

# **ISRAEL MARINE PLAN**

## **Stage B Report: Vision, Goals and Policy Frameworks**

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## **Introduction**

This document summarizes Stage B of the process of formulating a marine spatial plan for Israel in the Mediterranean Sea (the Israel Marine Plan). The process was spearheaded by the by the Center for Urban and Regional Studies, part of the Faculty of Architecture and Town Planning at the Technion – Israel Institute of Technology, with participation of professional advisors from relevant spheres.

Israel's marine space is located west of the coastline out to a distance of some 110 nautical miles (ca. 200 km.) opposite the southern coast, and approximately 70 nautical miles (ca. 130 km.) opposite the north coast. Part of this area, from the coastline to a distance of 12 nautical miles (22 km.) are Israel's coastal waters – its territorial waters – and are under its full jurisdiction. The rest of the area is known as the Exclusive Economic Zone (EEZ) or Israel's "economic waters" – an area in which the State has rights of utilization, management, research and planning, and the duty to protect the environment and preserve natural resources in accordance with international treaties.

Underlying the initiative to prepare the plan is the understanding that Israel's marine space is a tremendous resource with an area of over 27,000 sq.km. – greater than Israel's land area. This space holds tremendous potential for developing and providing various services to Israel's society and economy, along with a serious threat to the delicate balance of the marine environment. This threat, if realized, could harm sensitive marine and coastal ecosystems, and in the absence of a spatial marine plan or effective administrative tools for its implementation, the result could be irreversible damage.

In recent years international awareness regarding the opportunities and threats in this vast marine space has been on the rise, primarily in the wake of the discovery of large natural gas reservoirs, but also based on an understanding that initiatives in the marine space and environment will only continue, and that we must also consider the changes taking place in the Middle East and globally. Despite the importance of this matter, no clear spatial policy or effective regulatory tools have been formulated for planning and managing the space. Mechanisms for planning and managing the sea and its resources have already been developed and applied in numerous countries, all of which are based on information and knowledge, and which call for balanced and cautious development to safeguard the resilience and health of the marine environment and marine resources for future generations. The principles set forth in these plans have inspired Israel to prepare its own marine plan.

The underlying basis for preparing the plan and a review of the current situation in Israel in a broad range of spheres was presented in the Stage A report. The current report presents the progress made since that time: Defining the plan's vision and goals, and proposing policy means for achieving those goals. The

process was carried out in conjunction with the program's team of professional consultants and a large number of stakeholders.

The report on Stage A outlined the method and principles guiding the Israel Marine Plan. These broad principles relate to both the preparation and implementation of the plan, as detailed below:

- The underlying concept set forth in the *Israel Marine Plan* highlights the marine space as a distinctly public space and aims for fairness in addressing the various interests of all stakeholders, and aspires to ensure the ongoing provision of ecosystem services over time.
- The method that guides the planning process of the Israel Marine Plan derives from cumulative global experience in preparing regional and national marine spaces, with an emphasis on MSP (Marine Spatial Planning) and EBM (Ecosystem-Based Management), which are reviewed in brief in Appendix A of the Stage A Report – Principles and Concepts in Marine Planning.
- The perspective that views the sea as a public space stems from the doctrinal principle of the Public Trust Doctrine, which has been adopted by many developed, democratic states. The doctrine places the management of natural resources, such as coasts and seas, in the hands of the government in order to protect them for the benefit of the general public.<sup>1</sup>
- Generally speaking, the process aims at maximizing a framework and tools for effective management of Israel's marine space. Therefore, the *Israel Marine Plan* aspires to be both a policy paper and a spatial plan. The plan offers a vision, goals and forward-looking objectives as well as policy tools for managing the marine space. The *Israel Marine Plan* will serve all stakeholders who have an interest in the marine space, headed by government bodies and enforcement and administrative entities.
- Different government bodies, primarily the Planning Administration of the Ministry of the Interior and other stakeholders, are initiating planning, research and study measures concomitantly with the *Israel Marine Plan*. Additionally, a memorandum for the proposed Marine Areas Law, initiated by the Ministry of Justice, also requires the preparation of a policy paper on the marine space. As the bill advances farther along the legislative process, preparation of a policy paper/marine plan may become a legislative requirement and create tools and processes for its implementation.

