



State Comptroller Special Audit Report | March 2024

Aspects of Government Actions on Environmental Pollution in Haifa Bay – Follow-up Audit



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Background

The Haifa Bay area is home to many different industrial factories, some of which also handle and store hazardous materials, causing significant air pollution and other environmental hazards that have a widespread impact on all residents of Haifa and the surrounding area. The concentration of hazardous materials in the Haifa Bay area, located close to population centers, poses a risk to the population. This risk is magnified by the location of the bay close to the Yagur Rift geological fault line, and there is a reasonable possibility that a strong earthquake will occur near it in the future. In addition to the industrial activity, three seaports operate in this area. According to Ministry of Environmental Protection (MOEP) data on emissions, the ships that visited the ports of Haifa were the primary source of air pollution emissions in the Haifa Bay area. The emission volume of one pollutant (sulfur oxides), from these ships was over four-fold higher than that from road transportation and industry combined, and the emissions of several other pollutants into the air were significantly high. According to data presented by the Ministry of Health over the years the incidence rate of various diseases in the Haifa Bay area is higher than the national average. Different bodies have raised concerns that air pollution in this area is one of the reasons for this. For years, there has been an ongoing civil and public struggle to evacuate polluting industries from the Bay area and transform it into a thriving and sustainable metropolitan area.

In June 2019, the State Comptroller published a special audit comprising six reports about various government actions regarding environmental pollution in Haifa Bay¹ (the previous audit). These reports raised numerous significant findings, highlighting the need to improve the quality of the environment and life in the Haifa Bay area. In particular, they noted the absence of a comprehensive governmental vision and long-term strategy for the region's development, considering the need to reduce the prevalent air pollution.

In October 2020, the government established an inter-ministerial CEOs committee to formulate a governmental strategy and principles for an action plan to develop and promote Haifa Bay. In March 2022, the government decided on the future of the Haifa Bay area (Government Resolution 1231)² through the promotion of a strategy for the development of

1 State Comptroller, Special Audit Report (June 2019), "Aspects of Government Actions Regarding Environmental Pollution in Haifa Bay".

2 Government Resolution 1231, 6 March 2022.



the Haifa Bay area, focusing on improving the quality of life for the area's residents by advancing significant projects, including the cessation of the petrochemical industry in Haifa Bay, subject to alternatives that ensure the functional continuity of Israel's energy economy, and new spatial planning to transform the nature of the Haifa Bay area into a hub for residential development, employment, clean industry, and green spaces. The government's decision established an inter-ministerial steering committee and a dedicated administration within the Prime Minister's Office in 2022. In June 2023, they published a detailed work plan for implementing the government decision.

The current audit (follow-up audit) examines the state of government intervention in two main areas: overall governmental efforts to promote a comprehensive, long-term solution to pollution in the area and governmental actions to reduce existing pollution from factories, ships, and ports in the interim period – until a fundamental and long-term solution is provided.



Key Figures

2029

the energy sector's target year to complete the preparations for the cessation of the petrochemical industry in Haifa Bay set in the work plan of the steering committee and the administration to implement the government's decision

2 of 4

of the reduction targets set in the National Plan for Reducing Air Pollution and Environmental Risks in Haifa Bay were not achieved in 2018 (the last year for which the MOEP reported on the implementation of this plan)

over 4-fold

the gap between the deviation rate from the emissions standard in plant chimneys in Haifa Bay, found in MOEP's surprise supervision, and the violation rate found in factories' periodic supervisions

about 55%

the sampling rate findings in 18 factories in which the emission standard has exceeded in 2021–2022, and for which no information regarding compliance with or deviation from the emissions standard was presented in the MOEP's database

by 60%

of the cases where serious deviations in pollutant emissions from factories in Haifa Bay were detected in 2021–2022, that the MOEP did not publish in its database (18 out of 30 cases)

4,316

ships visited Haifa's ports in 2022 and 9,000 are expected to visit in 2050. The typical air pollutants of ships are sulfur oxides, nitrogen oxides, and respirable particles

39

out of 41 continuous monitoring systems (95.1%) installed in the chimneys in Haifa Bay are in working order, compared to 34 out of 70 operational monitoring systems (48.6%) in the previous audit

1.4 out of 1,000

children in Haifa were hospitalized for asthma as of 2017, compared to 0.58 out of 1,000 children in Tel Aviv or Jerusalem, according to a study funded by the Ministry of Health



