



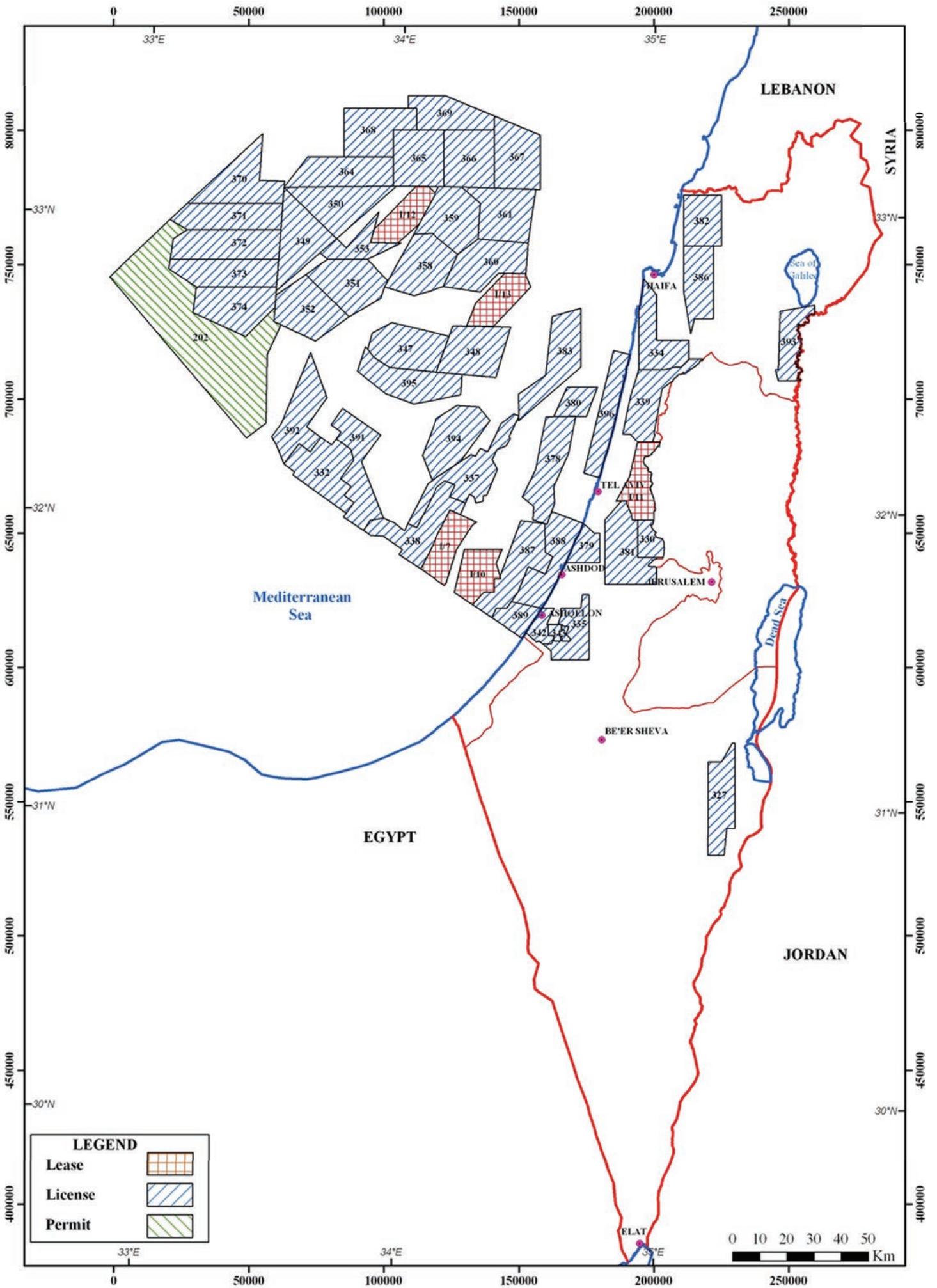
STATE OF ISRAEL



THE RECOMMENDATIONS OF THE INTER-MINISTERIAL COMMITTEE TO EXAMINE THE GOVERNMENT'S POLICY REGARDING NATURAL GAS IN ISRAEL

EXECUTIVE SUMMARY

September 2012



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An offshore oil rig is visible in the background, set against a clear blue sky and a calm sea. The rig is a complex structure with various towers, cranes, and pipes, typical of an offshore oil platform.

Executive Summary

On October 2, 2011 the Prime Minister and the Minister of National Infrastructures (today the Minister of Energy and Water Resources) appointed an inter-ministerial committee to examine government policy on the natural gas industry in Israel (hereinafter: the Committee).

