State Comptroller of Israel

Special Report

National Climate Action by the Government of Israel Extended Follow-up Audit

Summaries of Report Chapters

State of Israel

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Foreword

This extensive follow-up report on national climate action by the government of Israel was completed two years after the release of the special report by the State Comptroller's Office on this matter in October 2021 in preparation for the global climate conference, COP28, held in late 2023. Due to Operation Swords of Iron, this report was not submitted to the Israeli Parliament (The Knesset) and not presented to the public until now.

The global scientific consensus is that current levels of greenhouse gas emissions have led to an increase in the concentration of greenhouse gases in the atmosphere and significant climate changes, and that this trend will continue unless immediate action is taken. Some of these changes are already evident and manifested in massive wildfires, severe and prolonged heatwaves, torrential rains and storms, flooding, and other climate related extreme wather, causing loss of life and property. Scientists estimate that even more severe impacts of climate change lie ahead. As a result, a crisis is unfolding that transcends borders and sectors, and is expected to cause global deterioration in the economy, social conditions, human health, and ecological systems. To prevent the realization of this scenario, comprehensive global action is required to transition to a carbon-neutral economy.

In various countries, a climate emergency has been declared, and actions have been taken at the national and local levels based on the understanding that climate change is a significant component of the national risk map. It is no longer percieved as solely an environmental issue with limited effects, but a systemic crisis. Public preparedness is a central component of the national strategy to strengthen public resilience and systemic readiness for multi-hazard crises. As part of the community of nations, Israel must actively participate in this global endeavor.

Having followed the government's progress on the topic of climate change since the last report was published, in early 2023 I decided to conduct a thorough follow-up audit. This audit aims to assess whether the government is taking steps to rectify the shortcomings outlined in the previous report, given the substantial risks facing Israel and in light of its international commitments.

This comprehensive follow-up report reveals a troubling picture: despite some improvements made by certain governmental bodies, the majority of the deficiencies have either not been addressed at all or have not been fully corrected. Governmental efforts to tackle climate change have so far suffered from several fundamental weaknesses, including the absence of effective government leadership on this matter, a legal framework that lacks the necessary foundation for implementing substantial changes, a lack of comprehensive government risk management, limited or ineffective government attention, and policy management through government decisions and statements without leading processes and actions that would

enable real progress. All of this stands in stark contrast to the inherent risks posed by climate change, which threaten our very existence. Therefore, the government's handling of this issue can be characterized as "functionally stagnant."

The absence of substantial corrective action by the Israeli government and head of government and its leader in addressing the climate crisis places current and future generations of Israeli citizens at risk. Without transformative, integrated, and reality-changing government action that includes the deployment of a comprehensive set of mitigation and adaptation tools with significant strategic weight to ensure achieving carbon neutrality by 2050, Israel might become an international outlier, especially in comparison to developed nations. It might even be labeled a "free rider," viewed as not contributing sufficiently to the global effort to mitigate and adapt to climate change.

Comprehensive, extensive actions in this field are imperative in light of the clear national interest: safeguarding the social, economic, and security resilience of the State of Israel. As a country situated in a climate hotspot, the changes in climate and weather that Israel is expected to experience due to global warming will be more significant than the global average, and could have severe repercussions on resilience:

In the economic and financial sphere, consequences are anticipated in two dimensions:

Physical damage: The physical impacts of climate change are expected to affect agricultural yields and lead to food and water shortages, as well as impacting commodities and energy supply, ultimately resulting in global price increases. This will have repercussions on the economy and the household budgets of disadvantaged populations. Additionally, expected damage to infrastructures in Israel that are already overloaded, including roads, desalination facilities, energy facilities, the water system, and sewage, from increasing numbers of extreme weather events could potentially lead to their collapse.