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<sup>1</sup> See, for example: Fish, D. "Environmental Justice in Israel: Encounter between human rights laws and environmental laws." *Justice and Government* (vii), 2004).

- Preparation of the *Israel Marine Plan* is intended to accompany, support and integrate with other government initiatives, with the shared objective of generating a comprehensive, information- and knowledge-based plan that will facilitate balanced, effective and sustainable management of Israel's marine resources.

## Vision of the Israel Marine Plan

In consideration of the characteristics of Israel's marine space and its natural, economic and cultural values, the vision of the Israel Marine Plan states that:

*“The marine area of Israel will be an integral part of the spatial area of the country and an essential component of its future economic well-being, environmental resilience and socio-economic development. This will be achieved through the implementation of integrative governance that is ecologically balanced and participatory, as well as through the sustainable use of natural resources, enhancement of landscape values, marine science and knowledge and through the realization of international responsibilities and cooperation.”*

The plan's vision represents a comprehensive framework, according to which the principles and goals as set forth below in this paper were formulated.

## Guiding principles

As previously stated in the Stage A Report, the guiding principles regarding the nature of the *Israel Marine Plan* are as follows:

- The plan will be based on current information and knowledge, linking science with policy;
- The plan will incorporate and apply EBM (Ecosystem-Based Management), to balance its goals with environmental, economic, and human needs in order to ensure the provision of ecosystem services;<sup>2</sup>
- The plan will be future-oriented;
- The plan will integrate various disciplines and stakeholders, including relevant authorities, and management, governance and public bodies, and involve stakeholders in all planning stages;
- The plan will distinguish among different geographic spaces while considering three-dimensions and appropriate temporal scales;
- The plan will be flexible and able to adapt and apply updates based on experience and developments, if any;

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<sup>2</sup> The intention is to incorporate EBM principles, an ecosystem approach and principles based on environmental thinking and sustainability at all levels of planning, management and implementation, and for any project relating to the sea and Israel's coast.

- The plan will include accessible and interactive spatial representation using effective GIS (geographic information system) tools for participation planning, and management;
- The plan will be transparent, clear, and accessible to stakeholders as well as the general public.<sup>3</sup>

Based on the work performed in Stage A and the above-mentioned principles, the plan's goals were developed; these are presented in the next section.

## **Goals of the Plan**

Based on the vision of the *Israel Marine Plan* and the guiding principles, the unique characteristics of Israel's marine space and the work of the plan's team, professional advisors and stakeholders as presented in the Stage A Report, the goals of the *Israel Marine Plan* are presented below:

1. *Improve governance of the marine space;*
2. *Promote scientific knowledge and continuous development of information concerning the marine space and make these accessible;*
3. *Protect, preserve and rehabilitate the marine environment;*
4. *Develop energy sources within the marine space and use them wisely and cautiously;*
5. *Develop shipping, ports and sailing;*
6. *Sustainably manage the interface between fishing and mariculture, and develop food sources from the sea;*
7. *Use the marine space as an alternative for land-based uses in a cautious and sustainable manner;*
8. *Integrate security considerations in planning and managing the marine space;*
9. *Prepare for the effects of climate change on the marine and coastal space;*
10. *Establish the sea as part of the public domain for the welfare of the people;*
11. *Discover, preserve and cultivate the heritage and culture existing in the marine space;*
12. *Develop the role of the sea as a bridge and an opportunity for international cooperation.*

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<sup>3</sup> Among these it is proposed to make the public aware of Israel's marine space as valuable and a major part of the "Real Map of Israel."

