereign debt			321					89
5	Government agency debt								
6	Corporate bonds								
7	Equity securities								
10	Other collateral								
11	**Total**		**4,154**	**1,216**	**659**		**3,003**	**2**	**123**

Table 43: EU CCR5 – Composition of collateral for CCR exposures (€ mio) 30.06.2022

	Collateral type	Collateral used in derivative transactions				Collateral used in SFTs			
		Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received		Fair value of posted collateral	
		Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated
1	Cash – domestic currency		2,520	685	787		0.11		1
2	Cash – other currencies		181		6				2
3	Domestic sovereign debt		1,530				2,746		65
4	Other sovereign debt			328			96		129
5	Government agency debt								
6	Corporate bonds								
7	Equity securities								
10	Other collateral								
11	Total		4,231	1,012	793		2,843		198

Table 44: EU CCR6 - Credit derivatives exposures (€ mio) 31.12.2022

	Credit derivative hedges		Other credit derivatives
	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps			
Index credit default swaps	*0*		
Total return swaps			
Credit options			
Other credit derivatives			
Total notionals			
Fair values	**0**		
Positive fair value (asset)			
Negative fair value (liability)	0		

Table 44: EU CCR6 - Credit derivatives exposures (€ mio) 30.06.2022

	Credit derivative hedges		Other credit derivatives
	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps	10		
Index credit default swaps			
Total return swaps			
Credit options			
Other credit derivatives			
Total notionals	10		
Fair values			
Positive fair value (asset)	0.15		
Negative fair value (liability)			

8 MARKET RISK

The Bank uses internally developed and implemented market risk models and systems to assess and quantify the portfolio market risk, based on best practice and industry-wide accepted risk metrics. More specifically, the Bank estimates the market risk of its trading and the held to collect and sell (HTCS) portfolios using the Value at Risk (VaR) methodology. In particular, the Bank has adopted the Variance-Covariance (VCV) methodology, with a 99% confidence interval and 1-day holding period.

The VaR calculation process is summarized as follows:

1. Collection of transactional data per type of product;
2. Identification of "risk factors" i.e., variables whose price changes could affect the value of the portfolio. The risk factors relevant to the financial products in the Bank's portfolio are interest rates, equity indices, foreign exchange rates and commodity prices;
3. Collection of market data for instruments/positions valuation;
4. Specification of the confidence interval and the holding period for the VaR calculations at 99% and 1-day, respectively;
5. Estimation of the model's parameters:
   - the variance of each risk factor, from which respective volatilities are derived;
   - the covariance of the risk factors, from which respective correlations are derived;
   - the beta of stocks;
   - the volatility for the estimation of equity specific risk.
6. Estimation of the VaR per type of risk (interest rate risk, equity risk, foreign exchange risk, commodity risk);
7. Estimation of Total VaR, taking into consideration the correlation matrix among all risk factors.

The VaR is calculated on a daily basis for the Bank's trading and held-to-collect-and-sell (HTCS) portfolios, along with the VaR per risk type (interest rate, equity, foreign exchange and commodity risk). The VaR estimates are used internally as a risk management tool, as well as for regulatory purposes. More specifically, the GFLRM Division calculates the VaR of the Bank's trading and HTCS portfolios, for internal use, using the latest 75 exponentially weighted daily observations to construct the VCV matrices. For regulatory purposes, the calculations apply only on the trading portfolio and the VCV matrices are based on 252, equally weighted, daily observations per risk factor.

Moreover, since the Bank has approval to use an internal model approach (IMA) only for general market risk purposes, the issuer risk and the equity specific risk of the portfolio are excluded from the regulatory VaR calculations. The respective capital requirements are based on the Standardized Approach (SA).

Additionally, the GFLRM Division calculates the stressed VaR (sVaR) of the Bank's trading portfolio, which is defined as the VaR, where model inputs are calibrated to historical data from a continuous 1-year period of significant financial stress, relevant to the Bank's portfolio. To identify this 1-year time window of significant stress, NBG follows a conservative approach, which covers the entire period from the beginning of the financial crisis of 2008. More specifically, VCV matrices dating back to the 3rd of January 2008, are calculated on a monthly basis and the VCV matrix that corresponds to the maximum VaR of NBG's trading portfolio, over the entire period, is selected. To ensure consistency, at each year-end, the process is repeated for certain days of the last calendar month of the year, and subsequently the identified "stressed VCV matrix" is applied over the next year. Similarly to VaR, NBG calculates sVaR on a daily basis, using a 1-day holding period and 99% confidence level.

For the calculation of the regulatory capital requirements, the VaR/sVaR is scaled up to 10-days via the square-root-of-time rule[1].

Based on the above, the capital charges for the Bank's general market risk are calculated as the sum of the following two amounts:

- the maximum of: a) the VaR of the previous day, calculated with a 10-days holding period, b) the average VaR of the last 60-days, using a 10-days holding period and multiplied by a factor(mc), determined by the regulator and varying between three (3) and four (4); plus
- the maximum of: a) the Stressed VaR of the previous day, calculated with a 10-days holding period, b) the average Stressed VaR of the last 60-days, using a 10-days holding period and multiplied by a factor (ms), determined by the regulator and varying between three (3) and four (4).

Finally, the use of internal model is granted only for NBG, therefore the calculation of market risk capital charges for the rest of the Group's subsidiaries is based on the Standardized Approach.

The components of capital requirements under both the standardized method and the internal model approach for market risk, as of 31st December, 2022, are shown in the tables below.

Table 45: EU MR1 – Market risk under the Standardized approach (€ mio) 31.12.2022 and 30.06.2022

		RWAs Q4.22	**RWAs Q2.22**
	Outright products		
1	Interest rate risk (general and specific)	6	16
2	Equity risk (general and specific)	31	30
3	Foreign echange risk	85	148
4	Commodity risk		
	Options		
5	Simplified approach		
6	Delta-plus approach	391	327
7	Scenario approach	2	
8	**Securitisation (specific risk)**		
9	**Total**	**515**	**521**

[1] *10-day VaR is obtained by multiplying the 1-day VaR with the square root of 10 (i.e. $VaR10{-}day = VaR1{-}day * \sqrt{10}$)*

Table 46: EU MR2-A – Market risk under the IMA (€ mio) 31.12.2022

		RWAs	Own funds requirements
1	**VaR** (higher of values a and b)	**559**	**45**
(a)	Previous day's VaR (VaRt-1)		8
(b)	Multiplication factor (mc) x average of previous 60 working days (VaRavg)		45
2	**SVaR** (higher of values a and b)	**793**	**63**
(a)	Latest available SVaR (SVaRt-1))		16
(b)	Multiplication factor (ms) x average of previous 60 working days (sVaRavg)		63
3	**IRC** (higher of values a and b)		
(a)	Most recent IRC measure		
(b)	12 weeks average IRC measure		
4	**Comprehensive risk measure** (higher of values a, b and c)		
(a)	Most recent risk measure of comprehensive risk measure		
(b)	12 weeks average of comprehensive risk measure		
(c)	Comprehensive risk measure Floor		
5	**Other**		
6	**Total**	**1351**	**108**

Table 46: EU MR2-A – Market risk under the IMA (€ mio) 30.06.2022

		RWAs	Own funds requirements
1	**VaR** (higher of values a and b)	**373**	**30**
(a)	Previous day's VaR (VaRt-1)		7
(b)	Multiplication factor (mc) x average of previous 60 working days (VaRavg)		30
2	**SVaR** (higher of values a and b)	**903**	**72**
(a)	Latest available SVaR (SVaRt-1))		21
(b)	Multiplication factor (ms) x average of previous 60 working days (sVaRavg)		72
3	**IRC** (higher of values a and b)		
(a)	Most recent IRC measure		
(b)	12 weeks average IRC measure		
4	**Comprehensive risk measure** (higher of values a, b and c)		
(a)	Most recent risk measure of comprehensive risk measure		
(b)	12 weeks average of comprehensive risk measure		
(c)	Comprehensive risk measure Floor		
5	Other		
6	Total	1276	102

Table 47: EU MR2-B – RWA flow statements of market risk exposures under the IMA (€ mio) 31.12.2022

		VaR	SVaR	IRC	Comprehensive risk measure	Other	Total RWAs	Total own funds requirements
1	**RWAs as of September 30, 2022**	**439**	**763**				**1,203**	**96**
1a	*Regulatory adjustment*	*304*	*558*				*862*	*69*
1b	*RWAs at the previous quarter-end (end of the day)*	*135*	*206*				*341*	*27*
2	Movement in risk levels	(31)	(3)					
3	Model updates/changes							
4	Methodology and policy							
5	Acquisitions and disposals							
6	Foreign exchange movements							
7	Other	2	(9)					
8a	*RWAs at the end of the reporting period (end of the day)*	*106*	*194*				*300*	*24*
8b	*Regulatory adjustment*	*453*	*598*				*1,051*	*84*
8	**RWAs as of December 31, 2022**	**559**	**793**				**1,351**	**108**

Table 47: EU MR2-B – RWA flow statements of market risk exposures under the IMA (€ mio) 30.09.2022

		VaR	SVaR	IRC	Comprehensive risk measure	Other	Total RWAs	Total own funds requirements
1	**RWAs as of June 30, 2022**	**373**	**903**				**1,276**	**102**
1a	*Regulatory adjustment*	*281*	*702*				*984*	*79*
1b	*RWAs at the previous quarter-end (end of the day)*	*92*	*200*				*292*	*23*
2	Movement in risk levels	38	(7)					
3	Model updates/changes							
4	Methodology and policy							
5	Acquisitions and disposals							
6	Foreign exchange movements							
7	Other	5	13					
8a	*RWAs at the end of the reporting period (end of the day)*	*135*	*206*				*341*	*27*
8b	*Regulatory adjustment*	*304*	*558*				*862*	*69*
8	**RWAs as of September 30, 2022**	**439**	**763**				**1,203**	**96**

The Market Risk RWAs, based on the Internal Model Approach (IMA), icreased by 12% in Q4.2022, mainly due to the increase of the VaR estimates, in line with the upward path of the EUR IRS and the respective sovereign yields volatilities, combined with the structure of the Trading Book.

Finally, the Bank's regulatory VaR/sVaR estimates during the last six months of 2022 are shown in the table below.

Table 48: EU MR3 – IMA values for trading portfolios (€ mio) 31.12.2022

	VaR (10 day 99%)	
1	Maximum value	16
2	Average value	10
3	Minimum value	7
4	Period end	8
5	Maximum value	17
6	Average value	16
7	Minimum value	14
8	Period end	16

Table 48: EU MR3 *– IMA values for trading portfolios (€ mio) 30.06.2022*

	VaR (10 day 99%)	
1	Maximum value	9
2	Average value	7
3	Minimum value	5
4	Period end	7
	SVaR (10 day 99%)	
5	Maximum value	21
6	Average value	19
7	Minimum value	15
8	Period end	16

8.1 Stress testing

The daily VaR refers to "normal" market conditions. Supplementary analysis is, however, necessary for capturing the potential loss that might incur under extreme and unusual conditions in financial markets. Thus, the GFLRM Division conducts stress testing on a weekly basis, through the application of different stress scenarios on the relevant risk factors (interest rates, equity indices, foreign exchange rates). Stress testing is performed on both the Trading and the HTCS portfolios, as well as separately on the positions of the Trading Book.

The scenarios used are shown in the following table:

Table 49: Stress test Scenarios

Scenario	Description			
Interest Rate Risk				
		0 - 3 months	3 months –5 years	> 5 years
1	Parallel Curve shift	+200 bps.	+200 bps.	+200 bps.
2	Parallel Curve shift	-200 bps.	-200 bps.	-200 bps.
3	Steepening of the curve	0 bps.	+100 bps.	+200 bps.
4	Flattening of the curve	+200 bps.	+100 bps	0 bps.
Equity Risk				
	-30% for all indices			
Foreign Exchange Risk				
	EUR depreciation by 30%/EUR appreciation by 30%			

Additionally, the following volatility stress test scenarios are defined and the Trading and HTCS portfolios are assessed, on a daily basis**:**

Table 50: Volatility stress test Scenarios

Scenario	Description
1	IR: normal +1bp, lognormal +1%, EQT & FX: +1%
2	IR: normal +5bp, lognormal +5%, EQT & FX: +5%
3	IR: normal +10bp, lognormal +10%, EQT & FX: +10%
4	IR: normal -1bp, lognormal -1%, EQT & FX: -1%
5	IR: normal -5bp, lognormal -5%, EQT & FX: -5%
6	IR: normal -10bp, lognormal -10%, EQT & FX: -10%

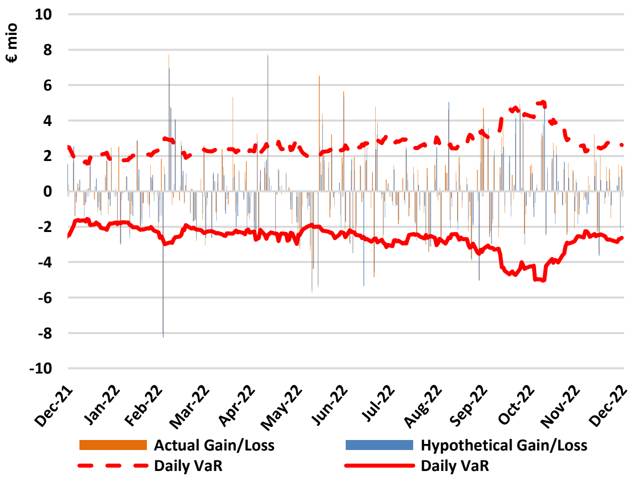
8.2 Back testing

In order to verify the predictive power of the VaR model used for the calculation of Market Risk capital requirements, the Bank conducts back-testing on a daily basis. In accordance with the guidelines set out in the Capital Requirements Regulation 575/2013, the calculations only refer to the Bank's trading portfolio and involve the comparison of the hypothetical as well as the actual daily gains/losses of the portfolio, with the respective estimates of the VaR model used for regulatory purposes. The hypothetical gains/losses is the change in the value of the portfolio between days t and t+1, assuming that the portfolio remains constant between the two days. In the same context, the actual gains/losses is the change in the value of the portfolio between days t and t+1, including all the transactions and/or any realized gains/losses that took place in day t+1, excluding fees, commissions and net interest income.

Any excess of the hypothetical/actual losses over the VaR estimate is reported to the regulatory authorities. Moreover, the Board is informed about the total number of excesses, on a monthly basis.

The Bank's trading book is primarily exposed to interest rate risk in the Eurozone, with the key risk factors being the EUR swap rates and the respective sovereign yields (mainly the German). During 2022, the widening of the swap-spread and the non-parallel movement of the EUR IRS rates and the respective sovereign yields, combined with the unweighted scheme of the VaR model, caused successive over-shootings. As of December 31st, 2022, the total number of back-testing over-shootings stood at 23, over a 1-year horizon.

Figure 7: EU MR4 – Comparison of VaR estimates with gains/losses



9 OPERATIONAL RISK

The Bank has adopted the Standardized Approach (SA) for the calculation of operational risk regulatory capital requirements, on an individual, as well as on a consolidated basis. Under the Standardized Approach, the capital requirement for operational risk is the average, over three years, of the risk-weighted relevant indicators calculated each year through the allocation of Gross Income to the eight (8) regulatory business lines. Being conservative and compliant with regulatory reporting requirements, the Bank classifies revenues accrued from activities that cannot be readily mapped into a particular business line (unallocated) to the business line yielding the highest capital risk weight (18%).

Table 51: EU OR1 – Operational Risk Own Funds requirements and risk weighted exposure amounts (€ mio) 31.12.2022

	Banking activities	Relevant indicator			Own funds requirements	Risk exposure amount
		Year-3	Year-2	Last year		
1	Banking activities subject to basic indicator approach (BIA)	-	-	-	-	-
2	Banking activities subject to standardised (TSA) / alternative standardised (ASA) approaches	1,732	1,492	2,020	254	3,178
3	*Subject to TSA:*	*1,732*	*1,492*	*2,020*	*254*	*3,178*
4	*Subject to ASA:*	-	-	-	-	-
5	Banking activities subject to advanced measurement approaches AMA	-	-	-	-	-

***Table 51: EU OR1** – Operational Risk Own Funds requirements and risk weighted exposure amounts (€ mio) 31.12.2021*

	Banking activities	Relevant indicator			Own funds requirements	Risk exposure amount
		Year-3	Year-2	Last year		
1	Banking activities subject to basic indicator approach (BIA)	-	-	-	-	-
2	Banking activities subject to standardised (TSA) / alternative standardised (ASA) approaches	1,467	1,732	1,492	226	2,826
3	*Subject to TSA:*	*1,467*	*1,732*	*1,492*	*226*	*2,826*
4	*Subject to ASA:*	-	-	-	-	-
5	Banking activities subject to advanced measurement approaches AMA	-	-	-	-	-

10 ESG RISKS

10.1 ESG Strategy and Governance

10.1.1 NBG ESG Strategy

Environmental, social and governance topics have evolved so fast and so dramatically that they have inevitably become a focal part ofbanks' strategic agendas. In this context, banks acknowledge their role in accelerating the transition to a low-carbon world by supporting capital allocation to 'green' activities, while also financing the transition of businesses and households to a more sustainable business and operating model. NBG is attuned to this imperative with a heightened sense of responsibility.

NBG has decided to follow a holistic approach to ESG, defining, to begin with, its ESG strategy in 3 strategic pillars (see table below) that are closely aligned with the Bank's purpose to create a more prosperous and sustainable future together with its customers, people, and shareholders. To this end, we articulated our Environment ('E'), Society ('S') and Governance ('G') strategy in 9 themes. These themes stem from and reflect our recently revamped value system, align with selected UN's Sustainable Development Goals ("SDGs"), and complement the Bank's overall business strategy and transformation as well as our vision to become the undisputed Bank of First Choice in Greece. It is worth noting that our environment-related themes encapsulate our climate change and decarbonization strategy, which is being enhanced and detailed on an annual basis.

In line with our three Climate and Environmental Strategic Themes for leading sustainable energy financing, accelerating sustainable transition, and role-modelling environmentally responsible practices, the Bank undertook in 2022 important initiatives.

NBG has proceeded with the measurement of 2020 and 2021 financed emissions, has estimated -based on the 2021 inventory-GHG emissions of 2022 as required by the STE excercise, and is well on track in terms of creating the 2022 inventory with bottom-up GHG measurements. Relevant information on GHG emissions can be found in section Environmental Footprint of the Annual Financial Report 2022 and section 3.Environment of the ESG Report 2021. This provides for a good 'point-in-time' understanding of the potential impact of transition risk on our lending portfolios, at the granularity of BU (Retail, SB, Corporate), asset class (per PCAF), and sector (NACE). Moreover, NBG continues to deepen its understanding of the business environment and its short-, medium- and long-term outlook from a sustainability perspective, through on-going economic research (e.g., on the energy sector in Greece or the progress of absorption of the Recovery and Resilience Facility (RRF) funds by Greek SMEs for green transition and other purposes). In addition, as part of 2023 Transformation Program scope, NBG has initiated actions in order to set short-, medium- and long-term targets for Scope 1/2/3 GHG emissions, under the Net Zero (NZ) framework, and to integrate the GHG emissions measurement methodology internally, for standard use in target-setting and monitoring. Following the NZ target-setting and subject to ESG Management Committee decision, the Bank aims to proceed with a public Net Zero commitment declaration (Net Zero Banking Alliance or similar scheme). In parallel, a set of analytical and IT activities are introduced to ensure compliance with regulatory quantitative requirements, including the ones contained herein on exposures prone to both physical and transition risk. Regarding physical risk,

Table 52: Climate and Environmental Strategic Themes

ESG pillars	ESG strategic themes	Our Values	SDGs
Environment	1. Lead the market in **sustainable energy financing.** 2. Accelerate transition to a **sustainable economy.** 3. Role-model **environmentally responsible practices**.	**Responsive** **Growth catalyst**	7 Affordable and clean energy 9 Industry, innovation and infrastructure 11 Sustainable cities and communities 12 Responsible consumption and production 13 Climate action
Society	4. Champion **diversity** & **inclusion**. 5. Enable **public health** & **well-being**. 6. Promote **Greek heritage, culture** & **creativity.** 7. Foster **entrepreneurship** & **innovation**. 8. Support **prosperity through learning** & **digital literacy**.	**Human**	3 Good health and well-being 4 Quality education 5 Gender equality 8 Decent work and economic growth 9 Industry, innovation and infrastructure 10 Reduced inequalities
Governance	9. Adhere to the highest **governance standards**.	**Trustworthy**	16 Peace, justice and strong institutions

various chronic and acute risk factors at country level are being considered (Table 68), and for transition risk, energy-related information of collaterals is taken into account (Table 66).

From a forward-looking aspect, NBG has planned to develop C&E Scenario Analysis and Stress Testing methodologies and processes, building on its projected portfolios' decarbonization paths that will be drawn as part of its Net-Zero target setting initiative (described above). Such capabilities will complement and will align with the process of strategic planning, and shall be reflected at the appropriate granularity in the business input into the Bank's Business Plan.

While the EU Taxonomy related regulation, implementation guidelines and criteria keep evolving, NBG keeps abreast of such developments, while fulfilling its regulatory requirements (for the time being, the disclosure of the Eligibility Coverage Ratio and the methodology supporting its calculation). With Eligibility being the first 'point of call', setting the basis for Alignment (and, ultimately, a substantial and increasing Green Asset Ratio), the Bank, following its 'E' thematic strategies (and in particular themes 1 & 2 on leading RES financing and on accelerating transition financing) is:

A. Playing a leading role in RES financing in Greece and in the region – having issued the 1st Senior Green Bond in the market and recently completed its full allocation to eligible RES projects across the country
B. Providing green mortgages (Green Estia product) as a 'staple' in its Retail-household offering
C. Financing ECO Lending for Small Businesses (installation of P/V panels, mainly)
D. Offering green consumer loans (Green Loan product) to finance the purchase of new technology cars, as well as ECO home improvement loans (via the 'Exoikonomw – Aytonomw' Program). The above actions are considered in the Green Portfolio perimeter of the Bank and they are depicted in Table 69.

Regarding future investment (financing) targets, these will be specified in close alignment with the Bank's NZ target setting initiative (as described above).

The 'S' part of ESG has long been a key component of NBG's strategy and its role in the country's socio-economic development. NBG disclosed extensive information regarding the Bank's social strategy and social contribution in the recently published ESG Report 2021 (incl. relevant metrics and targets as appropriate – Section '4.Society' p.96-145).

10.1.2 ESG Governance, roles and responsibilities

Sustainability oversight at Board level

As per NBG's Corporate Governance Code, the Board is responsible for setting strategy, overseeing management and adequately controlling the Bank, with the ultimate aim of enhancing the long-term value of NBG and upholding the general corporate interest in accordance with the Law. The Board should focus on sustainability and consider among others climate-related and environmental risks when developing the overall business strategy, objectives and risk management framework and exercise effective oversight of climate-related and environmental risks. Within this context, the Board should ensure that material environmental and social considerations are integrated into the Bank's strategy, business model and risk management system and addressed in its public disclosures.

It is also noted that the Board of Directors Suitability Assessment Policy and Procedure stipulates particular provisions on the need for the Board of Directors to collectively possess an appropriate understanding of those areas for which the Members are collectively accountable, and the skills to effectively manage and oversee the Bank, including, among others, ESG aspects.

The Board of Directors, with the presence of the CEO and the Bank's competent executives, has held among others in 2021 a deep-dive discussion on ESG Strategy. In addition, there has been a dedicated Board Training session which took place in 2021 on ESG related topics, namely a half day program hosted by the International Corporate Governance Network, with all Directors attending and a certificate was provided by the Organization as per their completion of the training.

Further, within 2022 the Board has held deep-dive sessions, including presentations by external consultants, covering ESG and Sustainability issues, and has reviewed a number of relevant issues, assisted by the competent Board Committee per case, including for example concerning the Bank's ESG Strategy, the 2022 ECB Climate Risk Stress Test, accounting and reporting update by external auditors including information on ESG/climate risk/sustainable finance, while in the review of the Risk Appetite Framework (RAF) there was discussion about the inclusion of new metrics related to ESG issues in the RAF indices. Additionally, in the context of the CEO Monthly Report to the Board of Directors, Board Members frequently discuss on ESG related matters of the Bank.

Finally, there are currently 7 Committees established at Board level which may be involved in relevant matters depending on the particular topic per case, while the Bank is in the process of further updating the Board Committee Charters, elaborating more among others on responsibilities relevant to ESG. In this respect, a number of sessions of Board Committees have included updates and discussion on developments relevant to ESG, such as discussions on ESG trends and regulatory developments at the Compliance, Ethics and Culture Committee and the Strategy and Transformation Committee, discussions on Climate and Environmental Strategy at the Innovation and Sustainability Comittee, Transformation Program initiatives relevant to ESG/Sustainability and on the Recovery and Resilience Facility (focused on green transition) at the Strategy and Transformation Committee as well as discussions on ESG related KRIs at the Risk Committee.

Board Compliance, Ethics and Culture Committee

The Compliance, Ethics and Culture Committee assists NBG's Board of Directors in performing its duties among others in respect of enhancing responsible company and management behavior towards sustainable growth and long - term value creation, including considering environmental, climate change and social criteria, and corporate social responsibility, as well as in respect of overseeing the Bank's Corporate Social Responsibility policies, projects and activities.

More specifically its responsibilities include:

- Oversight of Policies the Bank adopts in compliance with regulatory framework and best practices (incl. on ESG and sustainability).
- Oversight of the management of the Bank's staff compliance and ethical conduct and assessment of the extent to which the Bank is managing its compliance risk effectively (incl. compliance risks stemming from ESG risks).

- Interaction with the Innovation & Sustainability Committee, with regard to long-term trends or significant developments esp. on ESG and sustainability.

The Committee convenes regularly, keeps minutes of its proceedings and reports regularly to the Board of Directors. During 2022, the Compliance, Ethics and Culture Committee convened eleven times and its workings included among others the monitoring of developments in the regulatory framework and trends concerning ESG and Bank's related initiatives and the review and update of Compliance, Conduct, Data/Archive and ESG Policies (e.g. Market Abuse/Personal Transactions Policy, Physical Archive Management Policy, Personal Data Management Policy, Data Governance Policy, Group Outsourcing Policy, Suitability Policy on Insurance-based Investment Products, Cost and Charges Policy, Financial Instruments & Insurance Products Governance Policy).

Board Innovation and Sustainability Committee

The established Innovation and Sustainability Committee formed at Board level (established by Board decision in February 2022) has as its purpose to act as a dedicated body to support the Board of Directors in ensuring there is continuous monitoring and tracking of important developments and long-term trends related to innovation, sustainability, Information Technology, ESG and banking, so that the Board possesses the necessary awareness of how the banking/financial sector landscape is evolving and updated knowledge of the factors that can affect the formulation of the Bank's long-term strategy, its performance/position in the market and the perception stakeholders may have about the Bank. Within this context it may provide feedback to the Compliance, Ethics and Culture and other Committees, for further consideration.

More specifically its responsibilities include:

- Continuous monitoring and tracking of important developments and long-term trends related to banking, innovation, IT, ESG and sustainability (incl. on matters pertaining to C&E risks).
- Awareness at Board level of how the banking/financial sector landscape is formed, and updated knowledge of the factors that can affect the formulation of the Bank's long-term strategy, its performance/position in the market and the perception stakeholders may have about the Bank (incl. on ESG and sustainability).
- Out-of-the-box thinking, exploring and incubating of innovative ideas and practices (incl. on ESG and sustainability).

Furthermore, given the nature of its role, the Committee receives necessary inputs including by means of consultants/advisors providing information and support as required, indicatively in terms of how international developments and ESG trends may affect or be applied at the Bank. Additionally, the Committee cooperates with Executives having competence over issues relevant to its areas of activity, and any other Executive of the Bank or Group entities, as deemed appropriate in the discharge of its responsibilities. Finally, all Board Committees may be involved in relevant discussion matters depending on the particular topic per case.

The Committee may convene with an estimated quarterly frequency and keeps minutes of its proceedings. During 2022, the Innovation and Sustainability Committee convened two times and its workings included among others the:

- Review of the Bank's Digital Strategy and ESG Strategy, with special focus in the area of sustainable energy financing, transition to a sustainable economy/financed emissions and role-modelling environmentally responsible practices.
- Discussion/review of ESG issues such as rating agencies' assessments on ESG, criteria based on which the Bank's targets are set for the businesses, communication of the Bank's ESG strategy to investors, etc.
- Formulation of proposals/arrangements for Board trainings, including in the areas of ESG, Digital, Embedded finance.