Risks of inadequate transition to a carbon-neutral economy in Israel: The worldwide shift toward a carbon-neutral economy creates transition risks. Inadequate preparedness of the Israeli economy for these risks and the incomplete national transition to a carbon-neutral economy by 2050 may affect the competitiveness of the Israeli economy.

For example, a carbon tax has been approved in the European Union but not in Israel. As a result, European countries may gradually impose a carbon tax on energy-intensive goods exported from Israel due to emissions during their production. This could raise the cost of these goods and potentially impact the competitiveness of Israeli manufacturers. Furthermore, the revenue from this tax will not go to the Israeli treasury but to the countries collecting it. The global transition to a carbon-neutral standard might also divert international investments in both the private and public sectors from Israel to countries with sustainable economic activities.

All of these factors could potentially impact social resilience in Israel. The effects of climate change and transition risks are expected to disproportionately affect disadvantaged populations and may leave significant portions of the Israeli public behind, potentially leading to unrest or social conflicts.

In terms of security, regional climate changes that bring about extreme heatwaves and severe weather patterns could lead to geopolitical instability. This may result in regional conflicts over essential natural resources in short supply, particularly water and food, exacerbating regional tensions and potentially leading to wars and waves of refugees from neighboring countries where living conditions deteriorate.

Climate change thus poses a comprehensive threat to Israel, encompassing societal, economic, financial, health, and security dimensions. It should not be seen solely as an environmental issue but as a systemic crisis that threatens various aspects of life, necessitating a government-wide response.

Dealing with these long-term threats requires drastic action in the present, despite uncertainties, and a high-level government commitment that is reflected in widespread attention from government ministries and relevant bodies appointed by government decisions. These include the Ministries of Finance, MoEP, Energy, Transportation and Road Safety, Economy, Agriculture and Rural Development, Defense, the IDF, the Planning Administration in the Ministry of Interior (the Planning Administration), and others, in addition to public and professional institutions within and outside of the government. To achieve consistent and sustained progress at a sufficient pace, we must combine ongoing government efforts and involvement in this issue. This will ensure that Israel reaches its self-set goals and fulfills its international commitments, while maintaining its status as a developed nation within the OECD.

In addition to these challenges, it is essential to also examine the numerous opportunities and advantages that Israel has not yet fully exploited. These opportunities can strengthen Israel's international and regional standing, while enhancing its strategic relationships with neighboring countries. They can position Israel as a diplomatic and economic leader, an innovative and developed nation offering a comprehensive toolbox to address the crisis and its consequences.

To conclude, I emphasize that the government faces the challenge of managing national-level risks and the need to chart a course for a carbon-neutral economy, green growth, and the transition to green energy on one hand, while preparing comprehensively for the risks stemming from climate change to people, infrastructure, and nature on the other.

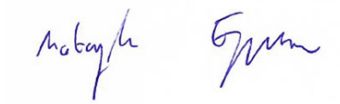
Before concluding this audit report, two government actions in the climate field deserve mention. First, the government has formulated a proposed climate law. If approved in the version endorsed by the Ministerial Committee for Legislation, this proposal could provide a limited and partial response to promoting the actions that the government and the country

must undertake to address the alarming picture presented in this audit report. Second, Israel's representatives are preparing for the Global Climate Conference. The findings of this report reflect the gaps in Israel's actions compared to the goals and objectives set at the international level. Therefore, the recommendations in this report can serve as a work plan to narrow these gaps in a forward-looking perspective.

The government and all Audited Bodies are urged to take action to rectify the deficiencies and implement the recommendations detailed in this report.

On Saturday, October 7, 2023, the Jewish holiday of Simchat Torah, Israel faced an unprecedented multi-pronged terrorist attack. Since that day, Israel has been involved in Operation Swords of Iron, necessitating immediate short-term solutions for assisting citizens, rebuilding infrastructure, and repairing various heavily damaged systems. However, even as all state systems tackle this complex emergency, the government must remain committed to addressing the climate crisis. This involves ongoing, significant efforts to advance, budget and achieve the objectives that it has confirmed on this issue for the upcoming years. The climate crisis is a chronic, persistent, long-term issue that continues unabated by internal or external events. As this audit report details, it presents severe future risks for Israel across various sectors, demanding ongoing and long-term governmental intervention.