Audit Actions

 From March to October 2023, the State Comptroller's Office examined the rectification of some of the deficiencies raised in the previous audit concerning government decisions and plans for Haifa Bay, supervision of emissions from industrial sources in the Haifa Bay area, and reduction of air pollution from ships and ports. Furthermore, aspects not examined in the previous audit regarding the publication and accessibility of information to the public and emissions from factory chimneys in Haifa Bay, were examined in the follow-up audit. The follow-up audit was conducted in the Ministry of Environmental Protection (MOEP), the National Economic Council in the Prime Minister's Office, and the Administration of Shipping and Ports. Completion examinations were carried out in the Ministries of Health, Justice, Energy, Finance, Interior, Foreign Affairs, and Transportation and Road Safety (Ministry of Transportation), the Planning Administration, the Israel Land Authority, the Association of Cities in the Haifa Bay Area – Environmental Protection, and the Haifa Municipality.

Key Findings



 **The Main Risks that May Hinder the Preparation of the Energy Sector for the Cessation of Petrochemical Industry in Haifa Bay in 2029** – the follow-up audit noted that the deadline for the cessation of petrochemical industry in Haifa Bay in 2029, set in the work plan of the steering committee and the administration, was not anchored in a government decision; hence, the degree of commitment to meet it, is diminished. From the work plan of the steering committee and the administration and responses to inquiries from the State Comptroller's Office of bodies involved in the implementation of Government Decision 1231, the main risks that could hinder the implementation of the above Resolution are uncertainty regarding the allocation of budgets required for implementation; difficulty to obtain approval for statutory plans for the alternative infrastructure for the petrochemical industry, partly due to opposition from local authorities and their residents to the construction of such alternative infrastructure in their area; challenges in reaching agreements through negotiations with the industries on cessation of their activity; and potential failure of tenders for the construction of transportation facilities and facilities for the storage of energy sources.

 **Report on the Implementation of National Plans to Prevent and Reduce Air Pollution** – the previous audit noted that the MOEP failed to report once a year to the government on the implementation of the national plans to prevent and reduce air



pollution, (approved by the government in 2013 and 2015), as required by the Clean Air Law, 2008 (Clean Air Law), and the above decisions. **The follow-up audit found that the deficiency was rectified to a small extent.** The ministry failed to fulfill its reporting obligation as required: the reports on the implementation of the national plans in 2018 were submitted by the MOEP to the government with a delay (in 2020 instead of 2019), and the reports on the implementation of the plans in 2019–2021 were not submitted to the government at all. For about three years, contrary to its legal obligation, the MOEP failed to inform the government of the implementation of national plans to reduce air pollution in the country as a whole and in the Haifa Bay area in particular. Thus, in recent years, the government's ability to assess its compliance with national plans and consider addressing any gaps as needed has been compromised. The public's right to receive significant environmental information was also affected.

 **Updating the Nationwide National Plan and Finalizing the National Plan for Haifa Bay** – the previous audit noted that as of March 2019, over five and a half years since the nationwide national plan was approved, the MOEP did not propose to the government, as required by the Clean Air Law, to update it. **The follow-up audit raised that the deficiency was rectified to a small extent.** In 2022, the MOEP presented the government with a proposal for approving an updated nationwide national plan and a proposal not to renew the national plan for Haifa Bay from 2015. However, this was done without providing the government with updated reports on meeting the plan's goals even though the last report submitted by the MOEP to the government in 2020 regarding the implementation of the national plan for Haifa Bay in 2018 showed that the reduction goals for two of the four pollutants set in this plan were not achieved (sulfur dioxide and fine respirable particles).

 **Air Pollution and Morbidity in the Haifa Bay Area – Completion of Studies** – the previous audit noted that the MOEP published appeals for studies to be carried out; however, preliminary results of the studies were concluded, at the earliest, only in the second half of 2019. **In the follow-up audit, it was found that the deficiency had been rectified to a small extent:** although since the previous audit, seven studies funded by the MOEP were conducted, starting in 2017–2019, four were published in August 2020 – October 2022; and three others remained unpublished. One published study found significant statistical correlations between exposure to industrial air pollution at the highest level in 1967–2012 and specific cancer diseases. This reinforced the hypothesis that environmental exposure to industrial air pollution in Haifa Bay increased cancer risk. In June 2023, the Ministry of Health informed the State Comptroller's Office that upon completing all the studies, it would be able to finalize its position regarding the overall findings and the causal link between air pollution and morbidity in Haifa Bay.