Board Risk Committee (BRC)

The BRC has competence over Risk Management issues as well as over matters relevant to Non-Performing Loans/Exposures. Amongst other main responsibilities, the BRC was responsible for the execution/delivery of the 2021 ECB Stress Test, the 2022 ECB Climate Risk Stress Test and the review of Stress scenarios & sensitivity analyses contributing to the Strategy setting and evaluation process, including Budget approval for 2022. Moreover, as noted above, the BRC is responsible for the inclusion of ESG related metrics in the Bank's Risk Appetite Framework, and the Bank's Risk Management Framework overall.

The BRC convenes regularly at least on a monthly basis, as well as extraordinarily, whenever deemed necessary by its Chair. Committee keeps minutes of its proceedings and reports regularly to the Board of Directors. During 2022, the Board Risk Committee convened eleven times and its workings included among others the:

- Review and update of ICAAP/ILAAP Annual Review and Update of ICAAP/Stress Test Frameworks, Risk Appetite Framework with additions among others in the area of ESG/Climate & Environmental Risk, New Obligors Leveraged Transactions, Concentration Risk and refinements/reclassifications aimed at enhancing oversight and monitoring processes & Risk and Capital Strategy and ongoing monitoring of compliance.
- Oversight of the Bank's Risk related ESG project (e.g. qualitative scorecard development & calibration, internal Stress testing framework, to incorporate ESG components and other updates).
- Briefings and monitoring of results of 2022 ECB Climate Stress Test.

Other Board Committees with roles and responsibilities relevant to ESG risks

- **Board Strategy & Transformation Committee:** Regular updates on initiatives of the Transformation Program (incl. on matters related to C&E risks).
- **Board Corp. Governance & Nomination Committee:** Review of Board Governance Model and Committee Charters (incl. assignment on duties on C&E risks).
- **Board HR & Remuneration Committee:** Review and oversight of executive remuneration objectives and outcomes (incl. on matters related to C&E risks).
- **Board Audit Committee:** Assessment of Bank's capacity and capability to manage risks (incl. C&E risks) through relevant Audit reviews.

ESG Management Committee

The ESG Management Committee was established in 2021 and operates via a specific Charter. Its purpose is in the context of its strategic approach and commitment to continuously promote sustainable development and responsible entrepreneurship, and aiming at effective management of ESG, sustainability and sustainable financing issues, in line with regulatory requirements and taking into account best practices included in international treaties and initiatives. The Bank established the ESG Management

Committee to contribute to the governance of multiple aspects of NBG's ESG strategy and implementation.

Its purpose encompasses:

- Fostering the Bank's strategic commitment to sustainable development and corporate responsibility.
- Managing ESG matters incl. environmental performance, health and safety, social, CSR, corporate governance and other sustainability matters.

Its responsibilities include:

- Ensuring adherence to the relevant regulatory framework for ESG and sustainability (incl. on matters relevant to the management of C&E risks).
- Considering trends and best-practices (over and above the legal framework/regulatory expectations).
- Determining the Bank's overall strategy regarding ESG and sustainability issues (incl. matters relevant to the management of C&E risks).
- Overseeing execution of the Bank's ESG strategy (incl. on matters relevant to the management of C&E risks).
- Deciding on ESG and sustainability KPIs and targets (incl. for C&E risks and greenhouse emissions).
- Monitoring and assessing performance against ESG and sustainability KPIs and targets (incl. for C&E risks and greenhouse emissions).
- Deciding on the policies, initiatives and actions that result in mitigating and/or reducing the environmental impacts and footprint of the Bank.
- Approving the Bank's disclosures concerning non-financial information and regular public disclosures regarding ESG and sustainable financing issues.
- Overseeing internal and external communications with respect to ESG and sustainability issues.

The ESG Management Committee is chaired by the Chief Executive Officer (CEO) and Members of the Committee are the following GMs:

- General Manager – Retail Banking
- General Manager – Group Compliance and Corporate Governance
- General Manager – Group Risk Management, Chief Risk Officer ("CRO")
- General Manager – Corporate and Investment Banking
- General Manager – Transformation, Business Strategy & International Activities
- General Manager – Group Chief Financial Officer ("CFO")
- General Manager – Chief Operations Officer ("COO")
- General Manager – Group Human Resources
- General Manager – Group Marketing
- General Manager – Group Real Estate.

During 2022, the ESG Management Committee convened five times.

Group Corporate Social Responsibility & Sustainability Division

A dedicated Group Corporate Social Responsibility & Sustainability Division has been established within the Bank, operating under the Group Chief Compliance and Corporate Governance Officer who reports directly to the Board's Compliance, Ethics and Culture Committee as the competent Committee for overseeing the Bank's Corporate Social Responsibility policies, community investment, environmental, climate change, social and other similar projects and activities. The Division is competent for corporate social responsibility, as well as sustainability and climate change related issues, activities and projects of the Bank and provides guidance to the first line of defense.

Among its responsibilities are included:

- Monitoring of legal and regulatory developments with respect to sustainability matters (incl. C&E risks) and advice on their implementation.
- Proposal of required measures, to ensure compliance with applicable laws, regulations & standards.
- Reporting on measures to ensure compliance with legislative framework and standards regarding ESG risks and/or mitigation of relevant compliance risks.
- Monitoring of compliance measures with increasing focus on liability, litigation and reputational risks arising from ESG (Bank-own or client) matters.
- Implementing and monitoring corporate & social responsibility (CSR) initiatives.
- Preparation of the annual non-financial reports including the non-financial statement and sustainability report.

Climate & Environmental Strategy Sector

A new, independent sector, the Climate & Environmental Strategy Sector, has been set up to strengthen NBG's Climate & Environmental Governance and the shaping and execution of the ESG Strategy within the Bank, operating under the General Manager Transformation, Strategy and International Activities. To serve its mission, the Sector bears responsibility to:

1. Actively support the Bank and Group's Management in shaping NBG's climate and environmental strategy, and enabling and monitoring its execution
2. Co-ordinate involved 1st LoD units in identifying, articulating, road-mapping, and carrying out specific initiatives pertaining to target-setting and implementation actions to achieve targets set
3. Enhance and deepen the awareness of how the organization impacts and is impacted by its socio-economic environment, and of NBG's institutional role in promoting transition to green-er and sustainable models
4. Develop, keep improving and safeguard methodologies and tools used for measuring and monitoring Climate & Environmental KPIs, relevant to the 1st LoD activity, while also measuring, alongside Risk, carbon footprint related and other KRIs.

10.1.3 NBG Governance on C&E risks: 3LoD model

The Bank has assigned the responsibility for the management of climate related and environmental risks throughout its organizational structure, cascading down through the 3 lines of defense and has simultaneously established new Committees (BoD Innovation and Sustainability Committee and ESG Management Committee) and new units (Group CSR and Sustainability Division, Climate and Environmental Strategy Sector) to further enhance management and oversight of C&E risks and ESG matters overall (as described in 10.1.2)

- The Group CRO is accountable for the supervision of C&E risks and closely collaborates with the GM Transformation, Strategy

& International and the GM Group Compliance & Corporate Governance for all major C&E topics.

- The Group Chief Credit Officer and Credit Divisions ensure incorporation of ESG assessments within lending policies & processes.
- Group Strategic Risk Management Division has been assigned the role to exercise a holistic overview on C&E risk management activities, being the central C&E reference point within Risk Management and the primary liaison between Risk Management and Business Strategy stakeholders for ESG matters, with a main focus on C&E. It aims to align C&E risk management processes involving the different Risk Divisions/experts across risk types (including the execution of C&E Stress testing). This is aligned with NBG's Enterprise Risk Management ("ERM") concept, which is also applicable for the C&E risk area.
- C&E risks are integrated in the existing risk identification, measurement and assessment processes per primary risk type, therefore each Risk Division (Credit Risk, Market & Liquidity Risk, Operational Risk, Strategic/Business Risk):
  - measures, manages and mitigates C&E risks/drivers and their impact on the existing financial & non-financial risk types;
  - incorporates C&E risks/drivers in their internal frameworks, policies, procedures and reporting framework and implements enhancements as needed.

Table 53: ESG Governance - Three Lines of Defence

1st LoD	◦ **Transformation & Strategy:** Coordination and support of involved 1st Line units in the development and execution of C&E strategy through new C&E Strategy Sector; key cross-functional efforts included in ESG workstream of NBG's Transformation Program. ◦ **Business Units (Corporate & Investment Banking, Retail Banking):** Risk-taking and management of C&E risks (incl. sustainable financing, origination strategies to reduce financed emissions). ◦ **Other 1st Line Functions (Real Estate, Finance/Procurement, IT/Operations, HR, etc.):** Support/enablement of management of C&E risks (incl. actions to reduce greenhouse emissions).
2nd LoD – Risk	◦ **Risk Functions:** Identification, assessment, measurement, monitoring and reporting of C&E risks within the Bank's risk management framework. Strategic Risk Management Division has been assigned the role to exercise a holistic overview on C&E risk content, supported in terms of coordination by the Risk Culture & Risk PMO Division.
2nd LoD – Compliance	◦ **Compliance & Corporate Governance**: Identification of legal framework/regulatory expectations with respect to C&E matters, provision of advice and appropriate guidance to Banks' units to ensure relevant compliance risks are duly managed, and updating of Management Body on measures to be taken to ensure compliance, through the CSR & Sustainability Division.
3rd LoD	◦ **Internal Audit:** Assessment of Bank's capacity and capability to manage C&E risks through relevant Audit diagnostics and reviews.

The above setup is supported in terms of coordination by the Risk Culture & Risk PMO Division.

10.1.4 ESG Internal Framework (Policies, Codes and Procedures)

NBG constantly seeks to ensure that its contribution substantially impacts the country and its people, always looking ahead to the next day of Greek society. The Bank undertakes to contribute to the creation of positive economic and social impacts for its Stakeholders and more broadly for the economies and societies where it operates, through its activities (the provision of funds, products and services), within its role as an employer, as well as with the development of specific programs for CSR actions.

NBG Group Sustainability Policy

As of 2021 the new NBG Sustainability Policy was approved by the Board of Directors and the Audit Committee, as per the provisions of the applicable legal framework, who reviewed and opined on the Sustainability Policy as part of their Report to Shareholders.

The NBG Group Sustainability Policy is publicly available on its website and is also communicated to its employees through Sustainability awareness announcements at NBG's website.

The Policy adheres to the requirements of the applicable legislative and regulatory framework, as well as international best practices included in international conventions and initiatives and aiming at sustainable development, corporate social responsibility and business ethics.

Fully aware of the significance of our role in contributing to sustainable development, the purpose of the Policy is to set the framework for the development of actions that assist in the management of economic, social, governance and environmental impacts of the Bank and the Group of Companies and mainly lead in:

1. Reducing - and, where possible, offsetting - our environmental impacts (including those related to climate change), as such arise from the financing of our customers' activities, as well as from the operation of NBG itself (including energy consumption of buildings);
2. Generating long-term value for our Stakeholders, and the economy at large and the communities where all our Group companies operate in Greece and abroad;
3. Undertaking initiatives and innovative actions in the fields of Corporate Governance, Corporate Social Responsibility and Business Ethics, in addition to ensuring compliance with the current legal and regulatory framework for these issues, thereby contributing to our vision of making NBG the Bank of First Choice;
4. Protecting the reputation and reliability of the Group and the cultivation / strengthening of our renewed value system.

ESG in Loan Origination

In response to ECB's Climate & Environmental Guide expectations and as part of executing its short-term action plan included in the Thematic Review exercise, NBG has already effectuated enhancements in its lending policies and processes, incorporating the assessment of E, S and G risks of its corporate borrowers. This ESG risk assessment, in which climate and environmental factors are a prominent component, "E" part, is performed via an ESG Obligor Assessment questionnaire at the stage of loan origination. The corporate obligor is required to submit responses (qualitative and quantitative), which are fed into respective models (tailored to size and sector), and yield a standardized ESG risk vulnerability outcome, that is co-evaluated together with transaction-specific attributes (in line with the TSC of the 2 first Environmental Goals of the EU Taxonomy, as reflected in NBG's Sustainable Lending Criteria Framework), at the stage of credit assessment.

Social risk is currently not assessed in isolation; instead, social factors are being evaluated together with climate and environmental and governance-related ones in the process (and with the tools) of the ESG Obligor Assessment, taking place at loan origination and credit assessment.

Specifically, NBG incorporates the assessment of social risk of its corporate borrowers (e.g., existence and validity of Human Rights policy, existence and validity of Health & Safety policy and/or management system (e.g., ISO, OHSAS) and/or zero-accidents rule, complaints management process & system, activities' impact on local communities, non-compliance regarding social matters). The identification and quantification of social risk is -technically- an area not as advanced as climate and environmental risk, therefore with relatively large room for different interpretations and weighing (as it is not standardized with respective 'technical screening'-type criteria or ways to depict and stratify the risk across portfolios, business lines, sectors, as is done for example via the financed emissions metric for transition risk). Hence, lacking currently a solid measurable baseline, the setting of specific targets and limits in the conventional sense, as well as of objectives adhering to such targets and monitoring thereof, is not something the Bank is pursuing explicitly at the moment.

Given that the definition and the quantification of social factors and risks impact has not yet matured, any further updates/enhancements to the business strategy, financial planning, and risk management practices with respect to social factors and related risks will be dully added and included in the upcoming disclosures.

Finally, via the 'G" part of Obligor Assessment, Governance risks are assessed (e.g. Regulatory Compliance, Transparency, Business Ethics, Remunaration, etc.)

In cases where increased ESG risk vulnerability is identified, NBG requires from its clients to submit relevant action plans and monitors those as part of the credit monitoring process. So far, we are not looping the collective outcome of these assessments back to adjust the Bank's business strategy, in a mechanic/automated way. Rather, we address it on a client by client basis, while we keep collecting such data and information to enhance our database, with the aim to evaluate it holitsically in due course. (Please also see section 10.2.4 *IIncorporation of ESG in the Credit Granting and Monitoring Process*).

Moreover, as a standard practice, NBG conducts evaluation of its service providers on ESG issues, such as human/employee rights, work health and safety, social equality /solidarity, child labor etc. These principles and expectations on the part of NBG apply to any kind of employment relationship, as well as to any third party collaborating with the Bank or a Group company, either within the context of providing on-going services or specific project work

Remuneration Policy: Alignment with ESG objectives

In line with regulatory provisions, the NBG Group Remuneration Policy is designed with particular attention to avoid incentive elements (especially in variable compensation) inducing behaviors not aligned with the Bank's aim for sustainable business results or inconsistent with its risk appetite.

Specifically, variable remuneration is supported by the annual performance management process assuring consistency and clarity of relevant performance objectives, including environmental (and climate-related), social and governance (ESG) objectives, as well as broader behavioral expectations aligned with business strategy, culture and values. More specifically, ESG related targets and KPIs had already been set in the 2021 PMS for the Top Management, while for 2022 the ESG related targets were significantly enriched.

Other ESG related policies and procedures

NBG constantly seeks to ensure that its contribution substantially impacts the country and its people, always looking ahead to the next day of Greek society. The Bank undertakes to contribute to the creation of positive economic and social impacts for its Stakeholders and more broadly for the economies and societies where it operates, through its activities (the provision of funds, products and services), within its role as an employer, as well as with the development of specific programs for CSR actions. In parallel, NBG has in place various policies and procedures to manage efficiently any possible social or governance risk .

❖ NBG Group Code of Ethics

The Code of Ethics sets out clearly the ethical principles and values, as well as the rules of conduct upheld by the Bank and Group. To this end, the Bank, is aware of its responsibility to respect human rights, meaning avoiding infringing on the human rights of others and addressing such impacts where they occur. In this context, the Bank and Group companies express their commitment to observe and promote values such as integrity, accountability, honesty, transparency, trust, equality and high ethical standards in all operations.

The Bank highly appreciates the importance of ethics and ethical behavior. Therefore, the relevant issues are escalated to Board of Directors level. Specifically, as it is described in the charter of the Board Compliance, Ethics & Culture Committee, its purpose is to assist the Board of Directors in performing its duties in respect of enhance the internal ethics culture and business integrity, by:

- ensuring that the highest standards of ethics and integrity are applied throughout all of the activities of the Bank in accordance with international best practice; and
- overseeing senior management's efforts to foster a culture of ethics and compliance within the Bank and the Group, to enhance the internal ethics culture and business integrity and to discourage unethical behavior.

❖ NBG Group Policy against Violence and Harassment at Work

The development of a working environment that respects, guarantees and promotes the right of every person to work without violence and harassment is a commitment and priority for the Group of Companies of the National Bank of Greece. In this context, the purpose of the newly adopted Policy is to establish a specialized framework for the prevention and control of all forms of violence and harassment that occurs, whether related to or arising from work, including gender-based violence and harassment, as well as sexual harassment. It is noted that the Policy is in accordance with the provisions of the International Labor Convention No. 190 for the elimination of violence and harassment in the world of work, which was ratified by Article 1 of Greek Law 4808/2021, as well as the provisions of articles 2 et seq. of Greek Law 4808/2021**.**

❖ NBG Group Internal Violence and Harassment Complaints Management Policy

To the same direction, and in order to best implement the Group's commitment to tackling and – ultimately – eliminating violence and harassment in the workplace, the Bank implements the Internal Violence Complaints Management Policy and Harassment, which provides guidance on the credible reporting of an incident or incidents of violence and harassment at work. In general, the Bank encourages all those involved in the scope of the Policy to report any form of violence and harassment that occurs during, or is associated with, the work, including violence.

❖ Health and Safety

Health and safety in the workplace remain a top priority both for the Bank and the Group companies, in order to ensure a safe working environment, enhance the quality of employees' professional life, and prevent any associated risks.

The Bank has developed a Safety Regulation which is aiming at defining the required actions/procedures and authorities and responsibilities of the officers involved for the prevention and handling of fire, emergencies, and natural disasters.

Accordingly, the necessary measures are taken both regarding the physical protection of customers during their presence in the Bank's premises, as well as the safeguarding and security of their assets.

The Bank also, in implementation of Law 3850/2010, has put into effect the Regulation for the Protection of the Health and Safety of NBG employees, while for health and safety issues the Bank has set up the Staff Health and Safety Committee of NBG Employees.

In the Committee participate elected employees' representatives, as well as a representative of the Bank with responsibility for the protection of Health and Safety of employees appointed by the Board of Directors of the Bank.

The Health and Safety Committee of NBG Employees convenes on a quarterly basis and aims to improve the working environment and the compliance with health and safety requirements.

NBG, in seeking to address health and safety issues as effectively as possible, holds seminars on related issues, such as fire safety (including legislation), crisis management etc.

❖ NBG Group Responsible Procurement / outsourcing

Supporting its longstanding commitment to responsible operations, NBG has adopted policies, regulations and processes which are given formal substance in relevant Codes of Conduct ensuring transparency and impartiality as well as avoidance of conflicts of interest in its supplier selection and implementation of technical projects. NBG uses a Suppliers Relationship Management System (SRM-SAP), which facilitates cooperation with its suppliers across most of the business sectors. Pursuant to the institutional framework, all parties involved in procurement and technical projects must be aware of and conform with the Bank's and the Group's Code of Ethics, which also applies to outsourcing and technical projects. The Bank reviews and evaluates its suppliers (in terms of quality, certifications, respect for human/employee rights, etc.) on an ongoing basis.

Regular sample qualitative and quantitative controls are carried out for every order and delivery of goods/equipment, etc. In 2022, there were no confirmed incidents where contracts with business partners were terminated or not renewed due to violations related to corruption. All prospective suppliers are under the obligation to comply with Corporate Social Responsibility requirements (documenting compliance by sending relevant supporting material), as these are stipulated in the relevant EU Directives, on issues such as:

- Environmental protection.
- Child labour.
- Work health and safety.
- Social equality/solidarity.

All NBG suppliers resulting from tender procedures comply with this obligation. Furthermore, the Bank has developed:

1. a supplier bribery risk assessment through a specially designed questionnaire, where the Bank assesses the bribery/corruption risk its Third Parties may pose to the Bank; and
2. NBG Group's Outsourcing Policy where, among others, the Bank enacts the ESG questionnaire for the service providers.

❖ NBG Customer Complaints Management Policy

To manage effectively customer complaints, the Bank has introduced a Customer Complaints Management Policy governing in detail customer complaints management and its key principles.

Also, the Client Conduct Sector which lies in the independent compliance function undertakes to respond promptly to grievances filed either directly by the Bank's customers or by other bodies. The Board of Director's Compliance, Ethics and Culture Committee oversees, among others, conduct issues with a view to ensuring fair treatment of customers (such as products/services design and suitability, sales processes, transparency of fees, satisfaction/complaints) and that the Bank is conducting business in the right way. More specifically, regarding the handling of complaints the Committee:

A. Reviews reports submitted by the Group Compliance and Corporate Governance Function on customers issues (such as customer perceptions / customer satisfaction data (survey results)/ customer complaints etc).

B. Monitors and reviews (via the Compliance Function) the procedures on the basis of which the Bank manages centrally all complaints submitted by the Bank's clients so as to ensure the resolution of the issue in a transparent, impartial and objective manner, within the stipulated timeframe, as well as relevant Ombudsman enquiries and recommendations.

Additionally, the Committee receives and reviews complaints related to Board of Directors members and Senior Executives of the Bank.

❖ Customer protection & Marketing practices

In its endeavor to remain fully compliant on an ongoing basis with its legal and regulatory requirements, the Bank implements a procedure for controlling newly-launched products and services, according to the regulation for the introduction, modification, withdrawal of the products and services of the Bank. In this context, product characteristics are checked regarding regulatory compliance while the total text and contents of contracts, as well as terms of use and forms providing pre-contractual information, that are intended for contractual agreements between the Bank and its customers are updated on the basis of new guidelines, legislation or business decisions by the Bank's legal services and the Group's Compliance function and then communicated to customers according to procedure also subject to the applicable regulatory framework.

With a view to coordinating the actions required to promote the Bank's corporate identity, the Bank has established the Strategic Communication Committee. The Committee's duties include the approval of programs regarding the promotion of the Bank's corporate image, products and services, as well as the evaluation of proposals for the best development of the Bank's website and alternative channels as a means of marketing its products and services.

Furthermore, specific control procedures are also followed before the launch of any information/promotional activity regarding the Bank's existing and/or new products and/or services, by the competent Compliance and Legal Units. The programs we provide are in accordance with the regulations and optional rules on communication and marketing, aiming at the customer's complete information on the benefits of our products and services. Thus, we ensure that our communications and promotional material is consistent with the provisions of the Hellenic Code of Advertising-Communications, the provisions on unfair competition and consumer protection and the overall existing Greek legislation. We monitor and strictly adhere to the regulations/ guidelines of the Hellenic Communications Control Council.

❖ Combating bribery and issues related to corruption

The Bank's activities entail exposure to corruption and bribery phenomena, which if not appropriately and timely managed, they may present a significant risk for the Bank, and could adversely affect its financial results, with a serious impact on the Bank and its subsidiaries' reputation, as well as on the further development of its activities, while they could cause adverse effects on the interests of its clients, shareholders and employees.

In this context, preventive control mechanisms are applied so as to safeguard against any potential risk of bribery and corruption to which the Bank may be exposed in the course of its business/operations. To that end, the Bank's anti-bribery program consists of various essential components, such as anti-bribery and anti-corruption risk assessments, policies and procedures, tone from the top, financial and non-financial controls, raising concerns, management information and periodic reporting, and records' keeping.

This approach is reflected in the Codes and Policies that the Bank has adopted, on the controls embedded within the procedures followed in the Bank's day-to-day operations and on the monitoring and audit processes applied.

The Bank has in place procedures and internal controls which serve to mitigate potential risk and ensure that the Bank is compliant with laws and regulations, which in the event of non-compliance could have a material effect on the Financial Statements. The effective operation of these procedures and internal controls are independently monitored by the various Risk and Control Functions and audited periodically by the Group Internal Audit Function, while the Audit Committee of the Bank's Board of Directors and the Board of Directors through its committees are duly and timely informed through reporting on internal controls, as well as any issues/deficiencies/findings classified as F3 or F4 by the various Risk and Control Functions.

Additionally, in accordance with particular requirements within the applicable regulatory framework (Bank of Greece Governor's Act 2577/2006) imposes in this respect, external auditors review and assess the effectiveness of the Bank's Internal Control System on a three-year basis. In June 2022 the Bank obtained the assessment performed by the external auditor for the period 2019-2021 with no significant findings.

A set of Codes and Policies which the Board of Directors has approved include several measures against the risk of bribery and corruption. Indicatively, such measures are incorporated in the NBG Group Code of Ethics, the Code of Ethics for Financial Professionals, the Anti-Fraud Policy, the Conflict of Interest Policy and the Anti-Bribery Policy. Furthermore, process level controls are in place for the timely prevention or detection of fraud risks. Such control types include clearly defined approval / authorization levels, verifications, physical controls, reconciliation controls, controls over information used in the control and controls with a review element. The nature of controls in place are a mix of automated, semi-automated or manual.

At a further level, the Whistleblowing Policy in force, provides for the existence of appropriate communication channels enabling the submission of whistle-blowers' reports, both in case these may come from within the Bank as well as in case such are being submitted by third-parties.

The Board of Directors is committed to prevent bribery and corruption and promotes the establishment of a culture against them, according to which any form of bribery and corruption is non-acceptable, while it is responsible for approving the relevant Policies, as well as overseeing its implementation and periodic assessment.

Further, mandatory learning programs on the NBG Group's applicable Code of Ethics, which, focuses, among others, on bribery, corruption issues, and Whistleblowing Policy, as well as an e-learning program dedicated to the Whistleblowing Policy, are provided to all employees of the Bank, and all personnel has access to the internal e-communication network of the Bank (intranet), through which they are able to get prompt and full information on all key matters regarding Group's developments and operations, including internal communication announcements, internal circulars, policies that the Bank has in place etc.

In this context, with the Bank laying great emphasis on ensuring that the highest standards on ethics and integrity are applied throughout all of its activities in accordance with international best practices, the Bank has established the Compliance, Ethics and Culture Committee of the Board of Directors.

Lastly, the Group Compliance and Corporate Governance Functions were certified with the international standard ISO 37001:2016 (Anti-bribery management systems) for the antibribery management systems in line with the above standard.

With a view to the Bank's full compliance with the current legal and regulatory framework, as well as international best practices and guidelines regarding the combating of corruption and bribery, and considering that these phenomena are very common in international business transactions and undermine the effective corporate governance of the companies, the Bank has in place the following arrangements, Policies and Codes:

- NBG Code of Ethics for Financial Professionals
- Group Anti-bribery and Anti-corruption Policy
- NBG Group Whistleblowing Policy
- NBG Group Anti-Fraud Policy
- Conflict of Interest Policy for Board Members, Senior Executives and other NBG Related Parties
- Conflict of Interest Policy
- Policy for Connected Borrowers of the Bank and the Group
- AML/CFT Policy, which incorporates New Customers Acceptance Policy.
- AML/CFT Policy on Cross-border correspondent banking relationships.
- NBG Group Sanctions Policy
- NBG Group Policy for Virtual Assets

❖ Personal Data Management Policy

NBG recognizes and attaches particular importance to the obligation of both the Bank and its Group companies to comply with the applicable legislative and regulatory framework, in general, on the protection of natural persons to the processing of personal data. The Bank and its Group companies collect and manage specific information, which concerns their employees, shareholders, customers with whom they maintain any kind of business relationship, persons with whom they maintain a customer relationship, and third parties in the context of any relationship other than those mentioned above. This information, which contains personal data, is managed in a lawful manner, regardless of the means of collection or storage, ensuring compliance with the current legislative and regulatory framework and the provisions for confidentiality.

In view of the above, NBG has adopted the "Personal Data Management Policy", which has been revised according to the requirements of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

The Personal Data Management Policy:

- is binding on the Bank and the Group companies as it establishes the basic principles that govern the processing of personal data;
- is binding on all members of the Board of Directors, senior executives, employees of the Bank and the Group companies, and in general all persons employed in the Group either by employment contract or otherwise (including Management Advisors, Special Associates, Staff of companies associated with the Bank or the Group companies);
- is binding on all third parties that provide services to the Group or in the name and on behalf of the Group (including partners, intermediaries, agents and any other persons who cooperate with the Group under outsourcing agreements or otherwise);
- covers all activities of the Group in Greece and abroad, including all operations carried out by any Bank Unit, by a subsidiary or an associated Company, agent, advisor or third party acting on behalf of or in collaboration with the Group;
- covers all forms of processing that are carried out in the context of servicing the operations of the Bank and the Group companies and relate to the maintenance of either physical or electronic data.

❖ Policy on Donations, Sponsorships, Charity Contributions and other Actions of the Group

The NBG Group has developed and implemented, since May 2016, Policy on Donations, Sponsorships, Charity Contributions and other Actions of the Group. This Policy aims, among others, at setting specific principles and rules concerning actions related to donations, sponsorships, charitable contributions, scholarships and other related activities in the context of this Policy, at ensuring high level of ethics on donations, complying with the applicable legal and regulatory framework regarding actions that fall into the scope of this policy (e.g. transparency) as well as adopting procedures that promote transparency in NBG Group's donations.

