



◆ bank hapoalim

TCFD Report

2022

About the report

Climate change has been one of the key challenges facing the world in recent years, and seems poised to remain a significant issue in the years to come. With climate change expected to have far-reaching effects on ecological, economic, and social systems around the world, organizations' preparedness to cope with these effects is crucial to their ability to continue to thrive and grow in the near future.

Climate changes are expected to have a deep impact on the global financial system, creating a variety of business opportunities alongside financial and operational risks. International methodologies for the management of these risks and for identifying and leveraging opportunities, as well as financial organizations' ways of coping with climate change effectively, are becoming more advanced every year.

We, too, are committed to coping with the challenge posed by the climate crisis and preparing for its anticipated effects. This commitment derives both from our responsibility to support global efforts to fight climate change, for the sake of future generations, and from our aim of managing the threats and opportunities arising from the climate crisis in alignment with the best interests of our customers and all of our stakeholders.

This report describes how we at Bank Hapoalim are preparing for climate change in light of the concomitant risks and opportunities. The report was written in accordance with the requirements of the leading global reporting standard on the management of climate impacts on organizations' financial performance, formulated by the Task Force on Climate-Related Financial Disclosure (TCFD) at the Financial Stability Board (FSB). The report also includes the results of the first carbon footprint measurement of the bank's corporate credit business, in line with the PCAF standard, the leading accounting methodology today for measuring and reporting greenhouse-gas emission intensity in the financial sector.

This TCFD report for 2022, the bank's first report of its kind, accompanies the bank's 2022 ESG report released in April. Starting next year, we will include reporting according to the TCFD principles in the annual ESG report.

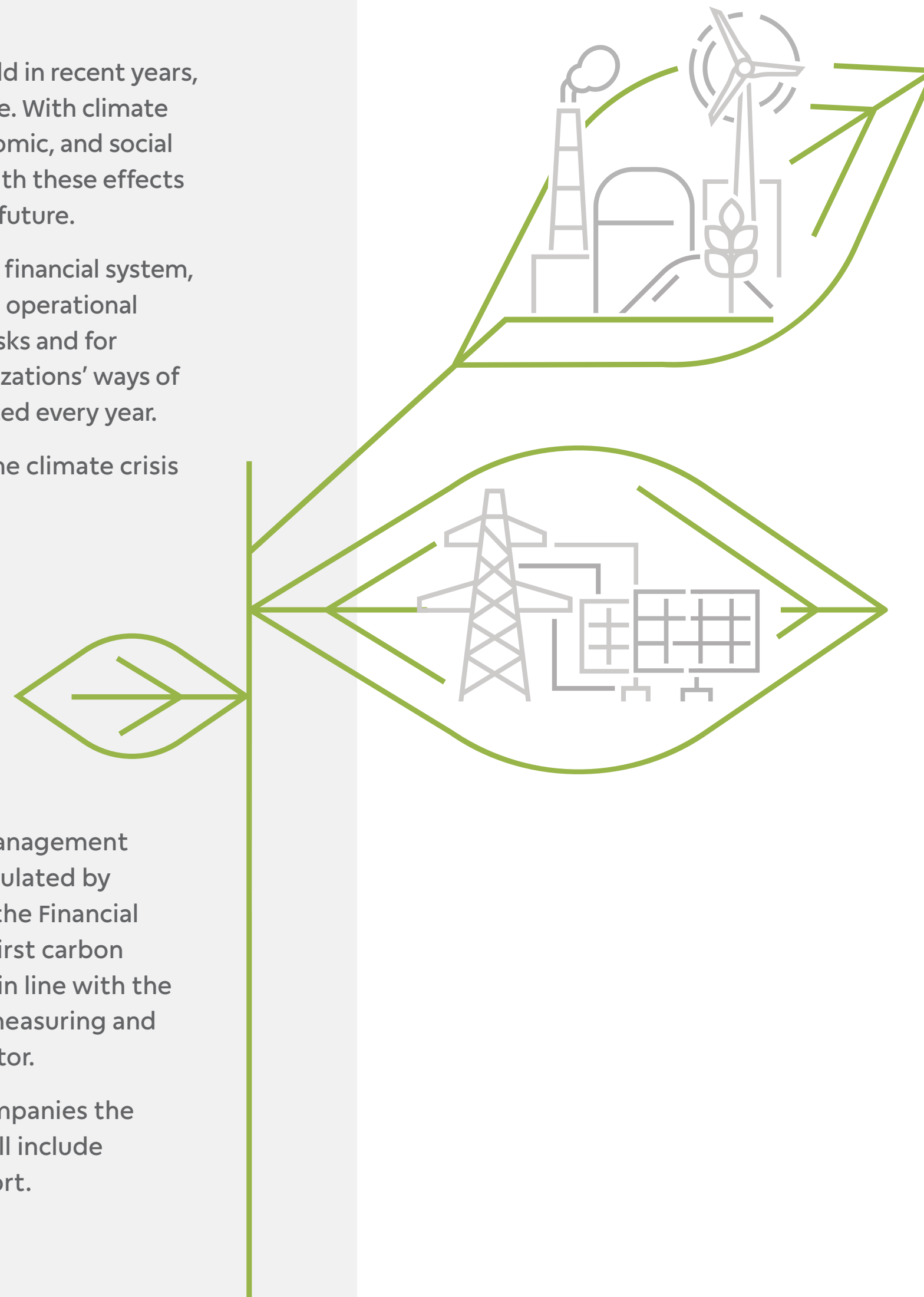


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Climate action

Bank Hapoalim is an integral part of the economy and society of Israel; as a major financial organization, the bank has a meaningful impact on the environment and society within which it operates. In view of this responsibility, the bank has acted in recent years to support global efforts to cope with climate change, while strengthening its operational and business resilience in relation to these changes.

Support for the transition to a low-carbon economy

NIS 19.5 billion

Balances of credit¹ as at December 31, 2022, granted to projects promoting a green environment

NIS 513 million

Balance of investments in renewable energy projects through Poalim Equity

\$ 1 billion

Volume of issuance of the first green bonds in Israel by the bank in 2021

ESG investment advising for customers since 2019

From time to time, we develop new dedicated ESG deposits, enabling customers to share in making an environmental impact through their savings

Reduction of environmental impacts

59% reduction in carbon footprint

of the operational activities of the bank over the last decade, from 2013 to 2022 (a 13.5% decrease vs. 2020)

30 tCO₂e

Emissions intensity per million NIS of credit in 2022

2,703 tCO₂e

Carbon offset credits at the bank's disposal due to its support for carbon-sequestration ventures based on natural solutions

Climate and environmental risk management

In March 2022, the decision was made to **stop financing and investing in new coal and oil production projects**, within the bank's policy on credit and investments; in addition, a decision was made to gradually reduce holdings in these companies through proprietary investments to zero by 2026

Environmental risk management since 2009

Climate risk management

formulation of a framework and work plan for the development of climate risk management tools and methodologies, while preparing for developments in emerging regulation in the banking sector, in Israel and globally

1. Balance sheet and off-balance sheet. Activities promoting green goals are classified with the assistance of environmental experts, with reference, to the extent possible, to the technical screening criteria in the draft Green Taxonomy of the Ministry of Environmental Protection.



Governance

Climate issues are managed as part of ESG at the bank, under the shared responsibility of the head of human resources (who oversees ESG) and the head of risk management. The board of directors supervises climate issues through two main committees: the risk management and control committee and the corporate governance and stakeholders committee (which is responsible for overseeing ESG in general).

Over the last year, we continued to develop the system for managing climate issues at the bank, in line with leading and emerging global practices. We will continue our progress in this area, in line with the regulatory directives of the Bank of Israel issued in June 2023 – the “Principles for Effective Management of Climate-Related Financial Risks.”

Engagement of the board of directors in climate matters

The board's involvement is reflected in the routine activity of the board plenum and in the activities of two of the board committees.

Board plenum

The board of directors receives regular reports from the relevant professionals in climate-related fields at the bank. In the last year, the board received updates on banking products supporting sustainability, climate-related regulatory trends, development of the bank's climate risk management system, and more. The board plenum is also updated periodically on the bank's exposure to climate risks, in addition to quarterly updates on climate risks in credit presented to the credit committee, the risk management and control committee, and the board of directors.

Beyond the periodic reports on ongoing activity in this area and on the bank's exposure to climate risks, the board plenum convenes annually for a meeting dedicated to climate issues. During the discussion the board approves and validates the climate goals and policies of the bank, hears a professional survey of climate-change trends and their impact on the financial system, and is informed on the status of the bank's

progress towards its environmental and climate goals. In early 2023, the board plenum approved a higher target for green financing and investments, a key element of the bank's ESG goals for 2030, following the attainment of the original goal set in 2020. In the area of climate risk management, in 2022 the bank's board of directors and management approved an initial outline for a transition risk policy in financing and investments. At this stage, the outline addresses the key sectors identified by the bank as more exposed to transition risk: fossil fuel exploration and production, and electricity production and supply (for further information, see the section "Climate risk management" on page 22).

Risk management and control committee

As part of its responsibilities, the committee supervises all risk-management processes at the bank, including climate risks. In early 2022, the committee discussed an update of the climate risk aspects of the bank's credit and investment policies. Since 2022, the committee has been informed within quarterly risk reports of the rate of

exposure to credit risk in economic sectors with heightened climate risk (in the form of transition risk). The report is designed to enable frequent monitoring of the bank's exposure to this risk, in accordance with its credit and finance policies. The quarterly report addresses the level of the bank's financial exposure to all sectors at heightened climate-related transition risk, based on the bank's definitions and global accepted practice. Along with a current status snapshot of the exposure of the credit portfolio to climate risks, the report makes it possible for the committee to monitor trends in exposure to sectors at high risk and ensure it is congruent with the bank's risk appetite.

Corporate governance and stakeholders committee

The committee is responsible for the area of ESG at the bank and, accordingly, oversees climate strategy. Within its routine activities, the committee convenes annually to approve the bank's annual ESG report and its objectives in this area. These include targets for financing of and investment in projects promoting a green environment, and for reduction of the carbon footprint of the bank's operations.

Climate issues were discussed in eleven meetings during 2022 and the first half of 2023, within discussions of risk management as well as ESG management. The discussions were held by the board plenum, the risk management and control committee, and the corporate governance and stakeholders committee. The directors heard comprehensive reviews, including from external environmental experts, of opportunities and threats related to climate change, the financial sector's preparations for the transition to a low-carbon economy, and local and international regulation. Updates of the bank's climate goals for 2030 were discussed and approved.

The bank is committed to further promoting and developing the knowledge and understanding of its board and management regarding climate issues and the related financial opportunities and inherent risks.



Management's role in assessing and managing climate risks and opportunities

Climate issues, as an enterprise-wide concern with impacts on a variety of aspects of the bank's activity, are not managed by a single function; instead, these issues are overseen across divisions and ranks, with the involvement of the relevant members of management, using meaningful interfaces to work on process implementation and promotion and to achieve objectives.

Environmental and climate aspects at the bank are managed on four levels:



In addition to the routine updates and management discussions held on these topics, in dedicated meetings as well as in the course of general discussions of ESG issues, in 2022 we continued to enhance the ESG expertise of the board and management, emphasizing climate-related risks and opportunities. Training was provided by the head of ESG and the head of climate risks at the bank, as well as by external experts.

Steering committees on ESG and climate risks

In view of the climate-related regulatory developments and the opportunities inherent in this field, in January 2023 we established an ESG steering committee at the bank, emphasizing climate issues. The committee is headed by the head of human resources and the head of risk management. Led by the bank's head of ESG, the committee consists of senior executives from various divisions, including relevant members of management; external experts also participate. The committee is planned to convene twice annually to monitor the ongoing implementation of ESG strategy; update the strategy from time to time, if necessary; and examine the attainment of ESG

targets, while creating intra-organizational collaborations to implement and promote ESG concepts. Recommendations of the committee regarding strategic processes will be submitted to management and the board of directors for approval.

In addition, an interdivision climate risk management steering committee is headed by the head of credit risks in the Risk Management Division. The committee is responsible for formulating a multiannual work plan to promote the bank's environmental and climate risk management framework, as expressed in the Proper Conduct of Banking Business Directive issued in June 2023 by the Bank of Israel on the subject of climate-related financial risk management. Among other matters, the directive requires an effective corporate governance structure to be established in this area, including formalized division of responsibilities among organizational units and the three lines of defense.

We are continuing to develop and improve climate governance structure at the bank, to ensure effective management and attainment of our climate goals, in compliance with regulatory developments.