In conclusion, I would like to express my gratitude to the employees of the State Comptroller's Office, especially in the Department 12 for Government Ministries and Authorities Oversight, for their dedicated work in conducting a thorough, professional, and fair examination and for publishing a clear, effective, and relevant audit report.



Matanyahu Englman
State Comptroller and
Ombudsman of Israel

Jerusalem, March 2024

Glossary

Adaptation – Actions and adaptation for risks related to climate change.

Adaptation plans – National adaptation strategy (NAS) and national action plan (NAP).

Adaptation report – Recommendations intended to support in implementing the targets of Government Resolution No. 4079 and to help Israel to better adapt to climate changes based on the actions of the CCAA and the subcommittees (published in April 2021).

Annual follow-up report – Annual report to the Israeli government of the Steering Committee for GHG Reduction on implementation of the national plan and targets for reducing GHG emissions, as determined in Government Resolution No. 542.

Anthropogenic greenhouse gases – Gases produced by human activity. Most of the anthropogenic greenhouse gas emissions originate in burning fossil fuels for producing energy in activities such as electricity production, transportation, cooking and heating.

BAU scenario – Business-as-usual scenario; the emissions forecast in the BAU scenario relating to GHG emissions expected in the absence of policies or additional government action.

CCAA team – The CCAA; managing team who manages the integration of the national climate change adaptation plan.

Climate Change Adaptation Administration (CCAA) – An entity of the Ministry of Environmental Protection, comprises 35 bodies including representatives of government ministries, civil bodies, and environmental organizations. The role of this team is to manage formulation of the national climate change adaptation plan.

Climate event – Extreme weather event, including unusual environmental events (such as haze, sandstorms, air pollution), mostly limited in extent.

Climate Law Memorandum – 5781-2021, published in May 2021 by the Ministry of Environmental Protection. It aims "to lead to prevention and reduction of GHG emissions and climate crisis damage in Israel… by setting targets for reducing emissions and GHGs and preparing national plans".

Combined cycle power plant – Power plant that relies on storage of PV energy, alternative to peaking power plant.

COVID-19 – Coronavirus disease (COVID-19), an infectious disease caused by the SARS-CoV-2 virus.

Decarbonization – Negating CO2 emissions during economic activity.

Decision makers proposal for transition to a low-carbon economy – Draft of a government resolution on the "Transition to a Low-Carbon Economy" which details Israel's new national targets of GHG Emissions reduction. The Ministry of Environmental Protection has been promoting this proposal since late 2020. The draft proposal was finally accepted as Government Resolution 171.

Defense establishment – The Ministry of Defense and the Israel Defense Forces.

Dual-use zone – Area designated for the construction of installations for producing renewable energy that is being used for other purposes, such as built-up land, agricultural areas, or parking lots.

ESG – Environmental, Social, and Governance; considerations in the fields of environment, social welfare, and corporate governance that can be evaluated during economic or financial activity, such as through reporting on activity of companies and corporations.

Framework convention – The United Nations Framework Convention on Climate Change (UNFCCC), the UN's fundamental convention on climate change.

GDP – Gross domestic product.

Government Guide to Risk Management – A guide designed to aid decision-makers in managing public risk (published by the Prime Minister's Office, 2018).

Government Resolution No. 171 – Israel government resolution dated July 2021 on "The Transition to a Low-Carbon Economy."

Government Resolution No. 208 – Israel government resolution dated August 2021 on "The Transition to Green Energy and Correction of the Government Resolution."

Government Resolution No. 465 – Israel government resolution dated October 2020 on "Promoting Renewable Energy in the Electricity Sector."