According to the Policy, the NBG Group shall not undertake and/or participate in actions to support political organizations, parties or movements. This Policy applies in parallel, complements and is complemented by the provisions set out in other Group Policies, such as the Conflict of Interest Policy for Senior Executives and the Anti-Bribery Policy.

Furthermore, in accordance with international best practices related to donations, sponsorships and other related actions and in compliance with the provisions of Article 6 of Greek Law 4374/2016 regarding transparency in the relationships between banks and media companies and sponsored persons, the Bank discloses information on all payments made within the relevant fiscal year, to media companies and sponsored persons.

10.1.5 Other Green Banking practices

Green Bond

In alignment with the broader sustainability strategy, NBG has established a Green Bond Framework to be able to issue Green Bonds and attract dedicated funding for this strategic part of the business. NBG Green Bond Framework is presented through the following core components, which are aligned with the Green Bond Principles by ICMA: i) Use of proceeds, ii) Process for project evaluation and selection, iii) Management of proceeds, iv) Reporting and v) External review. Currently, a Sustainable Financing Framework is being developed, which will include additional green financing categories alongside other -social in orientation- eligibility categories.

NBG placed successfully the first Green Senior preferred Bank Bond in the Greek market in October 2020. The bond matures in six years and is callable in five years, with a coupon of 2.75% and a yield of 2.875% and the total volume of the issuance was €500mn. This transaction, the first issue of a high security bond by a Greek bank since 2015, attracted the interest of a large part of the investor community, raising funds of circa €1.2 billion, with the participation of 80 institutional investors. The success of this placement is tangible confirmation of the confidence that NBG enjoys throughout the markets and the general positive prospects for the Greek economy.

Within the first year of the issuance, 70% of the total net proceeds were allocated to 42 renewable energy projects across Greece, in total. In 2022, the selection of eligible assets (remaining 30%) for the final allocation of proceeds was completed, achieving full utilization and channeling of proceeds to a total of 58 Renewable Energy Sources ("RES") projects across the country.

All the proceeds have been used to finance or refinance eligible assets, new or existing loans and/or investments in equipment, development, manufacturing, construction, operation, distribution and maintenance of Renewable Energy ("Eligible Assets") from the generation sources, namely: onshore wind energy, solar thermal energy and small hydro projects (<20 MW).

The dedicated NBG's Green Bond Framework Committee ensures the proper implementation of evaluating, validating and monitoring the eligible assets, by reviewing and approving their eligibility, and monitoring their state and impact, throughout the duration of the Green Bond. The Green Bond Framework Committee has a direct reporting line to the NBG's ESG Committee.

The following table presents an overview of how bond proceeds have been allocated to RES and the associated GHG reduction impact as of 31.12.2022.

Table 54: Green Bond

Use of proceeds category	Project	Allocated amount (in €mn)	No. of projects	Installed Renewable energy capacity	Expected or actual annual Renewable energy generation	Annual GHG emissions reduced or avoided (tCO_2)
Renewable energy	Onshore Wind	389	21	625	1,497,106	628,785
	Solar Thermal energy	85	31	189	294,870	123,845
	Small Hydro	26	6	17	49,500	20,790
	TOTAL	**500**	**58**	**830***	**1,841,476**	**773,420**

*Total installed Renewable energy capacity (MW) presents a small deviation due to rounding.

Climate-related Green Bond Ratio: 43.2%.

Eligibility to EU Taxonomy

The Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021, supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council specifies the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU, concerning environmentally sustainable economic activities, and also specifies the methodology to comply with that disclosure obligation. More specifically, it establishes the criteria for determining whether an economic activity qualifies as environmentally sustainable and incorporates an obligation that companies subject to the Non-Financial Reporting Directive ("NFRD"), including financial corporations, must disclose how operations align with the Taxonomy.

The Taxonomy Regulation is a key component of the European Commission's action plan to redirect capital flows towards a more sustainable economy. The primary aim of the Taxonomy is to help investors identify environmentally sustainable investments.

From 1 January 2024, the Group will be required to disclose information on the extent to which its investments contribute to environmental objectives, the degree of alignment with the EU Taxonomy, and the principal adverse impacts of investment decisions on sustainability factors. The Group will also be required to disclose the Green Asset Ratio ("GAR") KPI which measures the extent to which activities in Group's balance sheet can be considered environmentally sustainable, according the Taxonomy's technical standards. These disclosure requirements aim to increase transparency and enable investors and the users of the Financial Statements to make informed decisions.

Before publishing the GAR in 2024, under Article 10, para 3 financial undertakings from 1 January 2022 until 31 December 2023, shall disclose:

- the proportion in their total assets of the exposures to Taxonomy non-eligible and Taxonomy-eligible economic activities (see table below (a));
- the proportion in their total assets of the total exposures to central governments, central banks, supranational issuers and derivatives (as referred to in Article 7, paragraphs 1 and 2) (see table below (b));
- the proportion in their total assets of the total exposures to non-NFRD companies (as referred to in Article 7(3)) see table below (c));
- the qualitative information referred to in Annex XI (see table below (d)).

As per Transformation Program, Group's objectives are the ongoing alignment to UNEP FI Principles for Responsible Banking ("PRB") and EU Taxonomy.

Credit institutions shall also disclose:

- the proportion of their trading portfolio and on demand inter-bank loans in their total assets.

Per Reporting Taxonomy eligibility and Taxonomy alignment the Group, prior to January 2024, is required to report on Taxonomy eligibility only. In this context, as financial undertaking, the respective requirement for the Group as of 31 December 2022, is presented below (amounts in € million):

Table 55: Taxonomy eligibility (Article 10, para 3)

€mio	*Article 10 (para 3)*	Taxonomy eligible*	% coverage over Total Assets	Taxonomy non eligible**	% over Total Assets
(a)	**Total Assets**	**9,084**	**11.6%**	**69,028**	**88.4%**
	of which trading portfolio			*224*	*0.3%*
	of which on demand inter-bank loans			*227*	*0.3%*
(b)	**Total exposure to central governments, central banks and supranational issuers**			**25,731**	**32.9%**
	Total exposure to derivatives			**1,962**	**2.5%**
(c)	**Total exposure to non-NFRD[1] companies**			**5,945**	**7.6%**

Annex XI disclosures for qualitative information in support of the quantitative indicators including the scope of assets and activities covered by the KPIs, information on data sources and limitation

(d) The taxonomy eligibility has been assessed on the following assets and activities:

- financial assets at amortised cost;
- financial assets at fair value through other comprehensive income;
- investments in joint ventures and associates;
- financial assets designated at fair value through profit or loss and non-trading financial assets mandatorily at fair value through profit or loss;
- real estate collaterals obtained by credit institutions by taking possession in exchange for the cancellation of debts.

The following assets excluded from taxonomy eligibility assessment:

- financial assets held for trading;
- on-demand interbank loans;
- exposures to undertakings that are not obliged to publish non-financial information pursuant to Article 19a or 29a of Directive 2013/34/EU.

The European Commission has two approaches to calculate the eligibility ratio: mandatory reporting based on information that counterparties publicly disclose; and voluntary reporting, which is an estimate based on proxies when the information about eligibility of the counterparties is not available.

The Group's approach is to include the eligibility exposure for financial and non-financial undertakings under the mandatory approach, after capturing the data published by these undertakings (both based on average of capital expenditure eligibility and turnover eligibility) and provided by the internal customer segmentation (i.e. SME, Large corporate, small businesses & professionals).

The Group's eligible exposures mainly include mortgages and assets acquired through foreclosure proceedings amounted to €8.3 billion, as well as eligible loans and securities amounted to €770 million issued by Greek companies in the fields of energy, construction and manufacturing for which official information on the eligibility of the activities of our corporate clients was available when preparing this Annual Report.

Total exposure to non-NFRD companies mainly includes investment securities exposures to unlisted companies and associates, loans to SME companies and public sector corporations and exposures to non-large companies with average staff less than 500 employees.

However, a complete data collection has been a constraint when reporting taxonomy-eligible activities. The lack of robust data affects the presentation and accuracy of ratios for taxonomy-eligible activities, taxonomy non-eligible activities and non-NFRD entities.

The Complementary Delegated Act, which includes activities related to the nuclear and gas sectors, was adopted by the European Commission in 2022 and entered into force on 1 January 2023. The assessment of the eligibility of exposures for the financial year 2022 is based on disclosed eligibility KPIs for the financial year 2021, and these KPIs do not include activities under the Complementary Delegated Act. The Group is expected to have zero exposures connected to the prescribed economic activities.

Notes:

*"Taxonomy-eligible economic activity" means an economic activity that is described in the delegated acts adopted pursuant to Article 10(3), Article 11(3), Article 12(2), Article 13(2), Article 14(2), and Article 15(2), of Regulation (EU) 2020/852, irrespective of whether that economic activity meets any or all of the technical screening criteria laid down in those delegated acts;

**"Taxonomy-non-eligible economic activity" means any economic activity that is not described in the delegated acts adopted pursuant to Article 10(3), Article 11(3), Article 12(2), Article 13(2), Article 14(2) and Article 15(2), of Regulation (EU) 2020/852.

[1] For companies not obliged to publish non-financial information pursuant to Article 19a or 29a of the Non-Financial Reporting Directive ("NFRD") of Directive 2013/34/EU.

10.2 ESG Risk Management Framework

Following the regulatory updates regarding the ESG risks, the Bank acknowledges the importance and the potential financial impact of ESG risks and has proceeded with the identification, the materiality assessment of such risks and their incorporation in the overall risk management framework. More specifically, the Bank:

- Incorporated ESG risks in its Risk identification, by recognizing in its Risk Taxonomy Framework ESG as transversal, cross-cutting risks rather than stand-alone risks and considering them as drivers of existing types of financial and non-financial risks.
- Assigned the responsibility for the management of C&E risks throughout its organizational structure, cascading down through the 3 lines of defence and simultaneously established new Committees (Innovation and Sustainability Committee and ESG Management Committee) as a proof of effectiveness (please refer to sections 10.1.2 and 10.2.1).
- Implemented international and European policy frameworks, such as the 'Task Force on Climate-related Financial Disclosures' (TCFD) Recommendations. Please refer to the ESG Report 2021 for more information.
- Implemented ESG data and IT infrastructure-related enhancements (please refer to section 10.2.2)
- Incorporated ESG risks/drivers in the Risk Management Framework of the existing risk types and implemented the necessary enhancements into their area of expertise, as follows:
  - ESG related qualitative and quantitative risk metrics have been introduced to the Risk Appetite Framework of the Bank (please refer to section 10.2.3).
  - The Bank incorporated the assessment of ESG risks in its Credit Granting & Monitoring Process of the corporate portfolio. In this context, documentation, and tools (i.e., ESG process guidelines, user manuals, ESG scoring methodologies, ESG specific scorecards) have been developed and will be used by the corporate underwriters in order to assess and classify obligors and transactions in terms of ESG related risks and sustainability lending criteria (please refer to section 10.2.4).
  - The Bank aligned the Operational Risk Taxonomy and all other Operational Risk Programs with the inclusion of ESG risks based on the requirements set by the competent authorities (please refer to section 10.2.5).
  - The Bank has incorporated Climate Risk Stress Test in its Stress Test framework to assess its vulnerabilities related to climate risk components, through the selection and examination of appropriate climate risk-oriented scenarios, applicable per risk type and transversally, on the basis of risk materiality assessments and proportionality.
  - The Bank has leveraged on its existing Stress Testing processes and infrastructure and complied with the 2022 ECB Climate Risk Stress Test submission requirements (H1:2022) in terms of completeness and timeliness. The Bank has proceeded with high priority data enhancements in this context, utilizing external sources as well as proxy modelling, which form a basis for further enhancement of relevant capabilities.
  - The Bank performed an assessment and incorporation of climate related and environmental factors in the normative and economic perspectives in its ICAAP.
- Developed the methodological approach to assess the materiality of C&E risks as drivers of existing types of financial and non-financial risks (please refer to section 10.2.6) by:
  - performing a distinct mapping of C&E risk drivers to existing types of risk;
  - considering the impact of environmental risks beyond climate ones in materiality assessment; and
  - incorporating forward-looking assessment for all risk types.

10.2.1 ESG Risk Governance

Climate change and the response to it by the public sector, policy makers, investors, raters, and society in general have led to an increasing relevance of environmental, social and governance (ESG) factors for financial markets. It is, therefore, essential that financial institutions are able to monitor and assess ESG factors in order to manage successfully climate-related and environmental risks, either transition or physical.

The Bank, acknowledging the importance and potential impact of climate-related and environmental risks, and aligning with the respective regulatory guidelines:

- has incorporated them in the Risk Taxonomy, recognizing them as transversal, cross-cutting risks, rather than stand-alone risks, and considering them as drivers of existing types of financial and non-financial risks (existing Risk Themes); and
- has conducted the materiality assessment of climate-related and environmental risks in the course of the 2023 Internal Capital and Liquidity Assessment Processes ("ICAAP" and "ILAAP").

Moreover, the Bank has initiated multiple actions for the incorporation of climate-related and environmental risks in the overall Risk Management Framework, and is committed to monitoring, assessing and managing these particular risks going forward, in line with supervisory expectations .

In 2021, NBG launched a holistic Environmental, Social and Governance ("ESG") effort to ensure compliance with evolving regulatory framework, fulfilment of its commitment to the Principles for Responsible Banking ("PRB") of the United Nations Environment Program Finance Initiative ("UNEP-FI") and implementation of ESG best practices across the organization (covering business strategy, management of credit and other types of risk, development of products and services, reporting, as well as efforts to reduce NBG's direct and indirect emissions footprint). In this context, NBG continued in 2022 with further shaping its strategy and deepening the integration of ESG into its operation, starting by embedding an ESG assessment of its borrowers and financings into the loan origination process, and measuring its financed emissions carbon footprint, among other initiatives.

10.2.2 ESG data and IT infrastructure-related enhancements

The Bank acknowledges the necessity of the data and has set to short term goals the relevant actions for data enhancements and IT infrastructure adaptation to be able to deliver the transparency implied in a higher frequency of reporting both for management and regulatory purposes.

In this context:

- The Bank has in place an Operational Risk Taxonomy through the introduction of additional Level 3 and Level 4 loss event types, in order to capture environmental issues;
- The Bank has introduced and monitors through the KRI Dashboard operational risk KRIs for environmental factors;
- Important emphasis has been pledged to the ongoing data management and availability. Initial database development actions are already in place and necessary tasks for the data collection, data gaps and data remediation have already been launched and implemented to enable analyses regarding portfolio diversification going forward, income reliance and sensitivities;
- Specific data mart infrastructure has, already, been exploited, to cover information and data needed for the results of Climate NII Stress Test, as well as for internal business risk analysis and management information purposes;
- The Bank has already adopted the relevant Climate Stress Test ESG related data aggregated information within Integrated Forecasting & Stress Testing Platform to enhance the forecasting process towards an ESG-oriented output across all relevant risk areas;
- The Bank has incorporated in its Transformation Program specific initiatives to enhance ESG data and IT infrastructure (see Chapter 3)

With the above, the Bank establishes a good basis for conveying the impact of C&E risks on the Bank's business model, strategy and risk profile, enabling the Management Body to comprehend potential business vulnerabilities to such risks and steer accordingly. As the Bank's internal reporting capabilities mature and data availability allows for wider and/or more in-depth analysis, the demonstration (conveying) of such impact is expected to become more apparent and more insightful.

10.2.3 Risk Appetite Framework: ESG quantitative statements

The Bank has already in 2021 introduced into its Risk Appetite Framework ('RAF') two Key Risk indicators, namely the ESG composite index and the Digital active users, in order to be linked with regulatory requirements in relation to ESG risks. Both KRIs' breach escalation process is performed at ExCo level. Additionally, the Bank has supplemented its RAF in 2022 with four new metrics for monitoring purposes, as presented in the below table.

In addition to the above:

- an ESG-related dimension is included in the Credit Concentration Risk metrics - "Top-20 obligors credit limit" and "Top 10 standalone SPVs", positively accounting for the financing of transition plans to a green economy; and
- the Bank has no appetite for financing of activities involving environmental risks that have been prohibited by EU regulations.

The Bank is planning to enhance its RAF with the introduction of additional quantitative indicators and respective thresholds, aiming at setting its risk appetite towards financing of ESG sensitive sectors and in relation to its strategic direction and business model priorities. This will become feasible as methodological approaches mature, quantification/analytical capabilities develop, and additional climate and environmental data becomes available from the implementation of the ESG Credit Assessment and EU Taxonomy, as well as the development of the ESG related Transformation Project initiatives.

Table 56: ESG indicators in Risk Appetite dashboard

Metric Type	Indicator name	Remarks
Risk appetite limit	ESG rating	The metric addresses the perception of market regarding the ambition and pace of implementation of the ESG strategy; to this end, a composite index is used, which comprises ratings from 8 important rating agencies.
Risk appetite limit	Digital active users	The metric refers to the level of Digital active users that have used NBG's Internet Banking and/or Mobile Banking at least once in the last 12 months and aims to monitor the execution of digital transformation strategy to preserve competitive position/business model viability.
For monitoring	"Emission Intensive" population	The purpose of the metric is to identify the financed "emission intensive" Corporate population, also considering the credit quality of the underlying obligors.
For monitoring	EPC allocation of new mortgage portfolio disbursements	The purpose of the metric is to track the energy efficiency of the Real Estates collaterals of new Mortgage disbursements.
For monitoring	Core income reliance on CPRS perimeter (NFCs)	The metric refers to the Core income (i.e., Gross interest income and fee and commission income) reliance on economic sectors that are potentially highly affected by climate – transition risk (based on 'CPRS' classification), included in the perimeter of Non-Financial Corporations ('NFCs').
For monitoring	Δ Financed GHG emissions	The metric refers to the evolution of Scope 3 financed emissions for specific Asset classes/Sectors. The calculation will be performed within 2023 as the methodology for the measurement of GHG emissions is under development, including a complete internal Financed Emissions proxy measurement model for the standard use in historical calculations (part of the Transformation program for 2023).

10.2.4 Incorporation of ESG in the Credit Granting and Monitoring Process

The Bank in Q1:2022 incorporated the assessment of ESG Risks in its credit-granting and monitoring process for the corporate portfolio. In this context, documentation and tools (i.e., ESG process guidelines, user manuals, ESG scoring methodologies, ESG specific scorecards) have been developed and will be used by the corporate underwriters in order to assess and classify obligors in terms of ESG related risks. Overall, the ESG assessment consists of two pillars:

- The ESG Obligor assessment, which is performed for all Corporate clients within the ESG Sensitive Perimeter (internally defined based on industry sector sensitivity to climate-related factors, applying the Climate Policy Relevant Sectors classification), based on a recently developed set of sector-specific questionnaires (scorecards), in order to capture the material ESG topics of each obligor, as defined in relevant international standards (e.g., Sustainability Accounting Standards Board, GRI standards).
- The ESG Facility Assessment, which is based on the evaluation of the characteristics (e.g., maturity, loan's purpose alignment with the Sustainable Lending Criteria Framework) of the loan transaction that affect the ESG performance. The Sustainable Lending Criteria Framework establishes a consistent and comprehensive list of sustainable lending criteria in order to identify the Bank's corporate lending towards economic activities that contribute to the transition towards more sustainable business practices.

The above process results in a score and a grade for each component (Environmental, Social and Governance), as well as for the overall ESG assessment. The overall ESG score is then classified as Increased, Medium or Low based on the overall ESG performance of the obligor and the assessment of the Transaction and is used for both loan origination and ESG risk monitoring purposes. In cases for which the overall ESG score is increased, NBG requires from obligors to submit action plans to improve their ESG performance within the next 12 months.

Going forward, the Bank is planning to further enhance the incorporation of ESG factors in its Credit Risk Management Framework and, therefore, key activities have being included in the Transformation Program as follows:

- Scorecards to be fully tested for provision of adequate risk-based info and rolled-out to loan origination for existing clients;
- Integration of C&E risks in lending policies (incl. exclusion list, thresholds, limits);
- Risk classification to be based on qualitative/quantitative info on how C&E risks drive credit risk;
- Comprehensive risk mitigation measures for collaterals to be applied where appropriate;
- Adequate monitoring of C&E risks across portfolios;
- Incorporation of C&E risks into loan pricing framework.

10.2.5 Incorporation of ESG in Operational Risk

As stated in the corresponding section (4.5.3), the monitoring and management of operational risk is mainly performed through the following four components, for each of which the Bank has incorporated ESG factors:

- Internal Events Management: For the incorporation of ESG risks, the Bank has enhanced its Operational Risk Taxonomy, through the introduction of additional Level 3 and Level 4 risk event types, in order to capture environmental and social issues. Further to the introduction of new risk event types, the Bank has also introduced ESG themes to flag existing and prospective risk events that are classified under other risk event types, in case these are related to environmental and social factors (e.g. physical loss damage). Based on the introduced risk event types and themes, the Bank can swiftly define the perimeter of ESG-related events within its internal loss dataset.
- Risk and Control Self-Assessment (RCSA): RCSA is preformed based on the Operational Risk Taxonomy which incorporates ESG risk types.
- Scenario analysis: The Bank developed scenarios integrating environmental and social factors, in order to identify and measure the impact of extreme events (i.e. with a substantial negative impact on the Bank's profitability and/or reputation) under this perimeter. Scenarios are mapped to risk types and themes described in the Bank's Operational Risk Taxonomy.
- Key Risk Indicators (KRIs): The Bank has introduced and monitors through the KRI Dashboard of the Bank a set of KRIs for environmental and social factors.

Although historical data reflect limited losses from ESG-related events, the Bank introduced the abovementioned enhancements to better manage, monitor and mitigate ESG-related risks, effectively acknowledging that there are potentially material ESG factors that could drive operational risk in the future. This is mostly based on a conservative forward-looking view (i.e. future ESG-related losses may be greater compared to historical ones), as well as the fact that such events may have material reputational impact in the future, due to the shifting expectations of customers and the broader society around ESG matters.

10.2.6 C&E-related risk identification and materiality assessment

Overview

The Group follows a four - step approach with regards to the identification and materiality assessment of climate and environmental risks. The ownership of C&E risk identification and materiality assessment (hereinafter referred to also as "RIMA") process lies within the Group Risk Management. Due to the multidisciplinary nature of C&E risks the process involves the contribution of a variety of internal stakeholders from all three lines of defence with expertise on C&E risks. The process is conducted on an annual basis in the context of the ICAAP cycle and involves the following steps, as illustrated in the below figure:

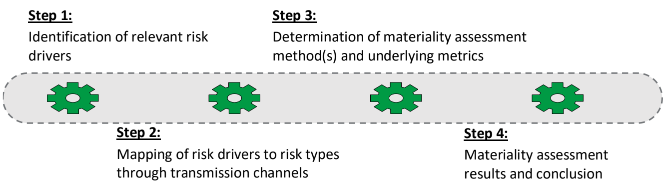


Figure 8: Methodological approach regarding the inclusion of C&E-related risks in the RIMA process

Identification of relevant risk drivers

The Group recognises that the systematic identification of the relevant risk drivers with regards to the C&E risks is a matter of vital importance for sound risk management and decision-making. The C&E risk drivers identification process relies on a variety of internal and external sources of information.

From an external perspective the Group relies on scientific literature, supervisory expectations and relevant regulatory guidance, climate scenarios developed by industry leading bodies such as the Network for Greening the Financial System ("NGFS")[2], data from global multi-regional databases such as the EXIOBASE[3], as well as, publications from internationally renowned organizations. These inputs are used to result to a well – informed understanding of relevant C&E risk drivers and assessment of ways (i.e. transmission channels) that could affect the risks the Group is exposed to.

The identification of primary C&E risk drivers takes into account their degree of relevance with a set of factors specific to Group including its business model and overall strategy, risk profile, as well as, sectoral and geographical concentrations of its portfolio. On the basis of the aforementioned sources of information and factors, the Group has identified as primary drivers of C&E risks the following non – exhaustive list.

Table 57: Non – exhaustive list of identified primary C&E risk drivers

Climate related risks		Other environmental
Transition	**Physical**	
Policy and legal	Heat & drought	Water stress & Waste Management
Technological developments	Floods	
Market sentiment		

The rationale and relevance to Group of the aforementioned identified risk drivers is documented below:

Table 58: Relevance of C&E risk drivers

Identified risk driver	Relevance to NBG
Policy and legal Technological developments Market sentiment	In accordance with the scientific literature and regulatory guidance the Bank acknowledges that transition risks are inherently **associated** with uncertain financial impacts that could result from low – carbon transition, including policy changes, new legislations, technological breakthroughs and shifts in market preferences and norms.
Heat & drought Floods	The Bank might be exposed to acute physical risks, namely heat & drought and flood risk, on the basis of its primary geographical location of its lending activities (i.e. Greece).
Water stress	The Bank is geographically concentrated to Greece. Taking into consideration historical data, as well as relative projections regarding the ratio of water withdrawals to water supply (water stress level), Greece is among the geographical locations that are expected to be extremely highly influenced (> 80%) by 2040 (based on publicly available official sources of forecasts).
Waste management	In accordance with the scientific literature, the Group acknowledges that waste usage and management constitute a key indicator of environmental risk, and its monitoring could lead to the proper identification of areas where additional waste reduction efforts are needed to protect the environment and ensure sustainable waste management practices. In terms of financial impact, waste usage intensive sectors of the corporate portfolio could be highly influenced by potential material costs that may occurred (e.g., regulatory fines for clients or increased cost from the application of eco-friendly technologies).

In addition to the above, the Bank monitors scientific developments and assesses the relevance of additional candidate risk drivers (e.g., biodiversity loss, deforestation and unconventional site clearance, inter alia) to its risk profile and strategy and might proceed to further enhancements in the above list when the maturity of candidate risk drivers reaches a certain level from a scientific perspective and reliable data will become available in order to allow for proper inclusion in the RIMA process.

Mapping of risk drivers to risk types through transmission channels

Acknowledging the importance of risks stemming from climate-related and environmental factors, as well as in alignment with the regulatory expectations regarding a robust RIMA process[4], as a second step, the Bank has developed a bottom-up process with regards to the mapping of transmission channels and identified risk drivers with Level 1 risk types.

[2] For further information please refer to NGFS.

[3] For further information please refer to Exiobase - Home.

[4] ECB, Good practices for climate-related and environmental risk management – Observations from the 2022 thematic review, November 2022.

Mapping refers to the internal process established by the Bank for the interconnection among C&E-related risk drivers, transmission channels (i.e., the pathways through which the impacts of these risks are transmitted or spread throughout various sectors of the economy and society) and risk types in order to assess both potential financial and non-financial impacts that may arise for the Group such as losses due to credit quality deterioration, loss of market share and customer trust, litigation/liability, reputational risk e.t.c.

The assessment is tailored to the Group's business model and risk profile, and it is performed in order to obtain a holistic and well-documented view of the impact of C&E-related risks on existing risk categories, as well as appropriately comprehend the impact of those on the business environment in which it operates and in strategic and business decision making.

The analysis is summarized in the tables below.

❖ Climate Transition risks

Table 59: Climate Transition risks – Risk drivers, transmission channels & potential impact

Risk Driver	Transmission channels	Affected Level 1 Risk Types	Description and Potential Impact(s)
Policy & Legal	Policy changes /Non-compliance with the C&E regulatory framework & related fines	Credit Risk	• The risk of deteriorating clients' creditworthiness as a result of late adaption or not adhering to regulations (i.e. declining profitability/losses due to higher carbon price, fines, value of the property), resulting in credit losses for the Bank.
		Strategic/ Business Risk	• The risk that the Bank might be exposed to due to non or late compliance of its clients with climate-related laws and regulations, or inability of the NBG to undertake early action resulting in financial impact i.e. decrease in profitability and core income generating capacity due to loss of market share, customer trust, increase in funding costs e.tc.
		Operational Risk	• Large exposures to client segments that are impacted by policy changes resulting in reputational risk for the Bank. • Litigation associated with clients affected by the transition process, resulting in legal risk for the Group.
		Liquidity Risk	• Revenue streams of the clients may become more fragile / volatile under transition scenarios, resulting in deterioration of the Bank's liquidity position.
Technology	Increased costs for the substitution of existing products & services or low energy efficiency properties	Credit Risk	• The risk of deteriorating clients' creditworthiness, either operating in non-green industries (e.g., increased costs or inability to transition their business by applying new technologies), or possessing low energy efficiency properties/collaterals, resulting in credit losses for the Bank.
		Strategic/ Business Risk	• The risk on which the Bank might be exposed from obligors, mainly operating in non-green industries (e.g., increased costs or inability to transition their business by applying new technologies) or possessing low energy efficiency properties/collaterals, resulting in financial impact for the Group through decrease in profitability and core income generating capacity.
Market Sentiment	Stakeholders (investors, consumers e.t.c.) seeking sustainable products and services	Credit Risk	• The risk that the clients of the Bank experience loss of business and lack of trust and therefore declining revenues and profits due to late or no transition to sustainable products and services, resulting in credit losses for the Bank.
		Strategic/ Business Risk	• The risk that the clients experience loss of business and lack of trust and thus declining revenues and profits due to late or no transition to sustainable products and services, resulting in financial impact for the bank through decrease in profitability and core income generating capacity.
		Market Risk	• Market sentiment due to policy changes and technology resulting in market value changes to the trading portfolio of the Bank.
		Liquidity Risk	• The risk that the Bank may be exposed to due to late or no transition to sustainable products and services, impacting clients' trust (increased retail/wholesale funding cost and increased deposits outflows).