## **Proposed policy tools**

In order to realize the plan's goals, we propose a series of policy tools designated for and directed towards planning and managing the marine space within the framework of the *Israel Marine Plan*. These policy tools are arranged according to the goals presented above but do not necessarily contribute to only one goal. Some of these policy tools address a variety of goals.

The plan, for the most part, state the specific bodies that should be charged with implementing the policy tools, nor does it give a time frame for their implementation – both of which depend on resource allocations from the government and other institutions. The assumption is that adoption of these policy tools will provide a solid foundation for promoting the plan's goals, but will require additional government work in order to be carried out.

Each of the aforementioned 12 goals calls for the application of specific and designated policy tools. Nonetheless, we can attempt to employ four generic types of tools:

- (a) Initiating direct actions to promote the goal;
- (b) Conducting R&D needed to promote the goal;
- (c) Integrating environmental considerations (as well as social and economic consideration in relevant cases);
- (d) Applying an ecology-based management ecosystem approach (EBM-EcAp).

It should be emphasized that the defined methodology does not necessarily encompass a single hierarchical connection between the policy tools and the goal. Some policy tools may appear under more than one goal. The order presented below is designed only to make discussion more convenient.

### ***1. Improve governance of the marine space***

#### Policy tools:

1. Promote primary and secondary legislation that would regulate all uses and activities in the marine space with a view towards sustainability, by defining and allocating specific authorities and responsibilities, and correspondingly, international commitments, to the extent possible. Legislation will emphasize the marine space's public status and the State's rights and duties in various parts of that space, and will look into expanding the powers of the authorities relevant to Israel's economic waters. This legislation will require accountability and transparency, and will define rules for cooperation and pooling resources between various entities. Legislation will be adapted to recent changes and developments in society and the economy and will enable responding to a variety of possible scenarios in the future.

2. Examine and encourage the State to join international or regional treaties and agreements for exercising its rights and fulfilling its obligations in accordance with international law, including utilizing resources and protecting valuable assets, along with action, to the extent possible and given international restrictions, to formally define Israel's economic waters in the Mediterranean Sea, but without derogating from the State's rights and obligations according to its understanding and existing agreements.
3. Adapt tools that are available to the Committee to Preserve the Coastal Environment to effectively exercise its authority over all spheres relating to the coastal waters.
4. Establish a "marine council" that would expand the composition of the Committee to Preserve the Coastal Environment, with broad powers and tools designed for planning; to develop a spatial policy for licensing, or approval of licensing or to condition licensing of all uses and activities within Israel's marine space and to coordinate among the government and public bodies that deal with marine matters. The marine council will be supported by an effective and professional mechanism, it will operate with full transparency subject to security considerations, and will define rules for effective cooperation between stakeholders in the marine space and the general public for decision making. The marine council will devise an effective mechanism for resolving conflicts through mediation and synergy. The intention is to include the authority of the Committee to Preserve the Coastal Environment within the marine council and to adapt legislation for this purpose.
5. Operate systems for effective licensing, supervision, monitoring, and enforcement that create a presence in the marine space and establish Israel as the "landlord," and which support the promotion of the plan's goals and other policy tools, including looking into expanding the Israeli Navy's involvement as part of these systems.
6. Establish a government mechanism that will be responsible for developing, streamlining and coordinating all activities relating to supervision, control and enforcement, and establishing cooperation between government and public bodies engaged in the marine space, including the possibility of resource pooling.