 **Factory Supervision Tours** – the previous audit noted that it was difficult, based on the MOEP's annual supervision tour reports, to identify trends regarding factories compliance with environmental requirements. In addition, it was noted that these reports were not made public, as opposed to reports on other matters that the ministry typically



publishes. **The follow-up audit raised that the deficiency was rectified to a small extent.** The Haifa district's summary supervision reports for 2019 and 2020 did not include information on the findings from the supervisions conducted at the factories. Furthermore, since 2021, no summary annual supervision reports were drawn up in the district; an inconsistency was found in the data provided by the MOEP to the State Comptroller's Office regarding the number of supervision tours made in the Haifa district in 2019–2020 (for example, for the year 2020, the figures 509 and 549 were provided). The ministry failed to publish the annual supervision reports in the above-mentioned years.

 **Periodic Samplings of Emissions from Factory Chimneys** – the previous audit noted that the MOEP and its districts had no centralized and updated report on factories that had not submitted periodic sampling reports as required. **The follow-up audit found that the deficiency had not been rectified:** the MOEP did formulate a detailed template for quarterly reports; however, the data included in these reports were inaccurate, making it impossible to analyze them and draw conclusions. Thus, the ministry did not have a comprehensive and updated report on the subject. It was also found that the gap above was known to the ministry; therefore, it ceased producing these quarterly reports at the end of 2022 and commenced developing and improving its computerized system. However, the system's improvement has not yet been completed even after over a year.

 **Surprise Supervisions of Factory Chimneys** – in 2022, it was found that the rate of surprise supervisions carried out by the MOEP, in which deviations and severe deviations from emission control standards were discovered, was over four-fold the rate of periodic supervisions conducted by the factories, in which similar deviations were found: over five-fold the rate of deviations (in 8.3% of surprise inspections compared to 1.6% of periodic inspections), and twice the rate of serious deviations (in 1.2% of surprise inspections compared to 0.6% of periodic inspections). Similar gaps were found in 2021 as well. The deficiency is particularly exacerbated in light of the MOEP's response, stating that it is aware that that periodic supervisions carried out by the factories are carried out after actions intended to improve the findings of the supervision, therefore, do not accurately reflect routine emissions from the facility.

 **Publication and Availability of Information to the Public About Pollutant Emissions from Factory Chimneys in Haifa Bay** – the follow-up audit noted that out of 1,412 test findings published by the MOEP regarding the 18 factories in which deviations were found in 2021–2022, on over half of the sampling findings (783 out of 1,412, about 55%) no information was presented to determine whether there was a deviation in emissions from the chimneys relative to permitted emission standards. Moreover, the MOEP lacks control and improvement procedures for the information published in the database, and occasionally, it receives inquiries regarding a plant or chimney whose data is not published in the database. Only after receiving such inquiries does the ministry publish the missing data. Furthermore, in most cases where serious



deviations in air pollution emissions from factories in Haifa Bay were detected in 2021–2022 (18 out of 30 cases, 60%), the MOEP failed to publish this information in the database. The MOEP's computer system is not suitable for calculating emissions according to emission rates; instead, it only calculates emissions according to emission concentrations. Hence, findings from pollution tests in which emission standards are set according to emission rates will not be presented in the database as deviations, even if the sampling findings exceed the standard. Furthermore, the data published in the database are covered by a disclaimer stating that they constitute unverified information for which the MOEP is not responsible, raising doubts about whether they can be relied upon.



Adoption of UN International Maritime Organization (IMO) Standards – the follow-up audit raised that although the Ministry of Transportation has completed regulations to prevent air pollution from ships, it has yet to finalize the ratification of Annex VI of the MARPOL Convention. As a result, even though the annex came into force as early as 2008 and has already been adopted by other countries, despite the regulations being in effect, Israel has limited ability to enforce them against third parties at the international level. The importance of ratifying Annex VI of the MARPOL Convention is becoming increasingly important given the expected growth in maritime activity and the increase in foreign-owned vessels. Furthermore, it was only in 2022 that the MOEP published draft regulations to regulate and reduce emissions of black smoke from vessels. These regulations have not yet been approved, even though such emissions include air pollutants directly impacting the environment and human health. Their emission has already been regulated in other countries.