❖ Climate Physical risks

Table 60: Climate Physical risks – Risk drivers, transmission channels & potential impact

Risk Driver	Transmission channels	Affected Level 1 Risk Types	Description and Potential Impact(s)
Acute events	Damage to property and assets in high-risk locations	Credit Risk	• The risk that clients' ability to repay their obligations is diminished or the value of their properties/premises is reduced due to climate events (i.e. loss of business, increased cost of repair), resulting in credit losses for the Bank.
		Operational Risk	• The risk of damage to the Bank's properties resulting in incurred expenses.
		Liquidity Risk	• Difficulties maintaining funding to support operations due to deposits outflows.
Chronic events	Increased costs to address damages or losses caused by climatic incidents	Credit Risk	• Increased costs for the clients that face structural deterioration due to the geographical location of their business operations (corporate) and value of property (retail), thus affecting their creditworthiness, resulting in credit losses for the Bank.

❖ Environmental risks

Table 61: Environmental risks – Risk drivers, transmission channels & potential impact

Risk Driver	Transmission channels	Affected Level 1 Risk Types	Description and Potential Impact(s)
Policy & Legal	Potential fines for intensive water usage and waste management	Credit Risk	• The risk of deteriorating clients' creditworthiness as a result of late adaption or not adhering to regulations (i.e. declining profitability/losses due to lower demand, specific restrictions for products, fines, value of the property being diminished), resulting in credit losses for the Bank.
		Strategic/ Business Risk	• The risk of experiencing adverse impacts as a result of late adaption or not adhering to regulations (i.e. declining profitability/losses due to lower demand, specific restrictions for products, fines, value of the property being diminished), resulting in financial impact for the bank through decrease in profitability and core income generating capacity.
	Reputational / Market perception	Strategic/ Business Risk	• The risk of reputational impact, based on a potentially adverse market sentiment of various stakeholders regarding the Bank's position compared to peers, incorporating the growing expectations and sensitivities in the value chain, as a result of a late or no adoption of ESG-related legislation or strategy implementation.

Determination of materiality Assessment methods and underlying metrics

The materiality assessment process established by the Group for C&E related risks ensures that all the aforementioned potential impacts identified through the mapping of C&E related risk drivers and transmission channels, are assessed both quantitatively and qualitatively through the use of relevant metrics. The assessment method and the associated metrics with regards to the inclusion of C&E-related risks in the RIMA process are summarized in the following figure:

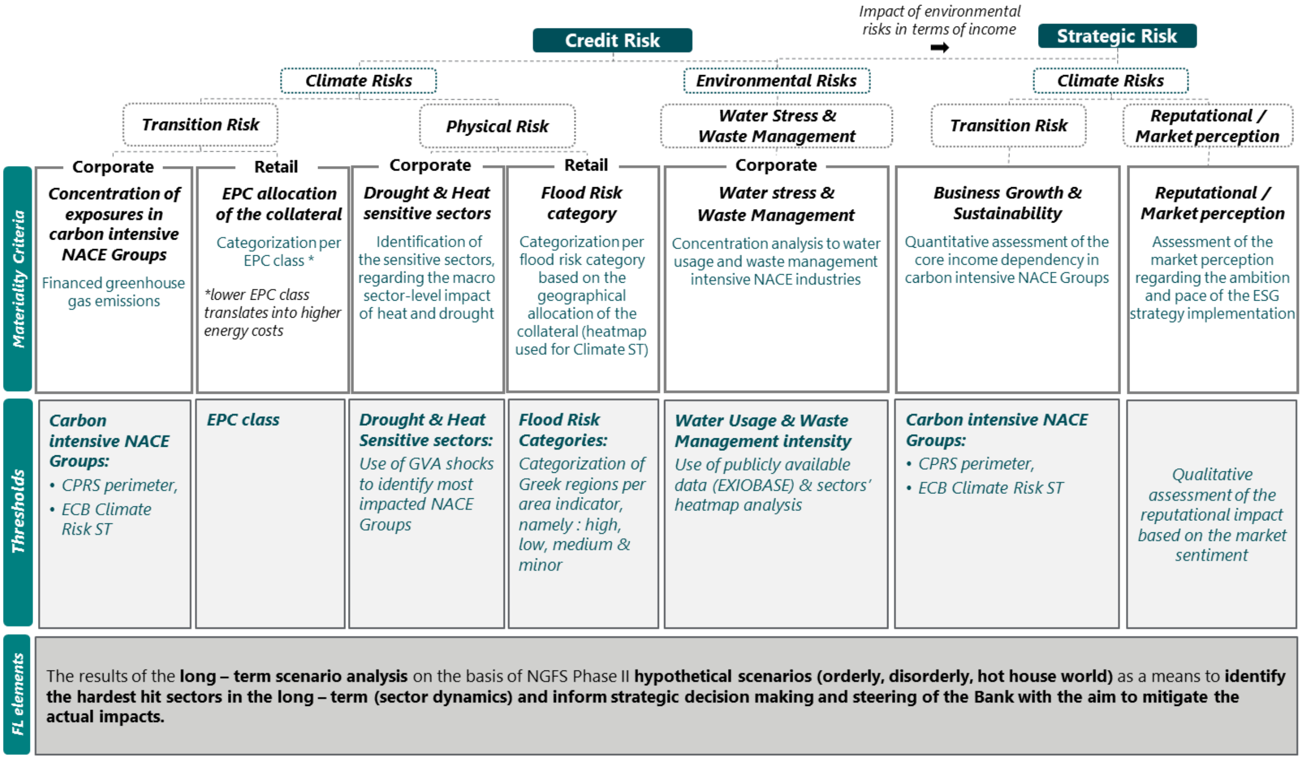


Figure 9: C&E risks materiality assessment process – Overview – Credit & Strategic / Business risks

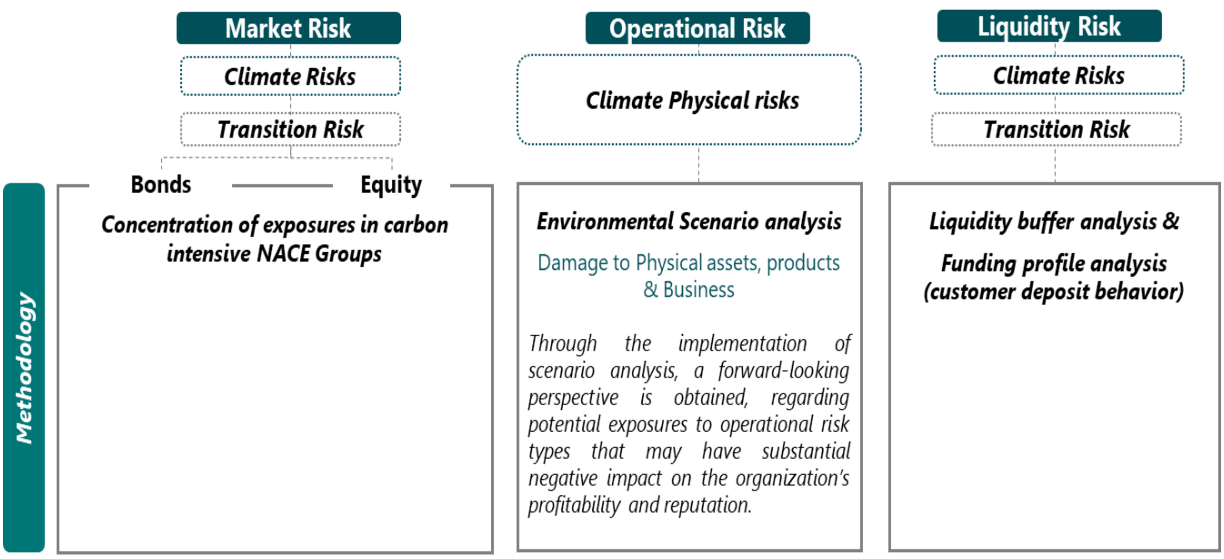


Figure 10: C&E risks materiality assessment process – Overview – Market, Operational & Liquidity risks

Materiality Assessment Results

The outcome of the C&E-related materiality assessment performed, is presented on an aggregated level alongside with the employed criteria / methodology per risk type, in the table below.

Table 62: C&E-related risks – Outcome of RIMA process

Risk Type			Criteria / Methodology	Result
Credit Risk	**Climate Risk**	**Transition** (Corporate)	Concentration of exposures in carbon intensive NACE Groups	**Material**
		Transition (Retail)	EPC allocation of the collateral	**Material**
		Physical (Corporate)	Drought & Heat sensitive sectors	**Immaterial**
		Physical (Retail)	Flood Risk category	**Material**
	Environmental Risk (Corporate)		Water stress & Waste management	**Immaterial**
Strategic/ Business Risk	**C&E Risk**	**Reputational / Market perception**	Qualitative assessment of the reputational impact	**Material**
	Climate Risk	**Transition**	Business Growth & Sustainability	**Material**
	Environmental Risk (Corporate)		Water stress & Waste Management	**Immaterial**
Market Risk	**Climate Risk**	**Transition** (Bonds & Equities)	Carbon intensive NACE Groups	**Immaterial**
Operational Risk	**C&E Risk**	**Physical**	Environmental Scenario analysis	**Immaterial**
Liquidity Risk	**Climate Risk**	**Transition**	Liquidity buffer analysis & Funding profile analysis	**Immaterial**

C&E Materiality Assessment - Forward – looking perspective

The Bank has incorporated a forward-looking perspective into its materiality assessment of Climate and Environmental risks, focusing mainly on the Corporate portfolio.

Specifically, the forward-looking elements have been incorporated for assessing transition risk on its corporate portfolio, by utilizing the results of the long – term exploratory scenario analysis, on the basis of NGFS Phase II hypothetical scenarios (orderly, disorderly), as a means to identify the hardest hit sectors in the long – term (sector dynamics). The results were extrapolated to the total Corporate portfolio, based on weighted average transition risk adjusted PD per sector.

The respective quantitative analysis indicated rather limited impacts within a short to medium – term (3-year), while the long – term horizon results are used as a means to assess sector dynamics and inform strategic decision making in order to manage transition risk in the future. The analysis revealed that the hardest hit sectors under both orderly and disorderly scenarios are “Energy”, “Construction”, “Transportation and storage”, as well as “Wholesale and retail trade”.

The Bank has, also, leverage the results of the above-mentioned NGFS scenarios, in order to estimate its core income reliance on carbon-intensive sectors up until 2050 per each NGFS hypothetical scenario. The analysis was focused on the evolution and the concentration of the core income of Non-financial corporations' portfolio, as well as of the associated exposures, in the 30-year horizon, based on sectoral growth and market rate assumptions per scenario. The analysis revealed that the Bank’s Non-financial corporations' portfolio income reliance on C&E high risk sectors is material and remains fairly stable, going forward, under both the orderly and disorderly scenarios and before any portfolio diversification effect (being the most notable mitigating action in this respect).

Regarding portfolio diversification-related initiatives, these refer to the short-, medium- and long-term target setting, and comprise an essential objective within the Bank’s Transformation Plan for 2023.

The Bank estimates that, in a short to medium term horizon (3 years), the impact from C&E risks will be limited, thus it is not necessary to hold additional capital for such risks. Noteworthy, the abovementioned will be re-assessed on a regular basis, taking into consideration any potential regulatory requirements or guidance that may arise, as well as the best practice methodologies.

It is also noted that the Bank has already implemented mitigating actions, such as:

- Enhancement of the governance and risk management framework (i.e. identification of new risk drivers, methodological approaches for estimating the financial impact etc.) around the area of C&E risks,
- Prioritized and extensive Transformation initiatives, which are closely monitored and containing ambitious targets.

10.2.7 ESG Planned actions

Going forward, the Bank is planning to further enhance the incorporation of ESG factors in its Risk Management Framework as methodological approaches mature, quantification/analytical capabilities develop, and additional climate and environmental data becomes available.

Key initiatives relevant to the further enhancement of ESG factors in the Risk Management Framework and the implementation of the ESG strategy are being included in the Transformation Program to ensure high level of focus and execution discipline in the aforementioned critical areas. ESG related Transformation Program initiatives for 2023 are presented in Chapter 3.

10.3 Quantitative Disclosures on Climate change transition and physical Risks and mitigating actions

The Bank is committed to fulfill all disclosure requirements set out by the binding standards on Pillar III disclosures published by EBA on January 24, 2022. To that end, NBG has thoroughly studied the disclosure templates and associated instructions and explored synergies with all involved Units to efficiently and effectively source required information from the relevant stakeholders and standardize it in a way that can be leveraged in upcoming IT infrastructure enhancements.

The relevant information can be found in the tables below.

Banking book- Climate Change transition risk: Credit quality of exposures by sector, emissions and residual maturity

❖ Summary, comments on content / perimeter

The template includes Group exposures towards non-financial corporates, including loans and advances, debt securities and equity instruments, classified in the accounting portfolios in the banking book, by sector of economic activities using NACE codes based on the principal activity of the counterparty. The template excludes financial assets held for trading or assets held for sale. Exposures to financial corporations, sovereigns, central banks, general and local governments and household exposures to private individuals are also excluded.

❖ Approach limitations

Data on financed emissions have not been populated in the template. This disclosure is expected to be made from 31/12/2023 onwards, in order to enhance the granularity and quality of underlying data originating from the Bank's counterparties. It should be underlined that the Bank has measured its financed emissions as of 31.12.2021 in the following PCAF asset classes: i. Listed equity and corporate bonds, ii. Business loans and unlisted equity iii. Commercial Real Estate, iv. Project finance, v. Mortgages. Relevant information on GHG emissions can be found in section Environmental Footprint of the Annual Financial Report 2022 and section 3. Environment of the ESG Report 2021. As previously explained, the main limitation is the lack of data, either from a financial or an emissions' standpoint.

❖ Methodological approach, key assumptions, applicable standards used

In order to identify exposures towards companies excluded from EU Paris-aligned Benchmarks, the Bank based its analysis primarily on the NACE code of the debtor's economic activity (since the large majority of companies that are the Bank's counterparties do not publish information with respect to their revenue mix and/or other activity based metrics) to interpret the conditions for exclusion from the Paris-aligned Benchmarks, in particular points (d) to (g) from the respective Guidance, overriding as appropriate in specific cases (e.g. including big borrowers with known principal activity meeting PAB exclusion conditions or excluding RES-related/flagged borrowers despite their generic NACE-based categorization).

NPE classification is aligned with Stage 3 classification based on the IFRS9 accounting standard and the gross carrying amount of Stage 2 instruments has also been disclosed according to IFRS9 definition.

Exposures are allocated to the relevant maturity bucket depending on the remaining maturity of the corresponding financial instrument. The computation of the average maturity of the exposures has been performed by weighing individual exposure maturities with the gross carrying amount of the exposures.

❖ Evolution, plans for enhanced disclosure, timelines

The Bank disclosed its estimated financed emissions for specific sectors of obligors' activity as of end 2020 and 2021 in its ESG Report 2021 and works towards setting science-based emission targets for specific sectors in the forthcoming months. Moreover, the Bank is already in the process of increasing its financed emissions obligor perimeter, in alignment with the relevant Pillar 3 definitions and requirements. The target is to measure the financed emissions stemming from the totality of the corporate portfolio by the end of 2023 and also to include financed emissions for the "motor vehicle loans" and "sovereign debt" asset classes. Last but not least, the Bank aims to improve the data quality score by collecting more activity data from its obligors, where applicable.

Table 63: **1.CC** - Banking book- Climate Change transition risk: Credit quality of exposures by sector, emissions and residual maturity 31.12.2022

		a	b	d	e	f	g	h
		Gross carrying amount				**Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions**		
			Of which exposures towards companies excluded from EU Paris-aligned Benchmarks in accordance with points (d) to (g) of Article 12.1 and in accordance with Article 12.2 of Climate Benchmark Standards Regulation	Of which stage 2 exposures	Of which non-performing exposures		Of which stage 2 exposures	Of which non-performing exposures
1	**Exposures towards sectors that highly contribute to climate change***	**18,103**	**1,890**	**1,609**	**1,040**	**(894)**	**(145)**	**(631)**
2	**A - Agriculture, forestry and fishing**	**385**		**70**	**45**	**(45)**	**(9)**	**(31)**
3	**B - Mining and quarrying**	**24**		**5**	**4**	**(3)**		**(2)**
4	*B.05 - Mining of coal and lignite*	*0*						
5	*B.06 - Extraction of crude petroleum and natural gas*	*0*						
6	*B.07 - Mining of metal ores*	*7*						
7	*B.08 - Other mining and quarrying*	*17*		*5*	*4*	*(2)*		*(2)*
8	*B.09 - Mining support service activities*	*0*						
9	**C - Manufacturing**	**4,495**	**851**	**490**	**373**	**(330)**	**(34)**	**(262)**
10	*C.10 - Manufacture of food products*	*1,212*		*194*	*84*	*(81)*	*(11)*	*(56)*
11	*C.11 - Manufacture of beverages*	*115*		*19*	*16*	*(13)*	*(5)*	*(9)*
12	*C.12 - Manufacture of tobacco products*	*73*			*7*	*(7)*		*(6)*
13	*C.13 - Manufacture of textiles*	*109*		*13*	*31*	*(23)*	*(1)*	*(22)*
14	*C.14 - Manufacture of wearing apparel*	*86*		*28*	*34*	*(22)*	*(5)*	*(18)*
15	*C.15 - Manufacture of leather and related products*	*16*		*1*	*6*	*(5)*		*(4)*
16	*C.16 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials*	*20*		*4*	*7*	*(6)*		*(5)*
17	*C.17 - Manufacture of pulp, paper and paperboard*	*130*		*35*	*5*	*(4)*	*(1)*	*(3)*
18	*C.18 - Printing and service activities related to printing*	*53*		*10*	*8*	*(5)*		*(4)*
19	*C.19 - Manufacture of coke oven products*	*851*	*851*	*14*		*(7)*		
20	*C.20 - Production of chemicals*	*192*		*9*	*13*	*(7)*		*(5)*
21	*C.21 - Manufacture of pharmaceutical preparations*	*183*		*2*	*9*	*(8)*		*(7)*
22	*C.22 - Manufacture of rubber products*	*146*		*24*	*10*	*(9)*	*(1)*	*(8)*
23	*C.23 - Manufacture of other non-metallic mineral products*	*201*		*44*	*10*	*(7)*	*(1)*	*(5)*
24	*C.24 - Manufacture of basic metals*	*533*		*7*	*83*	*(80)*	*(3)*	*(73)*
25	*C.25 - Manufacture of fabricated metal products, except machinery and equipment*	*161*		*27*	*24*	*(20)*	*(3)*	*(17)*
26	*C.26 - Manufacture of computer, electronic and optical products*	*32*		*12*		*(1)*	*(1)*	
27	*C.27 - Manufacture of electrical equipment*	*234*		*9*	*4*	*(4)*	*(1)*	*(2)*
28	*C.28 - Manufacture of machinery and equipment n.e.c.*	*43*		*10*	*13*	*(10)*		*(10)*
29	*C.29 - Manufacture of motor vehicles, trailers and semi-trailers*	*10*		*1*				
30	*C.30 - Manufacture of other transport equipment*	*12*		*0*				
31	*C.31 - Manufacture of furniture*	*34*		*12*	*6*	*(5)*	*(1)*	*(4)*
32	*C.32 - Other manufacturing*	*31*		*13*	*5*	*(3)*		*(4)*
33	*C.33 - Repair and installation of machinery and equipment*	*20*		*3*		*(1)*		

** In accordance with the Commission delegated regulation EU) 2020/1818 supplementing regulation (EU) 2016/1011 as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks -Climate Benchmark Standards Regulation - Recital 6: Sectors listed in Sections A to H and Section L of Annex I to Regulation (EC) No*

Table 63: **1.CC** - Banking book- Climate Change transition risk: Credit quality of exposures by sector, emissions and residual maturity 31.12.2022 (continued)

		a	b	d	e	f	g	h
		Gross carrying amount				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		
			Of which exposures towards companies excluded from EU Paris-aligned Benchmarks in accordance with points (d) to (g) of Article 12.1 and in accordance with Article 12.2 of Climate Benchmark Standards Regulation	Of which stage 2 exposures	Of which non-performing exposures		Of which stage 2 exposures	Of which non-performing exposures
34	**D - Electricity, gas, steam and air conditioning supply**	**2,096**	**591**	**59**	**8**	**(28)**	**(5)**	**(5)**
35	*D35.1 - Electric power generation, transmission and distribution*	*1,989*	*488*	*50*	*7*	*(27)*	*(4)*	*(5)*
36	*D35.11 - Production of electricity*	*1,425*	*228*	*39*	*7*	*(22)*	*(4)*	*(5)*
37	*D35.2 - Manufacture of gas; distribution of gaseous fuels through mains*	*104*	*104*	*9*	*1*	*(1)*	*(1)*	
38	*D35.3 - Steam and air conditioning supply*	*3*						
39	**E - Water supply; sewerage, waste management and remediation activities**	**51**		**2**	**1**	**(1)**		**(1)**
40	**F - Construction**	**450**		**84**	**30**	**(30)**	**(9)**	**(20)**
41	*F.41 - Construction of buildings*	*237*		*49*	*19*	*(19)*	*(5)*	*(14)*
42	*F.42 - Civil engineering*	*155*		*13*	*4*	*(6)*	*(1)*	*(1)*
43	*F.43 - Specialised construction activities*	*58*		*22*	*8*	*(8)*	*(2)*	*(6)*
44	**G - Wholesale and retail trade; repair of motor vehicles and motorcycles**	**3,510**	**188**	**483**	**304**	**(234)**	**(36)**	**(175)**
45	**H - Transportation and storage**	**4,048**	**259**	**109**	**49**	**(43)**	**(7)**	**(19)**
46	*H.49 - Land transport and transport via pipelines*	*333*	*259*	*26*	*8*	*(9)*	*(3)*	*(4)*
47	*H.50 - Water transport*	*2,567*		*52*	*35*	*(16)*	*(1)*	*(11)*
48	*H.51 - Air transport*	*21*		*2*		*(2)*	*(1)*	
49	*H.52 - Warehousing and support activities for transportation*	*1,122*		*28*	*6*	*(16)*	*(2)*	*(3)*
50	*H.53 - Postal and courier activities*	*5*						
51	**I - Accommodation and food service activities**	**1,729**		**266**	**165**	**(133)**	**(41)**	**(78)**
52	**L - Real estate activities**	**1,314**		**43**	**60**	**(48)**	**(3)**	**(39)**
53	**Exposures towards sectors other than those that highly contribute to climate change***	**1,494**		**173**	**121**	**(96)**	**(12)**	**(74)**
54	**K - Financial and insurance activities**	**59**						
55	**Exposures to other sectors (NACE codes J, M - U)**	**1,435**		**173**	**120**	**(96)**	**(12)**	**(74)**
56	**TOTAL**	**19,597**	**1,890**	**1,783**	**1,161**	**(990)**	**(157)**	**(706)**

** In accordance with the Commission delegated regulation EU) 2020/1818 supplementing regulation (EU) 2016/1011 as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks -Climate Benchmark Standards Regulation - Recital 6: Sectors listed in Sections A to H and Section L of Annex I to Regulation (EC) No 1893/2006*

Considering that within sectors that highly contribute to climate change there are RES related exposures, the above balances are recalculated excluding those exposures leading to the following gross carrying amounts and respective percentages

Table 64: **1.CC** - Banking book- Climate Change transition risk: Credit quality of exposures by sector excluding RES 31.12.2022

Category	Gross Carrying Amount	Renewables Gross Carrying Amount	Gross Carrying Amount Without Renewables
High Contribution	**18.103,0**	**1.165,8**	**16.937,2**
Low Contribution	**1.494,0**	**15,6**	**1.478,4**
Total	**19.597,0**	**1.181,4**	**18.415,6**

Table 65: : **1.CC** - Banking book- Climate Change transition risk: Credit quality of exposures by sector excluding RES (%) 31.12.2022

	Percentage
High Contribution	**92,4%**
Low Contribution	**7,6%**
High Contribution Excluding Renewables	**86,4%**
Low Contribution Including Renewables from High Contribution	**13,6%**

Tablec 63: **1.CC** - Banking book- Climate Change transition risk: Credit quality of exposures by sector, emissions and residual maturity 31.12.2022 (continued)

		l	m	n	o	p
		Residual Maturity				
		<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity
1	**Exposures towards sectors that highly contribute to climate change***	**10,905**	**4,393**	**2,488**	**317**	**6**
2	**A - Agriculture, forestry and fishing**	**250**	**112**	**23**	**1**	**4**
3	**B - Mining and quarrying**	**14**	**9**	**1**	**0**	**4**
4	*B.05 - Mining of coal and lignite*	*0*	*0*	*0*	*0*	*0*
5	*B.06 - Extraction of crude petroleum and natural gas*	*0*	*0*	*0*	*0*	*0*
6	*B.07 - Mining of metal ores*	*2*	*5*	*0*	*0*	*6*
7	*B.08 - Other mining and quarrying*	*12*	*4*	*1*	*0*	*3*
8	*B.09 - Mining support service activities*	*0*	*0*	*0*	*0*	*0*
9	**C - Manufacturing**	**3,355**	**1,029**	**96**	**14**	**3**
10	*C.10 - Manufacture of food products*	*1,020*	*172*	*17*	*2*	*3*
11	*C.11 - Manufacture of beverages*	*78*	*36*	*1*	*1*	*4*
12	*C.12 - Manufacture of tobacco products*	*72*	*0*	*0*	*0*	*1*
13	*C.13 - Manufacture of textiles*	*78*	*4*	*27*	*0*	*6*
14	*C.14 - Manufacture of wearing apparel*	*74*	*6*	*5*	*0*	*2*
15	*C.15 - Manufacture of leather and related products*	*15*	*1*	*0*	*0*	*1*
16	*C.16 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials*	*16*	*2*	*1*	*0*	*3*
17	*C.17 - Manufacture of pulp, paper and paperboard*	*98*	*31*	*1*	*0*	*2*
18	*C.18 - Printing and service activities related to printing*	*41*	*11*	*1*	*0*	*3*
19	*C.19 - Manufacture of coke oven products*	*636*	*215*	*0*	*0*	*3*
20	*C.20 - Production of chemicals*	*150*	*42*	*0*	*0*	*3*
21	*C.21 - Manufacture of pharmaceutical preparations*	*123*	*50*	*10*	*0*	*4*
22	*C.22 - Manufacture of rubber products*	*115*	*26*	*5*	*1*	*3*
23	*C.23 - Manufacture of other non-metallic mineral products*	*152*	*43*	*6*	*0*	*3*
24	*C.24 - Manufacture of basic metals*	*304*	*229*	*0*	*0*	*4*
25	*C.25 - Manufacture of fabricated metal products, except machinery and equipment*	*123*	*19*	*12*	*7*	*3*
26	*C.26 - Manufacture of computer, electronic and optical products*	*11*	*19*	*0*	*0*	*5*
27	*C.27 - Manufacture of electrical equipment*	*119*	*109*	*5*	*0*	*4*
28	*C.28 - Manufacture of machinery and equipment n.e.c.*	*40*	*2*	*1*	*0*	*2*
29	*C.29 - Manufacture of motor vehicles, trailers and semi-trailers*	*10*	*0*	*0*	*0*	*2*
30	*C.30 - Manufacture of other transport equipment*	*12*	*0*	*0*	*0*	*2*
31	*C.31 - Manufacture of furniture*	*22*	*9*	*2*	*1*	*4*
32	*C.32 - Other manufacturing*	*28*	*2*	*1*	*0*	*2*
33	*C.33 - Repair and installation of machinery and equipment*	*18*	*1*	*1*	*0*	*3*
34	**D - Electricity, gas, steam and air conditioning supply**	**998**	**550**	**544**	**4**	**7**
35	*D35.1 - Electric power generation, transmission and distribution*	*933*	*512*	*541*	*4*	*7*
36	*D35.11 - Production of electricity*	*456*	*476*	*492*	*0*	*8*
37	*D35.2 - Manufacture of gas; distribution of gaseous fuels through mains*	*63*	*37*	*3*	*0*	*6*
38	*D35.3 - Steam and air conditioning supply*	*2*	*1*	*0*	*0*	*3*
39	**E - Water supply; sewerage, waste management and remediation activities**	**32**	**17**	**3**	**0**	**5**
40	**F - Construction**	**320**	**112**	**16**	**2**	**4**
41	*F.41 - Construction of buildings*	*156*	*69*	*12*	*1*	*4*
42	*F.42 - Civil engineering*	*128*	*26*	*1*	*0*	*3*
43	*F.43 - Specialised construction activities*	*36*	*18*	*4*	*1*	*5*
44	**G - Wholesale and retail trade; repair of motor vehicles and motorcycles**	**2,885**	**492**	**116**	**17**	**3**
45	**H - Transportation and storage**	**2,106**	**904**	**771**	**266**	**8**
46	*H.49 - Land transport and transport via pipelines*	*59*	*226*	*47*	*1*	*9*
47	*H.50 - Water transport*	*1,935*	*632*	*0*	*0*	*4*
48	*H.51 - Air transport*	*20*	*0*	*0*	*0*	*3*
49	*H.52 - Warehousing and support activities for transportation*	*87*	*47*	*724*	*265*	*15*
50	*H.53 - Postal and courier activities*	*5*	*0*	*0*	*0*	*1*
51	**I - Accommodation and food service activities**	**538**	**756**	**430**	**5**	**7**
52	**L - Real estate activities**	**407**	**411**	**488**	**8**	**9**
53	**Exposures towards sectors other than those that highly contribute to climate change***	**1,329**	**113**	**36**	**17**	***4***
54	**K - Financial and insurance activities**	**24**	**28**	**0**	**7**	**8**
55	**Exposures to other sectors (NACE codes J, M - U)**	**1,305**	**85**	**36**	**9**	**4**
56	**TOTAL**	**12,234**	**4,506**	**2,524**	**334**	**5**

** In accordance with the Commission delegated regulation EU) 2020/1818 supplementing regulation (EU) 2016/1011 as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks -Climate Benchmark Standards Regulation - Recital 6: Sectors listed in Sections A to H and Section L of Annex I to Regulation (EC) No 1893/2006*

Banking book- Climate change transition risk: Loans collateralised by immovable property - Energy efficiency of the collateral 31.12.2022

❖ Summary, comments on content / perimeter

This template shows the gross carrying amount of loans collateralised with commercial and residential immovable property and of repossessed real estate collaterals, including information on the level of energy efficiency of the collaterals measured in terms of kWh/m² energy consumption, in terms of the label of the Energy Efficiency Certicficates (EPCs) of the collateral as defined in the EU Energy Performance of Buildings Directive. Only collaterals eligible to receive such an EPC label have been included. Other collateral types for which such information is not applicable (e.g. plot of land) have been excluded.