## ***2. Promote scientific knowledge and continuous development of information concerning the marine space and make these accessible***

### Policy tools:

1. Formulate a national marine sciences policy that will serve as a framework to outline, support, coordinate and facilitate all activities to acquire data, information and knowledge for the purpose of making decisions regarding management of Israel's marine space:
  - 1.1. The policy will related to two knowledge and information disciplines:
    - 1.1.1. Mapping and monitoring environmental characteristics and identifying special, sensitive or unique natural assets inside Israel's marine space, and understanding the natural processes taking place within this space on several levels of time and space and their impact on ecosystem structure and functioning.
    - 1.1.2. Understanding and monitoring the interaction between human activity and the natural system, and its significance in terms of providing ecosystem services, in particular, understanding and monitoring the impact of climate change on the marine and coastal space.
  - 1.2. The policy will be based on the following principles:
    - 1.2.1. Setting periodic priorities (5 years) to collect information and reduce knowledge gaps in the aforesaid disciplines, while taking into consideration the designated government ministries and without derogating from their relevant activities, in accordance with their authority and spheres of responsibility.
    - 1.2.2. Allocating government funding for activity in the two disciplines mentioned above according to the periodic priorities, including establishing a specific budgetary framework for financing the use of ships and high-tech research infrastructure (*Yamei Yam*) by the scientific community on a competitive basis, beyond the budgeting for specific government ministries for activities in their areas of responsibility (such as funding a national monitoring program by the Ministry of Environmental Protection and the Ministry of National Infrastructures, Energy and Water Resources).<sup>4</sup>

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<sup>4</sup> Another example of funding by a specific government ministry within its own area of responsibility is the environmental review of Israel's marine space presently carried out by the Israel Oceanographic and Limnological Research Institute, funded

- 1.2.3. Arranging government funding for ongoing system maintenance for ongoing collection and supply, almost in real time, of data and marine models (“operative oceanography”) as a public service.
  - 1.2.4. Enhancing the ability to collect data and supply information on the marine environment using high-tech and innovative technology.
  - 1.2.5. Establishing a committee of experts to follow-up on policy implementation and setting periodic priorities.
2. Formulate a national policy for organizing, managing and providing access to data and information on Israel’s marine space. In accordance with prior arrangement by the government with regard to a national marine database, the policy will be linked to the National Marine Information Center of the IOLRI, and based on the following principles:
  - 2.1. Requiring all government entities (ministries, as well as government corporations and companies) that collect marine data or finance such collection to send the data to the Information Center.<sup>5</sup>
  - 2.2. Setting the policy of research foundations that are fully or partially funded by the State, which would require research grant recipients to transmit marine data to the Information Center within a specified period of time (safeguarding researchers’ rights to the initial use of the data and their publication).
  - 2.3. Requiring private developers, for example as part of oil and gas exploration licenses, to present to the Information Center any marine data they collect as part of their background surveys and environmental monitoring, within the limitations of protecting intellectual property rights that have any commercial value.
  - 2.4. Requiring the Information Center to make the its data available to all, and to release the data to anyone so requesting, without restriction (except for reasons of state security and to safeguard assets and resources at risk) and without charge, except for payments to cover the cost of data retrieval and organization so it can be made available, and payments in respect of special data processing or producing special information products by specific request.

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by the Ministry of National Infrastructures, Energy and Water Resources within the context of issuing gas and oil exploration licenses.

<sup>5</sup> The term “marine data” includes the data themselves and any relevant meta-data.

- 2.5. Allocating government funding for the Center's activities, including inputting and organizing marine data, and quality control.