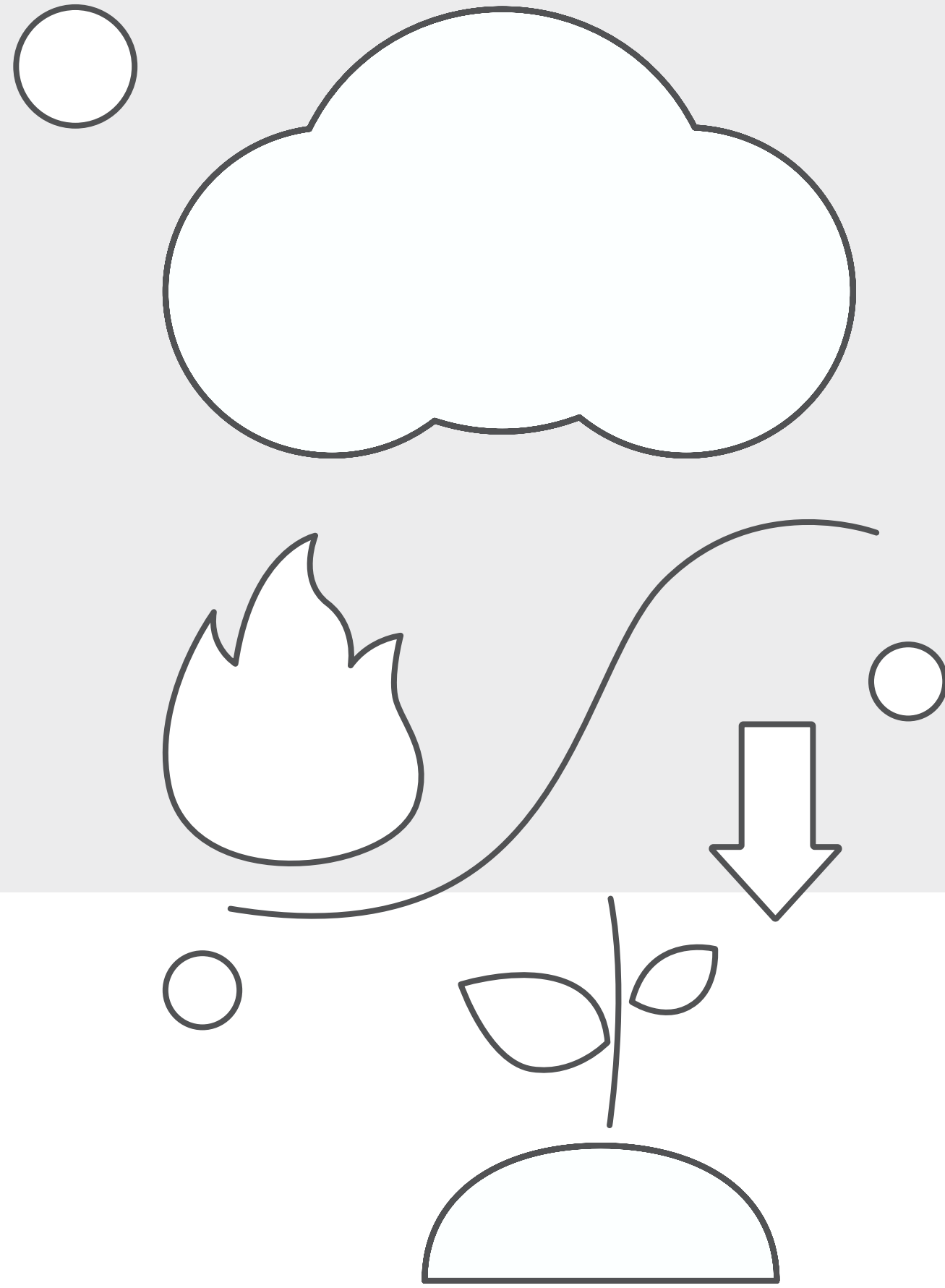


Strategy

To cope successfully with climate change and meet global and national commitments in this area, every part of the economy will need to work together and prepare: government ministries, business organizations, and individuals.

As part of our ESG strategy at Bank Hapoalim, we are committed to continuing to promote sustainable financing and investments and guiding our customers through the transition to a low-carbon economy. Concurrently, we are managing environmental and climate risks and striving to reduce the impacts of the business activities of the bank on greenhouse-gas emissions, to support achievement of the climate goals of the State of Israel.

⇄ Our approach to climate issues comprises three elements:



Support for the transition to a low-carbon economy

Developing financial products and banking services to help accelerate the transition to a low-carbon economy:

- ◆ Increasing financing and investments in projects promoting a green environment – the bank has set a target of NIS 37 billion by the end of 2030.
- ◆ Green Bonds – the first in Israel – issued at a volume of USD 1 billion.
- ◆ Targeted lending for small businesses, farmers, and households, to encourage the installation of solar-energy systems.
- ◆ Developing Green Deposits to enable savers to take part in our environmental impact.
- ◆ Promoting ESG investment advising for advised customers.
- ◆ Supporting the climate-tech industry.

Environmental and climate risk management

- ◆ Managing environmental and climate risks in our business operations; embedding these considerations in credit and investment decisions.
- ◆ Commitment not to finance or invest in new coal and oil exploration and production projects.
- ◆ Gradually scaling back holdings in companies engaged in coal and oil activities in the proprietary portfolio of the bank, to zero by the end of 2026.

Reduction of environmental impacts

- ◆ Continued reduction of the operational carbon footprint of the bank – a 60% decrease is targeted by 2030 (from the 2020 baseline).
- ◆ Integrating ESG considerations into the supplier selection process.
- ◆ Measuring carbon emissions in the business credit portfolio using PCAF methodology.
- ◆ Support for carbon sequestration ventures.

⇄ Climate opportunities and risks

Climate change is one of the key challenges facing the world today, and is expected to have far-reaching consequences both for ecosystems and for socioeconomic processes. Thus, organizations' preparedness to cope with these impacts will have a significant effect on their ability to grow in the coming years. The implications of climate change for the financial sector are especially complex, in that it generates substantial financial and operational risks while also presenting new business opportunities. The risks and opportunities are relevant to a broad range of aspects of the bank's activities, including its products, services, processes, and operations.

Opportunities – sustainable financing and investments

The climate crisis requires preparation for escalating physical changes, concurrently with the transition to a low-carbon economy and attainment of global zero emissions. It therefore presents opportunities for economic growth – through the development of green technologies and infrastructures, and through new markets in the climate-tech and environmental innovation industries.

Green project financing and sustainable investments are valuable business opportunities; and as a major financial organization, we see it as our responsibility to support Israel's social and economic growth, and the global battle against climate change, for the sake of future generations. Accordingly, we are working to increase

financing and investments in green projects and to guide our customers through the transition to a low-carbon economy, thereby supporting efforts to mitigate carbon emissions and adapt infrastructures in order to cope with climate change. These efforts include financing solutions for customers of the Corporate Banking Division and the Retail Banking Division, the issuance of the first Green Bond in Israel (in 2021), the development of targeted deposits, and investments in renewable-energy projects through Poalim Equity, which handles the bank's non-financial investments.

NIS
19.5
billion²

balance of credit granted for projects promoting a green environment



NIS
5.38
billion

for renewable energy projects³

NIS
1.95
billion

for mass transit and clean transportation

NIS
7.49
billion

for green building projects

NIS
1.35
billion

for waste treatment and pollution prevention

NIS
3.32
billion

for water and sewage treatment projects

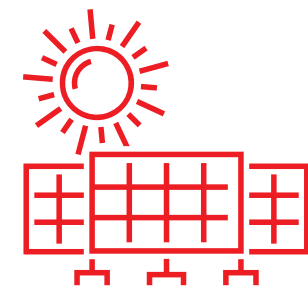
In late 2022, the Ministry of Environmental Protection issued a draft of the Israeli Green Taxonomy, for the classification of economic activities by their contribution to environmental objectives, as defined in the document, and their impact on environmental interests. The Israeli taxonomy draft is based on the EU Taxonomy, with adjustments of specific criteria for the unique characteristics of Israel. At this stage, the Israeli taxonomy draft refers only to criteria with a significant contribution to mitigation. The balances of green credit granted by the bank were measured and categorized with the

assistance and oversight of environmental experts at the consulting firm BDO. The classification methodology takes the criteria presented in the draft taxonomy into account, along with a professional examination of additional environmental benefits, including adaptation to climate change, promotion of a circular economy, prevention of pollution, and more (for details regarding the process of sorting into green categories and the oversight process applied by BDO to the measurement of green financing, see the ESG Report, pages 182-183).



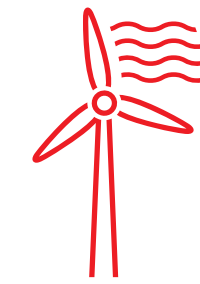
Renewable energies

The State of Israel has set a goal of increasing electricity production based on renewable energy to 30% by 2030. We accord high importance to assisting and supporting the transition to renewable energies in the Israeli economy. The bank has provided financing for the construction of a range of projects, including:



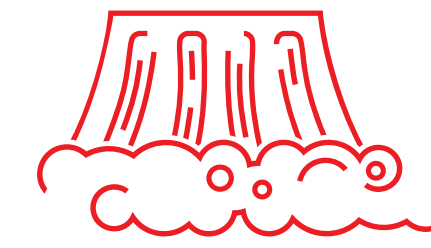
Solar energy

Financing of large projects for customers of the Corporate Banking Division, to build solar-energy facilities and systems nationwide and overseas. The projects, on a scale of dozens of megawatts each, include photovoltaic and thermosolar power plants (at Ashalim), agrovoltaic systems at agricultural farms, and photovoltaic systems installed on water reservoirs. The bank also grants credit to private and business clients of the Retail Banking Division for the installation of small and mid-sized solar-energy systems, mainly on rooftops.



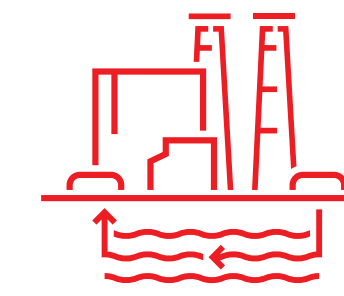
Wind energy

Financing for the wind farms Sirin on Mount Gilboa, Emek Habacha, and Bereshit in the Golan Heights, at a total capacity of approximately 320 megawatts.



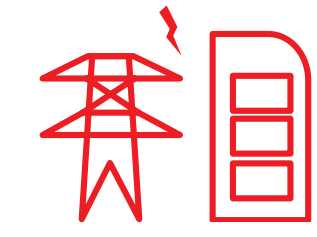
Pumped storage

Financing and construction of a pumped-storage power plant with installed capacity of 340 megawatts.



Geothermal energy

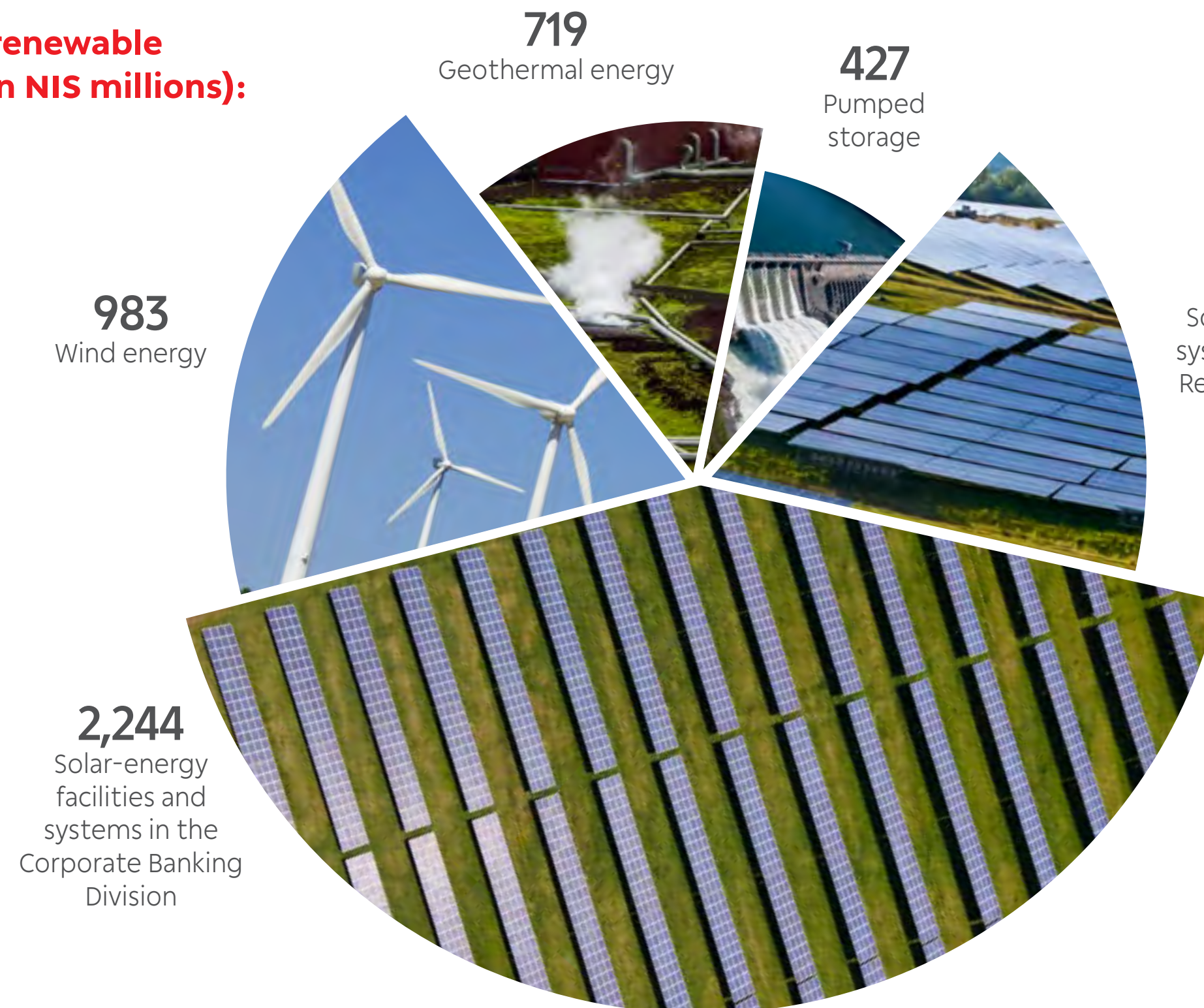
Financing of geothermal energy production projects outside Israel, including in developing countries, such as Guatemala and Honduras.



Electricity storage

Financing of various projects for the development and production of storage solutions in the United States.