Gross carrying amount of exposures, which has been calculated on the basis of the value covered by RRE and CRE collaterals, while other collaterals and uncollateralized parts of exposure have been excluded, is disclosed by energy efficiency buckets based on the specific energy consumption of the collateral in kWh/m², as indicated in the EPC label of the collateral or estimated by institutions in the absence of the EPC label. Gross carrying amount is also grouped by the EPC label of the collateral for those collaterals where the EPC is available to the Bank. Column 'Without EPC label of collateral' shows exposures for which the Bank does not have the EPC information of the collateral.

❖ Approach limitations

EPCs are mandatory for all property transactions performed in the EU, according to the requirements set out in the Energy Performance of Buildings Directive (2010/31/EU) and the Energy Efficiency Directive (2012/27/EU). The number of actual EPCs available to the Bank is limited due to financial institutions not having access to the centralized registry in the country that collects EPCs and the fact that EPCs were not required for older transactions, prior to the enforcement of relevant EU Directives.

Based on the above, the model limitations or considerations for model improvements have been identified as follows: i) The model was developed on externally provided data ii) Common data fields between the Bank's dataset and the data provided by the external provider were scarce. Hence a multitude of potential model drivers and segmentation variables were not available iii) The availability of internally provided data and greater variety of available data fields could significantly ameliorate model performance. iv) the energy efficiency estimation did not derive from model development but rather was based on publicly available information from the Ministry of Environment and Energy.

❖ Methodological approach, key assumptions, applicable standards used

Regarding the EPC label estimation, a selection process was performed to identify the candidate segmentation variables and drivers of the model. The analysis indicated the logarithm of the collateral value divided by the collateral square meters and year of construction as the models' drivers. Feasibility analysis was conducted by examining the appropriateness of the feature "Geographical location", that was used as segmentation variable in the model development. The key outcome was the location of each collateral grouped in seven regional clusters (Northern-East suburbs, Central-West suburbs, Central-South suburbs, Center of Athens, Rest of Attiki, prefecture of Thessaloniki, Rest of Greece). Data imputation was also performed to remediate the missing values and outliers and enable the allocation of EPC class to the affected entries. A property type mapping was applied to categorize buildings with commercial use as residential where appropriate and assess their eligibility to receive an EPC label.

The methodological approach that was followed, was based on externally provided data and required the fit of a K-Nearest Neighbor (KNN) model having as features the available information in the bank's internal database for relevant real estate properties. A separate model was developed for each of seven regional clusters, following a similar development methodology. Additional features from the ones used in the final model, contained within the dataset of the external provider, which however were not available in the bank's internal database. Following the development of the model a set of post-model business rules were applied to the model outcome related to the construction year and predicted EPC class. The rules applied were in line with business intuition driven by the legislative requirements regarding construction permits.

The developed model estimated an accuracy of plus or minus 1 EPC label of 75.7% in the training sample, 74.2% for the test sample, which is considered as an acceptable level of model performance. The performance of the model was in line with the expectations set by YPEKA's distribution of EPC classes per year of construction, considering for the differences in representation of the Bank's sample distribution.

Regarding the energy efficiency estimation (in kWh/m²), only the eligible, based on their type, properties were taken into consideration. The energy efficiency property type mapping was aligned with the EPC estimation property type mapping for consistency. These properties according to their postcode, were mapped to Climate Zones (A, B, C, D) as presented within Art. 6 – Climate Zones | Ministry of Environment and Energy (opengov.gr), and were assigned an Energy Efficiency in kWh/m², based on information that the Ministry of Environment and Energy has published in June.

❖ Evolution, plans for enhanced disclosure, timelines

The Bank plans to implement policy changes to ensure EPC information is collected from its clients, aiming to increase the coverage of its real-estate collaterals with reported certificates, including:

1. The redesign of evaluations forms with new, ESG relevant fields, and
2. the augmentation of NBG valuation reports with a brand new, dedicated fact sheet regarding environmental & social data & relative risk factors for buildings & sites, incorporated in the Bank's proprietary valuation software.

The completion of the IT implementation & deployment is scheduled within 2023.

Moreover, the Bank has launched a research & development effort to introduce GIS technologies to its processes, to meet the requirements on ESG criteria and the growing demand for big data processing in the immediate future so as to facilitate and provide in depth assessments and information on various risks, concerning the Bank's collaterals.

Table 66: 2.**CC** - Banking book- Climate change transition risk: Loans collateralised by immovable property - Energy efficiency of the collateral 31.12.2022

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
		Total gross carrying amount amount															
			Level of energy efficiency (EP score in kWh/m² of collateral)						**Level of energy efficiency (EPC label of collateral)**							**Without EPC label of collateral**	
			0; <=100	>100; <=200	>200; <=300	>300; <=400	>400; <=500	>500	A	B	C	D	E	F	G		Of which level of energy efficiency (EP score in kWh/m² of collateral) estimated
1	**Total EU area**	**8,789**	**17**	**69**	**5,605**	**1,706**	**859**	**313**	**1**	**22**	**84**	**220**	**64**	**48**	**44**	**8,306**	**97.4%**
2	Of which Loans collateralised by commercial immovable property	1,670	17	50	1,277	125	105	15	0	17	50	160	27	17	0	1,400	94.2%
3	Of which Loans collateralised by residential immovable property	6,768	0	0	4,223	1,536	720	290	0	0	0	0	0	0	0	6,768	100%
4	Of which Collateral obtained by taking possession: residential and commercial immovable properties	350	0	19	104	46	34	8	1	5	34	61	37	30	44	139	0%
5	Of which Level of energy efficiency (EP score in kWh/m² of collateral) estimated	8,272	0	0	5,404	1,696	859	313	0	0	0	0	0	0	0	8,086	100%

Banking book- Climate change transition risk: Climate change transition risk: Exposures to top 20 carbon-intensive firms

The Bank does not have any exposures towards counterparties that are among the top-20 most carbon intensive corporates worldwide.

Table 67: 4.**CC** - Banking book- Climate change transition risk: Climate change transition risk: Exposures to top 20 carbon-intensive firms 31.12.2022

	a	b	c	d	e
	Gross carrying amount (aggregate)	Gross carrying amount towards the counterparties compared to total gross carrying amount (aggregate)*	Of which environmentally sustainable (CCM)	Weighted average maturity	Number of top 20 polluting firms included
1	-	-	-	-	-

**For counterparties among the top 20 carbon emitting companies in the world as per Climate Accountability Institute (https://www.thecorporategovernanceinstitute.com/insights/news-analysis/the-20-most-polluting-companies-in-the-world-esg/)*

Banking book- Climate change physical risk: Exposures subject to physical risk

❖ **Summary, comments on content / perimeter**

The template presents information on exposures in the banking book (including loans and advances, debt securities and equity instruments not held-for-trading and not held-for-sale), towards non-financial corporates, on loans collateralized with immovable property and on repossessed real estate collaterals, exposed to chronic and acute climate-related hazards, with a breakdown by sector of economic activity (NACE classification), for those sectors subject to climate change acute and chronic events. Exposures (or the portion thereof) collateralized by other collateral types have been excluded.

All exposures are included in the first column (Gross carrying amount) whereas exposures sensitive to impact from climate change physical events are shown in following columns according to relevant breakdowns presented (e.g. maturity bucket, sensitive to chronic / acute climate risk, Stage 2, etc.). For rows 'Loans Collateralized by Residential Real Estate / Commercial Real Estate' the gross carrying amount has been calculated on the basis of the value covered by RRE and CRE collaterals, while other collaterals and uncollateralized parts of exposure have been excluded.

❖ **Approach limitations**

The materiality assessment for physical risk has been carried out by the Bank for exposures in Greece, covering 83% of total loan Group exposures.

❖ **Methodological approach, key assumptions, applicable standards used**

Apart from the materiality assessment of transition risk, the Bank is currently performing the materiality assessment for physical risks in the loan portfolio. The Bank has laid down a methodology based on sensitivity and exposure analysis (when separately assessed) to derive vulnerability to physical risk factors. The vulnerability assessment aims to identify potential significant hazards and related risk and forms the basis for the decision to continue the risk assessment, while it is aligned with the Invest EU methodology ("Technical guidance on the climate proofing of infrastructure in the period 2021-2027") and with the "ECB: Good practices for climate related and environmental risk management: Observations from the 2022 thematic review"). The analysis is applied to the corporate portfolio per NACE sector (22 NACE codes) at a country level (Greece), while for exposures covered by real estate (RE) properties - collateral the analysis is applied at a regional level for each of the 4 climatic zones in Greece.

The analysis is broken down into three steps, comprising of a sensitivity analysis, an assessment of the exposure, and then a combination of the two for the vulnerability assessment. Therefore, it assigns a 3-level sensitivity score from low to high to each sector taking into consideration the sensitivity of the specific economic activities (e.g. power generation) to a physical risks (e.g. drought). The aim of the sensitivity analysis (3-level score) is to identify which climate risks are relevant to the specific type of asset, irrespective of its location. Sources used to assess sensitivity analysis include EU, national reports, and scientific literature publicly available. The aim of the exposure analysis (3-level score) is to identify which climate physical risks (eight acute and eight chronic) are relevant to the location irrespective of the asset's sector or type, and it is useful to understand how the exposure of different areas will change as a result of changing climate conditions.

For the assessment of exposure to future conditions, climate projections for the hot-house scenario of IPCC AR5 RCP 8.5 with a horizon of 2050 are taken into consideration. Climate projections have been used, from 7 selected state-of-the-art pairs of global (GCMs) / regional climate models (RCMs) developed under the EURO-CORDEX program with a horizontal spatial resolution of about 11x11 km.

Analysis indicated that NACE sector A scores a high level of vulnerability both at chronic and acute risks, while both sectors B and D, score a high level of vulnerability at acute risks. Additionally, sector E, scores a high level at acute and both at chronic and acute risks.

Further analysis shows that the climate vulnerability score for the sub-sector D35.11 Production of electricity is Medium both for chronic, acute and chronic and acute risks.

In parallel, the Bank has developed a methodological approach to estimate the vulnerability of real estate (RE) properties (linked to mortgages/collaterals) to all physical climate risks and to selected risks which are more relevant to buildings type of asset (i. sea level rise, soil & coastal erosion; ii. soil & coastal erosion; iii. wildfire; iv. cyclone/ hurricane/ typhoon/ storm/ tornado; v. floods), taking into consideration their max value per climate zone (four climatic zones). Analysis has been carried out at a regional level, in order to capture at a higher resolution, the impact of climate change. Analysis indicated that the climate vulnerability of RE properties located at Climate Zone D has been estimated as Low, at Climate Zones B and C estimated as Medium, while at Climate Zone A as High for Acute risks.

From those three classifications, exposures to geographical areas with High climate vulnerability, are included in the set of 'exposures sensitive to impact from climate change physical events' under the respective categories of 'chronic', 'acute', 'chronic and acute'.

❖ **Evolution, plans for enhanced disclosure, timelines**

The Bank will continue to assess the vulnerability of its exposures to physical risk factors and will enhance its methodology to increase the granularity and perimeter of relevant inputs along with the level of accuracy of corresponding results.

Table 68: 5.**CC** - Banking book- Climate change physical risk: Exposures subject to physical risk 31.12.2022

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	n
		Gross carrying amount													
			of which exposures sensitive to impact from climate change physical events												
			Breakdown by maturity bucket					of which exposures sensitive to impact from chronic climate change events	of which exposures sensitive to impact from acute climate change events	of which exposures sensitive to impact from both from chronic and acute climate change events	Of which Stage 2 exposures	Of which non-performing exposures	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		
			<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity							of which Stage 2 exposures	Of which non-performing exposures
1	A - Agriculture, forestry and fishing	385	226	110	23	1	4			359	66	45	(44)	(9)	(30)
2	B - Mining and quarrying	24	8	5	1		4		14		1	2	(2)		(2)
3	C - Manufacturing	4,495													
4	D - Electricity, gas, steam and air conditioning supply	2,096	516	72	52	4	4		644		12		(7)	(1)	
5	E - Water supply; sewerage, waste management and remediation activities	51	24	13	3	0	5			41	2	1	(1)		
6	F - Construction	450													
7	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	3,510													
8	H - Transportation and storage	4,048													
9	L - Real estate activities	1,314													
10	Loans collateralised by residential immovable property	7,307	79	103	329	588	21		1,099		392	62	(38)	(17)	(20)
11	Loans collateralised by commercial immovable property	2,587	168	157	194	14	8		534		113	51	(37)	(9)	(23)
12	Repossessed colaltерals	376							63				(10)		
13	Other relevant sectors (breakdown below where relevant)														

Other climate change mitigating actions that are not covered in the EU Taxonomy

Due to the relevant additional guidelines by EBA, the Bank presents in the following table the asset side of the balance sheet including exposures that can potentially be assessed as EU Taxonomy aligned and will eventually be reported on GAR/BTAR templates. More specifically, the table below, despite its original title and purpose (to work alongside Templates 7, 8 and 9, and capture *other* exposures, *over and above* the GAR and BTAR-related ones) shows currently, in the lack of GAR and BTAR indicators, all 'green' exposures of the Bank considered as 'green' (by applying own internal standards), as an *interim* indicator of climate change mitigating actions.

Table 69: 10.**CC** - Other climate change mitigating actions that are not covered in the EU Taxonomy 31.12.2022

	a	b	c	d	e	f
	Type of financial instrument	Type of counterparty	Gross carrying amount	Type of risk mitigated (Climate change transition risk)	Type of risk mitigated (Climate change physical risk)	Qualitative information on the nature of the mitigating actions
1	Bonds (e.g. green, sustainable, sustainability-linked under standards other than the EU standards)	Financial corporations	58	Yes	No	This category pertains to a Green Bond issued by a European financial institution. Based on the Green Bond framework established by the issuer and the corresponding Impact Report, the funds raised from the bond are allocated to initiatives that promote a sustainable, low-carbon economy.
2		Non-financial corporations	44	Yes	No	This category encompasses Green and Sustainability-linked bonds that have been released by Greek corporations. Regarding the Green Bonds, our evaluation entailed a thorough analysis of the use of proceeds as outlined in the respective frameworks, as well as an examination of the corresponding Impact Reports. Based on this analysis, we have concluded that the financing derived from these bonds is being directed towards activities aimed at mitigating the effects of climate change. As for the Sustainability-linked bonds, our assessment has centered on the issuers' stated targets and concluded that these targets are related to clients' decarbonization paths.
3		Of which Loans collateralised by commercial immovable property				
4		Households				
5		Of which Loans collateralised by residential immovable property				
6		Of which building renovation loans				
7		Other counterparties	5	Yes	No	This category includes Green and Sustainable Bonds that have been issued by either the European Union or its member states.
8	Loans (e.g. green, sustainable, sustainability-linked under standards other than the EU standards)	Financial corporations	321	Yes	No	This category maingly consists of loan exposures to Corporate or SME customers that NBG S.A has classified as sustainable based on the assessment criteria determined in our internal Sustainable Lending Criteria Framework or loan balances of obligors that are operating in Renewable Engergy Sources-related industry. There are also included balances to Small Business customers for the installation of solar panels and the construction of photovoltaic power stations.
9		Non-financial corporations	1,664	Yes	No	This category maingly consists of loan exposures to Corporate or SME customers that NBG S.A has classified as sustainable based on the assessment criteria determined in our internal Sustainable Lending Criteria Framework or loan balances of obligors that are operating in Renewable Engergy Sources-related industry. There are also included balances to Small Business customers for the installation of solar panels and the construction of photovoltaic power stations.
10		Of which Loans collateralised by commercial immovable property	118	Yes	No	This category maingly consists of loan exposures to Corporate or SME customers that NBG S.A has classified as sustainable based on the assessment criteria determined in our internal Sustainable Lending Criteria Framework or loan balances of obligors that are operating in Renewable Engergy Sources-related industry. There are also included balances to Small Business customers for the installation of solar panels and the construction of photovoltaic power stations.
11		Households	78	Yes	No	The balance refers mainly to loan exposures to individual customers that NBG S.A has classified as green based on specific characteristics of lending products with a loan purpose of climate change mitigation such as loans - for energy improvements in homes - for the purchase, repair or construction of energy upgraded homes - for the purchase of new hybrid and electric vehicles
12		Of which Loans collateralised by residential immovable property	62	Yes	No	The balance mainly refers to loan exposures related to energy improvements in homes and purchase, repair or construction of energy upgraded homes.
13		Of which building renovation loans	47	Yes	No	The balance mainly refers to loan exposures related to energy improvements in homes and purchase, repair or construction of energy upgraded homes.
14		Other counterparties				

11 EQUITY EXPOSURES NOT INCLUDED IN THE TRADING BOOK

Investments in shares of stock not included in the Trading and Fair Value through Profit and Loss (FVTPL) portfolio are included in the Fair Value through Other Comprehensive Income (FVTOCI) portfolio. These investments are held with the intention of achieving capital gains. The FVTOCI investments in shares are initially recognised and subsequently measured at fair value. Initial measurement includes transaction costs. The fair value of FVTOCI investments in shares that are quoted in active markets is determined on the basis of the quoted prices. For those not quoted in an active market, fair value is determined, where possible, using valuation techniques and taking into consideration the particular facts and circumstances of the shares' issuers. The carrying amount of FVTOCI equity instruments listed on a Stock Exchange Market equals their market value. The carrying amount as of 31.12.2022 is presented below:

Table 70: FVTOCI Equity instruments 31.12.2022

	€ mio
Listed	51
Not Listed	50
Total	**101**

***Table 70: FVTOCI** Equity instruments 31.12.2021*

	€ mio
Listed	60
Not Listed	26
Total	**86**

The total amount of realised loss from the disposal of FVTOCI equity instruments for the year 2022 was €11mio. The net amount of unrealised loss of FVTOCI equity instruments as at 31 December 2022 was €11mio after tax.

The amount of unrealised loss of FVTOCI equity instruments, recognised in reserves as at 31 December 2022 is included in Common Equity Tier 1 capital (CET1).

12 SECURITIZATION

Overview

This section provides details of traditional and synthetic securitization exposures in the banking and trading book based on the Basel III securitization framework.

The Bank treats securitization transactions per the provisions of Chapter 5, Title II, Part Three of Regulation (EU) No 575/2013 of the European Parliament and the Council, of 26 June 2013, on prudential requirements for credit institutions and investment firms as amended by regulation 2401/2017, complementary regulations 2402/201 and 557/2021 regarding STS securitizations, as well as 558/2021 specifying adjustments to the securitisation framework to support the economic recovery in response to the COVID-19 crisis (hereinafter, the CRR).

An explanation of various basic concepts is given below, to make clear the content of this chapter:

- Securitization is a transaction or scheme whereby the credit risk associated with an asset or pool of assets is divided into tranches, having all the following characteristics:
    - Payments in the transaction or scheme are dependent upon the performance of the securitized asset or pool of assets.
    - The subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme.
    - Primary recourse for securitization lies with the underlying securitized financial assets.
- Tranche: a contractually established segment of the credit risk associated with an exposure or exposures, where each position in the segment entails a risk of credit loss greater than or less than a position of the same amount in each of the other segments in line with the order of payment priority outlined in the securitization, without taking into account credit protection provided by third parties directly to the holders of positions in the segment in question or other segments. To this end, every securitization position either forms part of a tranche or constitutes a tranche in itself. Therefore, different types of tranches may be distinguished and are typically the following:
    - First loss tranche (or equity tranche): this is the most subordinated tranche in a securitization. It is the first tranche to bear losses incurred on the securitized exposures and, consequently, it protects the second loss tranche and, where relevant, higher ranking tranches.
    - Intermediate risk tranche (or mezzanine tranche): this tranche has a lower ranking than the highest-ranking position in the securitization and ranks lower than any securitization position within the said agreement.
    - High priority tranche (or senior tranche): any tranche that is not a first loss tranche or an intermediate risk tranche. The ‘highest priority tranche’ is the tranche of the highest priority among the securitisation payments.
- Traditional securitization: securitization involving the economic transfer of the exposures being securitized to a ‘securitization special purpose entity’ (SSPE) that issues securities. This can be accomplished by the transfer of ownership of the securitized exposures from the originator. Securities issued by SSPEs do not represent any legally binding payment obligations for the originator institution.
- Synthetic securitization: means a securitization where the transfer of the credit risk of an asset portfolio risk is achieved by the use of credit derivatives or guarantees (mainly Credit Default Swaps (CDS) or Financial Guarantees). In these transactions, protection sellers acquire a position equivalent to that of a direct investor in the tranche that they are securing.
- Originator institution: An entity which, by itself or through related entities, directly or indirectly, was involved in the original agreement which created the obligations or potential obligations of the obligor or potential obligor, giving rise to the securitization of the exposure.
- Investor institution: any institution or subject, different from the originator, that holds a securitization position.
- Arranger: entity responsible for designing the structure of securitization and determining credit enhancements and the different tranches of securities that will be issued. The arranger may also participate in their placing on the market.

Objectives in relation to securitizations

As originator, the Bank may securitize financial assets (e.g. mortgage or corporate loans) in a traditional or a synthetic transaction, depending on the objectives of it. The objectives pursued through a transaction can vary from funding to the reduction of the credit risk and capital requirements or more sophisticated asset management.

Securitization offers a series of advantages in terms of liquidity and risk management, facilitating the efficient management of the balance sheet, as a tool that allows:

- Generation of liquidity: the transformation of relatively illiquid assets into marketable securities, which can allow liquidity to be gained in wholesale markets either through their sale or use as collateral.
- Diversification of sources of funding: the diversification of the sources that the Group uses to finance its activities, arising from its objective of obtaining liquidity.
- Capital management: securitizations in which there is an effective transfer of risks contribute to optimizing capital management and contribute to the generation of value.
- Asset disposals: securitizations in which large-scale asset disposals are achieved.

The Bank may securitize financial assets in a traditional or a synthetic transaction, depending on the objectives of each transaction.

The Bank considers all aspects of such transaction and makes a comprehensive judgment on the structure and its appropriateness, assessing the effects on the liquidity position, the reduction of credit risk, the cost of capital, the improvement of return on risk as well as any operational effects. Where the Bank intends to securitize assets it has originated, it ensures the terms and conditions applicable to the proposed securitization and any support facilities or dealings are arm’s length and market-based and compliant with prudential regulations. Where the Bank has sold assets to an SSPE but retains a servicer role in managing those assets, the Bank ensures those securitized assets are effectively ring-fenced from the Bank’s own assets per the applicable legislation.

The authorization and approval of the various governing bodies are required to realize or execute transactions.

Risk inherent to securitizations

The risks associated with securitization activities are mainly assumed by the originator institution and/or investor institutions. Specifically, these risks are the following:

- Credit risk: the risk of borrowers being unable to honour their contractual obligations in due time and form (e.g. the non-payment of mortgage loan instalments), which leads to the impairment of the asset which is backing the issued securities. This is the main risk transferred to investors through the securities issued or the use of credit derivatives and financial guarantees.
- Prepayment risk: risk arising from the early amortization, either in full or in part, of assets that back the securitization. As a result, the actual maturity of the securities issued may be shorter than the contractual maturity of the underlying assets.
- Basis risk: the risk that arises when interest rates or the maturity schedule of securitized assets do not coincide with those of issued bonds. This risk may be covered by the originator institution using interest rate swaps.
- Commingling risk: this is the risk that affects all investors and which exists in transactions wherein the payment of interest on the underlying portfolio is not immediately transferred from the originator to the accounts of the SSPE.
- Liquidity risk: the risk that the issued securities will not be traded in the market with a frequency or volume that will enable the investor to sell positions at any given time.
- Operational risk: securitizations are subject to operational risks, associated with the inadequacy of applied processes. In any securitization, the greatest operational risk relates to the operations required to claim and settle payments of cash flows related to the structure.

Role and involvement of the Bank

The main functions carried out by the Bank are:

- Originator: the Bank has completed various securitization programmes in which, the Bank has assigned pools of residential mortgage loans, loans to small and medium-sized enterprises (SMEs), loans to corporates, financial lease rights and personal consumer loans, to be converted into asset-backed securities.
- Servicer of securitized portfolios: the Bank also acts as the servicer of securitized assets, managing the collection of principal and interest payments as well as providing cash management services.
- Provider of financing: the Bank may act as a provider of financing associated with subordinated loans for the creation of reserve funds and for loans to fund the initial expenses incurred by SSPEs.
- Counterparty: additionally, the Bank may act as a counterparty in swaps to mitigate basis risk.

The Bank has taken on the role of the originator as well as an investor for transactions targeting the generation of liquidity.

The Bank has not carried out any synthetic securitizations or re-securitizations.

As an originator and for the purposes of CRR Article 409, in compliance with that outlined in Article 405, the Bank maintains a commitment to consistently retain in a securitization of which it is an originator, a significant net economic interest of at least 5%, which it has done by retaining at least 5% of the bonds or at least 5% of the portfolio of similar assets.

Article 248 of the CRR sets forth that originator institutions, which in respect of a securitization have made use of Article 245(1) and (2) in the calculation of risk-weighted exposure amounts, shall not, with a view to reducing potential or actual losses to investors, provide support to the securitization beyond their contractual obligations. The implicit support to which this article of the CRR refers is a concept linked to the transfer of risk and refers to a situation in which originator institutions may be providing support to a securitization beyond that contractually agreed, as a result of an actual or expected impairment in the credit quality of the portfolio used to reduce the actual or potential losses to investors.

Accounting policies for securitization

The accounting of securitized transactions is conditional upon the extent and way in which the risks and rewards associated with the assets transferred are passed on to third parties, as outlined in applicable regulations.

Financial assets are derecognised from the balance sheet when their inherent risks and rewards have been substantially transferred to third parties, and no subordinated loans or any other type of credit enhancements of a significant amount are retained.

Securitizations that do not trigger derecognition from the balance sheet are accounted for in the following manner:

- If the transfer does not result in derecognition because NBG has retained substantially all the risks and rewards of ownership of the transferred assets, IFRS 9 requires NBG to continue to recognize the transferred assets in its entirety and recognise a financial liability for any consideration received. In subsequent periods, NBG recognises any income on the transferred assets and any expense incurred on the financial liability.
- The securitized assets are kept on the balance sheet in the same accounting portfolio before and after the transfer and, as such, no changes are applied to the valuation after securitization.