### ***3. Protect, preserve and rehabilitate the marine environment***

#### Policy tools:

1. Define tools and divide responsibility and authorities to protect and rehabilitate natural and other environmental assets while anchoring those tools and authorities in binding frameworks, with an ecosystem-based management approach in accordance with the outline adopted by committees of the parties to the Barcelona Convention (EBM-EcAp).
2. Develop binding environment standards in accordance with advanced standardization approaches and levels employed around the world and relevant international treaties. Marine environmental standards must be updated periodically as knowledge, information and technology develop and in accordance with changing and mounting environmental threats.
3. Develop and apply a strategy for reducing pollution loads on the marine and coastal environment, based on an advanced EBM approach and the State's commitment to relevant regional and international arrangements and conventions.
4. Identify marine protected areas (MPA) in the marine space and provide statutory protection, for example, nature reserves and biosphere spaces, at a scope and divided into types that would enable effective protection of the biological diversity, representation and protection of typical habitats or those that are endangered, and unique marine and coastal sites. In addition, we suggest establishing MPA networks.
5. Examine the possibility of including all abrasion platforms along Israel's coastline within nature reserves or recognizing them as protected natural assets, given the fear that their condition is expected to worsen.
6. Examine systems and plans required for preparedness and response to fuel and other pollutants due to malfunctions and accidents, and adapt their ability to respond efficiently to existing and future risks in and from the marine space, including systems for prevention, response and rehabilitation.
7. Adapt regulations for environmental impact surveys and instructions for their preparation and approval to the marine space, and apply them *mutatis mutandis* to the uses and activities proposed for the entire marine space. The surveys will relate to knowledge, standards, and current enforcement and monitoring tools.
8. Demand preparation of an environmental management plan (EMP) for any plan within the marine space that could have a significant environmental

impact. The EMP will help the developer manage and monitor environmental impacts from the plan's implementation through the life of the project (construction, operation, maintenance, dismantling and rehabilitation), and will be used by the authorities empowered to supervise and monitor these influences.

9. Examine the range of international conventions and regional arrangements aimed at protecting the marine and coastal environment of the Mediterranean Sea with a view to understanding their significance from Israel's perspective and, as relevant, to take the steps necessary to ensure that the State becomes a party to relevant conventions and arrangements.

#### ***4. Develop energy sources within the marine space and use them wisely and cautiously***

##### Policy tools:

1. Prepare a comprehensive plan to expand the supply and variety of energy sources from the sea, highlighting continued activity for exploring, discovering, producing and ensuring the availability and redundancy of energy resources, and develop systems for transmission, treatment, processing and the coastal connection. The plan will encompass, *inter alia*, the following topics:
  - 1.1. Applying the principles of combining and synergizing infrastructures, reducing the ecological footprint, using the best available technologies (BAT) and an ecosystem-based management approach (EBM-EcAp).
  - 1.2. Examining the possibility of building a completely public infrastructure for the transmission and processing of energy from the marine space, *inter alia*, to enable competition, control over resources and development of human, scientific and technological infrastructures in this sphere.
  - 1.3. Encouraging the development of industry and local employment that support present and future discoveries of underwater energy sources.
  - 1.4. Developing fuel export, import and storage systems that can ensure variety of sources, competition and stable supply over time. This would include maintaining sufficient energy reserves to establish Israel's energy independence and guarantee strategic redundancy in terms of infrastructures and stock, as well as joining international transmission grids, promoting open export and import arrangements and joint infrastructures.
  - 1.5. Employing measures to prevent and reduce environmental impacts and disruptions of other uses in the marine space due to activities for

exploring and producing marine energy resources, including supervision, monitoring and enforcement.

- 1.6. Developing applied research, expanding knowledge and information on energy resources in Israel's marine space.
- 1.7. Collecting information and examining the feasibility of technologies for producing renewable energy in the marine space.

## ***5. Develop shipping, ports and sailing***

### Policy tools:

1. Adapt/develop deep-water ports that correspond to the increased size of ships, trends of maritime commerce and long-term policy of the State of Israel. Examine the cost-benefit of developing hub ports and "host" marine space that would allow Israel to become a key player in the transshipment network in the eastern Mediterranean Sea.
2. Ensure open and safe shipping lanes and access corridors to Israel's ports in accordance with commercial trends and integrate into the maritime traffic network in the eastern basin of the Mediterranean Sea.
3. Develop the transportation and logistics system for ships used for energy production, transport and storage in the marine and coastal space, including any future infrastructure installations that might be built.
4. Examine options for marine passenger transportation between ports and marinas as part of the national and metropolitan transportation network.
5. Guarantee movement for small- and medium-sized vessels for sport and recreation, and develop shipping lanes and rules that enable their activity, including the development of potential marinas that do not damage the coasts.
6. Formulate, adapt and apply binding rules in accordance with the highest international standards and treaties to reduce sea and air pollution as a result of port and shipping operations.
7. Create a controlled and orderly marine space that includes monitoring, search and rescue systems at a level that corresponds with the highest international standards.