Government Resolution No. 474 – Israel government resolution dated June 2009 on "Israel's Adaptation to Climate Change – Adaptation and Readiness for Climate Change and GHG Emissions Reduction."

Government Resolution No. 542 – Israel government resolution dated September 2015 on "GHG Emissions Reduction and Improving Efficiency of Energy Consumption in the Economy", passed following the Paris Agreement, which defined national reduction targets for 2030.

Government Resolution No. 1403; National Plan 2016 – Israel government resolution dated April 2016 on a "National Plan for Implementing the Targets for GHG Emissions Reduction and Improving Energy Efficiency."

Government Resolution No. 4079 – Israel government resolution dated July 2018 on "Israel's Preparation for Climate Change Adaptation: Recommendations to the Government for National Strategy and a National Action Plan."

Greenhouse gases (GHGs) – A group of gases that prevent the radiation reflected from Earth from escaping into the atmosphere contributing to global warming and climate change. Converting them to carbon dioxide (or CO2) equivalents makes it possible to compare them and to determine their individual and total contributions to global warming.

IMS – Israel Meteorological Service.

IPCC Fifth Assessment Report – The Fifth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (2014).

Low-carbon economy – An integrated economic policy that aims to change patterns of economic activity so that it will have minimal effect on the ecological system and reduce anthropogenic GHG emissions, to prevent the effects of climate change. This policy can reduce GHG emissions to net zero carbon.

Mitigation – Reduction of GHG emissions.

National targets – National targets for GHG reduction determined by countries under the Paris Agreement (see NDCs).

NEMA – National Emergency Management Authority.

New plan for improving energy efficiency 2030 – The new national plan for improving energy efficiency for 2020-2030 (published by the Ministry of Energy in November 2020).

NGFS – Network of Central Banks and Supervisors for Greening the Financial System.

OECD – Organization for Economic Co-operation and Development

OECD climate recommendations report – Comprehensive report on promoting climate action in Israel written by the OECD in 2020 under the title "Accelerating Climate Action in Israel."

RIA – Regulatory Impact Assessment; OECD methodology, implemented in Israel.

Roadmap for Energy Sector 2050 – Summary document on a study by the Ministry of Energy on updated emissions targets for 2050 (published for public comments in March 2021).

Scientific study and recommendations for a national strategy – A study coordinated by the Chief Scientist at the Ministry of Environmental Protection following Government Resolution No. 474 of 2009, which included a scientific survey of the climate change issue, actions being performed for climate change adaptation, and actions that government

ministries intend to promote. The study's conclusions were presented to the government in 2017.

SDGs – Sustainable Development Goals; the UN's 17 goals for sustainable development, adopted in 2015.

Six main GHGs – General term for carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbon (HFC), perfluorochemicals (PFC), and sulfur hexafluoride (SF6).

State Comptroller's survey / the survey – survey distributed by the State Comptroller's Office to 63 government ministries, and government and public bodies to obtain information on their activity and the government's activity on climate change.

Steering Committee for GHG Reduction – Steering and follow-up committee on the issue of GHG emissions reduction, established under Government Resolution No. 1403, under the Ministry of Environmental Protection.

Supervisor's Letter 2009 – Letter of the Supervisor of Banks of the Bank of Israel to banking corporations regarding environmental risk (published in 2009).

Transition process to low-carbon economy 2050 (2050 process) – An inter-ministerial and multi-sectorial process that began in 2018 at the initiative of the Ministry of Environmental Protection. It aims to formulate a vision, strategy, and long-term plan to transform Israel's economy into low to neutral emissions by 2050.

UNFCCC – United Nations Framework Convention on Climate Change; UN framework treaty on climate change adopted in 1992, The Convention has near universal membership (197 Parties) and is the parent treaty of the 2015 Paris Agreement.

Vector – An organism that transmits diseases but does not cause them. The vector acts as a host for the pathogen.