An Integrated Government Decision on the Future of Haifa Bay – the previous audit noted that a comprehensive government decision on the future of Haifa Bay has yet to be made. **The follow-up audit showed that the deficiency had been fully rectified.** Based on staff work carried out by an inter-ministerial committee of CEOs in 2020–2021, the government made a strategic decision in 2022 on the area's future, according to which the petrochemical industry's in Haifa Bay will be halted. Significant projects will be promoted changing the area's character from saturated with heavy industry to a sustainable, residential-friendly metropolitan area with clean industry and green open spaces. The State Comptroller's Office commends the work of the steering committee and the administration established in 2022 under the government's decision, having formulated a detailed and comprehensive work plan to implement the decision, as recommended in the previous audit.

Surprise Supervisions of Factory Chimneys – the previous audit recommended that the MOEP consistently conduct surprise supervisions in all factories and chimneys in the Haifa Bay area and that the findings be thoroughly examined to assess their impact on the ministry's ability to effectively address the air pollution issues resulting from the operations of these facilities that the district is in charge of. **The follow-up audit raised**



that the deficiency was rectified to a large extent. In 2019–2022, the MOEP conducted 2,765 surprise supervisions at factories in Haifa Bay, as well as follow-up and control regarding the list of factories in Haifa Bay where such supervision was not performed.

Adoption of International Maritime Organization of the United Nations (IMO) Regulations – the previous audit noted that no regulations, including obligations to prevent air pollution from ships according to Annex VI of the MARPOL Convention, were enacted, despite the government's directive in 2015 to the Minister of Transportation to complete their implementation by the end of 2017. **The follow-up audit raised that the deficiency was fully rectified.** The enactment of the regulations was completed, and in August 2022, the Port Regulations (Prevention of Air Pollution from Ships) 2022 were published in the official records. At the same time, as noted above, Annex VI to the Convention has not yet been ratified.

Inventory and Continuous Monitoring of Air Pollutant Emissions from Vessels and Ports – the previous audit noted that data regarding vessel emissions and port activity were not included in the emissions findings. Even though this activity is a significant source of air pollution in Haifa, there is no dedicated continuous monitoring station located within or sufficiently close to the port grounds. **The follow-up audit raised that the deficiencies had been rectified to a large extent.** In the emissions findings published for the years 2019 and 2022 (corresponding to the years 2015 and 2018, respectively), the MOEP also included the emissions findings from ships in ports. In addition, in June 2023, the MOEP ordered the establishment of two monitoring stations within the port area. Furthermore, a mobile monitoring station has been operating in the new Haifa Bay port since January 2021.

Key Recommendations

-  It is recommended that the Prime Minister's Office submit a decision to adopt the work plan prepared by the steering committee and the administration for government approval on the future of Haifa Bay. This plan should include a clearly defined timeline and a framework for budget allocation and funding sources for its implementation, either from the state budget or alternative funding sources.
-  The MOEP should submit reports to the government regarding the implementation of national plans for air pollution prevention and reduction within the timeline stipulated by the Clean Air Law.
-  It is recommended that the MOEP draw lessons from the actions required of it and the time it took to complete the staff work to formulate the updated national plan approved in March



2022. Accordingly, it should plan the staff work to update the national plan in the future, ensuring it is updated at least every five years, as required by the Clean Air Act.



It is recommended that the MOEP prepare annual summary supervision reports in a standardized format to enable a comprehensive overview of the supervision tours planned and conducted and the violations found in them. This should enable yearly data comparisons to assess the supervision's effectiveness, identify trends over time regarding factories' compliance with environmental requirements, identify gaps between the ministry's requirements and the factory's activity, and take appropriate steps. It is also recommended that the MOEP examine the reasons for the gaps in the supervision data transferred to the ministry from the State Comptroller's Office. It should ensure that it possesses a complete and reliable database and that the annual summary supervision reports are published and include details of the main gaps that emerged in them, even without an explicit legal requirement to do so.



It is recommended that the MOEP complete the characterization system for the sampling reports submitted by the factories and produce consolidated and updated quarterly reports. This will enable the ministry to examine the data arising from the reports and act accordingly. Furthermore, it is recommended that the ministry take steps vis-a-vis factories that, according to the reports, have reported their sampling findings and conduct surprise supervisions at these facilities. These steps are necessary to ensure adequate supervision of factories emitting pollutants into the air, especially during the time remaining until the cessation of petrochemical industry in the Bay Area.