Once the derecognition criteria described above are met the difference between the consideration received (including any new assets obtained) and the carrying amount of the assets transferred represents the gain or loss from the transaction and is recognised in the income statement.

To analyse the possible consolidation of SSPEs to which the Bank transfers assets, the deciding factor is determining who controls the entity. The following are taken into account:

The first step is the performance of a detailed assessment on whether the Bank controls the Issuer, which will acquire the reference portfolio, and hence needs to consolidate it in accordance with IFRS 10.

Design of the Transaction

In assessing the purpose and design of the Issuer, the involvement and decisions made by the Bank at the Issuer's inception as part of its design should be taken into consideration and it should be evaluated whether the transaction terms and features of the involvement provide the Bank with rights that are sufficient to give it power over the Issuer. ***Being involved in the design of the Issuer alone is not sufficient to give an investor control. However, involvement in the design may indicate that the Bank had the opportunity to obtain rights that are sufficient to give it power over the Issuer*** (IFRS 10. B51).

According to IFRS 10.6, an investor controls an investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. *Under IFRS 10.7, control over the investee exists if and only if the investor* **has all the following**:

- Power over the investee;
- Exposure, or rights, to variable returns from its involvement with the investee; and
- The ability to use its power over the investee to affect the amount of the investor's returns.

An investor shall consider **all facts and circumstances** when assessing whether it controls an investee (IFRS 10.8).

An analysis is then performed considering (a), (b) and (c) above.

Calculating risk-weighted exposures in securitization activities

The approaches used to calculate risk weighted exposure amounts in securitization activities differ in terms of the fulfilment or non-fulfilment of conditions required to assume that a significant amount of risk has been transferred, as outlined in Articles 244 and 245 of the CRR.

For securitizations in which the risk has been significantly transferred, the Bank uses either the standardized approach (SEC-SA) to calculate risk weights in accordance with CRR Article 267 or the external ratings-based approach (SEC-ERBA) to calculate risk weights according to the credit quality rating and the maturity as per CRR Article 263. The SEC-ERBA approach can only be applied for exposures with publicly available raiting, which in the case of the Frontier transaction is not available.

According to CRR Article 247, and given that Frontier transaction is a traditional securitization and SRT requirements are fulfilled, the Bank can exclude the underlying exposures from its calculation of risk-weighted exposure amounts, and calculate the risk-weighted exposure amounts for the positions it holds in the securitization. The risk-weighted exposure amount of a securitization position is calculated by multiplying the exposure value of the position by the relevant total risk weight, which is determined as the sum of the the risk weight set out in CRR Article 261 and any proportionate additional risk weight imposed by competent authorities due to negligence or omission by the institution in accordance with Article CRR 270a.

Where no risk has been transferred, capital requirements are calculated for the original securitized exposures, in line with the portfolio and the approach used, determined at the outset based on their characteristics.

Project "Frontier"

On 17 December 2021, NBG completed the Frontier transaction, which involved the securitization of a portfolio of NPEs with a total gross book value of c. €6 billion as of 30 June 2020, following fulfillment of all conditions' precedent, including receipt of all necessary approvals. The portfolio consisted of secured Large Corporate, Small and Medium Enterprises ("SMEs"), Small Business Lending ("SBL"), Resindetial Mortgages and Consumer Loans. NBG retained 100.0% of the Senior Notes, which are guaranteed from the State under the Hellenic Asset Protection Scheme ("HAPS" – see below), selling 95.0% of the Mezzanine and Junior Notes to the consortium consisting of affiliates of Bain Capital Credit ("Bain Capital"), Fortress Investment Group and doValue Greece.

The Bank has also serviced the portfolio on behalf of the noteholders for the period between 17 December 2021 and 4 February 2022, when the migration of the portfolio to the long-term servicer (doValue Greece) took place.

Project "Frontier II"

In the context of deleveraging its NPEs through inorganic actions and according to its NPE Divestment Policy, NBG decided the disposal of a portfolio of Greek NPEs in the form of a rated securitization under the project name "Frontier II", which aims to utilize the provisions of HAPS. The Frontier II perimeter stands at c.€1 billion, in terms of gross book value as of December 2021. The portfolio consists of predominantly secured Residential Mortgage loans, Large Corporate, Small and Medium Enterprises ("SMEs"), Small Business Lending ("SBL") and Consumer loans.

NBG has entered into a definitive agreement with funds managed by Bracebridge Capital (the "Investor") for the sale of 95% of the Mezzanine and Junior notes in July 2022. The Bank will retain 100% of the Senior notes and 5% of the mezzanine and junior notes. The Bank has also applied for the provision of the State Guarantee (under the asset protection scheme Hercules II) for the Senior notes, back in June 2022. The guarantee will be activated along with the completion of the transaction, when doValue Greece (the "Servicer") will have already assumed full responsibility for the portfolio servicing. The transaction is estimated to be completed within the 3rd quarter of 2023.

Project "Solar"

In addition to project "Frontier II" and according to its NPE Divestment Policy, NBG along with the rest three systemic banks (i.e. Alpha Bank, Eurobank and Piraeus Bank) initiated a joint transaction for the disposal of a portfolio of Greek NPEs in the form of a rated securitization under the project name "Solar", which aims to utilize the provisions of HAPS. The Solar portfolio consists of predominantly secured Small and Medium Enterprises ("SMEs") loans with a gross book value of c. €1.2 billion as of September 2021, of which c. €170 million correspond to NBG's share. The sale process kicked-off in September 2022 and binding offers were received in December 2022. The transaction is estimated to be completed (signing and closing) within the 3th quarter of 2023.

Hellenic Republic Asset Protection Scheme

In December 2019, the Greek parliament voted for the creation of an Asset Protection Scheme ("APS") (Greek Law 4649/2019) also known as the "Hercules Scheme". The Hercules Scheme will support banks on deleveraging NPEs through securitisation, with the aim of obtaining greater market stability. The participation in the Hercules Scheme is voluntary and open to all Greek banks and it does not constitute state aid as guarantees are priced on market terms.

Under the Hercules Scheme, the Hellenic Republic will provide guarantees up to €12.0 billion on the senior bonds of securitizations of NPEs. The Hercules Scheme will become effective only when the originator has sold at least 50% plus one of junior tranches (and mezzanine if any) and the notes are of such amount that allows the derecognition and the Significant Risk Transfer ("SRT") of the securitized receivables.

Moreover, in July 2021, following the approval from the Directorate General for the Competition of the European Commission (the "DG Competition") on 9 April 2021 and based on the Greek Law 4818/2021, the "Hercules" Scheme (named also as "Hercules II") was extended by 18 months, with no material changes in terms.

Table 71: EU SEC1 - Securitisation exposures in the non-trading book (€ mio) 31.12.2022

		Institution acts as originator							Institution acts as sponsor				Institution acts as investor			
		Traditional				Synthetic		Sub-total	Traditional		Synthetic	Sub-total	Traditional		Synthetic	Sub-total
		STS		Non-STS			of which SRT		STS	Non-STS			STS	Non-STS		
			of which SRT		of which SRT											
1	**Total exposures**			**6.8**	**6.8**			**6.8**								
2	Retail (total)			6.8	6.8			6.8								
3	residential mortgage			6.8	6.8			6.8								
4	credit card															
5	other retail exposures															
6	re-securitisation															
7	Wholesale (total)															
8	loans to corporates															
9	commercial mortgage															
10	lease and receivables															
11	other wholesale															
12	re-securitisation															

Table 71: EU SEC1 - Securitisation exposures in the non-trading book (€ mio) 30.06.2022

		Institution acts as originator							Institution acts as sponsor				Institution acts as investor			
		Traditional				Synthetic		Sub-total	Traditional		Synthetic	Sub-total	Traditional		Synthetic	Sub-total
		STS		Non-STS			of which SRT		STS	Non-STS			STS	Non-STS		
			of which SRT		of which SRT											
1	Total exposures			6.8	6.8			6.8								
2	Retail (total)			6.8	6.8			6.8								
3	residential mortgage			6.8	6.8			6.8								
4	credit card															
5	other retail exposures															
6	re-securitisation															
7	Wholesale (total)															
8	loans to corporates															
9	commercial mortgage															
10	lease and receivables															
11	other wholesale															
12	re-securitisation															

Table 72: EU SEC3 - Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor (€ mio) 31.12.2022

		Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWEA (by regulatory approach)				Capital charge after cap			
		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions
1	**Total exposures**				**6.8**				**6.8**				**77.5**				**6.2**	
2	Traditional transactions				6.8				6.8				77.5				6.2	
3	Securitisation				6.8				6.8				77.5				6.2	
4	Retail				6.8				6.8				77.5				6.2	
5	Of which STS																	
6	Wholesale																	
7	Of which STS																	
8	Re-securitisation																	
9	Synthetic transactions																	
10	Securitisation																	
11	Retail underlying																	
12	Wholesale																	
13	Re-securitisation																	

Table 72: EU SEC3 - Securitisation exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor (€ mio) 30.06.2022

		Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)				RWEA (by regulatory approach)				Capital charge after cap			
		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions	SEC-IRBA	SEC-ERBA (including IAA)	SEC-SA	1250% RW/ deductions
1	**Total exposures**				**6.8**				**6.8**				**76.7**				**6.1**	
2	Traditional transactions				6.8				6.8				76.7				6.1	
3	Securitisation				6.8				6.8				76.7				6.1	
4	Retail				6.8				6.8				76.7				6.1	
5	Of which STS																	
6	Wholesale																	
7	Of which STS																	
8	Re-securitisation																	
9	Synthetic transactions																	
10	Securitisation																	
11	Retail underlying																	
12	Wholesale																	
13	Re-securitisation																	

Table 73: EU SEC5 - Exposures securitised by the institution - Exposures in default and specific credit risk adjustments (€ mio) 31.12.2022

		Exposures securitised by the institution - Institution acts as originator or as sponsor		
		Total outstanding nominal amount		Total amount of specific credit risk adjustments made during the period
			Of which exposures in default	
1	**Total exposures**	**5,392**	**4,779**	236
2	Retail (total)	5,392	4,779	236
3	residential mortgage	5,392	4,779	236
4	credit card			
5	other retail exposures			
6	re-securitisation			
7	Wholesale (total)			
8	loans to corporates			
9	commercial mortgage			
10	lease and receivables			
11	other wholesale			
12	re-securitisation			

Table 73: EU SEC5 - Exposures securitised by the institution - Exposures in default and specific credit risk adjustments (€ mio) 30.06.2022

		Exposures securitised by the institution - Institution acts as originator or as sponsor		
		Total outstanding nominal amount		Total amount of specific credit risk adjustments made during the period
			Of which exposures in default	
1	**Total exposures**	**5,813**	**5,098**	**25.3**
2	Retail (total)	5,813	5,098	25.3
3	residential mortgage	5,813	5,098	25.3
4	credit card			
5	other retail exposures			
6	re-securitisation			
7	Wholesale (total)			
8	loans to corporates			
9	commercial mortgage			
10	lease and receivables			
11	other wholesale			
12	re-securitisation			

13 INTEREST RATE RISK IN THE BANKING BOOK

Interest Rate Risk in the Banking Book (IRRBB) concerns potential losses on the Bank's earnings (Net Interest Income – NII) and on the net present value of assets and liabilities (Economic Value of Equity – EVE) arising from changes in interest rates.

The main sources of IRRBB are the following:

- **Repricing risk:** it arises from timing differences in the maturity (for fixed-rate) and repricing (for floating-rate) of the Group's assets, liabilities and off balance-sheet positions, which can expose the Group's income and underlying economic value to adverse interest rate fluctuations;
- **Basis risk:** it arises from imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar repricing characteristics;
- **Optionality risk:** it occurs when a bank's customer or counterparty has the right, but not the obligation, to buy, sell, or in some manner alter the quantity and / or the timing of cash flows of an instrument or financial contract;
- **Credit Spread Risk in the Banking Book (CSRBB):** the risk driven by changes in the market perception about the price of credit risk, liquidity premium and potentially other components of credit-risky instruments, which is not explained by IRRBB.

On a regular basis the Bank measures the effect of adverse movements in interest rates on the Net Interest Income and the Economic Value of Equity metrics by applying a number of specified interest rate scenarios (parallel shifts, flattening and steepening of the interest rate curves).

The Bank has developed an IRRBB management framework and a corresponding calculation engine, under which all relevant risk metrics are calculated using a full revaluation approach, based on the exact repricing and amortization characteristics of individual positions.

The main assumptions made for the calculation of the interest rate risk in the banking book are the following:

- Saving and Current Accounts: maturity is estimated based on a behavioural model of the maturity and repricing characteristics of deposits without specific maturity. The deposits' model was developed internally and is calibrated annualy to the Bank's data, reflecting NBG's customer base and business model. The model predicts a 20% pass-through rate on average for the calculation of the NII changes and an average duration of 2.5 years, taking into account the Regulatory cap imposed for such deposits, which is equivalent to 5 years;
- Mortgages: prepayment risk options have not been taken into account;
- Non-performing loans: interest rate sensitivity is estimated based on their recovery value, in line with the Bank's provisions' modelling.

It should be noted that:

- the sensitivity of the interest income is measured on the basis of an instantaneous shock in the interest rate curve which is subsequently kept constant over a period of 12 months, assuming a constant balance sheet, i.e., new business assumptions affecting potentially the mix of asset and liabilities are not considered;
- the sensitivity of the Economic Value of Equity is measured across the full maturity spectrum of the bank's assets and liabilities, assuming that matured transactions are not replenished.

The sensitivity of the Group's EVE and NII measures as of 31 December 2022, under the standard regulatory stress scenarios introduced by EBA's latest IRRBB Management Guidelines (EBA/GL/2018/02 – 19 July 2018) are presented in the following table. Furthermore, the comparison of NII and EVE sensitivities between 2022 and 2021 year-end is presented in Table 75.

Table 74: Sensitivity of EVE and NII measures 31.12.2022

Amounts in € mio	EVE					NII				
Scenario	EUR	USD	GBP	Other Currencies	Total	EUR	USD	GBP	Other Currencies	Total
Parallel up	630	32	6	13	681	378	28	(6)	(1)	400
Parallel down	(763)	(45)	(8)	(13)	(829)	(418)	(32)	5	0	(445)
Steepener	(188)	(3)	(1)	(9)	(201)					
Flattener	285	5	2	9	301					
Short rates up	460	18	4	13	495					
Short rates down	(514)	(29)	(5)	(15)	(562)					
Maximum					**(829)**					**(445)**

Table 74: *Sensitivity of EVE and NII measures 31.12.2021*

Amounts in € mio	EVE					NII				
Scenario	EUR	USD	GBP	Other Currencies	Total	EUR	USD	GBP	Other Currencies	Total
Parallel up	1,980	49	3	13	2,044	345	22	(1)	(6)	360
Parallel down	2,038	(11)	(4)	(10)	2,013	(100)	(8)	0	1	(107)
Steepener	177	3	(1)	(4)	175					
Flattener	466	15	1	7	488					
Short rates up	810	33	2	11	856					
Short rates down	(556)	(14)	(3)	(9)	(580)					
Maximum					**(580)**					**(107)**

The reduction in the economic value under the six regulatory scenarios presented below remained within the limits set by the prevailing Regulatory provisions (EVE sensitivity does not exceed both 15% CET1 Capital and 20% of the Regulatory Capital). The year-end results comparison show an increase in EVE and NII sensitivity, amidst an increasing interest rates environment and not due to material changes in the balance sheet composition. Specifically, the observed sensitivity increase for both EVE and NII metrics is associated with larger effective shocks passed on to rates-decreasing scenarios, since the Regulatory rules on how negative rates can become under stress, become less relevant in the current environment of elevated interest rate levels.

Table 75: Comparison of EVE and NII sensitivity measures between 31.12.2022 and 31.12.2021

Amounts in € mio	EVE		NII	
Scenario	**Dec 31st, 2022**	**Dec 31st, 2021**	**Dec 31st, 2022**	**Dec 31st, 2021**
Parallel up	681	2,044	400	360
Parallel down	(829)	2,013	(445)	(107)
Steepener	(201)	175		
Flattener	301	488		
Short rates up	495	856		
Short rates down	(562)	(580)		
Maximum	(829)	**(580)**		
CET1 Capital (€ mio)	6,047	5,853		
Δ(EVE) Ratio	13.71%	**9.92%**		

14 LIQUIDITY RISK

Liquidity Risk is defined as the risk arising from the institution's inability to meet its liabilities when they come due without incurring unacceptable losses.

It reflects the risk stemming from limited or less stable sources of funding over the longer term (i.e., funding risk), or from insufficient available collateral for Eurosystem, secured or wholesale funding (i.e., asset encumbrance risk) or from a concentration in unencumbered assets disrupting the Bank's ability to generate cash in times of reduced market liquidity for certain asset classes (i.e., concentration risk). Therefore, Liquidity Risk captures both the risk of the Bank being unable to liquidate assets in a timely manner with reasonable terms, and the risk of unexpected increases in the Bank's cost of funding.

The Bank's executive and senior management has the responsibility to implement the liquidity risk strategy approved by the Board Risk Committee (BRC) and to develop the policies, methodologies and procedures for identifying, measuring, monitoring and controlling liquidity risk, consistent with the nature and complexity of the relevant activities. The Bank's executive and senior management is informed about current liquidity risk exposures, on a daily basis, ensuring that the Group's liquidity risk profile stays within the approved levels.

In addition, top management receives, on a daily basis, a liquidity report which presents a detailed analysis of the Group's funding sources, the liquidity buffer, the cost of funding and other liquidity metrics related to the Risk Appetite Framework (RAF), the Recovery Plan (RP) and the Contingency Funding Plan. Moreover, the Asset Liability Committee (ALCO) monitors the gap in maturities between assets and liabilities, as well as the Bank's funding requirements, based on various assumptions, including conditions that might have an adverse impact on the Bank's ability to liquidate investments and trading positions and its ability to access the capital markets.

Since liquidity risk management seeks to ensure that the respective risk of the Group is measured properly and is maintained within acceptable levels then, even under adverse conditions, the Group must have access to funds necessary to cover customer needs, maturing liabilities and other capital needs, while simultaneously maintaining the appropriate liquidity buffer to ensure the above.

Liquidity Developments in Q4 2022

During the fourth quarter of 2022, NBG strengthened its liquidity profile, notwithstanding the fact that ECB unwound its highly accommodative monetary policy stance, by changing the modalities of the TLTRO and raising interest rates to tackle soaring inflation.

LCR and NSFR, as well as the Bank's liquidity buffer remain at the highest historical levels, driven by the strong and stable core deposit base and the successful issuance of MREL-eligible, senior preferred bonds.

Sources of liquidity

The Bank's principal source of liquidity are its customer deposits, Eurosystem funding currently via the TLTROs with ECB, which is gradually decreasing, repurchase agreements (repos) with FIs and wholesale funding through the issuance of (MREL-eligible) securities. ECB funding and repos with FIs are collateralized by high quality liquid assets, such as EU sovereign bonds, Greek government bonds and T-Bills, as well as by other assets, such as highly rated corporate loans and own issued covered bonds.

During 2022, the Bank' strong liquidity position further improved, as customer deposit balance continued its upward trend and stood at €53.7 billion on 31 December 2022, driven by an increase in the Bank's most stable deposit class, the saving deposits by €2.4 billion. Moreover, the Bank successfully tapped the markets during the end of 2022 to raise c. €0.9 billion through the issuance of MREL-eligible, senior preferred bonds, further diversifying its funding structure.

Additionally, the Bank's LCR and NSFR remained significantly above the regulatory and internal limits. More specifically, LCR stood on 31 December 2022 at 250.2% (Group 259.2%) and NSFR stood to its highest historical level at 146.7% (Group 146.3%). Loan-to-Deposit ratio stood at (57.7%) and (58.6%) as of 31 December 2022, on a domestic (Greece) and on a Group level, respectively, as well.

Furthermore, the Bank's participation to the ECB TLTRO III refinancing operations, decreased to €8.1 billion in Q4 2022, compared to €11.6 billion in Q3 2022, driven by the change in TLTRO modalities, as announced by the ECB in October 2022, while secured interbank funding transactions amounted to €0.1 billion as at 31 December 2022.

During the fourth quarter of 2022 the Bank's funding cost moderately increased by 26bps and on 31 December 2022 stood at 30bps compared to the respective figure as of 30 September 2022, while ECB interest rates increased by a total of 250bps. The cost of funding increase was mainly attributed to the 2022 MREL issuances and the TLTRO-modality changes.

Finally, the aforementioned positive developments resulted in NBG resting on its historically strongest liquidity buffer of €25.9 billion as at 31 December 2022.

The next tables present the key components of NBG's LCR, as per the respective guidelines on LCR disclosure (EBA/ITS/2020/04).

Strategies and processes in the management of the liquidity risk

NBG Group has established a robust liquidity risk management framework, which is primarily outlined in the Liquidity Risk Management Policy and is further augmented by the Contingency Funding Plan ("CFP") and the Asset Encumbrance Policy. The liquidity policy is designed with an aim to be aligned with NBG Group Risk Strategy and to meet all the requirements set by the European Commission, the European Central Bank and the Bank of Greece.

Moreover, via the Funding Plan, NBG Group explores its capacity to execute planned actions which affect funding, achieving, in the medium to long run, sustainable funding structures that support the planned growth in the Asset side.

Structure and organisation of the liquidity risk management function

NBG manages, monitors and measures liquidity risk through the Corporate Treasury and the Capital Markets and Structured Finance ("CMSF") that report to the Group Treasurer, and the Risk Management Unit (Financial & Liquidity Risk Management Division) that reports to the CRO.

Degree of centralisation of liquidity management and interaction between the group's units

NBG follows a centralized liquidity risk governance model and the body in charge of liquidity management is the Group Treasury, which is responsible for coordinating access to the capital markets in order to fulfill the liquidity needs of the Group.

Scope and nature of liquidity risk reporting and measurement systems

NBG has completed a pivotal infrastructure project, which was the in-house IT liquidity platform. This module enables NBG to fully automate, integrate and seamlessly produce the full set of internal and regulatory liquidity reporting, and stress testing, thus optimizing the monitoring and management of liquidity risk, which proved extremely useful during the pandemic crisis.

Furthermore, the database of the liquidity platform has been complemented with a large set of historical data, which has further enhanced historical analysis capabilities, targeting to support liquidity stress testing exercises.

Policies for hedging and mitigating the liquidity risk and strategies and processes for monitoring the continuing effectiveness of hedges and mitigants

In the Liquidity Risk Management Policy, it is analyzed how the Bank manages all Liquidity Risk types. Specifically, with regard to the managing of intraday liquidity, the Bank's dedicated unit of the Treasury Division (the MM Desk) closely monitors all intraday positions and ensures that any gap in the Central Bank's current account can be mitigated through the available counterbalancing capacity.

Outline of the bank`s contingency funding plans

The Contingency Funding Plan ("CFP") is a dedicated document of the Bank, which discusses its governance and corrective actions and measures to be taken in case of a liquidity emergency and which is periodically updated, if required, in order to ensure its effectiveness.

Based on the CFP, NBG monitors a set of relevant indicators and metrics that could potentially trigger the CFP activation discussion at the ALCO level.

Upon the activation of the CFP, the Group ALCO will prepare and approve (in co-operation with the subsidiary ALCO, in case of a liquidity crisis in a subsidiary) a crisis-specific Action Plan, which adheres to all local regulatory requirements. It should be noted that, given the liquidity contingency state of the Greek market over the previous years, the actions included in the CFP Action Plan have essentially been tested for their effectiveness in a real life environment and have been deemed as successful, since they have allowed NBG to continue to operate, despite the adverse circumstances encountered.

Use of stress testing

Liquidity stress tests allow the Bank to assess the potential impact of exceptional but plausible stress scenarios on its liquidity position. The results of the stress tests enable the Bank to assess the adequacy of its liquidity buffer against potential adverse shocks. Stress testing is conducted on a regular basis, while the Bank has the ability to also perform it on an ad-hoc basis. Stress testing is performed at least monthly and results are reported to the ALCO & BRC.

Via the ILAAP, the Bank performs annually a comprehensive set of liquidity stress tests, capturing severe market-wide and idiosyncratic economic shocks, including a long-term stress test over a 3-year horizon, in which the Bank's Business Plan is tested under an adverse macroeconomic scenario, designed by the Economic Analysis Unit.

Additionally, other ad-hoc short-term stress test exercises, in order to examine specific extraordinary events, (e.g. the COVID-19 crisis), may be performed when deemed necessary.

Adequacy of liquidity risk management arrangements

The Bank maintains and continuously improves its liquidity management framework, approved by ALCO and BRC, that describes how the Bank manages, monitors, measures and reports liquidity risk. The framework contains policies, metrics, and comprehensive processes that are frequently updated and further enhanced to capture market and bank-specific developments.

Additionally, the Bank's liquidity risk management framework is further reviewed and evaluated by the Single Supervisory Mechanism ("SSM") ensuring its effectiveness, continuous improvement and suitability.

Institution's overall liquidity risk profile associated with the business strategy

The Bank's current liquidity state is at its strongest levels historically, as it is outlined by the Basel III regulatory liquidity metrics, which are significantly higher than their respective regulatory minimums. The overall risk profile of NBG also encompasses the maintenance of a very high liquidity buffer and a steadily increasing deposit base. More specifically, the Group's risk appetite, regarding its liquidity position, is summarized in the following statements, expressed in the current Risk Appetite Framework:

- "NBG aims to promote self-funded growth, through preserving a stable funding mix, mainly comprised of customer deposits at a sustainable rate."
- "NBG targets to always preserve the LCR well above minimum regulatory level and also maintain an adequate liquidity buffer going forward."
- "NBG aims to preserve the NSFR level above minimum regulatory levels and extend the average tenor of its liabilities in alignment to its Business Plan, in order to enhance its longer-term available funding."

Customised measurement tools or metrics

In order to effectively monitor liquidity risk, the Bank has introduced an additional risk appetite metric with specific related limits, in the current Risk Appetite Framework. Except for the RAF limits on the regulatory metrics of Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), the Bank also measures and manages an internal liquidity risk metric, the Liquidity Buffer (HQLAs), which stands at the highest historical level of €23.4 billion as of 31 December 2022, well above the risk tolerance limit.

Liquidity exposures and funding needs at the level of individual legal entities, foreign branches and subsidiaries

The Group's subsidiaries measure, report and manage their own individual Liquidity Risk, ensuring they are self-sufficient in case of a local crisis.