Credit for renewable energies (in NIS millions):



896

Solar-energy systems in the Retail Banking Division

Dedicated loans for private customers and small businesses to finance purchases and installations of solar-energy systems

Rate Regulation is a state initiative allowing households, farmers, and businesses to install solar-energy systems for the production of electricity, for their own use or for sale at a predetermined price to the Israel Electric Corporation. The bank identified this initiative as an opportunity for the creation of shared value – for customers, through lower electricity costs and an additional source of income; for the environment, through the promotion of green energy; and for the bank, through its credit solutions. The bank therefore offers its private and small-business customers loans dedicated to financing the acquisition and installation of solar-energy systems, at up to 100% financing, with preferred terms. In 2022, we continued to offer financing for the installation of solar-energy systems to potential customers, including farmers and farm owners. Credit granted by the bank to its customers to finance the installation of solar-energy systems amounted to approximately NIS 896 million in 2022, an increase of approximately 30% compared with 2021.

Clean transportation and mass transit

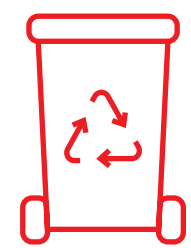
Traffic density on Israeli roads is one of the highest in the OECD⁴, leading to significant pollution. The bank has financed several projects promoting mass transit and clean transportation, such as the construction and expansion of the light-railway project in Jerusalem – an electric train used by about 160,000 passengers daily, which contributes to the reduction of air and noise pollution, and is expected to help achieve a 15% reduction in motor-vehicle use in Jerusalem by 2030⁵. The bank is also financing a number of projects for the sale and installation of electric vehicle charging stations.

Green building

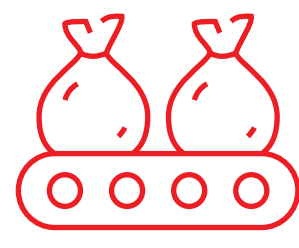
The Israeli green building standard (Israel Standard 5281) was introduced in 2005, with the aim of reducing the negative impacts of construction processes and building impact on the environment by converting construction waste into usable materials, to help promote a circular economy. As of March 2022, the standard is gradually being applied as a binding requirement for about 90% of new construction in Israel. Construction in line with the standard is expected to reduce greenhouse-gas emissions from buildings, and cut back electricity consumption by approximately 21%⁶. According to estimates by the Ministry of Environmental Protection, a leap in the scope of green construction is expected in Israel, which will help with climate change mitigation and adaptation. The bank has financed several residential and commercial construction projects across Israel based on Israeli and international green building standards.

Waste treatment and the prevention of pollution

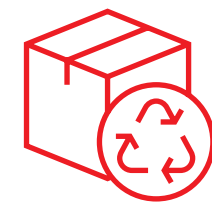
The waste industry in Israel lacks high-quality treatment infrastructure and has high landfilling rates and low recycling rates relative to the OECD countries.⁷ Reducing waste generated per capita and converting waste into a resource, based on the waste-management hierarchy, are the foundations of the Ministry of Environmental Protection's strategic vision.⁸ In 2022, Bank Hapoalim provided financing for a range of waste-treatment projects, including the following:



Collection of waste separated at source and transportation of waste to recycling facilities



advanced sorting facilities for municipal solid waste not separated at source, to increase waste recycling rates and decrease landfilling



Recycling sites



Composting sites



Anaerobic digestion of bio-waste to generate electricity



Energy recovery and RDF (refuse-derived fuel) production facilities.

The bank has financed several urban waste sorting and treatment projects that generate electricity from biogas, including Zero Waste, an urban waste treatment facility adjacent to the Shafdan Wastewater Treatment Plant, with capacity for at least 1,000 tons of waste per day. When completed, the facility will treat about 400,000 tons of mixed urban waste annually – sorting into organic waste, plastics, paper, and metals – reducing waste landfilling by approximately 50%. After sorting, the organic waste is designated for anaerobic digestion to generate agricultural fertilizer and biogas for electricity production, with capacity of approximately 12 megawatts.⁹

Water and wastewater treatment

The State of Israel has coped with water shortages for years, due to factors including scarce precipitation and dwindling natural water sources.¹⁰ Given Israel's geographical location, the climate crisis exposes it to harm to its natural water sources and water quality; Israel has a high level of water risk that may continue to worsen.¹¹ Water desalination is one method of generating new water from existing water resources, and is now the source of most of the water supplied to households in Israel. The bank has financed desalination projects at Palmachim, Hadera, Sorek, and Ashdod, as well as the planned desalination plant in the Western Galilee, designed for a capacity of 100 million cubic meters of water. Today, the volume of desalinated water derived from projects financed by the bank is approximately 600 million cubic meters per year.

Other methods of optimal utilization of existing water sources include sewage treatment, and use of the treated wastewater and sludge for agricultural purposes; water purification using biological means; and construction of water reservoirs to make wastewater and floodwater usable

through water treatment and recovery for irrigation. In 2022, the bank provided financing for water and wastewater treatment projects including the following:

- ◆ High-efficiency water supply and sewage services (under 5% water loss);
- ◆ Wastewater treatment facilities with output water quality allowing irrigation and unlimited discharge into rivers;
- ◆ Cleantech ventures creating solutions for water supply, irrigation, purification, and savings, including in developing countries.

The bank is also one of the financiers of the project for the expansion and upgrade of infrastructures at Igudan, which is developing and adapting the sewage infrastructures of the Dan Region for future needs and expected population growth. The Shafdan, part of the Igudan infrastructure, currently provides about 130 million cubic meters of treated water for agriculture, and approximately 70% of the water consumed by agriculture in the Negev region.¹²

4. Based on estimates in the State Comptroller Report, "The transportation crisis in Israel, 2019."

5. Based on the vision and methodology of the Jerusalem Transportation Master Plan Committee.

6. From a comparative survey on electricity consumption in green and standard apartments by the Ministry of Environmental Protection.

7. From an opinion statement by the Ministry of Environmental Protection: "Green building as a tool for coping with climate change and promoting a circular resource economy, 2021."

8. From the Ministry of Environmental Protection policy document, "Waste strategy 2020, 2030."

9. From the Zero Waste project website.

10. From a report by the Knesset Research and Information Center entitled, "The Water Economy in Israel – Key Issues, 2018."

11. From the Report on National Preparedness to Adapt to Climate Change, Office of the State Comptroller, 2021.

12. From the Igudan project website.

⇄ Issuance of the first Green Bond in Israel

In October 2021, Bank Hapoalim issued green CoCo bonds, for the first time in Israel, in an international private offering. The bond issuance was based on the ICMA Green Bond Principles (GBP). Issued at a value of USD 1 billion, the bonds drew high demand from local and international institutional investors.

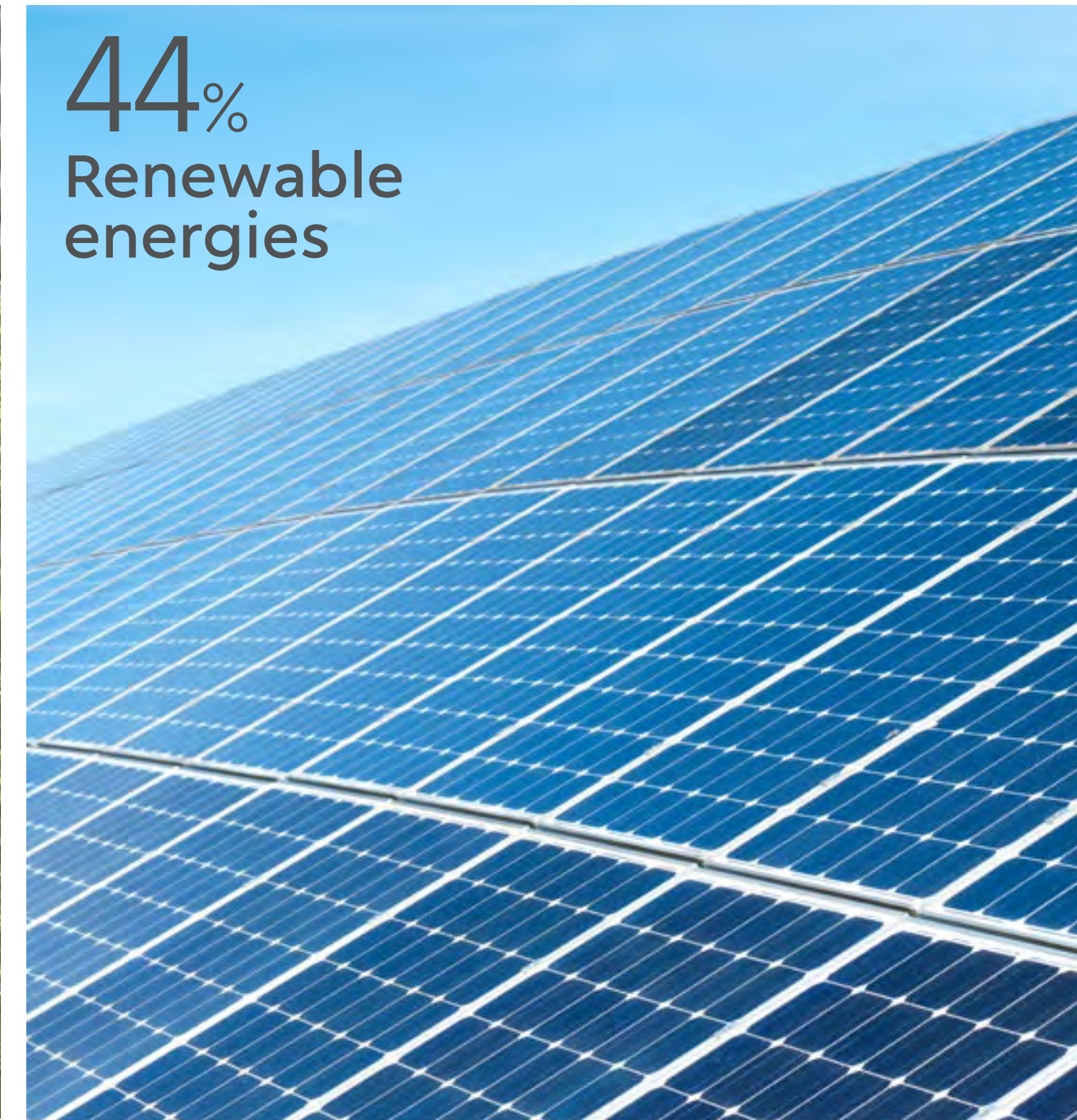
The sustainable finance framework established for the bonds specifies, among other matters, the types of projects that can be financed or invested in through the bonds in the selected categories – renewable energies, waste treatment and recycling, electric transportation, green building, and energy efficiency – and describes the allocation process and impact metrics.

In accordance with the Green Bond Principles, the bank established a committee dedicated to managing the funds from the green bonds. The committee's responsibilities include:

- ◆ Selecting projects for inclusion in the bonds and ensuring that they meet the criteria established in the framework.
- ◆ Approving the annual impact report.

The committee, which consists of representatives of the bank's Corporate Banking Division, Financial Markets and International Banking Division, Finance Division, and ESG administration, convenes semiannually.

Two years from the issuance, we completed the allocation of the full amount raised through the bonds – USD 1 billion – to green projects. The breakdown of the allocation into categories is described below.



Analysis of an impact assessment performed by the bank based on international measurement methodologies (CDM, PCAF) indicates that **the bank's estimated**

share of avoided emissions as a result of the financing of these projects is 267,410 tons CO₂e annually.

For further information, see the [Impact Report](#), available on the bank's website.

⇄ ESG-based investment advising services and financial products

ESG investments have gained momentum worldwide in recent years, and trends indicate continued sustained growth. Awareness in this area is rising among institutional investors in Israel as well; it has also gained recognition from regulators in this field over the last two years. As early as 2019, Bank Hapoalim chose to promote this approach to its customers both by adding ESG considerations to investment advising processes and by developing financial products based on ESG and environmental impact.

ESG investment advisory services

Within our financial investment advising services, in 2019, we introduced responsible investment advising processes. During investment advising sessions, we offer interested customers recommendations for investments in global equities and bonds of companies with high ESG ratings and exchange-traded funds with an ESG focus. These parameters are included in advisory sessions for customers who have stated during the process of exploration of their needs that they are interested in applying ESG considerations.

As part of the implementation of ESG investment advising processes, we are providing suitable professional training to all of our financial advisors, led by the bank's research and advisory unit. In 2021-2022, a series of 28 training sessions was held on a range of topics including ESG data analysis; accepted practices for responsible investment; global trends in ESG, emphasizing the impacts of climate change; global regulatory trends and expected effects on the business sector; and the bank's ESG strategy. In addition to mandatory periodic training, in 2022 we created the ESG Investment Advisors' Forum, comprising dozens of advisors,

to provide professional enrichment on ESG and responsible investments through knowledge sharing and intra-organizational dialogue.

Deposits with environmental impact

Over the last few years, we have launched unique, exclusive savings plans with a positive social and environmental impact. We introduced our first environmental deposit in 2020, in collaboration with the non-profit organization Zalul, aimed at reducing the use of plastic utensils at preschools in peripheral regions.

In 2022, we launched another environmental impact deposit, with the non-profit Good Energy Initiative, allowing our customers to save while promoting a green environment. The bank transfers an amount equal to the interest accrued on the deposit to the Good Energy Initiative, used to plant trees in cities and towns across Israel. In accordance with the terms of the deposit, the bank donated NIS 250,000 designated for planting trees in eight towns in peripheral regions of Israel, to benefit the community and cultivate a green environment.

ESG structured deposits – Bank Hapoalim is the first financial organization in Israel to offer ESG structured deposits. The deposits track the performance of ten global equities with high ESG ratings, and include a contingent bonus derived from their performance over a predefined period. The bank introduced three ESG structured deposits in 2020, and two additional deposits in 2021. No new deposits of this type were launched in 2022, due to high volatility in the capital markets; we will consider new products in the coming years as appropriate.