WHO – World Health Organization

OFFICE OF THE STATE COMPTROLLER
AND OMBUDSMAN OF ISRAEL

2024

Introduction

National Climate Action by the Government of Israel

Extended Follow-up Audit

Introduction

Background

For hundreds of millions of years, the Earth's climate has been influenced by the amount of solar radiation that reaches it through the layer of gases that make up the atmosphere, including greenhouse gases (GHGs), and by the amount of radiation emitted from it into space. Solar radiation penetrates through these gases, and the Earth absorbs some of this radiation and emits some. Due to human activity, which leads to increased GHG emissions, the concentration of these gases in the atmosphere around the Earth has increased, making the atmosphere more resistant to radiation trying to escape from Earth into space. Radiation that does not escape into space is converted into heat energy, causing the atmosphere to warm and global temperatures to rise. This process is known as the "greenhouse effect" and is one of the main factors contributing to climate change.

Climate change is projected to impact both human and natural systems, leading to societal, economic, and demographic pressures. It may also affect human health due to sensitivity to extreme weather conditions and the spread of infectious diseases. Despite its relatively small size, the State of Israel has a relatively high level of GHG emissions per capita. According to data from the Central Bureau of Statistics, the total GHG emitted in Israel in 2022 amounted to approximately 81.1 million tons (an increase of 3% compared to 2021 and 2% compared to 2020; this means a return to Israel's 2019 emissions level). Located in a "hot spot" region, Israel is exposed to significant risks due to climate change and the process of global warming. The rate of warming in Israel is nearly twice the global average.[1] Therefore, Israel must be ready to address the impacts of climate change in our region.

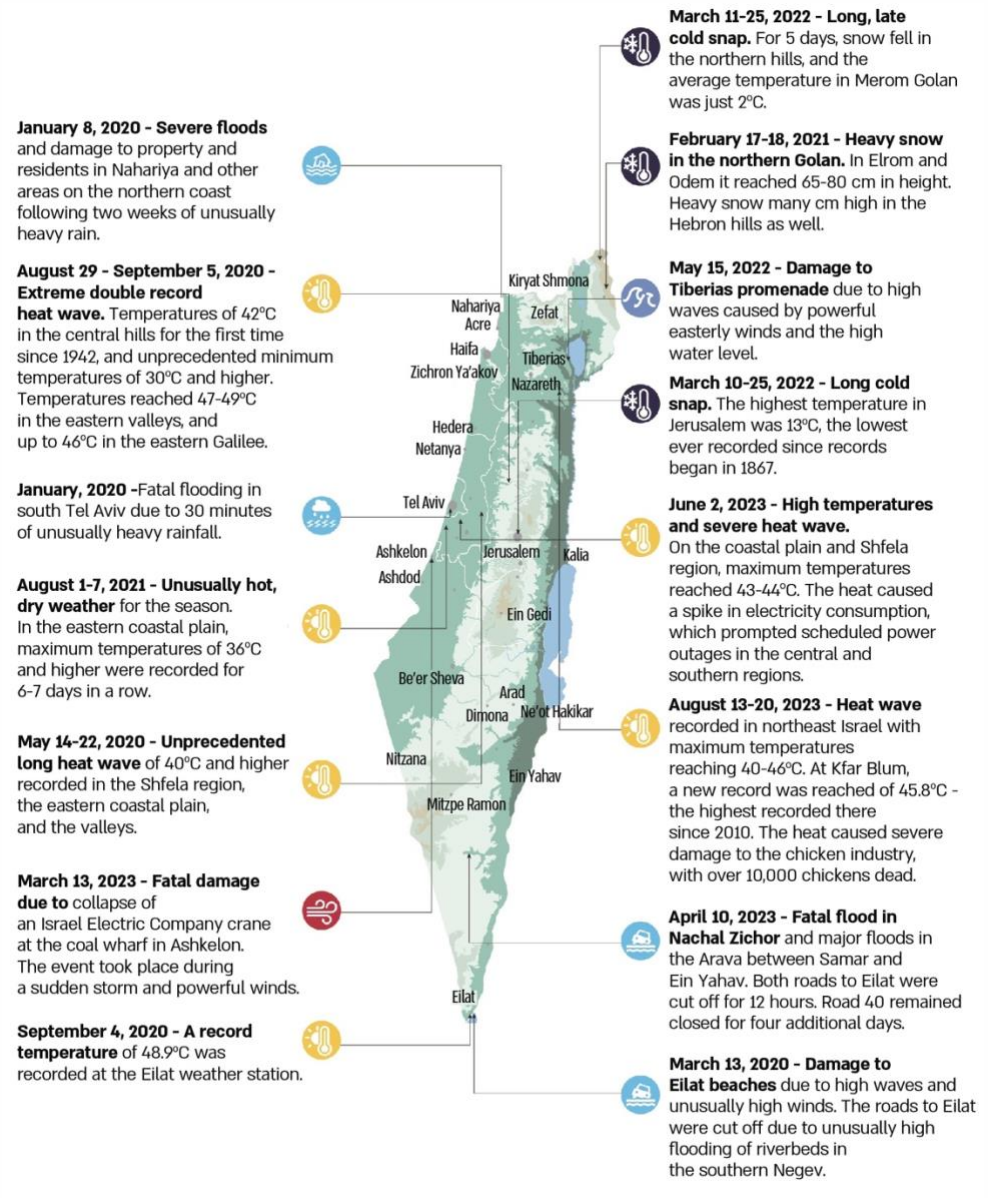
Between 1970 and 2019, there were 11,072 reports of weather, climate and water extremes ("natural disasters") worldwide, and the indication is of an increase trend in such reports. In the decade of 2010 -2019, the number of reports on climate and natural disasters increased by 450% compared to the 1970s. These disasters resulted in an estimated 2.07 million fatalities, with the majority caused by tropical cyclones (38%), droughts (34%), and heatwaves (8%). The main economic damages during this period were caused by tropical cyclones (38%), river floods (20%), and other floods (8%), with an estimated cost of around $3.6 trillion.