## 6. *Sustainably manage the interface between fishing and mariculture, and develop food sources from the sea*

### Policy tools:

1. Prepare a comprehensive plan to manage and develop all types of fishing, including sports fishing and mariculture, with a view towards preserving and developing the social benefit with an economic-social-environmental balance. The plan will propose, *inter alia*:
  - 1.1. Properly addressing the needs of different types of fishing while maintaining the fisheries' ability to naturally replenish their resources, minimize negative impacts on the ecosystem including fishing limits during breeding seasons, limiting fishing in sensitive areas and limiting the fishing of endangered species.
  - 1.2. Minimizing internal conflicts between fishing methods, and significantly limiting or even banning the use of non-sustainable fishing methods.
  - 1.3. Increasing the monitoring, supervision and enforcement abilities of the relevant authorities, and establishing a flexible knowledge- and information-based decision-making mechanism through dialogue with stakeholders.
  - 1.4. Developing and implementing fishing and mariculture technologies with a view towards minimizing negative external environmental costs, R&D of fish species of economic interest that can withstand conditions in the open sea, investigating raising algae crops in integrated systems using a systemic ecological perspective, and ensuring long-term investment in this sphere.
  - 1.5. Allocating areas and devising regulations for sports and coastal fishing with a view towards sustainability.
  - 1.6. Examining the economic and environmental sustainability of mariculture and formulating a comprehensive national mariculture policy in the marine space, with a view towards sustainability. Accordingly, areas suitable for mariculture should be identified and allocated while minimizing the environmental impact of activities there and ensuring long-term investments in this sphere based on a national economic perspective that also entails food security aspects.
  - 1.7. Investigating the feasibility of establishing mariculture "parks" that would make it possible to consolidate joint means such as energy, marina, guards, environmental monitoring, marketing, veterinary services, communications, transport, etc.

- 1.8. Fully internalizing rules of environmental protection against actions that abuse marine food resources, including effective control, monitoring and enforcement.

## ***7. Use the marine space as an alternative for land-based uses in a cautious and sustainable manner***

### Policy tools:

1. Formulate a national policy and advanced planning to erect buildings, artificial islands and other infrastructure installations at sea as an alternative for land-based uses, employing the actions and tools described below:
  - 1.1. Locating and identifying uses and possible areas in the marine space the present a positive economic, social and environmental balance for developing infrastructure and urban development at sea, *inter alia*, for the purpose of reducing the load on infrastructures and removing the environmental threat and risk from sensitive and dense land areas, with an emphasis on the coasts.
  - 1.2. Developing effective assessment tools that will examine the overall economic – social – environmental balance on land and at sea, in accordance with technologies and the scope of intervention in the marine space.
  - 1.3. Identifying and developing new technologies that would enable using the marine space as an alternative for land-based uses, and developing rules for the sensitive and sustainable integration of alternative infrastructure and urban development in the marine space while preventing environmental risks and damage and with ongoing environmental control and management.
  - 1.4. Encouraging the development of industry and employment in spheres relating to marine infrastructures as a basis for using the sea for urban and economic development.
  - 1.5. Regulating the mining of filler materials at sea based on a sustainable perspective and principles of ecosystem-based management.

## ***8. Integrate security considerations in the planning and management of the marine space***

### Policy tools:

1. Build mechanisms for coordination and cooperation between all entities who are stakeholders that will fulfill most of the Plan's goals without damaging its ability to protect the marine space over time and in a sustainable manner.
2. Implement and apply security considerations and security components in any use or activity within the marine space.
3. Allocate necessary areas for maneuvers and training as a security holding, and realize the marine space's function as a protected and protective strategic barrier.
4. Integrate considerations of any security-related activity or use in the marine space with environmental, economic and social standards.
5. Establish rules that will promote correlation and synergy between security-related uses and activities and other uses of the marine space.
6. Develop a plan to include the defense system in efforts to safeguard the marine environment and its social and economic functioning over time.