⇄ Climate-related training and instruction

To raise employees' awareness of climate issues, we have started to include this topic in our annual training programs. Over the last two years, more than twenty training programs for bank units have covered global ESG trends and climate issues, with an emphasis on regulatory developments, economic impacts of the climate crisis, and the bank's ESG strategy. The programs also address climate risks, presenting risk factors and the bank's activities in this area.

ESG questionnaire in supplier selection

In 2022, we designed a questionnaire to assess the extent of implementation of ESG aspects by our suppliers. The goal of this process is to expand our impact in embedding ESG principles among suppliers, and to reduce potential risks in the bank's supply chain. The questionnaire addresses policies, procedures, objectives, and performance metrics in environmental, social, and governance matters. The suppliers' responses are weighed into an ESG score, which will be included in decision-making processes at the bank when engaging a new supplier or renewing a contract with an existing supplier, subject to a materiality threshold for the scope of the engagement. A pilot project in this area is planned in 2023, and we intend to gradually expand the use of the questionnaire to additional suppliers.

⇄ Aiding and supporting the climate-tech industry in Israel

We believe that accelerating the transition to a low-carbon economy, to cope with the climate crisis, will require technological innovation above all. For that reason, we accord great importance to support for the domestic climate-tech industry, which is growing rapidly. This support takes the form of a wide range of financial and banking services, delivered through Poalim Hi-Tech; investment in venture-capital funds that invest in startups in this field through Poalim Equity, which handles the bank's non-financial investments; and collaborations with selected players in this ecosystem. The bank promotes technological entrepreneurship generating shared economic, environmental, and social value. For several years, we have supported the 8200 Alumni Association, which operates a five-month intensive training program for startup companies developing advanced technological solutions to social and environmental problems. Within this project, we created the Climate and Energy Section at the Impact 8200 Accelerator, in collaboration with Doral, to assist startups working on advanced technological climate solutions. We supported ten startup companies over the last two years through this program, providing professional advice and guidance as well as monetary grants from Bank Hapoalim and Doral.

For further information about this activity, see the ESG Report for 2022, in the section "Supporting the growth of high-tech companies."

Blue-tech

The ocean has a crucial role in maintaining a stable climate, yet global climate changes are jeopardizing the ocean's capacity to regulate climate. Nature preserves, prudent marine planning, and sustainable fishing can help protect nature in our oceans and allow it to thrive. In 2023, we will support an international educational program by SwitchMed and the European Union aimed at promoting a "blue economy" in the Mediterranean Basin, by helping to establish blue-growth ventures and sustainably manage marine resources. In Israel, the program is led by Haifa Innovation Labs (HIL) and the School of Marine Sciences at Haifa University, in cooperation with the European Union and Green Business. Participating entrepreneurs will receive guidance, knowledge, and tools for the development of their ventures, as well as the opportunity to compete for prizes for the top three ventures and gain exposure to investors.

⇄ Reducing carbon emissions in operational activities

Over the last decade, between 2013 and 2022, Bank Hapoalim lowered the **carbon footprint of its operational activities** by approximately **59%**

The bank is targeting a further **60% reduction of its carbon footprint by 2030** relative to the 2020 baseline.

Electrical energy is a key resource used by the bank and the main component of its carbon footprint. We manage electricity consumption year-round, striving for efficiency and savings through optimized timing of air-conditioning, lighting, and computer systems according to employee presence. The bank monitors consumption data routinely, to detect and optimally cut back on excess consumption. For further information regarding operational and environmental efficiency processes at the bank, see the ESG Report, in the "Environment" chapter.

In 2026, the bank plans to relocate its headquarters to the Poalim Center – a head-office building compliant with the LEED Gold green building standard – which will allow cutbacks in resource consumption, including electricity and water. The site is located near a train station and major transportation arteries, allowing convenient access for employees and reduced reliance on private vehicles.

⇄ Carbon sequestration and biodiversity preservation

As part of our commitment to act to reduce emissions in our operations and help cope with the climate crisis, Bank Hapoalim supports several projects seeking nature-based solutions to cut back greenhouse-gas emissions.

The Amud project in Kfar Ruppin

for biodiversity rehabilitation and carbon sequestration through rewetting and wilding, by the company Terra, the Society for the Protection of Nature in Israel, and Kibbutz Kfar Ruppin. The water supply for the project is part of the Water for Nature program of the State of Israel, in which water is restored to nature. Rewetting leads to the growth of extensive plant mass, carbon sequestration in the ground, and rehabilitation and recreation of humid ecosystems and habitats for various species; specifically, it creates a stopover site for migrating birds. The recreation of wetlands through rewetting is one of the biological methods to sequester carbon, in which carbon is removed via photosynthesis. This makes it possible to form a natural system for long-term quality sequestration of carbon, estimated at more than a thousand tons CO₂e in the first year and about 500 tons CO₂e annually, on average, in the five years of the project. This program also leads to significant avoided emissions of greenhouse gases, due to the cessation of intensive polluting agriculture, and provides an alternate source of income for farmers in the form of climate agriculture. The Society for the Protection of Nature in Israel, which is monitoring the impact of the project, has reported sightings of more than 200 endangered birds within the area of the project. Oversight and certification for the activity is provided by VERRA, the leading accreditation institute in this area, based on the VCS standard. The bank will receive a **carbon credit of 103 tons CO₂e** for its support of this project.

Support for Eco-Energy, a biogas facility in the Golan Heights

that produces gas for electricity generation through the decomposition of organic waste from cattle farms. Support for the project is provided through Oporto Carbon, an Israeli carbon emissions trading company. According to commitments by Oporto Carbon, the project cuts back emissions of approximately 100,000 tons CO₂e per year by reducing waste landfilling and generating electricity from alternative fuels. **The bank has purchased carbon credit certificates of 2,500 tons CO₂e.** The carbon credit certificates are produced through a process consisting of several stages, including examination of the baseline scenario and the project scenario, the incremental avoided emissions, and the congruence with the United Nations' CDM methodology. The certification process for the project is performed by the accounting firm BDO; data are verified and validated according to the assurance standards ISO-14064-3 and ISAE 3410. The carbon credit certificate is accredited under the AA1000 standard by the international standards organization AccountAbility. Legal examination of the project is performed by the law firm Herzog Fox & Neeman.

Support for the foundation of the first carbon plantation

in Israel and in the Middle East; the bank received a carbon credit of 100 tons CO₂e (for further details, see page 112 of the bank's 2021 ESG Report).

2,703 tons CO₂e

total carbon credit at the bank's disposal from investment in carbon sequestration projects

To clarify, the bank has not used its credit points in calculating its overall carbon footprint at this point; it will consider whether to do so in the future, after the certifications are received from the accreditation providers. We are also continuing to work to reduce the bank's operational emissions at source, to the extent possible, as part of our efforts to attain our goal for 2030.



Climate risk factors

Like leading banks around the world, Bank Hapoalim sees the climate crisis and its various ramifications as a risk factor that integrates with and intensifies the traditional risks managed by the bank – credit risks, liquidity risk, market risk, operational risk, reputational risk, etc. In accordance with common practice, we divide climate risk factors into physical climate risks, arising from the direct effects of extreme climate events and gradual climate changes, and transition risks arising from the global transition to a low-carbon economy. Each of these categories encompasses a range of specific risk factors that have various effects on the risks traditionally managed by the bank.

Physical climate risks

Physical risks are risks of harm to people, property, land, or infrastructures due to extreme climate events and changes in ongoing climate patterns. These risks may impair the value of financial assets and liabilities. The risks are usually divided into two types: severe, localized risks of acute events such as floods and fires; and chronic risks, such as a continuous rise in sea level or change in precipitation patterns. While acute risks are already relevant to the bank in the short term, the intensity and frequency of such risks is expected to escalate in the medium and long term, at a different pace in each climate scenario. Chronic risks are a threat to the bank in the long term, depending on the relevant climate scenario.

[13. Government of Israel, Climate Change Preparedness Report, April 2021.](#)

These risk factors may take various forms, heightening risks managed by the bank, particularly financial risks. Beyond the rising risk of direct physical damage to assets of the bank and its customers, physical risks may also increase the indirect operational risk faced by the bank and its customers due to supply-chain disruptions and impaired business continuity. Physical risks may also affect the relevance of bank customers' products – for example, a construction materials company may need to alter its products for resistance to different weather conditions, or a fertilizer company may have to adapt products to anticipated changes in agricultural land structures due to climate change – thereby increasing financial risks for the bank.

In examining the physical risk factors that are material for the bank, we considered Israel's unique characteristics, in terms of its climate patterns and geographical location. In 2021, the Ministry of Environmental Protection issued its first report on Israel's preparedness for climate change, written by a multidisciplinary team of experts. Four key climate trends expected in Israel due to climate change are identified in the report: hotter, drier, more extreme, and higher.¹³ The material risk factors identified at the bank illustrate these trends.

Climate trends in Israel

1. Acute risk factors material for the bank

More extreme

Storms, flooding, and floods – In the last few years we have witnessed a gradual rise in the extent and intensity of flood and flooding incidents nationwide, including due to an increase in exceptionally powerful rain events, along with accelerated urbanization and reduced open spaces (where rainwater can seep into the ground, preventing flooding). The extent and intensity of floods are expected to increase further in the coming years, as a result of climate change, leading to significant damage in population centers in Israel. These climate events may cause flooding of infrastructure facilities that are essential for general economic activity in Israel; damage to public infrastructures such as electricity, water, and communication systems; and impairment of mobility on roads located in geographical regions at high risk of flooding. Such events may cause damage to business continuity for borrowers, impair their assets, and destabilize their financial position, eventually becoming credit risk for the bank. These events may also affect the bank's operational risk and market risks.

Drier, hotter, more extreme

Fires – Rising temperatures, changes in wind patterns, changes in humidity and aridity levels, and lower water content in plants subject to heat stress create optimal conditions for the development of severe fires and firestorms. Climate change in the Mediterranean region increases the number and severity of fires, whether caused by human actions or climate and natural hazards. Israel has experienced severe fires over the last decade, in the Carmel region and the Jerusalem Mountains, causing casualties and property damage of hundreds of millions of shekels. The higher probability of fire events in Israel is expected to affect the bank's business clients, due to property damage and economic losses caused by impaired business continuity, as well as greater risk to retail clients residing in proximity to regions at risk. These effects increase the bank's credit risk, as a result of lower debt repayment capability of borrowers harmed by fires, as well as damage to the value of assets used as credit collateral. Fire events also expose the bank to operational risk.

Hotter, more extreme

Heat waves – Alongside the overall predicted gradual rise in average temperatures, estimates indicate that the number of summer days with extreme temperatures will progressively increase. This will create difficulties in maintaining the operational continuity of economic activity in Israel, and may cause temporary shutdowns of some business activities (such as reduced work hours in physical occupations) and impair productivity. In addition to the damage to operational continuity, demand for electricity will continually grow, which may lead to higher energy prices and damage to the stability of the power grid. These effects increase the bank's operational risk, as well as its credit risk resulting from damage to borrowers' businesses, in the form of lost work days, damage to goods sensitive to high temperatures, and disruption of supply chains and the delivery of services.

Climate trends in Israel	Higher	Hotter	More extreme, drier	Drier, hotter
<p>2. Chronic risk factors material for the bank</p>	<p>Rising sea level – Current forecasts by the Ministry of Environmental Protection and the Survey of Israel predict a rise of up to 1.2 meters in sea level by 2050 and up to 2.4 meters by 2100. In a country with a long coastline and major economic and population centers near the coast, such an increase would significantly damage coastal infrastructures and properties. Within the overall risks managed by the bank, this risk factor may affect its credit and market risks as well as its operational risk in the long term. This effect may come about, among other means, through a decline in value of real estate serving as collateral to secure credit granted by the bank, damage to infrastructures affecting borrowers' business continuity, and damage to maritime trade routes.</p>	<p>Rising average temperature – According to current climate forecasts, Israel is one of the countries expected to suffer more harm than others due to global warming. Israel is in fact heating more rapidly than the global average, by approximately 0.5°C per decade, versus the global average of 0.2°C.¹⁴ This process has various implications for the Israeli economy, from damage to labor productivity, higher incidence of heat- and temperature-related illnesses, rising demand for energy, and higher energy prices to the spread of pest species that can damage the productivity of crops, livestock, and fisheries in Israel.¹⁵ The bank would be affected by this risk factor through macroeconomic impacts on various financial risks and through damage to business activities in economic sectors sensitive to changes in ecological equilibrium, such as agriculture.</p>	<p>Change in precipitation patterns – The overall quantity of precipitation in Israel has trended down over the last thirty years. Based on climate models, the quantity of precipitation is expected to continue to decrease until the end of this century, leading to an increase in drought events and less non-desalinated water available to the public. These changes are primarily expected to affect economic sectors dependent on precipitation amounts and distribution, including agriculture and related industries, such as food and restaurants in Israel, as well as other industries with intensive water use, such as paper. The decrease in the availability of potable water may also lead to geopolitical shifts and struggles in the region, and to regional immigration waves, which have macroeconomic implications and would affect the bank's financial risks.</p>	<p>Damage to water sources and land – Based on estimates by the Ministry of Environmental Protection, changes in precipitation patterns will join rising temperatures and increased evaporation to cause higher water salinity, a higher concentration of nutrients, and deterioration of water quality in natural water sources. Changing precipitation regimes, wind, and water quality may also impair land quality and accelerate land erosion. This can occur, in particular, through desertification, which is occurring in extensive areas globally, including in Israel. An area of Israel especially vulnerable to land erosion is the sandstone cliff ridge on the Mediterranean shore, due to its high exposure to strong winds and rising sea levels. Reduced land suitable for agriculture and diminished natural water sources may affect all sectors of the Israeli economy, through rising water prices as well as localized impacts on businesses located in geographical areas at high risk, which would increase credit risk in respect of those borrowers.</p>
<p>14. Refers to the years 1980-2020. Yosef, Y., Baharad, A., Uzan, L., Osetinsky-Tzidaki, I., Carmona, I., Halfon, N., Furshpan, A., Levi, Y., Stav, N. (2019). Climate change in Israel – historical trends and future predictions of temperature and precipitation. Research Report No. 4000-0804-2019-0000075, Israel Meteorological Service. 15. Ministry of Environmental Protection.</p>				

Transition risks

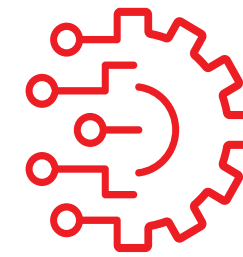
Transition risks are risks arising from the global and local fight against climate change, encompassing the transition from an economy based on burning fossil fuels to a low-carbon economy. The global and local process of adapting to a low-carbon economy may, among other effects, disrupt the business or operational models of companies and business organizations, thereby creating exposure to transition risks for financial entities. Factors driving this process are changes in regulation and government policies, technological developments, changes in preferences of consumers and other stakeholders, legal policies, rising prices of various products and raw materials, and more.