In 2021, the State Comptroller's Office published its Special Audit Report on "National Climate Action by the Government of Israel." This report highlighted significant deficiencies and gaps in various aspects of the activities of dozens of government ministries and public bodies, in the context of national preparedness for the climate crisis and its actions to mitigate GHG

1 Israel Meteorological Service, "Is Israel Warming Up?" (October 31, 2021).

emissions ("the previous report"). After examination of government actions on this issue since the publication of the previous report, in early 2023 the State Comptroller decided to conduct a comprehensive follow-up audit on the progress of actions that would ensure Israel's preparedness for the crisis and participation in its mitigation. This decision was made in response to the significant risk facing the country and its international commitments. The following document presents a summery of the findings of this audit.

Extreme Weather Events in Israel, 2020-2023



According to data from the Ministry of Foreign Affairs, processed by the Office of the State Comptroller.

Key Figures

11,072
disasters

The reported number of natural disasters in the world from 1970-2019: droughts, extreme heat waves, floods, mudslides, storms, and wildfires

38%
of natural disasters related damage

In the world from 1970 -2019 resulted from tropical cyclones (economic damage and fatalities)

2.07
million people

Killed in natural disasters in the world from 1970-2019

$3.6 trillion

Estimate of reported economic damage resulting from climate and natural disasters in the world from 1970- 2019