The MOEP should examine the reasons for gaps between the rate of deviations from emission standards in its surprise supervisions and the rate of deviation from emission standards in the factories' periodic supervisions (for example, in surprise inspections in 2021, deviations were found in approximately 13.6% of the inspections, of which about 1.6% were severe, while in periodic inspections, deviations were found in about 3.3% of the inspections, of which about 0.6% were severe). This is to ensure that the reports submitted by the factories are accurate and reliable." These gaps are highly concerning and require the MOEP to investigate the matter vis-a-vis the factories. In addition, the Ministry should act against factories whose supervision findings do not reflect the routine pollution emissions from their chimneys.



The MOEP should publish to the public a complete picture in its database, presenting the emission standard prescribed for each pollutant, the sampling finding, and whether there is any deviation from the standard. The MOEP should investigate the reason why, in a large proportion of the tests, the data regarding the emission standard and the sampling finding are not presented; establish procedures for improvement and control of the data in the database; examine ways to improve the online interface between the data possessed by it and their publication; and complete the publication of data regarding factories and chimneys not yet included in the database. In addition, the MOEP should examine why findings indicating severe deviations from the standard have not been published and, generally, review the ministry's policy, according to which deviations from emission



standards under investigation are not disclosed to the public. If this policy remains in effect, it should be stated as a general disclaimer in the database published by the ministry to the public. The MOEP's computer system should be able to detect deviations from the emission standard for air pollutants calculated according to the emission rate and specify which data published by it in the database of air pollutant emissions from chimneys have been examined by it and which data have not undergone testing as stated. The MOEP should highlight in its publications the findings of supervision in which deviations from emission standards were found and consider presenting an overall picture of the state of each factory and the extent of its deviations over the years. Additionally, it should consider providing a report generator for the public, thus enabling individuals to generate personally customized reports based on the information and data in the database.



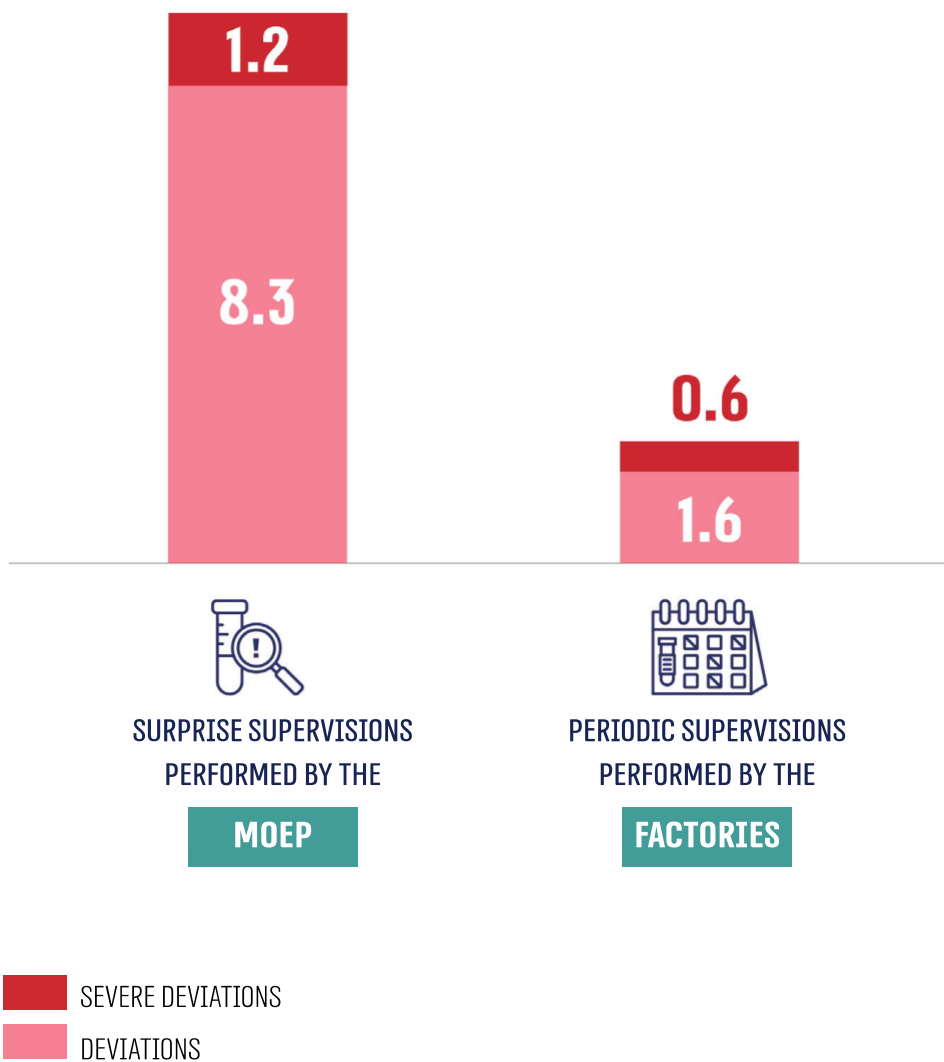
The Ministry of Transportation and the Ministry of Justice should approve Annex VI of the MARPOL Convention to enable full implementation of regulations preventing air pollution from ships vis-a-vis third parties at the international level; it is recommended that the MOEP complete the amendment to the Clean Air Regulations to limit black smoke emissions from ships as soon as possible, given the health and environmental impact of black smoke emissions from Israeli ports. The adoption of the International Maritime Organization (IMO) regulations has become even more important given the operation of two new ports in Israel (the Haifa Bay Port and the Southern Port in Ashdod) and the expected increase in maritime activity, particularly involving foreign-owned vessels.