Transition risks may have material effects on the activity of the bank and its customers, and serve to intensify the traditional risks managed by the bank. In accordance with the prevalent classification, the bank considers transition risks in four categories: policy and regulatory; technological; market; and reputational. Transition risks may be material for the bank beginning in the short term, and are expected to gain further power in the medium and long term, depending on the extent of global adoption of policies to reduce carbon emissions and the actual implementation of such policies. Many aspects of transition risk have already started to take shape, such as technological developments that reduce the business feasibility of companies whose activity is based on the fossil-fuel value chain, or the imposition of local and global regulation to combat climate change.



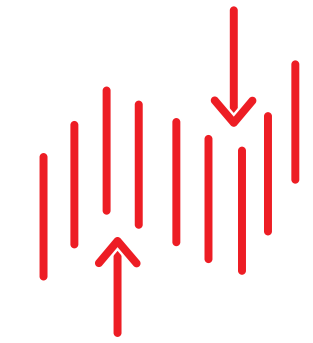
Policy and regulatory risks

The scope of climate-related regulation, worldwide and in Israel, has expanded significantly in recent years. Policy changes are evident in all matters pertaining to coping with the climate crisis and encouraging transition to a low-carbon economy. This regulation, first and foremost local and global carbon taxes, presents a significant business risk for a variety of the bank's customers, particularly those whose activity relies on the use of fossil fuels. Borrowers who do not have the foresight to implement the adaptations required in view of regulation supporting transition to a low-carbon economy are expected to be harmed by such regulation, financially and operationally, thereby increasing credit risks and investment risks for the bank. Regulatory involvement and policy changes related to climate change may also increase climate-related legal and compliance risk, for both the bank and its customers.



Technological risks

Technological risk arises from new technologies created to support the transition to a low-carbon economy. Climate tech and green technologies are among the fastest-growing fields in the global technology industry, and are expected to continue to grow as climate awareness rises and as investment in research and development in these areas increases. The effect of this risk factor on the activity of the bank's customers may take the form of a decrease in demand for existing products and services as they are replaced by low-carbon alternatives. Concurrently, innovative low-emission manufacturing technologies may entail high transition and adaptation costs for various companies. The materialization of this risk increases the bank's exposure to a range of risks, particularly credit and market risks, as well as operational risk, due to the anticipated technological changes to the bank's own operational systems.



Market risks

Market risk in the context of climate change mainly arises from unpredictable changes in supply and demand, primarily due to changes in consumers' and investors' behavior, uncertainty surrounding market forecasts, and higher prices of raw materials affected by climate risks (including changes in prices of energy and water, depletion of various raw materials, and more). This risk factor has a direct effect on the bank's credit risk and investment risk.



Reputational risks

Reputational risk is the risk of damage to the brand value of the bank or its customers due to their involvement in activities harmful to the global effort to cope with the climate crisis or to the transition to a low-carbon economy. This risk mainly stems from higher public, media, and consumer awareness around the world of the climate crisis and of climate and environmental impacts of the business and financial sector. Beyond the direct effect on the reputational risk managed by the bank as part of its overall risk management, this risk factor may also affect the bank's credit risk and investment risks through damage to borrowers and investment targets. Harm to the bank's customers may occur if a customer is involved in activity with negative environmental consequences, or indirectly involved in damage to the global effort to address climate change. In such situations, customers are exposed to heightened reputational risk and may also expose the bank to this risk due to its financial involvement.

Resilience of financial activity – climate scenario analysis

Sensitivity analyses and stress tests have become increasingly important tools for the global financial system over recent years, for every aspect of preparation for the climate crisis. One of the main reasons is that climate risks differ from other risks managed by the bank in that there is a lack of relevant historical data from which to learn. These analyses can help the bank examine the effects of a range of scenarios simulating the future climate situation and the ways of reaching that situation, draw conclusions regarding the ways each scenario may affect financial activity, and make strategic and business decisions accordingly.

In the last few years, central banks worldwide have formulated uniform guidelines for running climate scenarios regarding all or parts of the banking system. In line with the global regulatory trend and regulatory requirements in Israel, and in recognition of the importance of analyzing climate scenarios and their effects, we have worked over the last year to bolster our analytical and professional capabilities in the area of climate scenarios. As part of this process, we strengthened our capabilities in the use of geographical data for the analysis of physical climate risks.

We recently completed a run of two climate scenario analyses. The analyses assessed the exposure of the bank's credit portfolio to various climate scenarios:

1. Acute physical risk scenario

A scenario was selected to examine the extent of the exposure of the housing-loan portfolio and the portfolio of business loans secured by real estate to an event of exceptionally powerful flooding in Israel.

2. Transition risk scenario

A scenario of orderly, successful transition to a low-carbon economy by 2050 (Net Zero 2050 – orderly transition) and a scenario of successful but disorderly transition (Divergent Net Zero) were selected. The scenarios are based on two of the central scenarios of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), and are consistent with the TCFD recommendations. These scenarios are also relevant to the recent guidelines from the Federal Reserve concerning scenario analysis pilots held with six of the largest US banks.

As these analyses are the first of their kind in Israel, we faced methodological challenges involved in adapting the assumptions of the international models to the Israeli financial system, as well as difficulties in gathering comprehensive, reliable data on forecasts for the materialization of physical climate risks. Accordingly, the analyses are based on various assumptions at differing certainty levels, modification of which would lead to different results. We believe that as the quality and availability of information improve, it will become possible to improve the quality and accuracy of the model infrastructure we have designed at the bank and obtain greater precision and quality in our analyses. The bank aims to continue to build on this initial exercise to further enhance its analytical capabilities in relation to climate scenarios, in line with regulator guidelines.

1. Physical climate risk factor materialization scenario analysis

stress scenario – flooding

Flooding and floods are among the key physical climate risks in Israel, as described earlier in this section. Accordingly, and given the availability of risk maps for this risk factor,

the bank decided to run a preliminary stress scenario analysis, examining a reference scenario of an extreme rainstorm leading to floods and flooding, simultaneously throughout the geographical space of Israel.

Based on data currently available to the relevant agencies, the stress scenario examined flooding consistent with an extreme rain event that occurs,

on average, once in a hundred years. Note that current forecasts of Israeli agencies (like forecasts of corresponding organizations worldwide) indicate that the recurrence of events of this intensity is expected to become more frequent over the years due to the effects of the climate crisis.¹⁶ The model examined included analysis of the exposure of the bank's portfolios of housing loans and business loans secured by real estate to the occurrence of extreme flooding events nationwide. The model included a spatial analysis, cross-referencing the geographical location of the bank's credit collateral with topographical maps and mapping of historical flooding events, used by planning institutions in Israel, as seen in the official publications of the Ministry of Agriculture and Rural Development. We used this analysis to create a visual map of collateral for housing loans and business loans secured by real estate located in geographical regions that are at high risk in an extreme flooding scenario.

According to the bank's estimates, the present mapping of regions of Israel exposed to extreme flooding is partial and relies on fairly limited assessments. We believe that the publication of a more current and comprehensive map might indicate more extensive risk areas, leading to a corresponding increase in the level of risk identified by the bank. This analysis covers a limited set of geographical spaces, relying on official meteorological and geographical data to simulate a storm with once-in-a-century precipitation. However, the official data only partially reflect forecasts of floods and flooding in urban spaces in Israel, which are caused by insufficient drainage infrastructures, due to the lack of public data.¹⁷ The bank is monitoring the publications, and will update its analysis as the maps are updated.

16. <https://www.mevaker.gov.il/sites/DigitalLibrary/Documents/2021/Shilton/2021-Shilton-501-Floods.pdf>

17. As part of the effort to improve Israel's preparedness for the climate crisis, the Ministry of Environmental Protection is currently formulating a set of tools for mapping various forecasts of physical climate risks. At the date of the analysis the maps had not yet been released.

A. Analysis of the housing credit portfolio

The analysis of the housing credit portfolio addressed credit balances in the portfolio as well as the estimated economic value of assets securing the portfolio, to estimate the bank's financial exposure to this climate scenario in terms of exposure to credit risk. We also performed an initial economic assessment of the estimated direct economic damage to buildings, in a situation of flooding of spaces found to be at high risk. The analysis is based on the flood risk management methodology released by the Agma Center for Watersheds and Rivers and the Ministry of Agriculture and Rural Development.¹⁸ **Analysis of the findings indicates that the exposure of the bank's housing credit portfolio to material extreme flooding risk is relatively low.** When we isolated mortgaged properties that are single-family homes, which are more exposed to flooding damage, the exposure of the housing credit portfolio was found to be even lower. In estimating the direct economic damage, we focused on examining the direct damage to the structures, encompassing the land area covered by the ground floor, including residential spaces, common spaces, and open spaces, according to existing economic data at Israeli planning institutions. The analysis indicates that the potential economic damage to ground-floor spaces in properties found to be at high risk of flooding in a stress scenario is relatively low in reference to the overall housing credit portfolio.

18. <https://www.floodmanagement.org.il/>

B. Analysis of the portfolio of business credit secured by real estate

The analysis of business credit secured by real estate began with an examination of the exposure of the properties to geographical areas at high risk of flooding during the materialization of an extreme scenario. The analysis included geographical mapping of more than 80% of the real-estate properties serving as collateral for business credit and examination of the geographical concentration of the properties in relation to the extreme scenario. This analysis indicates that all of the real-estate collateral at high risk of flooding in an extreme scenario constitutes a relatively minor part of the total real-estate collateral in the business credit portfolio. The exposure estimate also assumes simultaneous damage to all geographical spaces, and does not consider the characteristics of the different properties.

While the findings of the analysis might give rise to the assumption that the bank has relatively low exposure to credit risk in its portfolios of housing loans and business loans secured by real estate, in a climate scenario involving flooding and floods, we recognize that the partial nature of the geographical data underlying the analysis has a material effect on the low result.

At the same time, the extreme scenario examined assumes an event of simultaneous flooding in all of the geographical regions designated at high risk based on existing data, without considering specific characteristics of the selected properties, such as protective measures that some buildings have against flooding or the existence of property insurance as a mandatory prerequisite for credit.

2. Global transition to a low-carbon economy – scenario analysis

Transition risks are risks arising from the global and local fight against climate change, encompassing the transition from an economy based on burning fossil fuels to a low-carbon economy. The global and local process of adapting to a low-carbon economy may, among other effects, disrupt the business or operational models of companies and business organizations, thereby also heightening transition risks for financial entities.

As these transition processes are in their early stages, transition risk management is based on innovative tools and methodologies for the detection and assessment of the effect of various transition processes on the performance of the bank. The bank recently ran a scenario analysis of an orderly, successful global transition to a low-carbon economy by 2050 (net-zero orderly transition), and another scenario simulating a successful but disorderly transition to a low-carbon economy by 2050, characterized by substantial gaps in regulation and a lack of sufficient preparation in many economic sectors (net-zero disorderly transition). These scenarios are based on the series of central scenarios by the NGFS, consistent with the TCFD recommendations, and aligned with the recent guidelines of the Federal Reserve in the United States in this area.

As the NGFS scenarios do not provide macroeconomic forecasts specific to Israel, in the first stage the bank adapted the macroeconomic model on which the NGFS scenarios are based, using data from countries comparable to Israel that are characterized by a similar economic development level and structure. Another criterion in matching the data was countries with a similar level of greenhouse-gas emissions per capita. In accordance with the TCFD recommendations, we analyzed several climate scenarios, based on prevalent quantitative models, with at least one transition scenario involving global warming limited to 2°C or less. We chose to examine the

effects of the different climate scenarios on credit risk in the bank's Corporate Banking Division. We selected two scenarios to compare to a baseline scenario – a hypothetical scenario assuming a world with no transition risks or physical risks.

Net zero 2050 - Net zero Orderly

This scenario assumes that the world succeeds in limiting global warming to 1.5°C or less through immediate regulatory measures applied worldwide and extensive technological development helping to promote processes of reducing emissions and improving energy efficiency. In this scenario, the assumption is that an ambitious climate policy is presented immediately and uniformly across all sectors. The scenario is characterized by medium transition risks and low physical risks, as the global emission reduction targets as stated in the Paris Agreement are achieved.