## ***9. Prepare for the effects of climate change on the marine and coastal space***

### Policy tools:

1. Formulate a chapter dealing with preparations for the possible effects of climate change on the marine and coastal space in the "comprehensive national plan on preparations for climate change." Among other things the chapter will deal with the following:
  - 1.1. Identifying and examining various scenarios regarding rising sea levels and extreme weather patterns (such as storms and flooding) and their impact on social, economic and ecological marine and coastal systems.
  - 1.2. Identifying the sensitivity and vulnerability of marine and coastal systems (social, economic and ecological) in connection with various aspects of climate change under different scenarios, including how extreme weather on land can influence the marine space.
  - 1.3. Developing tools and means for planning and logistical preparedness for coping with the various scenarios as a result of climate change and extreme phenomena.

- 1.4. Developing and implementing permanent systems to monitor and control phenomena that result from climate change (for example, rising sea levels, coastal erosion, changes in the sea water's temperature and acidity), and developing tools that will provide warnings in real time of unusual or unforeseen events, tools to help manage marine disasters and rehabilitation plans following such disasters.
- 1.5. Defining goals, tools, means and binding timetables for executing adaptation procedures and dealing with various scenarios resulting from climate change, in order to improve the strength of infrastructures and residential areas in coastal population centers and coastal systems.
2. Develop tools for encouraging and developing research, information and knowledge regarding the effects of climate change on the marine and coastal space and assessing the synergetic influences of climate change and other stresses on ecological, economic and social systems. Re-examine and apply the recommendations made by relevant committees and bodies (in Israel) regarding national preparations for climate change while paying particular attention to marine and coastal issues.
3. Examine and fulfill the State's obligations under regional or international conventions and treaties with regard to adaptation, and if necessary, mitigation.<sup>6</sup>

## ***10. Establish the sea as a public space and develop uses for the public benefit***

### Policy tools:

1. Formulate a national plan, in cooperation with local coastal authorities and non-governmental stakeholders, to advance the idea of the marine space as public property and as a key national-public asset that must be preserved for the enjoyment and benefit of the public and future generations, and develop its standing as a clearly open public space and attractive destination for tourism, sports, leisure and recreational activity. The plan will include, *inter alia*:
  - 1.1. The tools and means to preserve, guarantee and improve public access to coastal areas and the sea and free movement for the public, to the extent possible, within the marine space; enhancing the public's

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<sup>6</sup> It would appear, at this point in time, that the various aspects of the marine space do not play a significant role with regard to mitigation, except for concerns about reducing the amounts of methane released into the atmosphere during gas production and transmission processes.

connection between the coast and sea in terms of accessibility, scenery and natural and heritage assets.

- 1.2. Recognizing Israel's marine assets, both general and unique, and identifying them as public spaces for the public welfare.
- 1.3. Reinforcing and safeguarding sites or activities that have social and cultural importance (fishing, sailing, recreation, vacation, sports) and developing leisure, sporting and recreational activities for the benefit of Israel's residents and incoming tourists. Encouraging the inclusion of leisure and recreational characteristics in economic and environmental activities taking place in the marine space.
- 1.4. Applying principles of landscape preservation and cultivation in the marine environment with an emphasis on local marine scenery and an open horizon, as part of efforts for economic and infrastructure development in the marine space.
- 1.5. Effective monitoring, control, supervision and enforcement to ensure compliance with public health standards when people swim and spend time in marine spaces, and a full platform for protecting the environment against various types of tourism, leisure and recreational activities.
- 1.6. Generating community and social identification connected to the sea, encouraging the establishment of a sea-related network of social organizations, and cross-organizational cooperation that includes engaging the public in the planning, enforcement and monitoring of marine uses and activities.
- 1.7. Implementing curricula into formal and informal education systems that related to the structure of the marine space, its scenery and values, and its developing economic, environmental and social aspects.