It is recommended that the MOEP publish updated findings of ships emissions, thus assessing whether the volume of ship emissions has decreased or increased over the years, with distribution to local authorities. Thus, emissions findings can be used for the purpose for which it was developed – forming a complete picture of pollutant emissions to the environment.



The Surprise and Periodic Supervision Rate in Which Deviations and Serious Deviations from Emission Facilities were Detected in Factories in Haifa Bay, in 2022 (in percentages)





Summary

The Haifa Bay area is home to many industrial plants that cause significant air pollution and additional environmental hazards that have a wide-ranging effect on all residents of Haifa and the surrounding area. In July 2019, the State Comptroller published a special audit comprising six reports on various aspects of the government's actions regarding environmental pollution in Haifa Bay. These reports noted numerous significant findings, for which rectification was recommended to improve the quality of the environment and life in the Haifa Bay area. In particular, the report emphasized the need for the Israeli government to develop a coherent vision for the nature and development of the Haifa Bay area, minimizing environmental and health damage alongside maintaining the needs of the authorities operating in it and the needs of the economy as a whole.

The follow-up audit, raised that some of the deficiencies noted in the previous report regarding reporting to the government on the implementation of national plans to reduce air pollution in Israel as a whole and in Haifa Bay in particular, monitoring pollutant emissions from factories and periodic sampling in chimneys were either not rectified or only partially rectified. In addition, gaps were raised in handling issues not examined in the previous audit regarding air pollution from ships and ports and the information published by the MOEP to the public on emissions from factory chimneys.

At the same time, the follow-up audit raised that real progress had been made in several aspects. Based on staff work performed after the previous audit's publication, the government made a strategic decision in March 2022 to develop the Haifa Bay area, including the cessation of petrochemical industry in the area. The government established a steering committee and an administration to implement the decision according to a comprehensive and detailed multiannual work plan. In February 2023, the Ministry of Transportation enacted regulations to reduce air pollution emissions from maritime vessels. In December 2023, a national master plan called "Gateway to the Bay" was approved by the government to transform the Haifa Bay area into a thriving and sustainable metropolitan area.

The findings of the follow-up audit raised the need to take the following two actions simultaneously to reduce air pollution in the Haifa Bay area and improve the quality of the environment and life in this area:

1. Resolute implementation of the government's decision to develop Haifa Bay as a thriving metropolitan area and a sustainable hub under the multiannual work plan set for its implementation and the timetable outlined in the plan (among other things, regarding completion of preparations for the cessation of petrochemical industry activity in the Haifa Bay by 2029) and even earlier if possible, with a continuous allocation of the necessary budget, appropriate to the plan's dimensions.



The plan's implementation involves dealing with significant barriers and risks that cast doubt on the ability to complete the plan by 2029. This doubt is exacerbated by the lack of agreement among all government ministries regarding the timetable for implementing the plan and the lack of anchoring of the timetable, the budget framework, and the funding sources for the plan's implementation in a binding government decision. We are at the outset of 2024, leaving only five years to complete such a complex and comprehensive national project.