Divergent Net zero - Net zero Disorderly

This scenario assumes that the world succeeds in limiting global warming to 1.5°C or less, but with relatively high costs due to varying policies among different economic sectors and a faster phase-out of fossil fuel use. In contrast to an orderly net-zero scenario, this scenario has stricter climate policies applied in the transportation and construction sectors, while less severe policies are applied to the energy and industry sectors. Relatively stringent regulatory measures are applied, not necessarily in cooperation and harmony with the various sectors of the economy, leading to a high economic burden for consumers. Theoretically, transition risks in this scenario are considerably higher than in the Net Zero 2050 scenario, whereas physical risks are the lowest of any of the six NGFS scenarios.

Results of the initial analysis indicate an insignificant effect on credit losses in the bank's Corporate Banking Division, and consequently also on credit risk. This conclusion applies to the average result over the years of the scenario (2023-2050) and to the first decade in particular, which has higher average credit losses than the rest of the period. However, the bank recognizes that this is a first experience with a new kind of tool, and that the prevailing economic models have not yet been adapted to the characteristics of the Israeli economy. Moreover, the initial analysis covered only macroeconomic variables, without reference to the various impacts of transition risk at the resolution level of each sector. Variables were selected based on countries with similar attributes to Israel, with partial adjustment to the Israeli economy. In view of all of the above, the bank considers this analysis a preliminary learning exercise in support of future analyses of climate scenarios. To obtain a quality assessment of financial risks in the context of the climate, the bank intends to continue to develop its capabilities in climate scenario analysis and stress testing, including as part of the implementation of evolving Israeli regulation in this field.



Source: NGFS



Climate risk management

Climate risk management in the financial system, particularly the banking system, is a new and evolving field encompassing a broad range of inherent risks that affect many aspects of the economy through various vectors. Unlike other risks managed by banks, climate risks can materialize over a far longer range than the banks' customary business planning horizons, and are characterized by substantial uncertainty. Moreover, many of the climate risks have not materialized in the past, so that innovative and unique tools are needed to identify and prepare for these risks.

Climate risk management requires the bank's risk-management system to be adapted and methodologies to be designed specifically for the identification, assessment, hedging, and monitoring of material climate-related financial risks.

The bank has started to build these processes over the last few years. This work entails coping with a range of challenges, such as the availability and quality of relevant climate data and the shortage of statistical information of the kinds used in other financial risk management processes.

In line with the accepted approach and practice in the global banking industry, we see climate risks as risk factors affecting the risks traditionally managed by the bank, and therefore aim to integrate climate risk factors into the bank's existing frameworks for managing the various risks. Accordingly, the bank is currently focusing on embedding climate risk factors into its credit risk, operational risk, and reputational risk management systems; going forward, the plan is to expand the integration of climate risks into additional risk-management systems, according to the new regulatory directives of the Bank of Israel (the Proper Conduct of Banking Business Directive "Principles for the Effective Management of Climate-Related Financial Risks," issued in June 2023) and business needs.

To mitigate its exposure to climate risks, in 2022 the bank made a decision to stop financing and investing in new coal and oil exploration and production projects. A decision was also made to gradually scale back holdings in companies engaged in coal and oil activities in the proprietary portfolio of the bank, to zero by the end of 2026. In 2022, the bank formulated and implemented an initial policy for the reduction of its exposure to climate transition risks in its business credit portfolio and in its proprietary investment portfolio. This policy is part of the implementation of the bank's multiannual work plan for managing climate risk factors, which is based on learning from the current global trends and practices in this field.



❖❖ **Climate risk factor detection, assessment, and management processes**

Climate risks may constitute significant risk factors for the bank, affecting the traditional risk categories for which formalized management practices are in place. Since the first quarter of 2021, the bank has included environmental risk, with an emphasis on climate risk, in the list of emerging risks to which the bank is exposed ([for further information, see the section "Top and emerging risks" in the bank's annual financial report](#)). To assess its exposure to climate risks in both the short and long term, the bank is continuing to develop and enhance its methodologies and tools for the identification of these risk factors within each of the traditional risk categories, such as to allow the management of the risks. However, at this stage it is too early to estimate the scope of the effect of these risks on the bank in the long term. The following table presents examples of the ways in which climate risk factors may affect the bank's traditional risks and the bank's actions to manage the risk.

In late 2021, the Risk Management Division of the bank formulated a multiannual work plan to establish practices for managing climate risks in credit, based on current global practices, and to methodologically embed climate risks in the other relevant risk categories managed by the bank. The plan serves as a road map for climate risk management at the bank and provides a working framework, evolving according to the developments in climate risk management in the banking industry. Under new climate risk management regulation in Israel, the bank intends to update this work plan in 2023. The following table includes examples of how climatic risk factors may affect the bank's traditional risks, and how the bank works to manage the risk accordingly.

Examples of potential impacts of climate risk factors on the traditional risks at the bank, and the ways the bank is managing the risk:

Risk	 Credit	 Market and investment	 Operational	 Regulatory	 Reputational
Definition	Credit risk is the risk of borrowers' failure to meet their obligations to the bank pursuant to a credit agreement. As the credit portfolio is a key component of the bank's asset portfolio, deterioration in the stability of the various borrowers may have an adverse effect on its asset value and profitability.	Market risk is the risk of loss or decline in value as a result of change in the economic value of a financial instrument, or of a portfolio of assets/instruments, due to changes in prices, rates, yields, spreads, and other market parameters. Investment risk arises from exposure to the stock market, credit spreads, and credit risk in bond and stock markets in the banking book of the group.	Operational risk is defined as the risk of loss that may arise from failed or faulty internal processes, human actions, system malfunctions, or external events.	Regulatory risk refers to regulatory directives that have not yet taken effect, and takes two main forms: <ul style="list-style-type: none"> • Lack of preparation or partial preparation for the implementation of a binding regulatory directive. • A more severe regulatory burden that may impair the bank's ability to realize and maximize its business goals and/or may entail complex and prolonged implementation and require resource-intensive technological and other investments involving considerable costs. 	Reputational risk is defined as present or future risk of damage to income or capital as a result of a negative image in the eyes of the bank's stakeholders.
Example of effect of climate-related physical risk factor	A decrease in the value of collateral securing credit granted by the bank, as a result of physical climate events that may damage borrowers' assets (thereby impairing LGD) and their business activities, and harming their ability to meet their obligations to the bank (impairing PD).	Increases in prices of various commodities and raw materials due to extreme climate events, leading to impaired ability to produce and transport the commodities over a certain period.	Physical damage to the bank's assets and infrastructures, shutdown of infrastructures essential to the bank's operational continuity, and harm to the activity of essential suppliers, as a result of extreme climate events.	A heavier regulatory burden on the bank as a result of future regulatory requirements in reference to the bank's preparedness to ensure operational continuity in extreme climate events.	Customer desertion and failure to recruit potential customers for whom ESG is a selection criterion.
Example of effect of climate-related transition risk factor	Damage to borrowers' profits as a result of an increase in their operating expenses, due to the imposition of a carbon tax or other costs related to the reduction of emissions, such as to impair their ability to meet their obligations to the bank (impairing PD).	Decline in value of the bank's holdings in securities of companies in the fossil-fuel sector value chain, as a result of global regulation restricting their activity and a decrease in consumers' demand for their products due to rising public awareness of climate issues.	Rising operational expenses due to the need to relocate branches to green buildings, in accordance with customers' expectations.	Imposition of regulation requiring climate risks to be included in the bank's credit risk management processes, reducing the extent of credit that the bank can grant to its customers.	Rise in exposure to reputational risk at the bank due to financing of or investment in a company operating in an emission-intensive industry.
Detection, assessment, and management processes at Bank Hapoalim	New loans and investments are examined according to the policy on managing transition risks in the bank's credit and investment activities. In addition, in analyzing business credit, in selected cases we include analysis of the borrowers' exposure to climate risk factors (as part of overall environmental risks), in terms of both credit risk and reputational risk to the bank. For the purpose of the analysis, the Corporate Banking Division consults as necessary with the head of climate risks in the credit risk management department, the ESG administration, and external environmental experts. The outcomes of the analysis are included in the credit application submitted to the credit committees, to support the decision-making process. As part of the work plan on climate risk management and in response to the principles in the new Proper Conduct of Banking Business Directive on this subject, the bank intends to establish formalized procedures, methodologies, and processes.	The bank's investment policy restricts investment in new coal and oil production and exploration projects. The bank is also targeting zero exposure to companies engaged in coal and oil activities in its proprietary portfolio by 2026.	The bank's ways of coping with the various climate risks on the operational level are embedded in its emergency and business continuity procedures. Climate scenarios, with an emphasis on flooding, have been included in the bank's business continuity plans. Procedures establish managerial responsibility, work formats, and means required of each unit at the bank in each scenario.	The bank continually follows world regulatory developments expected to affect the local banking system and acts to implement local regulatory directives accordingly.	Bank Hapoalim has set long-term strategic goals for positive environmental impact and reduction of the adverse environmental effects of its activity. As part of ESG management at the bank, we maintain ongoing dialogue with stakeholders and strive for continual improvement. We report on our activities in an annual ESG report. In analyses of business credit, in selected cases we include analysis of the borrowers' exposure to the reputational risks of the bank.

Transition risks within credit risk

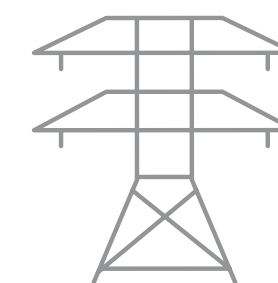
In line with the bank's strategic approach in which climate-related transition risks are viewed as emerging risk factors that may affect the Israeli economy in the near future, a decision was made to focus the initial transition risk identification and assessment process on risks in the context of business credit. The bank therefore conducted a qualitative survey of the effects of transition risk on ten key economic sectors exposed to heightened transition risk, due to intensive greenhouse-gas emissions in these sectors, and the construction and real-estate sector, which accounts for a substantial portion of the bank's credit portfolio. The analysis addressed inherent transition risk, the ability of each sector to mitigate risk exposure, and the consequent potential residual risk.

The sectors the bank chose as its focus in the first stage are generally categorized as industries with intensive greenhouse-gas emissions, in line with the prevalent global focus on sectors exposed to heightened transition risk. While these sectors are of high importance to the Israeli economy, they are also a significant source of greenhouse-gas emissions in Israel and contribute approximately 80%, in aggregate, of total greenhouse-gas emissions in Israel.¹⁹

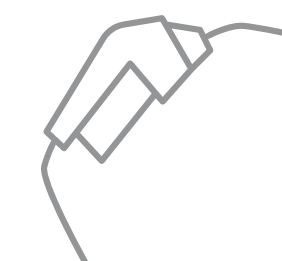
The following sectors were specifically analyzed:



Oil and gas production



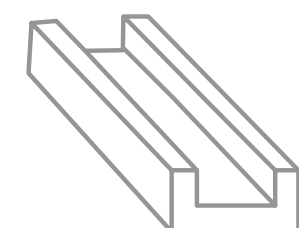
Electricity and gas production and supply



Retail fuel sales



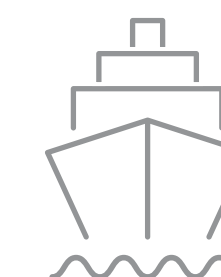
Cement



Metals and steel



Air transportation and shipping



Marine transportation and shipping



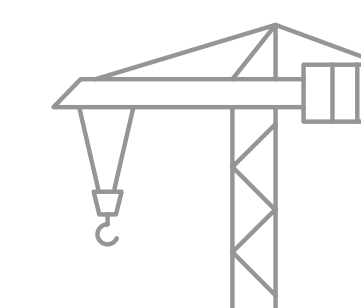
Land transportation and shipping



Chemical industry, rubber, and plastics



Fuel and oil refining industry



Construction and real estate²⁰

The bank's Risk Management Division, in cooperation with the Corporate Banking Division, performed an in-depth analysis for each sector, to identify trends in the development of inherent risk and risk-management processes in each area. The analysis included:

- ◆ Analysis of each sector's exposure to transition risks based on external research, assessments by sector experts at the bank, and international reports.
- ◆ Evaluation of the volume of greenhouse-gas emissions attributed to the sector.
- ◆ Evaluation of the level and composition of financial exposure of the bank to the sector.
- ◆ Analysis of inherent exposures at key transition risk centers, such as regulation and policy, existing technologies, consumer preferences, and market changes.
- ◆ Evaluation of the sector's adaptation and mitigation abilities in reference to transition risk.
- ◆ Evaluation of the overall residual exposure to transition risk and assignment of a category/qualitative score to the residual exposure level of each sector examined.

The sector reviews formed the foundation for sector focus areas examined in the credit analysis process for transactions in material amounts in key sectors on the list, first and foremost the fossil-fuel sector (including exploration and production, refining, and retail sales) and the electricity sector.

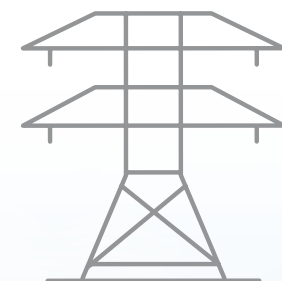
19. Table 22.7, Central Bureau of Statistics, Greenhouse gas emissions by source.

20. In the bank's initial analysis, the real estate and construction industry was identified as having medium exposure to transition risks, while the ten other sectors examined were found to have high exposure. However, in view of its significant part in the business credit portfolio, a decision was made to include this sector in the comprehensive analysis.