Table 76: EU LIQ1 - Quantitative Information of Liquidity Coverage Ratio 2022

€ mio		Total unweighted value				Total weighted value			
Quarter ending on		31.03.22	30.06.22	30.09.22	31.12.22	31.03.22	30.06.22	30.09.22	31.12.22
Number of data points used in the calculation of averages		12	12	12	12	12	12	12	12
HIGH-QUALITY LIQUID ASSETS									
1	**Total high-quality liquid assets**					**21,999**	**22,642**	**22,870**	**23,170**
CASH-OUTFLOWS									
2	Retail deposits and deposits from small business customers, *of which:*	**33,051**	**33,925**	**34,752**	**35,500**	**1,924**	**1,987**	**2,049**	**2,112**
3	*Stable deposits*	*29,229*	*29,867*	*30,446*	*30,929*	*1,461*	*1,493*	*1,522*	*1,546*
4	*Less stable deposits*	*3,822*	*4,059*	*4,306*	*4,571*	*462*	*493*	*527*	*565*
5	Unsecured wholesale funding	**12,572**	**13,011**	**13,510**	**13,598**	**5,300**	**5,496**	**5,652**	**5,657**
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*								
7	*Non-operational deposits (all counterparties)*	*12,572*	*13,011*	*13,510*	*13,598*	*5,300*	*5,496*	*5,652*	*5,657*
9	Secured wholesale funding		**0**	**0**	**0**		**3**	**3**	**3**
10	Additional requirements	**1,125**	**1,032**	**1,091**	**1,156**	**1,125**	**1,032**	**1,091**	**1,156**
11	*Outflows related to derivative exposures and other collateral requirements*	*1,125*	*1,032*	*1,091*	*1,156*	*1,125*	*1,032*	*1,091*	*1,156*
13	*Credit and liquidity facilities*								
14	Other contractual funding obligations	**527**	**532**	**478**	**402**	**508**	**512**	**457**	**381**
15	Other contingent funding obligations	**9,882**	**10,633**	**11,345**	**12,062**	**565**	**608**	**649**	**689**
16	**TOTAL CASH OUTFLOWS**					**9,422**	**9,638**	**9,900**	**9,997**
CASH-INFLOWS									
18	Inflows from fully performing exposures	711	725	727	758	578	595	603	617
19	Other cash inflows	200	154	160	167	197	151	158	164
20	**TOTAL CASH INFLOWS**	**911**	**879**	**887**	**924**	**774**	**746**	**760**	**781**
EU-20c	***Inflows Subject to 75% Cap***	911	879	887	924	774	746	760	781
21	**LIQUIDITY BUFFER**					**21,999**	**22,642**	**22,870**	**23,170**
22	**TOTAL NET CASH OUTFLOWS**					**8,648**	**8,892**	**9,139**	**9,217**
23	**LIQUIDITY COVERAGE RATIO (%)**					**254.7**	**254.7**	**250.5**	**251.6**

Table 76: EU LIQ1 – Quantitave Information of Liquidity Coverage Ratio 2021

€ mio		Total unweighted value				Total weighted value			
	Quarter ending on	**31.03.21**	**30.06.21**	**30.09.21**	**31.12.21**	**31.03.21**	**30.06.21**	**30.09.21**	**31.12.21**
	Number of data points used in the calculation of averages	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
HIGH-QUALITY LIQUID ASSETS									
1	**Total high-quality liquid assets**					**16,909**	**18,511**	**19,960**	**21,203**
CASH-OUTFLOWS									
2	Retail deposits and deposits from small business customers, *of which:*	**28,183**	**29,384**	**30,756**	**31,968**	**1,626**	**1,696**	**1,778**	**1,853**
3	*Stable deposits*	*25,101*	*26,159*	*27,340*	*28,363*	*1,255*	*1,308*	*1,367*	*1,418*
4	*Less stable deposits*	*3,082*	*3,226*	*3,416*	*3,606*	*371*	*388*	*411*	*435*
5	Unsecured wholesale funding	**10,759**	**11,153**	**11,576**	**12,060**	**4,531**	**4,694**	**4,893**	**5,085**
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*								
7	*Non-operational deposits (all counterparties)*	*10,759*	*11,153*	*11,576*	*12,060*	*4,531*	*4,694*	*4,893*	*5,085*
9	Secured wholesale funding								
10	Additional requirements	**1,154**	**1,155**	**1,156**	**1,156**	**1,154**	**1,155**	**1,156**	**1,156**
11	*Outflows related to derivative exposures and other collateral requirements*	*1,154*	*1,155*	*1,156*	*1,156*	*1,154*	*1,155*	*1,156*	*1,156*
13	*Credit and liquidity facilities*								
14	Other contractual funding obligations	**626**	**586**	**525**	**547**	**606**	**567**	**507**	**528**
15	Other contingent funding obligations	**8,769**	**8,675**	**8,878**	**9,186**	**498**	**493**	**506**	**525**
16	**TOTAL CASH OUTFLOWS**					**8,416**	**8,604**	**8,840**	**9,147**
CASH-INFLOWS									
18	Inflows from fully performing exposures	561	644	686	686	433	499	539	556
19	Other cash inflows	140	199	215	205	137	196	212	202
20	**TOTAL CASH INFLOWS**	**701**	**843**	**901**	**891**	**570**	**694**	**751**	**759**
EU-20c	***Inflows Subject to 75% Cap***	701	843	901	891	570	694	751	759
						TOTAL ADJUSTED VALUE			
21	**LIQUIDITY BUFFER**					**16,909**	**18,511**	**19,960**	**21,203**
22	**TOTAL NET CASH OUTFLOWS**					**7,846**	**7,910**	**8,089**	**8,389**
23	**LIQUIDITY COVERAGE RATIO (%)**					**215.5**	**234.0**	**246.5**	**252.9**

Explanations on the main drivers of LCR results and the evolution of the contribution of inputs to the LCR's calculation over time

It is evident from the tables above that the Bank's LCR has been steadily increasing during the last two years reaching peak level on 31 December 2022, which reflects the continuous improvement of NBG's liquidity profile during this period. The key drivers for its evolution, are the customer deposits growth and the latest successful MREL issuances in the context of the Bank's strategy to increase its MREL capacity.

Explanations on the changes in the LCR over time

LCR level followed an upward trend over time, as unencumbered HQLAs significantly increased, in line with the growth of deposits, the introduction of the Additional Credit Claims framework and the successful MREL issuances.

Explanations on the actual concentration of funding sources

NBG's participation to the ECB TLTRO III refinancing operations, decreased, as ECB changed the modalities of the TLTRO, curbing significantly its public funding dependance.

High-level description of the composition of the institution`s liquidity buffer

The Bank's robust liquidity buffer is composed of cash mainly deposited with the Bank of Greece, collateral eligible for funding with the ECB and unencumbered tradable collateral that could be used for secured funding with Financial Institutions.

Derivative exposures and potential collateral calls

The Bank's derivatives portfolio is mostly used for hedging purposes.

The risk associated with additional cash collateral, which the Bank could potentially post for margin calls, is captured in the LCR calculation through the input "Additional requirements" and it could also be comfortably mitigated by its robust liquidity buffer.

Currency mismatch in the LCR

The Currency mismatch risk of the Bank is low as the largest part of NBG's assets are denominated in EUR and therefore EUR is considered the only material currency for the LCR calculation.

There are no other items in the LCR calculation, which are considered relevant for the Bank's liquidity profile and are not captured in the LCR disclosure template.

Table 77: EU LIQ2 - Net Stable Funding Ratio 31.12.2022

€ mio		*Unweighted value by residual maturity*				*Weighted value*
		No maturity	< 6m	6m to < 1yr	≥ 1yr	
Available stable funding (ASF) Items						
1	Capital items and instruments	**6,399**	**0**	**0**	**399**	**6,799**
2	*Own funds*	*6,399*	*0*	*0*	*399*	*6,799*
3	*Other capital instruments*	*0*	*0*	*0*	*0*	*0*
4	Retail deposits	**0**	**39,755**	**1,362**	**707**	**39,488**
5	*Stable deposits*	*0*	*34,329*	*1,161*	*594*	*34,310*
6	*Less stable deposits*	*0*	*5,426*	*201*	*114*	*5,178*
7	Wholesale funding:	**0**	**20,072**	**14**	**3,686**	**9,989**
8	*Operational deposits*	*0*	*0*	*0*	*0*	*0*
9	*Other wholesale funding*	*0*	*20,072*	*14*	*3,686*	*9,989*
10	Interdependent liabilities	**0**	**0**	**0**	**0**	**0**
11	Other liabilities:	**384**	**2,940**	**0**	**0**	**0**
12	*NSFR derivative liabilities*	*384*				
13	*All other liabilities and capital instruments not included in the above categories*		*2,940*	*0*	*0*	*0*
14	**TOTAL AVAILABLE STABLE FUNDING (ASF)**					**56,275**
Required stable funding (RSF) Items						
15	Total high-quality liquid assets (HQLA)	**0**	**0**	**0**	**0**	**448**
EU-15a	Assets encumbered for more than 12m in cover pool	**0**	**0**	**0**	**0**	**0**
16	Deposits held at other financial institutions for operational purposes	**0**	**0**	**0**	**0**	**0**
17	Performing loans and securities:	**0**	**7,732**	**2,295**	**27,229**	**26,413**
18	*Performing securities financing transactions with financial customers collateralised by Level 1 HQLA subject to 0% haircut*	*0*	*3,321*	*0*	*0*	*0*
19	*Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions*	*0*	*1,270*	*1*	*333*	*460*
20	*Performing loans to non- financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:*	*0*	*2,793*	*2,064*	*16,347*	*16,697*
21	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*	*0*	*0*	*0*	*0*	*0*
22	*Performing residential mortgages, of which:*	*0*	*296*	*196*	*6,932*	*6,138*
23	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*	*0*	*0*	*0*	*0*	*0*
24	*Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products*	*0*	*54*	*33*	*3,617*	*3,118*
25	**Interdependent assets**	**0**	**0**	**0**	**0**	**0**
26	**Other assets:**	**0**	**2,788**	**0**	**10,021**	**11,130**
27	*Physical traded commodities*	*0*	*0*	*0*	*0*	*0*
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*	*0*	*1,250*	*0*	*0*	*1,063*
29	*NSFR derivative assets*	*0*	*0*	*0*	*0*	*0*
30	*NSFR derivative liabilities before deduction of variation margin posted*	*0*	*920*	*0*	*0*	*46*
31	*All other assets not included in the above categories*	*0*	*618*	*0*	*10,021*	*10,021*
32	**Off-balance sheet items**	*0*	**0**	**0**	**4,754**	**475**
33	**TOTAL REQUIRED STABLE FUNDING (RSF)**					**38,467**
34	**NET STABLE FUNDING RATIO (%)**					**146.3**

***Table 77: EU LIQ2** - Net Stable Funding Ratio 30.06.2022*

€ mio		*Unweighted value by residual maturity*				*Weighted value*
		No maturity	**< 6m**	**6m to < 1yr**	**≥ 1yr**	
Available stable funding (ASF) Items						
1	Capital items and instruments	5,851	0	0	399	6,250
2	*Own funds*	5,851	0	0	399	6,250
3	*Other capital instruments*	0	0	0	0	0
4	Retail deposits	0	38,719	1,188	289	37,945
5	*Stable deposits*	0	33,771	1,023	237	33,292
6	*Less stable deposits*	0	4,948	165	52	4,654
7	Wholesale funding:	0	16,224	8,250	2,865	13,491
8	*Operational deposits*	0	0	0	0	0
9	*Other wholesale funding*	0	16,224	8,250	2,865	13,491
10	Interdependent liabilities	0	0	0	0	0
11	Other liabilities:	303	2,646	0	0	0
12	*NSFR derivative liabilities*	303				
13	*All other liabilities and capital instruments not included in the above categories*		2,646	0	0	0
14	**TOTAL AVAILABLE STABLE FUNDING (ASF)**					**57,686**
Required stable funding (RSF) Items						
15	Total high-quality liquid assets (HQLA)	0	0	0	0	3,101
EU-15a	Assets encumbered for more than 12m in cover pool	0	0	0	0	0
16	Deposits held at other financial institutions for operational purposes	0	0	0	0	0
17	Performing loans and securities:	0	7,612	2,524	26,217	25,762
18	*Performing securities financing transactions with financial customers collateralised by Level 1 HQLA subject to 0% haircut*	0	3,131	0	0	0
19	*Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions*	0	1,320	51	342	499
20	*Performing loans to non- financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:*	0	2,789	2,204	15,147	15,493
21	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*	0	0	0	0	0
22	*Performing residential mortgages, of which:*	0	325	221	7,084	6,624
23	*With a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk*	0	0	0	0	0
24	*Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products*	0	47	49	3,644	3,145
25	Interdependent assets	0	0	0	0	0
26	Other assets:	0	2,687	0	10,486	11,429
27	*Physical traded commodities*	0	0	0	0	0
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*	0	1,053	0	0	895
29	*NSFR derivative assets*	0	0	0	0	0
30	*NSFR derivative liabilities before deduction of variation margin posted*	0	972	0	0	49
31	*All other assets not included in the above categories*	0	662	0	10,486	10,486
32	Off-balance sheet items	**0**	**0**	**0**	**4,231**	**423**
33	**TOTAL REQUIRED STABLE FUNDING (RSF)**					**40,715**
34	**NET STABLE FUNDING RATIO (%)**					**141.7**

15 ASSET ENCUMBRANCE

15.1 Information on importance of encumbrance

The following is the disclosure for the year ended 31 December 2022, of on-balance sheet encumbered and unencumbered assets, and off-balance sheet collateral based on median values (median of the quarterly values reported by the NBG Group)), as required by Part Eight of CRD IV.

Table 78: EU AE1 - Encumbered and unencumbered assets 31.12.2022

€ mio		Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
			of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
		010	030	040	050	060	080	090	100
010	**Assets of the reporting institution**	**22,380**	**8,616**			**56,786**	**4,446**		
030	Equity instruments	-				194	-		
040	Debt securities	8,616	8,616	7,781	7,766	5,439	4,446	5,259	4,317
050	of which: covered bonds	-	-	-	-	-	-	-	-
060	of which: asset-backed securities	-	-	-	-	-	-	-	-
070	*of which: issued by general governments*	*8,581*	*8,581*	*7,750*	*7,735*	*4,509*	*4,190*	*4,404*	*4,091*
080	*of which: issued by financial corporations*	*25*	*25*	*21*	*21*	*695*	*256*	*622*	*226*
090	*of which: issued by non- financial corporations*	*10*	*10*	*10*	*10*	*235*	-	*233*	-
120	Other assets	13,764	-			51,153	-		

***Table 78: EU AE1** - Encumbered and Unencumbered Assets 31.12.2021*

€ mio		Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
			of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
		010	030	040	050	060	080	090	100
010	**Assets of the reporting institution**	**25,827**	**9,391**			**52,285**	**5,793**		
030	Equity instruments					167			
040	Debt securities	9,391	9,391	9,614	9,614	6,425	5,793	6,515	5,879
050	of which: covered bonds								
060	of which: asset-backed securities								
070	*of which: issued by general governments*	*9,379*	*9,379*	*9,602*	*9,602*	*6,084*	*5,777*	*6,170*	*5,863*
080	*of which: issued by financial corporations*					*126*	*10*	*127*	*10*
090	*of which: issued by non- financial corporations*	*12*	*12*	*12*	*12*	*215*	*6*	*218*	*6*
120	Other assets	16,436				45,693			

Table 79: EU AE2 - Collateral received 31.12.2022

€ mio		Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
			of which notionally elligible EHQLA and HQLA		of which notionally elligible EHQLA and HQLA
		010	030	040	060
130	**Collateral received by the reporting institution**	**865**	**865**	**4,700**	**4,700**
140	Loans on demand				
150	Equity instruments				
160	Debt securities	-	-	4,700	4,700
170	*of which: covered bonds*	-	-	-	-
180	*of which: asset-backed securities*	-	-	-	-
190	*of which: issued by general governments*	-	-	4,700	4,700
200	*of which: issued by financial corporations*	-	-	-	-
210	*of which: issued by non-financial corporations*	-	-	-	-
220	Loans and advances other than loans on demand	-	-	-	-
230	Other collateral received	865	865	-	-
240	Own debt securities issued other than own covered bonds or ABSs	-	-	-	-
241	Own covered bonds and asset-backed securities issued and not yet pledged			-	-
250	**TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED**	**23,245**	**8,122**		

Table 79: EU AE2 - Collateral received 31.12.2021

€ mio		Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
			of which notionally elligible EHQLA and HQLA		of which notionally elligible EHQLA and HQLA
		010	030	040	060
130	**Collateral received by the reporting institution**	**734**	**734**	**4,468**	**4,468**
140	Loans on demand				
150	Equity instruments				
160	Debt securities	-	-	4,468	4,468
170	*of which: covered bonds*	-	-	-	-
180	*of which: asset-backed securities*	-	-	-	-
190	*of which: issued by general governments*	-	-	4,468	4,468
200	*of which: issued by financial corporations*	-	-	-	-
210	*of which: issued by non-financial corporations*	-	-	-	-
220	Loans and advances other than loans on demand	-	-	-	-
230	Other collateral received	734	734	-	-
240	Own debt securities issued other than own covered bonds or ABSs	-	-	-	-
241	Own covered bonds and asset-backed securities issued and not yet pledged			72	-
250	**TOTAL ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED**	26,561	9,391		

Table 80: EU AE3 - Sources of encumbrance 31.12.2022

€ mio		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and securitisations encumbered
		010	030
010	Carrying amount of selected financial liabilities	13,613	22,297
011	of which: central banks	11,491	16,529

Table 80: *EU AE3 - Sources of encumbrance 31.12.2021*

€ mio		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
		010	030
010	Carrying amount of selected financial liabilities	15,742	25,419
011	of which: central banks	11,539	16,333

The Bank's principal sources of liquidity are its deposit base, ECB funding currently via the Targeted Long-term Refinancing Operations ("TLTROs") with ECB, repurchase agreements (repos) with major FIs and wholesale funding through the placement of the Senior Preferred bonds, as well as the Tier II notes.

As at 31 December 2022, the Group and the Bank have the following main types of encumbrance for funding purposes mainly with the ECB, other central banks and FIs:

- trading and investment debt instruments;
- loans and advances to customers at amortised cost; and
- covered bonds backed with mortgage loans.

In addition, as at 31 December 2022, the Group and the Bank have pledged an amount of €312 mio included in due from banks with respect to a guarantee for the non-payment risk of the Hellenic Republic, as well as Greek Government Bond of €443 mio with EIB for trade finance purposes. Also, collaterals are placed by the NBG Group for the market value of derivative transactions or as margin to the clearing system.

ECB funding and repos with FIs are collateralized mainly by high quality liquid assets, such as, EU sovereign bonds, Greek government bonds and T-Bills, as well as by other assets, such as highly rated corporate loans and covered bonds issued by the Bank. ECB funding at 31 December 2022 was €8.1 billion from €11.6 billion 31 December 2021. For more details of sources of liquidity and developments within 2022, please refer to Section 14).

16 REMUNERATION POLICIES & PRACTICES

The Bank is committed to an integrated Human Resources Management Policy and hence, has introduced procedures and has taken necessary measures in order to describe the general framework and basic principles for determining the remuneration of all employees working in the Bank and the Group. The governance arrangements and decision making process regarding the remuneration policy are presented in the following paragraphs.

16.1 The proportionality principle

The Bank applies the provisions of the current regulatory remuneration framework in a way and to the extent that is appropriate to its size, internal organization, nature, scope and complexity of its activities. In particular, the Bank aims to match the Remuneration Policy and practices with the individual risk profile, risk appetite and strategy of the Bank and its Group.

In order to apply the proportionality principle, the following (indicatively) criteria are taken into consideration (including the criteria provided in the EBA/GL/2021/04 guidelines):

1. The size of the Bank, particularly relating to the value of its assets and liabilities, its exposure to risk, the level of its regulatory own funds, as well as the number of staff and branches of the Bank;
2. The internal organization of the Bank, its listing on regulated markets, the use of internal methods for the measurement of capital requirements and its corporate goals; and
3. The nature, scope and complexity of its business activities and in particular, the type of its business activities, its Group dimension and activity on an international level, its extended customer base and variety of the type of clients, the portion of High Risk clients and/or activities over the total of clients and/or activities, the relative risks, the complexity of its products and contracts, etc.

16.2 Human Resources and Remuneration Committee

The Human Resources and Remuneration Committee (HRRC) was established by a Board decision (meeting no. 1259/5.5.2005) in order to provide assistance to the Bank's Board of Directors in performing its duties in respect of attracting, retaining, developing and motivating executives and employees of the highest professional and moral caliber, developing and maintaining a coherent system of values and incentives for human resources throughout the NBG Group, in cooperation and alignment with any other competent body overseeing related issues, such as ethics and culture and strategic priorities, developing a framework for fairly evaluating effort and rewarding performance, and ensuring that the preparation and implementation of the Group Remuneration Policy and the relevant procedures comply with the legislative and regulatory framework.

In particular, the Committee ensures the adoption on behalf of the Bank of an accurate, well documented and transparent remuneration policy, which shall be consistent with the Bank's values, culture, business strategy, ESG strategy, risk profile and risk appetite, shall not encourage excessive and short-term risk-taking, shall promote sustainability and ethical behavior and shall be gender neutral and support equal treatment. The responsibilities of the HRRC include among others the following:

- formulating, reviewing regularly and monitoring the implementation of Group HR policies and practices, such as in relation to staff appointment, evaluation and promotion, training, diversity (including career planning aspects and measures to ensure equal treatment and opportunities for staff of different genders), including ensuring that the Remuneration Policy is up to date and review regularly, and at least whenever there are changes in the applicable regulatory framework, the Group Remuneration Policy with particular focus on the impact and incentives created by risk, capital and liquidity management and propose to the Board any amendments deemed necessary. Where periodic reviews reveal that the remuneration policies do not operate as intended or prescribed or where recommendations are made, the Remuneration Committee shall ensure that a remedial action plan is proposed, approved and timeously implemented;
- monitoring regularly the implementation of Group Remuneration Policy on the basis of reports from annual reviews performed, and submitting proposals to the Board when necessary. To this end, the Committee shall receive information on Internal Audit findings that may be relevant to the appropriate implementation of the Remuneration Policy which the Bank applies. The Committee shall cooperate with other Committees of the Board, whenever required, and shall ensure the proper involvement of the internal control and other relevant functions (e.g. Risk, Compliance, Internal Control, Audit, Human resources, Finance) within the respective areas of expertise and where necessary seek external advice;
- submitting proposals to the Board on the Group's aggregate level of bonuses as well as on the adoption of new, or amendment of old, longterm share-related incentive plans;
- evaluating the performance of the Bank's Senior Management (including positions of General Managers and Assistant General Managers), with the exception of the performance evaluation of the Group Chief Audit Executive and the Group Chief Compliance Officer whose performance are evaluated by the Audit and the Compliance, Ethics and Culture Committee respectively, and the Chief Risk Officer whose performance is evaluated by the Board Risk Committee;
- submitting proposals to the Board regarding remuneration of Senior Management, upon proposal of the CEO, or of other positions that may be prescribed by the applicable regulatory framework or the Bank's Labor Regulation; and
- supervising the remuneration of the Group Chief Compliance Officer and the Chief Risk Officer whose appointment and performance assessment is overseen by the Compliance, Ethics and Culture Committee in the case of the Group Chief Compliance Officer and by the Risk Committee in the case of the Chief Risk Officer.

The Committee is consulted by the Audit Committee as may be necessary in the Audit Committee's responsibility for approving the Group Chief Audit Executive remuneration, while the appointment and performance assessment of the Chief Audit Executive is overseen by the Audit Committee.

While preparing its decisions on remuneration, the Committee should consider that such remuneration should reflect the powers, duties, expertise and responsibilities of each person, while in fulfilling the said duty, the Committee should pay particular attention to the impact of its decisions on risk profile and management.

The Committee is governed by a Functioning Regulation (Charter), which has recently been reviewed. The Charter in force was approved by the Board on 24 March 2022[5].

The Committee shall solely consist of non-executive members of the Board, which shall be at least three in number. One member shall be the HFSF Representative at the Board of Directors. In their majority (including the Chair, excluding the HFSF representative) Committee members shall be independent non-executive Board members, in accordance with the definition of independence included in NBG's Corporate Governance Code and in any case according to the provisions of the legal and regulatory framework in force. The Committee composition shall include members possessing experience in the financial sector, while at least one member shall possess adequate expertise and professional experience in risk management and audit activities, mainly in alignment of remuneration policy with the risk and capital profile of the Bank.

The members of the Committee (including the Chair and Vice-Chair) are appointed by the Board of the Bank, following recommendation by the Board's Corporate Governance and Nominations Committee. The Committee members shall be selected on the basis of their competence and experience. The Committee is currently composed of five non-executive Members, of which four are independent and one is the HFSF Representative at the Board of Directors. The Committee members shall be appointed for a term of one year, which shall be automatically renewed for successive one-year renewal terms, unless otherwise decided. In any case, the mandates of the Committee members shall automatically expire if they cease to be members of the NBG Board. Committee members' term shall not exceed nine years in total. The Committee convenes at least four times a year and keeps minutes of its proceedings and reports regularly to the Board of Directors.

The Committee is currently comprised of the following members:

Table 81: Board HRRC Members

Human Resources and Remuneration Committee	
Chair	Anne Marion – Bouchacourt
Vice- Chair	Elena Ana Cernat
Member	JP Rangaswami
Member	Athanasios Zarkalis
Member	Periklis Drougkas (HFSF representative)

Mr Periklis Drougkas has been appointed as the Representative of the Hellenic Financial Stability Fund on the Board of Directors as of 23 July 2018. The HFSF Representative is entitled to participate in the Board Committees, and has the rights and authorities prescribed by Law 3864/2010 as in force and the Relationship Framework Agreement between the National Bank of Greece and the Hellenic Financial Stability Fund, as each time in force. Pursuant to Law 3864/2010 (article 10 §2b), as amended and in force, the Representative of the HFSF on the Bank's Board, has veto powers regarding the distribution of dividends and the benefits and bonus policy concerning the Chairman, the Chief Executive Officer and the other members of the Board of Directors, as well as whoever exercises general manager's powers and their deputies for any credit institutions whose ratio of non-performing loans to total loans, as calculated in accordance with subsection g(ii), of paragraph 2 of Article 11 of Commission Implementing Regulation (EU) 2021/451, exceeds 10%.

During 2022, the Human Resources and Remuneration Committee convened ten -times. During 2022, the key workings of the Committee included:

- Monitoring of Performance Management System ("PMS") implementation (conclusion of PMS cycle (2021 review, 2022 goal setting).
- Review of NBG Directors' and Senior Managers' Remuneration Policy according to Greek Law 4548/2018.
- Continuous oversight/monitoring of a number of important Transformation Initiatives related to Human Resources issues and Human Resources master plan (Human Resources Function redesign, redesign of back-office onboarding processes, upgrade of the Human Resources Data Structure / reporting enhancement and standardization, Talent Management/Succession Planning, Career Framework etc.).
- Review of variable remuneration cycle (Branch Network, Head Office Schemes payout, Top Management long term incentive scheme design).
- Launch of 2022 Voluntary Exit Scheme ("VES") – Update on 2022 VES results.
- Review of Proposals on adjustments of Executive remuneration terms.
- Review of Key findings and focus areas of the 2nd Bank –wide NBG Employee Engagement Survey.

Detailed information regarding the responsibilities, the composition and the operation of the HRRC of the Bank's Board is available in the Bank's website www.nbg.gr, as well as in the Group and the Bank's Annual Financial Reports, as a part of the Board's Corporate Governance Statement.

16.3 Remuneration Policy

The Bank's and the Group's remuneration practices are consistent with the framework provided by Greek Law 4261/2014 (which transposed European Directive 2013/36/EU CRD IV), as amended by Greek Law 4799/2021, which transposed Directive 878/2019/EU (CRD V), Greek Law 4548/2018, Greek Law 3864/2010 ("the HFSF Law"), the Bank of Greece Governor's Act 2577/2006, as amended by the Bank of Greece Executive Committee's Act 158/10.5.2019, and the Relationship Framework Agreement between the Bank and the HFSF as each time in force.

NBG is committed to ensuring fair treatment in terms of remuneration regardless of gender identity, age, race, ethnicity, sexual orientation, ability, social background, religious or ethical values system and political beliefs, union action or participation in workers' councils/organizations, or any other category protected by law.

Furthermore, in line with regulatory provisions, the Remuneration Policy is designed with particular attention to avoiding incentive

[5] *It is noted that following the revisions of Board Committees Charters, as of 01.03.2019 proposals to the Board regarding the remuneration of Board members falls within the competence of the Corporate Governance and Nominations Committee.*

elements (especially in variable compensation) inducing behaviors not aligned with the Bank's aim for sustainable business results or inconsistent with its risk appetite.

Specifically, variable remuneration is supported by the annual performance management process assuring consistency and clarity of relevant performance objectives, including environmental-, social- and government- (ESG-) and climate-related objectives as well as broader behavioral expectations aligned with business strategy, culture and values.

The Remuneration Policy is aligned with NBG's operating model, business, risk- and ESG-strategy objectives and long-term interests. In particular, the Remuneration Policy is based on the following principles:

- maximizing value by supporting the Group's strategy;
- aligning with shareholders' long-term interests;
- considering the interests of customers, employees, society and the environment and ensuring they are appropriately balanced with those of shareholders;
- ensuring no discrimination based upon business related behaviors or characteristics, and, particularly, emphasizing gender-pay-neutrality for all staff;
- rewarding competitively the achievement of long-term sustainable performance, so as to attract new talent and motivate NBG employees;
- encouraging environmental and social responsibility and corporate citizenship.

Moreover, the Remuneration Policy reaffirms the Group's corporate culture and values, aims at promoting ethical conduct and behaviors, meritocracy, transparency and, within given constraints, follows market trends and dynamics. Its end goals are:

- to allow NBG to attract, motivate and retain key talent;
- to align NBG's business goals with employees' remuneration;
- to enable NBG to maintain a competitive and flexible cost structure;
- to promote fairness and meritocracy;
- to promote the long-term sustainable growth of its customers, employees, society and environment;
- to safeguard the internal risk appetite, including climate-related, and environmental-, social- and governance-related (ESG) risks by promoting prudent risk-taking and appropriate conduct practices;
- to stimulate behaviors consistent with any ESG voluntary commitments;
- to discourage excessive risk-taking.

The Policy applies to all NBG staff, meaning all employees of the Bank. Nonetheless, as required by Law 4548/2018, the remuneration of Board Members and Senior Management (specifically, General Managers and Assistant General Managers) is governed by the provisions of the (separate) NBG Directors' & Senior Managers' Remuneration Policy (see below). The Policy also sets out specific principles applying to categories of staff whose professional activities have a material impact on the organization's risk profile.

Group companies adopt similar Remuneration Policies, in line with the principles set out in the Group Remuneration Policy, adjusted appropriately and in a proportionate manner to their size and internal organization, as well as to the nature, scope and complexity of their activities, market conditions and regulatory environment (including sector and corporate CLAs) of the country (or countries) they operate.