2. Continuation of actions by the MOEP to reduce air pollution emissions, enhance environmental monitoring in the Haifa Bay area, and provide accessible information to the public, particularly leading up to the cessation of petrochemical industry.

Implementation of the recommendations of this follow-up audit could assist the government, the MOEP, and other relevant ministries and bodies mentioned in the report, including the Ministries of Health and Transportation, in dealing with the necessary adjustments, even with additional major environmental pollution hotspots and significant HAZMAT accumulations that exist in Israel. It is recommended that they do so to preserve the quality of the environment and the well-being and security of Israel's citizens and residents.



The Extent the Previous Report Deficiencies were Rectified

Audit Chapter	The Audited Body	The Deficiency in Previous Audit	The Rectification Extent of the Deficiency Noted in the Follow-up Audit			
			Completely rectified	Considerably Rectified	Slightly Rectified	Not rectified
Carrying out staff work and the government's decision on the future of the area	The government	No comprehensive government decision on the future of the Haifa Bay area has been formulated.				
Reports on the implementation of the nationwide plan and the plan for Haifa Bay	MOEP	The MOEP failed to report to the government once a year on implementing the national plans to prevent air pollution and reduce it, which were approved by the government in 2013 and 2015, as required by the Clean Air Act and those decisions.				
Update of the nationwide plan and completion of the plan for Haifa Bay	MOEP	Over five and a half years have passed since the national nationwide plan was approved, and the MOEP has not proposed to the government to update it as required by the Clean Air Law.				



Audit Chapter	The Audited Body	The Deficiency in Previous Audit	The Rectification Extent of the Deficiency Noted in the Follow-up Audit			
			Completely rectified	Considerably Rectified	Slightly Rectified	Not rectified
Air pollution and morbidity in the Haifa Bay area - completion of research studies	MOEP	There has been a delay in conducting studies to examine the correlation between air pollution in Haifa Bay and morbidity in the area.				
Inspection tours in factories	MOEP	The structure of the reports was not uniform, making it challenging to identify trends and changes in the factories' environmental activity. Furthermore, the reports were not published on the ministry's official website, unlike other reports typically published by the ministry.				



Audit Chapter	The Audited Body	The Deficiency in Previous Audit	The Rectification Extent of the Deficiency Noted in the Follow-up Audit			
			Completely rectified	Considerably Rectified	Slightly Rectified	Not rectified
Continuous monitoring of factory chimneys	MOEP	The procedure for monitoring emissions from industrial facilities does not specify a process for reviewing the reports. Only two out of 14 factories submitted complete reports on their monitoring systems. About 51.4% (36 out of 70) of the monitoring systems of factory chimneys in Haifa Bay failed to comply with the requirements of the emissions monitoring procedure. The ministry published monitoring findings from factories that failed to comply with the emissions monitoring procedure without indicating that these findings were from monitoring conducted, not under the procedure, raising concerns about their reliability.				





Audit Chapter	The Audited Body	The Deficiency in Previous Audit	The Rectification Extent of the Deficiency Noted in the Follow-up Audit			
			Completely rectified	Considerably Rectified	Slightly Rectified	Not rectified
Periodic sampling in factory chimneys	MOEP	The MOEP did not have an updated and detailed report of the factories that failed to submit periodic sampling reports.				
Surprise inspections in factory chimneys	MOEP	In 2016, the number of factories in the Haifa district where surprise supervisions were conducted remained almost the same as in 2015 and even decreased in 2018.				
Adoption of UN International Maritime Organization (IMO) standards	Ministry of Transportation	Regulations, including obligations to prevent air pollution from ships according to Annex VI of the MARPOL Convention, have not been enacted.				
Inventories of pollutant emissions from vessels and port activity	MOEP	Data on emissions from vessel traffic and port activity were not included in the emissions findings.				



Audit Chapter	The Audited Body	The Deficiency in Previous Audit	The Rectification Extent of the Deficiency Noted in the Follow-up Audit			
			Completely rectified	Considerably Rectified	Slightly Rectified	Not rectified
Continuous monitoring of air pollutant emissions from vessels	MOEP	There was no dedicated continuous monitoring station for the port of Haifa that would reflect, with high reliability, emissions from ships, facilities, and the many vehicles visiting the port area.				