The bank's exposure to emission-intensive industries

To obtain a comprehensive picture of the bank's credit-risk exposure to emission-intensive industries, we periodically measure the exposure of the bank to the sectors linked to heightened inherent transition risk. The measurement allows identification of focus areas of significant exposure to transition risk, which require in-depth analysis and data-based decisions on transactions and customers at risk. Routine processes of tracking and monitoring the exposure of the credit portfolio to these sectors enable us to gain more precise advance identification of climate-related risks and opportunities, in these sectors and in the credit portfolio as a whole, and make decisions accordingly.

Credit risk in economic sectors with heightened inherent risk of transition to a low-carbon economy²¹



Fossil fuels

(including fuel production, refinement, and retail sales)

Electricity and gas supply

(excluding electricity produced using renewable energy)

Transportation and shipping

(marine, air, and land, including vehicle retailing)

Chemical industry, rubber, plastics, cement, and steel

Total credit risk in economic sectors with heightened transition risk

Percentage of total credit risk, in and outside Israel

31.12.2022	1.06%	1.12%	3.07%	1.07%	6.32%
31.12.2021	1.00%	1.15%	3.33%	1.36%	6.84%

21. The data refer to balance sheet and off-balance sheet credit risk (stand-alone data of the bank), based on classification of the bank's customers by sector, with added manual customer classification in relevant cases (e.g., electricity production based on renewable energy). For further details, see page 135 of the bank's annual report for 2022.

❖❖ Embedding climate risk management aspects in the bank's overall risk management system

As noted, the bank sees climate risk factors as intensifiers of the risk categories traditionally managed by the bank, rather than as separate risks. We therefore manage climate risk factors as part of the management of traditional risks. Climate risk factors have been added to relevant policy papers at the bank and included in the work processes of the first and second lines managing the relevant risks.

Credit risk

Based on the climate risk identification and assessment processes we performed, the most material risk we have identified, at this point in the maturation of climate risks in the business environment in Israel, is transition risk in the context of business credit risk. Beginning in 2022, the bank's credit exposure to emission-intensive industries that have been flagged as exposed to heightened transition risk is reported as part of the routine mechanisms for reporting on credit risks at the bank. The extent of the exposure to these sectors, at the level of the credit portfolio, is reported on a quarterly basis. In view of the exposure of the fossil-fuel sectors to risk, in both the inherent and residual risk assessments, a decision was made to focus first on hedging the effects of climate risk factors on the bank's activity by stopping financing of and investment in new coal and oil exploration and production projects and in projects for the construction of coal-fired power plants. The bank also decided to gradually scale back holdings in companies engaged in coal and oil activities in its proprietary portfolio, to zero by the end of 2026. In addition to the bank's credit policy regarding the fossil-fuel sectors and its monitoring of the exposure of the credit portfolio to emission-intensive industries with high exposure to climate risk factors, the bank has initiated the examination of credit risk aspects in some routine underwriting and management processes, for specific credit transactions in the business credit portfolio that meet materiality threshold criteria. Borrowers' exposures to climate risks are analyzed in terms of credit risk as well as reputational risks. To clarify, these processes are currently applied on a localized basis; the bank is working on a formalized process for the analysis of borrowers' exposures to climate risks, in line with regulatory guidelines in this area.

Bank Hapoalim aims to continue to develop more comprehensive and advanced methodologies to identify, assess, and manage climate-related financial risks, according to leading global practices, the guidelines of Israeli regulators, and the Basel principles on managing these risks. Over the last year, a first-of-its kind analysis in the area of physical risks was performed, examining the predicted effects of an extreme scenario of flooding and floods across Israel on the bank; a scenario of global transition to a low-carbon economy by 2050 was also analyzed (for details, see the chapter "Strategy – climate scenario analysis" on pages 18-20).

Market and investment risks

In general, the bank's policy on exposure to climate risks in its direct investments – through its subsidiary Poalim Equity and in its proprietary portfolio – is identical to the credit policy. The bank has also decided to gradually reduce its proprietary investments in companies operating in the fields of oil and coal, bringing its holdings to zero by 2026. Towards that end, the bank has established a multiannual trajectory setting a maximum rate, for each year, of the balance of the investment in these companies as a percentage of the total portfolio of bonds and shares, until it falls to zero in 2026.

Operational risk

To preserve the bank's ability to maintain business continuity and deliver essential services in the event of materialization of physical climate risks, procedures are in place for routine and emergency actions during various climate scenarios. These include ways of coping with extreme rain events leading to flooding, floods, and fires. Buildings, facilities, and branches in areas at risk of such events have been mapped. Coping with climate risks on the operational level is integrated with the bank's emergency and business continuity procedures. These procedures establish managerial responsibilities, work formats, and the means required of each unit in each scenario, until the event is over and routine can be resumed. Preparation for such situations includes providing the tools, equipment, and infrastructures suited to every scenario, such as alternate sites and remote work, emergency equipment and kits, technological and communication infrastructures, health and safety means, and more. In routine times, the sites' soundness

and preparedness are rigorously tested and safety and security drills are held for employees. From time to time the bank ascertains and tests the capabilities of material suppliers to continue to provide services to the bank in the event of materialization of extreme climate scenarios.

Regulatory risk

Regulation concerning climate risks, the transition to a low-carbon economy, and preparation for the climate crisis in Israel is still emerging. Israeli regulation on these matters follows global regulation; bank regulators have been among the first to adopt the global regulation in this field, as part of their commitment to maintaining the stability of the banking system. In June 2023, regulatory guidelines on the management of climate-related financial risks at banks were released, in line with the Basel principles. We regularly follow regulatory developments worldwide in the context of climate change and the financial system. As relevant, our aim is to prepare in advance, to the extent possible, for future climate-related regulation, while continually studying global regulation and advanced international standards for managing climate aspects of the financial system, subject to systemic constraints and internal considerations. While advancing the bank's risk-management system, we are also working to strengthen our direct communication channels with regulatory bodies in Israel and support multi-sector cooperation on climate issues. The ESG administration and risk-management functions at the bank are promoting professional dialogue and knowledge sharing with Israeli government agencies and regulators, in the financial and climate arenas, to optimally adapt the currently emerging methodologies for ESG and climate risk management to the unique characteristics of Israel's economy and geography.


Reputational risk

As part of the management of reputational risks in this area at the bank, we maintain ongoing dialogue with stakeholders and strive for continual improvement. We report on our environmental activities in an annual ESG report. In analyses of business credit, in selected cases we include analysis of the potential effect of exposure to specific borrowers on the reputational risks of the bank.



Metrics & targets

Bank Hapoalim uses quantitative metrics that allow us to continually monitor the impacts of various aspects of climate change on the bank and our progress towards our climate goals. The data are collected throughout the year and reported to management and the board of directors. This year, for the first time, we are reporting extensively on the carbon footprint of the bank's corporate credit portfolio and describing the bank's progress towards its goal in financing of and investment in projects promoting a green environment.



Climate goals of the bank

1. Increase financing and investment balances in projects promoting a green environment to NIS 37 billion by 2030

We are working to increase the scope of the bank's financing of and investment in projects promoting a green environment and low-carbon economy, as a way of aiding and promoting efforts to cut back greenhouse-gas emissions and adapt infrastructures to cope with climate change. In view of the progress towards the original 2030 target for green financing and investments, in early 2023 we set a new goal of increasing financing for projects promoting a green environment to NIS 37 billion by 2030.

Stopping financing and investment in new coal and oil exploration and production projects

As part of its climate risk management and commitment to support global efforts to cope with the climate crisis, the bank decided in early 2022 to stop financing and investing in new coal and oil exploration and production projects. Further, the decision was made to gradually reduce proprietary holdings in companies engaged in coal and oil activities, to zero by the end of 2026.

Results for 2022:

**NIS
19.5
billion²²**

balance of credit granted for projects promoting a green environment.

**NIS
513
million**

Balances of investments in renewable-energy projects through Poalim Equity.



2. 60% reduction in carbon footprint by 2030

Bank Hapoalim monitors the main components of its routine operational activity that contribute to the emission of greenhouse gases. The bank joined the voluntary greenhouse-gas emissions reporting system of the Ministry of Environmental Protection in 2010; since then, we have reported to the recording system in accordance with the established methodology. Based on our measurement and monitoring, over the years we have consistently reduced the bank's carbon footprint. The bank aims to continue to reduce the greenhouse-gas emissions resulting from its operational activities each year, to achieve the goal set for 2030: a further reduction of the bank's operational carbon footprint by 60% relative to the baseline established in 2020.

Electricity is a key resource used by the bank and the main factor affecting the operational carbon footprint of the organization. We manage electricity consumption year-round, striving for efficiency and savings through optimized timing of air-conditioning, lighting, and computer systems according to employee presence.

Production and service processes in banking have a minor direct environmental impact, as the bank's activity is essentially administrative and the service it provides to its customers is primarily delivered through digital means. Nonetheless, we believe it is important to also minimize the incremental environmental impact of our activity.

Operational carbon footprint intensity of the bank (in tons CO₂e*)

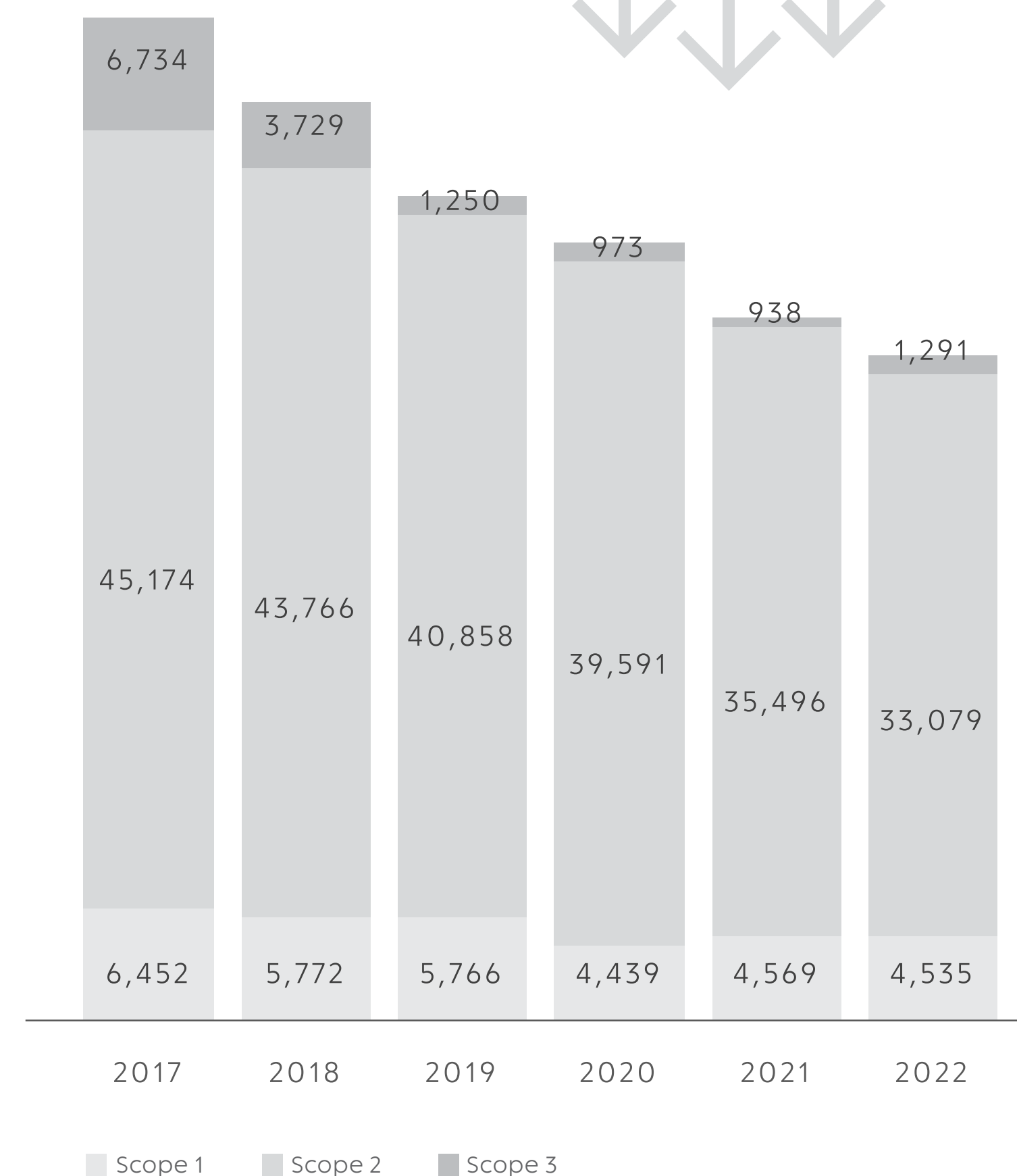
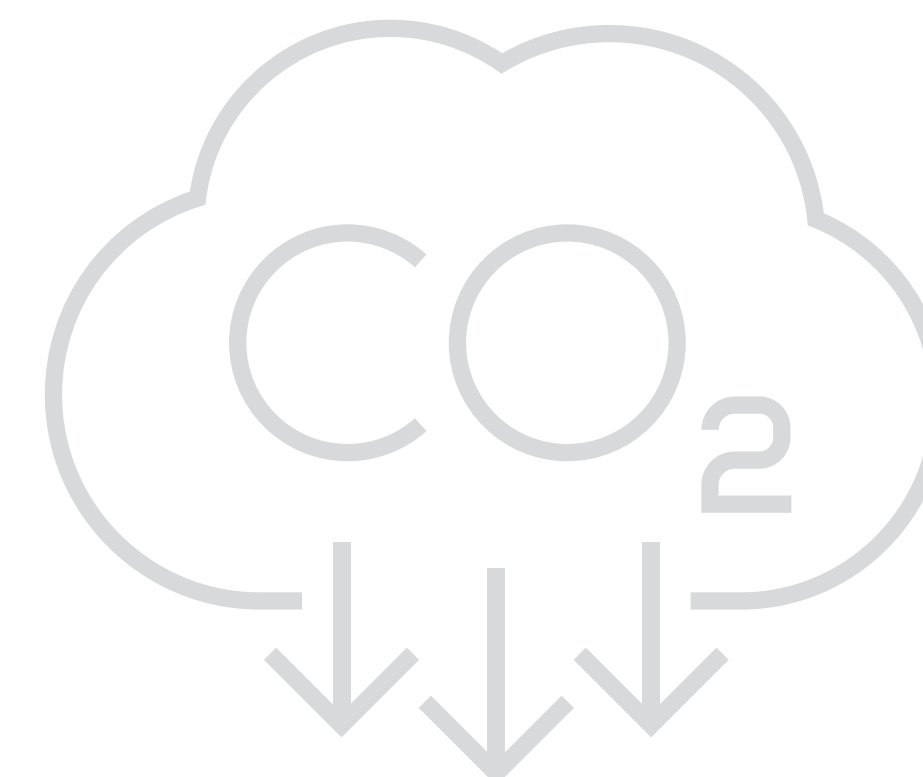
The total operational carbon footprint for 2022 is 38,905 tons CO₂e (including all three scopes), down approximately 5.1% from 2021. Total Scope 2 emissions decreased by approximately 6.8%, due to a significant decrease in electricity consumption. In measuring the Scope 3 carbon footprint of the bank's operational activity, we calculate Category 1 and 6 emissions. Measurement results this year indicated a 37.7% increase, due to factors including a change in the methodology applied to emission coefficients of electronic equipment.²³

The bank's operational carbon footprint has decreased by approximately 59% in the last decade (2013-2022) – mainly due to energy savings and efficiencies in fuel and electricity consumption.