## ***11. Discover, preserve and cultivate the heritage and culture found in the marine space***

### Policy tools:

1. Formulate a national plan for discovering, safeguarding and cultivating the heritage and culture contained in the marine space. The plan would include, *inter alia*:
  - 1.1. Developing effective, efficient and binding rules to protect heritage and cultural assets with an emphasis on assets at risk, and incorporating them in binding legislation and regulations.

- 1.2. Preparing a “road map” and defining priorities for locating, identifying, and documenting heritage assets; preparing a plan for monitoring existing sites according to level of importance and level of vulnerability, including procedures for conducting surveys and rescue excavations if necessary, prior to any development.
- 1.3. Establishing a national database of marine antiquities and heritage sites, including establishing procedures for coordinating information collected by government, academic and other bodies.
- 1.4. Developing an approach, rules and tools for preserving combined marine and coastal sites (such as ancient ports).
- 1.5. Formulating tools and means for developing infrastructures and human resources for research, monitoring, supervision and enforcement in the heritage and cultural spheres while pooling resources with marine research entities.
- 1.6. Developing tools to instill knowledge of marine heritage assets to the general public, focusing on formal and informal education systems, and developing marine and coastal culture.

## ***12. Develop the role of the sea as a bridge and an opportunity for international cooperation***

### Policy tools:

1. Develop a policy of cooperation based on the marine space's resources, *inter alia*:
  - 1.1. Forging cooperation and promoting joint arrangements in the eastern Mediterranean Sea for the benefit of those living in the area, for example, in spheres relating to the environment, desalination, energy, maritime transport, joint protected reserves/areas, and food from the sea. This development would include integration in international networks, open import-export arrangements and shared infrastructures.
  - 1.2. Establishing academic cooperation on aspects of local and global importance as these are expressed in the eastern Mediterranean Sea.
  - 1.3. Engaging in both existing and developing international initiatives, and initiating joint activities with international authorities and countries in spheres of preservation, development, monitoring and regulation in the marine space, and in this framework, protecting joint interests such as preventing and treating environmental risks, coping with climate change, transportation and commerce, and international security cooperation.

## Concluding remarks

The vision and goals presented herein are aimed at outlining the development and conservation policy for Israel's marine space in the long-term. The policy's implementation is, first and foremost, the task of the government and its established bodies. Nonetheless, corporations, non-government organizations (NGOs) and the general public also have an extensive role to play in its implementation. Only collaborative and combined action of all stakeholders can fulfill the vision of economic prosperity, public status, social contribution and environmental resilience of the marine space for future generations. The policy tools proposed above can help pave the way and create the means and measures for achieving the goals, and which require – for this extensive, complex and largely hidden space – considerable additional planning, research and development work. Among other things, these include policy tools, recommendations for preparing specific national policy documents and/or plans in the following domains:

1. A national policy for research and monitoring, and to organize and manage marine information and data and make it accessible;
2. An overall plan for developing energy sources from the sea;
3. A plan for developing food from the sea (fishing and mariculture industries);
4. A national policy and planning for building structures and infrastructures as an alternative to land-based construction;
5. A national policy of preparedness for the impact of climate change on the marine and coastal space;
6. A national plan for enhancing the status of the marine space as a public space;
7. A national plan for finding, preserving and cultivating heritage and cultural assets;
8. A policy for international collaborations regarding the sea.

This division also hints at the entities that should be targeted to advance any plan or policy document in accordance with the specific structure of the various government bodies. This effort also includes the completion and validation of a policy paper and/or comprehensive marine plan of the type to be proposed by the Ministry of the Interior once preparation of the *Israel Marine Plan* and its preceding policy paper has been completed.

The next stages of the *Israel Marine Plan* will further develop and detail the policy tools described above. They will also further address the spatial aspects of the plan as these are developed based on the work done so far on the goals and policy tools.