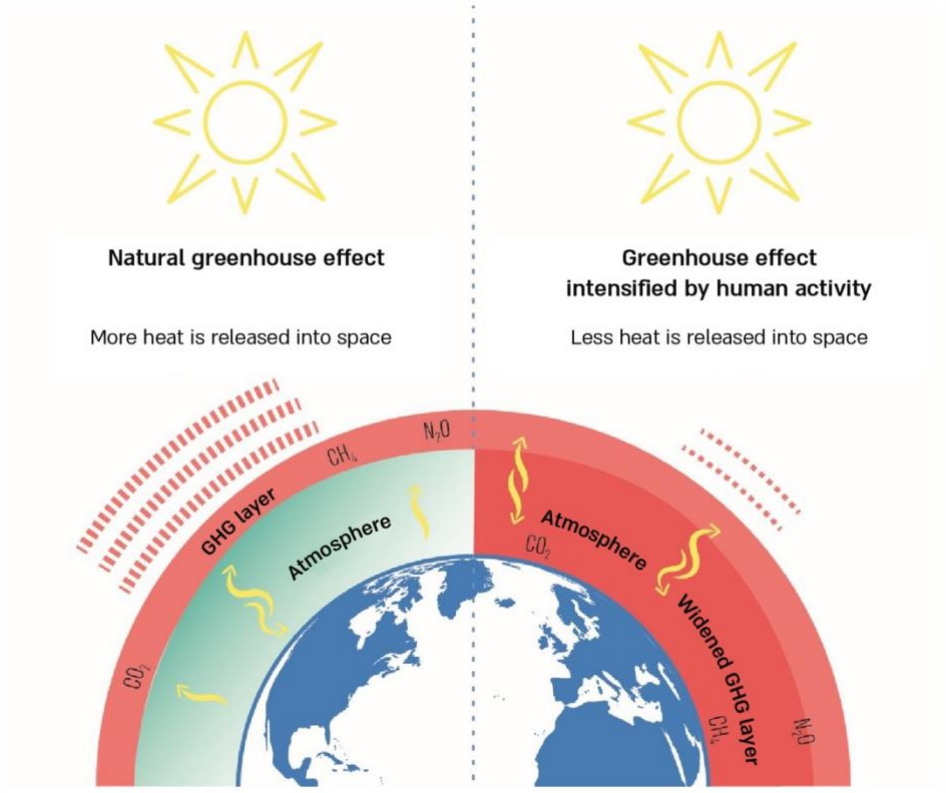
0.54°C

Average rate of warming in Israel per decade, which is almost twice as high as the global rate from 1980-2020

34% of GHGs in the world

Originate from energy production (over 1/3 of the total), 24% originate from industry and another 15% from transportation

Illustration of the Greenhouse Effect



Based on data from the Ministry of Environmental Protection (MoEP), adapted by the State Comptroller's Office.

Audit Actions

Between January and June 2023, the State Comptroller's Office conducted a follow-up audit regarding correction of deficiencies and implementation of recommendations on some of the issues mentioned in the previous report. Additionally, other aspects related to government actions and public bodies that were not covered in the previous report were examined. The follow-up audit was conducted at the Ministry of Environmental Protection (MoEP), the Ministry of Energy and Infrastructure (the Ministry of Energy), the Ministry of Finance, the Ministry of Health, the Ministry of Defense, the Ministry of Transport and Road Safety (the Ministry of Transport), the Israel Electric Corporation,

Noga - The Israel Independent System Operator Ltd.[2] (Noga), the National Security Council (NSC), the Israel Meteorological Service (IMS), and other government and public bodies. Furthermore, a survey was sent to 70 government ministries and public bodies to collect information about their activities, with responses received from 60 entities ("the survey"). The responses and the findings from this survey were integrated into the follow-up audit.

This follow-up report includes four main chapters:

Chapter 1 | Mitigation – Actions to Reduce GHG Emissions

Chapter 2 | Adaptation – National Plan and Measures

Chapter 3 | Economic, Taxation, and Financial Aspects of Climate Change

Chapter 4 | Climate Change Governance - Organizational, Functional, and Professional Adaptation to Climate Change

2 Noga - The Israel Independent System Operator Ltd. is an Israeli government company for managing the national electric system.