*We used the metric system in this report; one ton = 1,000 kilograms (this refers to all environmental metrics in this report).

Year	2018	2019	2020	2021	2022	Change vs. 2021
Total tCO₂e	53,267	47,874	45,003	41,003	38,905	-5.1%
Per employee tCO₂e / employee	6.43	5.87	5.80	5.26	5.09	-3.3%
Per square meter tCO₂e/ total square meters of the bank's office and branches	0.190	0.175	0.169	0.160	0.154	-3.9%

Operational carbon footprint of the bank – breakdown by scope (tCO₂e)



23. Calculated based on the new emission coefficient for electronic equipment, as amended by DEFRA. Actual consumption data on electronic equipment shows a decrease of approximately 41% in 2022 in the absolute quantity of equipment acquired, compared with 2021, and a decrease of approximately 27% in the estimated total weight of the equipment.



Status of progress towards the bank's climate-related ESG goals for 2030

Bank Hapoalim was the first in the banking industry in Israel to set long-term ESG goals, having stated its targets for 2030 in early 2020. In February 2023, with the original target achieved, a new objective was established for financing and investments promoting a green environment.

Metric	2022 performance	2030 target	
		Original target	Current target
Increase financing and investments in projects promoting a green environment	NIS 19.5 billion	NIS 20 billion	NIS 37 billion
Further reduce the operational carbon footprint of the bank relative to 2020	13.5% decrease*	60% decrease*	
Stop financing and investments in new coal and oil production projects	Established in policy as of March 2022. In addition, a decision was made to gradually reduce holdings in these companies in proprietary investments to zero by 2026.		

* Relative to the operational carbon footprint of the bank in 2020, which was 45,003 tCO₂e.

For further information regarding the overall environmental performance of the bank, see the "Environment" chapter in our 2022 ESG Report.

Scope 3 measurement in the bank's corporate credit portfolio

Scope 3 refers to indirect emissions in a company's value chain. In 2022, we embarked on the process of measuring Scope 3 emissions in the bank's corporate credit portfolio for the first time, based on methodology from the PCAF standard – the leading global standard on the calculation of Scope 3 emissions in the credit and investment portfolios of financial organizations. As of September 2023, over 420 financial organizations have adopted the PCAF standard; Bank Hapoalim is the first financial organization in Israel to perform this measurement process.

The measurement was performed by a team of economists and environmental experts at BDO, headed by chief economist Chen Herzog. A greenhouse-gas emissions model designed by BDO, which factors in emissions findings and estimates from several sources, made the application of the PCAF standard possible. This method is used due to the scarcity of data in this field in Israel, in line with the guidelines of the standard (for further details about the methodology and measurement stages, see page 35).

The carbon footprint measurement is based on the credit portfolio of the bank's Corporate Banking Division in 2021-2022. Specific measurements were performed for companies with credit balances greater than NIS 100 million, while aggregate measurement was applied to companies with lower credit balances, using sector coefficients.

During the process of measuring the carbon footprint of the corporate credit portfolio for 2022, we also optimized data on some of the companies included in the measurement for 2021, using information that was unavailable when the initial measurement was performed. This led to the improvement of the data quality score, as well as to minor variations from the results released in the bank's ESG Report.

The results of the measurement are:²⁴

	2021	2022
Emissions intensity (tons CO ₂ e per million NIS of credit)	35	30
Quantity of Scope 3 emissions attributed to the bank (thousand tons CO ₂ e)	6,154	6,096
Data quality score	4.6	4.7

The results indicate a decrease in emissions intensity. The quantity of emissions attributed to the bank decreased slightly, despite the increase in corporate credit portfolio balances included in the measurement in 2022.

24. Scope 3 measurement in the bank's corporate credit portfolio is based on the data available to the bank and on estimates performed by BDO based on the PCAF methodology. These data are characterized by varying reliability levels, taking into account, among other matters, the absence of available specific data regarding many of the bank's customers, as reflected in the data quality score, on a scale from 1 (highest) to 5 (lowest). The actual emissions attributable to the corporate credit portfolio of the bank may therefore differ, even materially, from the stated results.

Metrics used to assess exposure to climate risks

Exposure of the credit portfolio to emission-intensive economic sectors

To examine the impacts on the bank of a gradual global transition to a low-carbon economy, we use in-depth analysis of the exposure of our portfolio of bank credit to the emission-intensive economic sectors that have been identified as more exposed to transition risk.

Credit risk in economic sectors with heightened inherent risk of transition to a low-carbon economy²⁵

	Fossil fuels (including fuel production, refinement, and retail sales)	Electricity and gas supply (excluding electricity production based on renewable energy)	Transportation and shipping (marine, air, and land, including vehicle retailing)	Chemical industry, rubber, plastics, cement, and steel	Total credit risk in economic sectors with heightened transition risk
Percentage of total credit risk, in and outside Israel					
31.12.2022	1.06%	1.12%	3.07%	1.07%	6.32%
31.12.2021	1.00%	1.15%	3.33%	1.36%	6.84%

25. The data refer to balance sheet and off-balance sheet credit risk (stand-alone data of the bank), based on classification of the bank's customers by sector, with added manual customer classification in relevant cases (e.g. electricity production based on renewable energy). For further details, see page 135 of the bank's annual report for 2022.



Preparation for climate change **future plans**

Global knowledge on climate change and its impact on the financial sector is continuing to develop; the management of these effects is also evolving, globally and in Israel. At Bank Hapoalim, we aspire to continue to develop our preparedness for climate change, as part of our commitment to the environment and society, and of our responsibility to support global efforts to cope with the climate crisis. In June 2023, the Supervisor of Banks in Israel issued a Proper Conduct of Banking Business Directive entitled "Principles for effective management of climate-related financial risks," written in accordance with the Basel principles in this area. The directive represents a leap forward for the banking sector in Israel, aligned with best practices for international banks. The directive sets forth expectations for banks to integrate climate risk into their frameworks for managing the various other risks.

In view of these trends, and our ambition to continue to lead in ESG in Israel and prepare for implementation of the new directive of the Bank of Israel, we will continue to develop internal tools and methodologies designed to improve the identification and assessment of climate-related financial risks. These processes are based on means including information gathered from borrowers regarding their exposure to and management of climate risks, in line with the accepted practice at leading banks worldwide. As the scope of the climate-related information available to the bank grows, we expect our capabilities to manage these risks to be enhanced and our ability to identify and assess the risks to improve.

At the same time, we intend to further increase credit and investments in green projects and promote financial solutions and banking services designed to guide our customers through the transition to a low-carbon economy. We will continue to deepen our knowledge and expertise, as necessary to effectively manage climate issues, through training for employees, collaboration with environmental organizations and experts, and expansion of databases and technological infrastructures for the management of climate risks and opportunities. We will continue to deepen our knowledge and expertise, as necessary to effectively manage climate issues, through training for employees, collaboration with environmental organizations and experts, and expansion of databases and technological infrastructures for the management of climate risks and opportunities.

TCFD Index recommendations

Section number	Requested information	Location in report	Page
◆ Governance			
G(a)	The board's oversight of climate-related risks and opportunities	Governance chapter, "Engagement of the board of directors in climate matters"	5
G(b)	Management's role in assessing and managing climate-related risks and opportunities	Governance chapter, "Management's role in assessing and managing climate risks and opportunities"	6
◆ Strategy			
S(a)	The climate-related risks and opportunities the organization has identified over the short, medium, and long term	Strategy Chapter, "Climate opportunities and risks"	9-18
S(b)	The impact of climate-related risks and opportunities	Strategy chapter, sections: "Responsible action to cope with climate change," "Climate-related opportunities," "Financing to promote a green environment," "The first green bonds in the Israeli financial system," "Creating innovative financial products," "Strengthening relationships with stakeholders of the bank," "Energy efficiency and reducing electricity consumption," "Developing climate tech in Israel," "Climate risk factors"	7-18
S(c)	The resilience of the organization in coping with the climate crisis	Strategy chapter, "Resilience of financial activity – climate scenario analysis"	19-21
◆ Risk management			
R(a)	Processes for identifying and assessing climate-related risks	Climate risk management chapter, sections: "Climate risk factor detection, assessment, and management processes," "Transition risks within credit risk"	22-26
R(b)	The organization's processes for managing climate-related risks	Climate risk management chapter, sections: "Exposure to emission-intensive industries," "Embedding climate risk management in the bank's overall risk management system"	26-27
R(c)	How climate-related risks are integrated into the organization's overall risk management	Climate risk management chapter, subsection "Embedding climate risk management in the bank's overall risk management system," sections: "Credit risk," "Market risk," "Operational risk," "Regulatory risk"	27
◆ Metrics and targets			
M(a)	Metrics used by the organization to assess risks and opportunities	Metrics and targets chapter, sections: "Climate goals of the bank", "Status of progress towards the bank's climate-related ESG goals for 2030", "Metrics used to assess exposure to climate risks"	29-32
M(b)	Emission scopes and the related risks	Metrics and targets chapter, sections: "Operational carbon footprint intensity of the bank (in tons CO ₂ e)," "Scope 3 measurement in the bank's corporate credit portfolio"	30,32
M(c)	Targets and performance	Metrics and targets chapter, sections: "Climate goals of the bank," "Status of progress towards the bank's climate-related ESG goals for 2030"	31

Bank Hapoalim corporate credit portfolio carbon footprint – PCAF measurement process

The carbon footprint of Bank Hapoalim's credit portfolio was measured with the assistance of BDO consultants, headed by chief economist Chen Herzog. The measurement was performed based on data for 2021-2022, according to the PCAF standard – the leading standard for carbon footprint measurement in the credit and investment portfolios of financial organizations.²⁶

Use of the standard was made possible by applying the BDO model for greenhouse-gas emissions, which provides a weighted inventory of greenhouse-gas emissions in Israel. According to the standard, carbon emissions of companies in the bank's credit portfolio are attributed to the bank and counted as part of its Scope 3 emissions.

The measurement was performed in five main stages: database gathering; formulation of key working assumptions; carbon footprint measurement at the level of the borrower company; weighting of the carbon footprint associated with the bank using attribution coefficients; and estimates of emissions intensity at the level of the borrower company and the overall portfolio. The measurement was applied to the entire credit portfolio of the Corporate Banking Division of the bank in each of the years 2021 and 2022.

Individual measurement was performed with respect to each company that had received credit in amounts greater than NIS 100 million. Collective measurement was applied to companies with credit in amounts lower than NIS 100 million, using sector coefficients, in accordance with the PCAF standard. The data quality score for the overall credit portfolio was determined based on the accuracy of the information used.

The emissions of the corporate credit portfolio, as measured based on the PCAF standard, are as follows:

In 2021 – 6,154 thousand tons CO₂e; emissions intensity 35 tons CO₂e per million NIS of credit granted.

In 2022 – 6,096 thousand tons CO₂e; emissions intensity 30 tons CO₂e per million NIS of credit granted.



Sincerely yours,
Chen Herzog
Chief Economist and Partner
BDO Consulting



To:
Bank Hapoalim B.M.

TCFD is a global standard for the disclosure of information regarding the management of climate aspects at an organization, including corporate governance and strategies in this area, climate risk management, and management of metrics and targets. Implementation of the TCFD working framework, which is the basis for the reporting requirements, is considered accepted practice in the global business sector. As stated on page 2 of the report, this is the first TCFD report by Bank Hapoalim (the "Bank").

Deloitte Israel & Co. ("Deloitte") provided professional counsel to the Bank and guided the writing of the TCFD report, in accordance with the reporting requirements of the standard and in line with the information and data provided by the Bank to Deloitte, or information drawn from the Bank's public reports. Nothing has been brought to our attention that might indicate misrepresentation of information or data in this report. This letter should not be considered a statement of opinion by Deloitte as auditor of the report, and Deloitte did not conduct audit or verification processes with respect to this information (such processes are not regulatory requirements at this stage).

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ESG Practice
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