The Group Remuneration Policy was revised during 2023 by the Board of Directors, held on 30 March 2023, following proposal by the Human Resources and Remuneration Committee.

The main amendments brought within the revised Policy include additional provisions to consider severance payments, sign-up bonuses or other retention schemes, enhancements to further align with the ESG perspective and updates in legal framework and EBA Guidelines references, e.g. L. 3864/2010 (the "HFSF Law") as lastly amended by Law 4941/2022 and as each time in force, and EBA/GL/2021/04.

The Bank further monitors developments in the applicable framework.

16.4 Bank Units

The following Divisions of the Bank, in accordance with their respective responsibilities, shall be involved in the design, review and implementation of the Remuneration Policy:

- Group Human Resources Divisions
- Group Corporate Governance and Compliance Divisions
- Group Legal Divisions
- Group Audit Divisions
- Group Internal Control Independent Sectors
- Group Risk Management Divisions
- Group Finance Divisions

External experts may participate in the development and periodical review of the Remuneration Policy, whenever the Board sees fit. However, during 2022 no such external expert advice was sought.

16.5 Remuneration Policy Governance

The Policy is regularly reviewed and at least at every material change. Policy revisions are approved by the Bank's Board of Directors (non-executive members), following a proposal by the HRRC.

Group HR is responsible for submitting proposals on Remuneration Policy Revisions to the HRRC.

16.6 Main characteristics of the remuneration system of the Bank according to the Bank's Remuneration Policy

The remuneration practices of the Bank are in compliance with the provisions of the existing regulatory framework concerning all staff, as well as with regulatory provisions regarding identified staff - specific categories of staff determined in accordance with Regulation (EU) No. 923/2021.

The basic principles and the most important design characteristics of the remuneration system of the Bank, which are aligned with applicable labor legislation, Collective Labor Agreements and Business Collective Labor Agreements, as well as relevant guidelines of the supervisory authorities, are described below.

16.6.1 Remuneration structure

Irrespective of its category, remuneration may consist of:

- direct monetary components
- non-cash components.

The NBG Group allocates all remuneration components to either fixed or variable remuneration, in line with the criteria provided by the applicable Regulatory framework. Moreover, through differentiating fixed and variable remuneration components over time and across functions, it ensures that remuneration is closely linked to both short- and long-term business strategy and objectives.

The maximum ratio of fixed to variable remuneration shall be determined in compliance with the provisions of the Regulatory framework, internal risk appetite as well as the competitive environment and international best practices.

The Board of Directors shall set the appropriate ratio between the fixed and the variable component of total remuneration, whereby the following principles shall apply:

1. the annual variable remuneration component shall not exceed 100% of the annual fixed remuneration component of the total annual remuneration, for each individual. A lower maximum percentage may apply;
2. any approval of a higher than 100% ratio shall be applied with the approval of the General Meeting of Shareholders and provided that the overall level of the variable component does not exceed 200% of the fixed component of the total remuneration for each individual.

In exceptional and duly justified cases, a different ratio may be set for individuals classified as Material Risk Takers (Identified Staff).

Notably, the ratio between the variable and fixed remuneration components is set in line with at-the-time market-based valuation of the respective instruments, independently of any potential future (ex post) risk adjustments or fluctuation in their price or in the prices of other related components.

Regarding share options in particular, no options were granted in 2022.

16.6.2 Criteria used for determining variable remuneration

The NBG Group reserves the option (discretionary right) to grant its employees variable remuneration.

In view of driving long-term, sustainable value creation, NBG's variable remuneration is designed to incentivize and reward achievements by tying pay directly to performance outcomes over short, medium, and long-term time horizons. To foster alignment between the interests of shareholders, management, and employees, performance measures are based on the Company's overall outcomes, relevant business unit performance, as well as individual achievements. Notably, short-term variable remuneration is paid out in cash and in a single installment, unless otherwise determined by the applicable Legal and Regulatory framework, as each time in force.

Group HR is responsible to design variable remuneration systems, in collaboration with competent functions and in accordance with the relevant Internal/Legal framework as this each time applies. The remuneration systems are approved by the Board of Directors following the recommendation of the Human Resources and Remunerations Committee.

16.6.3 Risk alignment of remuneration

In accordance with the applicable Regulatory framework, the remuneration of staff whose professional activities could have a material impact on the organization's risk profile - "Material Risk Takers (Identified Staff)" - is subject to additional provisions. Their identification, in line with the qualitative and quantitative criteria as per the provisions of the at each time applicable Legal and Regulatory framework, is conducted by the Group Corporate Governance and Compliance function, in cooperation with the competent units. In line with the Regulatory framework as well as with prudent risk management practices, Risk Takers are not provided with variable remuneration promoting excessive risk-taking practices (transaction-specific risks), nor are they rewarded for taking (cumulatively) risks which exceed the risk tolerance threshold of the organisation (Risk Appetite framework limits).

Additionally, one of NBG's main priorities is to deploy a sound conduct risk assessment mechanism aligned with NBG Group values and strategy, its internal risk culture and Risk Appetite Framework, aiming to supplement and safeguard prudent risk-taking through appropriate conduct practices. NBG Group defines and manages conduct risk explicitly as part of its risk management framework. There are robust processes in place to ensure that risk, reputation and conduct related matters, as well as financial losses and impairments, and other breaches of the risk management framework are specifically considered when assessing performance and determining variable remuneration rewards. Variable remuneration is granted through processes which promote accountability, reward appropriate behaviors and penalize inappropriate ones.

The Bank's Conduct Risk Assessment Committee is responsible to ensure that variable remuneration is aligned with appropriate conduct throughout the organization. In this context, the Committee sets the criteria and the relative framework by which conduct risk assessment is applied in terms of variable remuneration payment, as well as reviews, endorses and monitors conduct risk findings and takes appropriate proactive measures as necessary. These processes may result in a downward adjustment or cancelation of variable remuneration where/as appropriate.

16.7 Adjustment / deferral / retention/ claw back of variable remuneration

The Bank's Remuneration Policy foresees particular provisions including on deferral of at least 40% of variable remuneration for at least 4 to 5 years, or in the case of a variable remuneration component of a particularly high amount, of at least 60% of the amount, as well as on retention of instruments forming part of variable remuneration, with a view to aligning incentives with the Bank's longer-term interests and taking into consideration performance and performance-linked current and future risks over time.

The Bank may suspend, entirely or in part, the payoff of variable remuneration, if specific ratios (such as capital adequacy, liquidity etc.) are not met or if the financial situation of the Bank/Group has deteriorated significantly.

Respectively and, without prejudice to the provisions of labor Law, any variable remuneration paid should be reclaimed if, following such payment, it is discovered that the performance for which the variable remuneration was offered derived from practices that are inconsistent with the principles and policies of the Bank / Group.

More specifically, in case of violations of regulations / procedures, misconduct, failure to meet appropriate standards of fitness and propriety, or other equally serious cause, or participation in or responsibility for conduct which resulted in significant losses, the Bank/Group Company shall assess the situation and shall be entitled to use any and all legal means available to claim the return of such amounts from the employee.

16.8 Payment / vesting

For the distribution of vested variable remuneration, the financial and capital strength of the Bank/entity and/or Group at the time of distribution is taken into account. In the event that financial and capital performance is significantly deteriorating, total variable remuneration (including payments of remuneration vesting from previous periods) will be postponed, reduced or altogether cancelled. Specifically, the Bank/entity and/or Group reserves the right to postpone, reduce or cancel previously vested (or vesting) payments, upon recommendation of the respective local (Bank/entity) or Group Finance or Risk functions to the HRRC and following the approval of the Board of Directors. Notably, in such cases of postponement, reduction or cancellation of vested (or vesting) payments, vintages of outstanding payments should be treated in a fair and proportionate manner.

16.9 Remuneration of senior management

In accordance with Directive (EU) 2017/828, as this has been (partly) transposed into the Greek legal framework with Greek Law 4548/2018 on Sociétés Anonymes, listed companies are required, among others, to establish a remuneration policy as regards directors and shareholders have the right to vote on the remuneration policy at the General Meeting. Additionally, in accordance with article 110 para 1 of Law 4548/2018, by statutory provision the Policy may also include in its scope the key management personnel, as defined in International Accounting Standard (IAS) 24 para 9.

Within this context, and with the aim at further enhancing transparency in the remuneration framework of the Bank's management structure especially by extending the scope of the Policy so as to include not only Board members but also Senior Managers, the Bank's Annual General Meeting of Shareholders, held on 30 June 2020, following proposal of the Board of Directors, as assisted by the Corporate Governance and Nominations Committee and the Human Resources and Remuneration Committee, approved the revised NBG Directors' & Senior Managers' Remuneration Policy.

During 2022, the Directors' & Senior Managers' Remuneration Policy was further revised by the Bank's Annual General Meeting of Shareholders, held on 28 July 2022, following proposal of the Board of Directors, as assisted by the Corporate Governance and Nominations Committee and the Human Resources and Remuneration Committee.

The main amendments brought within the revised Policy include especially amendments to the methodology for determining remuneration of Non-Executive Directors; adjustments in alignment to provisions of the new Law 4941/2022 amending Law 3864/2010 relevant to remuneration; updates in legal framework and EBA Guidelines references, as per current provisions applying; and updates in contract termination clauses in line with market practice and in accordance also with the years of service at the Bank. [More detailed information may be found within the Draft Resolutions/Board Remarks on the items of the Agenda of the AGM (https://www.nbg.gr/en/group/investor-relations/reports/taktiki-geniki-syneleusi-tis-28-07-2022)].

The NBG Directors' & Senior Managers' Remuneration Policy shall be applicable for a period of four years, unless revised earlier or in cases of temporary derogations, in alignment with the relevant applicable provisions.

The NBG Directors' & Senior Managers' Remuneration Policy is available on the Bank's website, (https://www.nbg.gr/ en/ group/ esg/ corporate-governance/ corporate-governance-framework).

The remuneration of Senior Management (namely, General Managers and Assistant General Managers) is approved by the Board, following proposal of the HRRC upon proposal of the CEO, or of other positions that may be prescribed by the applicable regulatory framework or the Bank's Labor Regulation. The remuneration of Senior Managers is determined as provided for under the terms of their relevant contracts, taking into account the salaries of peers in the Greek and international banking and other sectors, as well as the Bank's financial position, risks undertaken and supervisory indicators, and within the approved by the Board relevant salary bands. In accordance with the provisions of Law 3864/2010, as lastly amended by Law 4941/2022 and as each time in force, (article 10 para 3) for as long as the ratio of non-performing loans to total loans exceeds ten percent (10%), or for financial reporting years up to and including 2022, the fixed Senior Management remuneration cannot exceed the total remuneration of the Governor of the Bank of Greece, while in any case remuneration shall be awarded in accordance with the provisions of the legal and regulatory framework, as this each time applies. Further, in accordance with the provisions of Law 3864/2010, as lastly amended by Law 4941/2022 and as each time in force, (article 10 para 3), any variable remuneration (bonus) to Senior Managers is abolished throughout the period of the Bank's restructuring plan, submitted to the European Commission as part of the approval process for the capital support program, and until its completion[6], or for as long the ratio of non-performing loans to total loans exceeds ten percent (10%), or for financial reporting years up to and including 2022. Similarly, for the period of participation of the Bank in the capital increase program of Article 7 of Law 3864/2010, the variable remuneration may only take the form of shares or stock options or other means within the meaning of articles 52 or 63 of the Regulation (EU) 575/2013, according to article 86 of law 4261/2014 (A '107). In 2022, no variable remuneration was granted to the Bank's Senior Management.

The Committee shall ensure that the remuneration of of the various Risk and Control Functions personnel should not be linked to the performance of the business units they control. The Committee supervises the remuneration of the Group Chief Compliance Officer and the Chief Risk Officer whose appointment and performance assessment is overseen by the Compliance, Ethics and Culture Committee in the case of the Group Chief Compliance Officer and by the Risk Committee in the case of the Chief Risk Officer. The Committee is consulted by the Audit Committee as may be necessary in the Audit Committee's responsibility for approving the Group Chief Audit Executive remuneration, while the appointment and performance assessment of the Chief Audit Executive is

[6] *The Bank has exited the 2019 Revised Restructuring Plan, which was agreed between the Hellenic Republic and the Directorate General for the Competition of the European Commission, because of the State Aid received by the Bank during the recapitalizations which took place in 2013 and 2015.*

overseen by the Audit Committee. The Committee shall make recommendations to the Board on the design of the remuneration package and amounts of remuneration to be paid to the senior staff members in the control functions.

16.10 Directors' Remuneration

In accordance with Greek Law 4548/2018 article 110, listed companies are required to establish a remuneration policy as regards directors and shareholders have the right to vote on the remuneration policy at the General Meeting. Within this context, the Board of Directors, following proposal of the Corporate Governance and Nominations Committee, submitted the NBG Directors' Remuneration Policy to the Annual General Meeting of Shareholders (AGM), which approved it on 31 July 2019. Additionally, in accordance with article 110 para 1 of Law 4548/2018, by statutory provision the Policy may also include in its scope the key management personnel, as defined in International Accounting Standard (IAS) 24 para 9. The Directors' Remuneration Policy initially approved by the Bank's AGM held on 31 July 2019 was subsequently revised by the AGM of 30 June 2020. During 2022, the Directors' & Senior Managers' Remuneration Policy was further revised by the Bank's AGM held on 28 July 2022, following proposal of the Board of Directors, as assisted by the Corporate Governance and Nominations Committee and the Human Resources and Remuneration Committee (for more details see section "Remuneration of senior management" above). The Policy shall be applicable for a period of four years, unless revised earlier or in cases of temporary derogations, in alignment with the relevant applicable provisions. This proposal of the Bank's Board of Directors (non-executive members), following recommendation of the Corporate Governance and Nominations Committee, is formulated, in line with the current legal and regulatory framework to which the Bank is subject and according to the Bank's Remuneration Policy, the Charters of competent Board Committees as well as industry best practices, in a way that adequately reflects the time and effort the members are expected to contribute to the work of the Board, while at the same time promoting efficiency of the Board. In accordance with the provisions of Law 3864/2010, as lastly amended by Law 4941/2022 and as each time in force, (article 10 para 3) for as long as the ratio of non-performing loans to total loans exceeds ten percent (10%), or for financial reporting years up to and including 2022, the Directors' fixed remuneration, cannot exceed the total respective remuneration of the Governor of the Bank of Greece, while in any case remuneration shall be awarded in accordance with the provisions of the legal and regulatory framework, as this each time applies. Further, in accordance with the provisions of Law 3864/2010, as lastly amended by Law 4941/2022 and as each time in force, (article 10 para 3), any variable remuneration (bonus) to Directors is abolished throughout the period of the Bank's restructuring plan, submitted to the European Commission as part of the approval process for the capital support program, and until its completion[7], or for as long the ratio of non-performing loans to total loans exceeds ten percent (10%), or for financial reporting years up to and including 2022. Similarly, for the period of participation of the Bank in the capital increase program of Article 7 of Law 3864/2010, the variable remuneration may only take the form of shares or stock options or other means within the meaning of articles 52 or 63 of the Regulation (EU) 575/2013, according to article 86 of law 4261/2014 (A '107).

More information on the NBG Directors' & Senior Managers' Remuneration Policy is available in the Bank's website, (https://www.nbg.gr/ en/ group/ esg/ corporate-governance/ corporate-governance-framework).

Remuneration of the Board's Chairman, the CEO and the Executive Board members is determined based on proposal by non-executive members of the Board[8].

The salaries of the Chairman, the CEO and Board members are determined annually or as provided for under the terms of their relevant contracts, taking into account the salaries of peers in the Greek and international banking and other sectors, as well as the Bank's financial position, risks undertaken and supervisory indicators.

The remuneration of non-executive members of the Board is linked to factors such as their general responsibilities and the time they devote to carrying out their duties, but not to the short-term results of the Bank/Group. It is noted that currently, there are no active supplementary pension or early retirement schemes provided by the Bank to Non-Executive Directors. No variable compensation is received by the Non-Executive BoD Members, neither are they part of retirement plans, severance payment programs or performance incentives, unless as otherwise decided by the General Meeting of Shareholders.

The Annual Ordinary General Meeting of the Bank's Shareholders approves the remuneration of the Chairman of the Board, the CEO, the Executive and non-executive Directorsfor the previous financial year and determines their respective remuneration through to the next Annual General Meeting, pursuant to Law 4548/2018. It is noted that, according to the decision of the Annual General Meeting of 30 June 2017 the Chair of the Board of Directors and executives of the Bank do not receive remuneration as members of the Board of Directors and their remuneration is incorporated in their annual gross remuneration.

The remuneration received by the Chairman of the Board, the executive and non-executive Directors for the year 2022, due to their relationship with the Bank, has already been published in the Bank's Annual Financial Report for the annual period ended 31 December 2022, as part of the Board's Annual Report, which is available in the Bank's website (https://www.nbg.gr/ en/ group/ investor-relations/ financial-statements-annual-interim/ financial-statements).

During 2022, no variable remuneration has been granted to the Board members.

16.11 Aggregate Quantitative Information on remuneration

Remuneration of senior management and staff members whose professional activities have a material impact on the Bank's risk profile, in accordance with the provisions of the Commission Delegated Regulation (EU) 2021/923 of 25 March 2021 supplementing the Capital Requirements Directive IV and repealing and replacing Delegated Regulation (EU) 604/2014, for the financial year 2022, is presented in the tables below, as obtained from Bank

[7] *The Bank has exited the 2019 Revised Restructuring Plan, which was agreed between the Hellenic Republic and the Directorate General for the Competition of the European Commission, because of the State Aid received by the Bank during the recapitalizations which took place in 2013 and 2015.*

[8] *It is noted that following revision of Board Committees Charters, as of 01.03.2019 proposals to the Board regarding the remuneration of Board members falls within the competence of the Corporate Governance and Nominations Committee.*

and Group data at the end of the reporting year. Furthermore, it is noted that, for the year 2022, at the Bank and the Group no staff remunerated with more than EUR 1 million was occupied, no special payments have been made to identified staff and there was no deferred remuneration.

Table 82: EU REM1 - Remuneration awarded for the financial year 31.12.2022

			MB Supervisory function	MB Management function	Other senior management	Other identified staff
1	Fixed remuneration	Number of identified staff	11	2	27	58
2		Total fixed remuneration *(mio)*	1,58	0.67	6,22	5,94
3		Of which: cash-based	1,57	0.64	5,94	5,67
4		(Not applicable in the EU)				
EU-4a		Of which: shares or equivalent ownership interests				
5		Of which: share-linked instruments or equivalent non-cash instruments				
EU-5x		Of which: other instruments				
6		(Not applicable in the EU)				
7		Of which: other forms	0.014	0.029	0.28	0.27
8		(Not applicable in the EU)				
9	Variable remuneration	Number of identified staff	0	0	1	57
10		Total variable remuneration *(mio)*	0	0	0.011	0.78
11		Of which: cash-based				
12		Of which: deferred				
EU-13a		Of which: shares or equivalent ownership interests				
EU-14a		Of which: deferred				
EU-13b		Of which: share-linked instruments or equivalent non-cash instruments				
EU-14b		Of which: deferred				
EU-14x		Of which: other instruments				
EU-14y		Of which: deferred				
15		Of which: other forms				
16		Of which: deferred				
17	Total remuneration (2 + 10) *(mio)*		1,58	0.67	6,23	6,72

Table 83: EU REM5 - Information on remuneration of staff whose professional activities have a material impact on institutions' risk profile (identified staff) 31.12.2022

	Management body remuneration			Business areas						-
	MB Supervisory function	MB Management function	Total MB	Investment banking	Retail banking	Asset management	Corporate functions	Independent internal control functions	All other	Total
1 Total number of identified staff	11	2	13	23	31	2	12	17	0	**98**
2 Of which: members of the MB	11	2	13							**13**
3 Of which: other senior management				1	9	2	10	5	0	**27**
4 Of which: other identified staff				22	22	0	2	12	0	**58**
5 Total remuneration of identified staff *(mio)*	1,58	0.67	2,25	2,12	4,73	0.40	2,68	3,03	0	**15,21**
6 Of which: variable remuneration *(mio)*	0	0	0	0.23	0.40	0	0.037	0.13	0	**0.79**
7 Of which: fixed remuneration *(mio)*	1,58	0.67	2,25	1,89	4,33	0.40	2,64	2,90	0	**14,41**

List of abbreviations

Abbreviation	Definition	Abbreviation	Definition
ABS	Asset-Backed Securities	**IAS**	International Accounting Standards
ACC	Additional Credit Claims	**ICAAP / ILAAP**	Internal Capital / Liquidity Adequacy Assessment Process
AFS	Available for Sale	**ICMA**	International Capital Markets Association
A-IRB	Advanced Internal Ratings Based (Approach)	**ICT**	Information and Communication Technology
ALCO	Asset Liability Committee	**IFRS**	International Financial Reporting Standards
ALM	Asset Liquidity Management	**IMA**	Internal Model Approach
AMC	Asset Management Companies	**IRB**	Internal Ratings Based (approach)
AML	Anti-Money Laundering	**IRRBB**	Interest Rate Risk in the Banking Book
APP	Asset Purchasing Program	**IRS**	Interest Rate Swaps
APS	Asset Protection Scheme	**ISDA**	International Swaps and Derivatives Association
ATHEX	Athens Exchange	**IT**	Information Technology
BAC	Board Audit Committee	**ITS**	Implementing Technical Standards
BC	Bankruptcy Code	**IVS**	International Valuation Standards
BCBS	Basel Committee on Banking Supervision	**JST**	Joint Supervisory Team
BoG	Bank of Greece	**KPI**	Key Performance Indicator
BoS	Board of Supervisors (EBA)	**KRI**	Key Risk Indicator
bps	Basis Point	**LCR**	Liquidity Coverage Ratio
BRC	Board Risk Committee	**LGD**	Loss Given Default
BRRD	Bank Recovery and Resolution Directive	**LR**	Leverage Ratio
BTAR	Banking Book Taxonomy Alignment Ratio	**M&A**	Mergers and Acquisitions
BU	Business Unit	**MDA**	Maximum Distributable Amount
C&E	Climate & Environment	**MIS**	Management Information System
CBR	Combined Buffer Requirements	**ML**	Money Laundering
CCB	Capital Conservation Requirement	**MoB**	Months on Book
CCF	Credit Conversion Factor	**MRA**	Moody's Risk Advisor
CCM	Climate Change Mitigation	**MREL**	Minimum Requirements for Own Funds & Eligible Liabilities
CCO	Chief Credit Officer	**MRO**	Main Refinancing Operations
CCP	Code of Civil Procedure	**MVS**	Model Validation Sector
CCR	Counterparty Credit Risk	**MVU**	Model Validation Unit
CCyB	Countercyclical Capital Buffer	**NACE**	Nomenclature of Economic Activities
CDS	Credit Default Swap	**NBG**	National Bank Of Greece, S.A
CEBS	Committee of European Banking Supervisors	**NCA**	National Competent Authority
CEF	Credit Equivalent Factor	**NFC**	Non-Financial Corporates
CEO	Chief Executive Officer	**NII**	Net Interest Income
CET1	Common Equity Tier 1	**NMRF**	Non-Modellable Risk Factors
CFO	Chief Financial Officer	**NPE**	Non Performing Exposure
CMS	Collateral Management System	**NPL**	Non Performing Loan
COO	Chief Operations Officer	**NPV**	Net Present Value
CPRS	Climate Policy Relevant Sectors	**NRA**	National Resolution Authorities
CRD	Capital Requirements Directive	**NSFR**	Net Stable Funding Ratio
CRM	Corporate Rating Model	**NZ Framework**	Net Zero Framework
CRO	Chief Risk Officer	**O/N**	Overnight
CRR	Capital Requirements Regulation	**OCP**	Open Currency Position
CSA	Credit Support Annex	**OCR**	Overall Capital Requirement
CSPP	Corporate Sector Purchasing Program	**OCW**	Out-of-Court Workout
CSRBB	Credit Spread Risk in the Banking Book	**OR**	Operational Risk
CSR	Corporate Social Responsibility	**ORCO**	Operational Risk Management Committee
CVA	Credit Valuation Adjustment	**ORMF**	Operational Risk Management Framework
DCD	Domestic Credit Division	**ORR**	Obligors' Risk Rating

APPENDIX

DGSD	Deposit Guarantee Schemes Directive	**O-SII**	Other Systemically Important Institution
dpd	days past due	**OTC**	Over-the-counter
DoD	Definition of Deafult	**P&L**	Profit and Loss
DTA	Deferred Tax Asset	**P2G**	Pillar 2 Guidance
DTC	Deferred Tax Credit	**P2R**	Pillar 2 Requirement
EAD	Exposure at Default	**PD**	Probability of Default
EBA	European Banking Authority	**PE**	Performing Exposures
EBF	European Banking Federation	**PELTROs**	Pandemic Emergency Long-Term Refinancing Operations
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization	**PEPP**	Pandemic Emergency Purchase Program
EC	European Commission	**PMO**	Project Management Office
ECAI	External Credit Assessment Institutions	**ppts**	Percentage points
ECB	European Central Bank	**PSE**	Public Sector Entity
ECL	Expected Credit Losses	**PSI**	Private Sector Involvement
EDIS	European Deposit Insurance Scheme	**QCCP**	Qualifying Central Counterparty
EFSF	European Financial Stability Facility	**RAF**	Risk Appetite Framework
EIB	European Investment Bank	**RAPM**	Risk-Adusted Performance Metrics
EIF	European Investment Fund	**RCF**	Risk Culture Framework
EIOPA	European Insurance & Occupational Pensions Authority	**RCSA**	Risk and Control Self-Assessment
EL	Expected Loss	**RES**	Renewable Energy Resources
ELA	Emergency Liquidity Assistance	**RIMA**	Risk identification & materiality assessment
EPC	Energy Performance Certificate	**RTS**	Regulatory Technical Standards
ERBA	External Ratings Based Approach	**RWA**	Risk Weighted Assets
ESA	European Supervisory Authorities	**SA**	Standardized Approach
ESG	Environmental, Social & Governance	**SAU**	Special Assets Unit
ESM	European Stability Mechanism	**SB(L)**	Small Business (Lending)
ESMA	European Securities & Markets Authority	**SEC**	Securities and Exchange Commission
ESRB	European Systemic Risk Board	**SFDR**	Sustainable Finance Disclosure Regulation
ETEAN	Hellenic Fund for Entrepreneurship and Development	**SGP**	Stability & Growth Pact
EU	European Union	**SICR**	Significant Increase of Credit Risk
EVE	Economic Value of Equity	**SL**	Specialised Lending
EVS	European Valuation Standards	**SME**	Small & Medium Enterprises
EW	Early Warning	**SPPI**	Solely Payments of Principal and Interest
ExCo	Executive Committee	**SPV**	Special Purpose Vehicle
FBE	Forborne Exposures	**SR**	Securitization Repositories
FI	Financial Institution	**SRB**	Single Resolution Board
F-IRB	Foundation internal ratings-based (approach)	**SRCO**	Segment Risk & Control Officer
FRTB	Fundamental Review of the Trading Book	**SREP**	Supervisory Review and Evaluation Process
FSB	Financial Stability Board	**SRM**	Single Resolution Mechanism
FVTOCI	Fair Value Through Other Comprehensive Income	**SSM**	Single Supervisory Mechanism
FVTPL	Fair Value Through Profit or Loss	**ST**	Stress Test
FX	Foreign Exchange	**STS**	Single, Transparent, Standardized (securitization)
GAAP	Generally Accepted Accounting Principles	**sVaR**	Stressed Value at Risk
GAR	Green Asset Ratio	**TF**	Terrorist Financing
GHG emissions	Greenhouse Gas Emissions	**TFEU**	Treaty on the Functioning of the European Union
GGB	Greek Government Bond	**TLAC**	Total Loss Absorbing Capacity
GHOS	Governors and Heads of Supervision	**TLTRO**	Targeted Long-Term Refinancing Operations
GICD	Group International Credit Division	**TRIM**	Targeted Review of Internal Models
GL	Guidelines	**TSCR**	Total SREP Capital Requirement
GMORM(D)	Group Market & Operational Risk Management (Division)	**URCO**	Unit Risk & Control Officer
GMRA	Global Master Repurchase Agreement	**UAT**	User Acceptance Testing
GRC	Governance Risk & Compliance	**UTP**	Unlikeliness to Pay
GRCA(D)	0Group Risk Control & Architecture (Division)	**VaR**	Value at Risk

GRCD	Group Retail Credit Division	**VCV**	Variance-Covariance
G-SII	Global Systemically Important Institution	**WAM**	Weighted Average Maturity
HCMC	Hellenic Capital Market Commission		
HDB	Hellenic Development Bank		
HFSF	Hellenic Financial Stability Fund		
HRRC	Human Resources and Remuneration Committee		
HTCS	Held to Collect and Sell		