The appointed Committee members were: Committee Chair, Mr. Shaul Zemach, Director General of the Ministry of Energy and Water Resources; Prof. Eugene Kendall, Head of the National Economic Council in the Prime Minister's Office; Mr. Gal Hershkowitz, Budget Director, Ministry of Finance; Prof. David Gilo, Antitrust Commissioner; Adv. Alona Shefer, Director-General of the Ministry of Environmental Protection; Mr. Avriel Bar-Yosef, Deputy Head of the National Security Council; Mr. Pini Avivi, Deputy Director General for Multilateral and Strategic Affairs in the Ministry of Foreign Affairs; and Adv. Avi Licht, Deputy Legal Adviser to the government (economic-fiscal).

In accordance with the letter of appointment, the Committee conducted an in-depth and comparative study of the accepted policy in the natural gas sector around the world. The goal was to learn from accrued international experience, identify best practices, and accordingly to recommend to the Government of Israel the optimal policy for the natural gas industry in Israel, which will, in light of the unique characteristics of the industry, join the needs of the local energy industry with economic, environmental and political objectives.

The Committee aimed to base its work on as much factual information as possible, and as part of its work, examined numerous international gas markets in order to learn from various policies in effect, identify major trends, and learn both from successes and from failures in these markets. Out of the 30 largest natural gas producing countries in the world, 12 countries with characteristics similar to Israel were chosen with natural gas resources of a similar scale and location, in order to carry out a comprehensive comparative survey¹. In addition, the Committee was assisted by a range of international consultants (see details).

The international comparisons and consultations held by the Committee led it to the conclusion that, unlike in other policy areas, it is not possible to identify a generally accepted international government policy concerning the development and management of the natural

¹ Details of the comparative survey appear in the appendix to the full report. An international survey conducted by the Committee shows that only a small number of countries have chosen to require a domestic market obligation of some of the gas from their fields. Western Australia determined a domestic market obligation of 15%. This policy is considered to be successful because it led to extensive exploration and development activity in the country. Egypt sought to ensure some 66% to the local economy (33% for local consumers and 33% for reserves). But this policy harmed incentives for the developers and led to a cessation of exploration and development activities. Regulations in Queensland, Australia state that the regulator has the option of demanding that lease holders allocate gas to the local economy. Canada previously held a policy of ensuring local economic needs for 30 years. It stopped doing so in 1988. Indonesia stated in 2011 that 25% of the gas produced by that country would be allocated for domestic use. The Republic of Trinidad and Tobago instituted a policy requiring supply to the local market at a rate of 25% of the gas produced. This policy led developers to abandon the industry, and recently the government of Trinidad and Tobago has abolished this requirement. It is important to emphasize that in all of these countries the government had determined its policy before it had any clear certainty regarding the overall supply of natural gas to its domestic market. The policy had been set as a means to provide developers with the necessary incentives to bring about certainty of supply.



gas industry. At the same time, however, it is possible to indicate a number of key principles that recur in different countries, as follows: 1) guaranteeing long-term energy security for the country's citizens; 2) creating certainty for entities operating in the market; 3) maximizing the economic benefit to the economy; 4) creating conditions for competition in different sectors of the gas market in the short-term and long-term; 5) flexibility for policymakers in light of changes in supply and demand over time.

The basic assumption under which the Committee worked and formulated its recommendations was that finding natural gas in the Mediterranean Sea is a historic opportunity for the State of Israel. These resources enable it to substantially reduce its dependence on external sources for the supply of energy, reduce energy costs for local consumers, reduce air pollution and greenhouse gas emissions, and produce a significant source of income for the State of Israel.

Because of the importance of the gas resources for the future of the Israeli economy and society, the Committee attributed great importance to ensuring that these limited resources would be utilized in order to maximize their value for the Israeli public and contribute to the country's foreign relations. The Government of Israel, as the public's trustee, must determine the optimal allocation of these resources in the economy, while guaranteeing effective operation of the natural gas and energy industry in general, encouraging and giving incentives for developing new fields, and ensuring competition between suppliers in the market.

On April 5, 2012 the Committee published a draft of the main points of its conclusions for comments by the public. After publication, the Committee held hearings, during which the positions of the public with regard to the interim report were presented. In the framework of the hearings, dozens of entities approached the Committee, among them environmental organizations, commercial companies, and government companies. In addition to the hearings, and in light of the subject's importance, the Ministry of Energy and Water Resources initiated a conference on the subject to bring together all the entities wishing to express their opinions before the Committee, among other things, in order to ensure that each entity that wished to do so would have more than one opportunity to express its position in public. It should be noted that all the Committee members felt that hearing opinions from the public was vital in forming the Committee's recommendations. One of the new insights formed among the members of the Committee at this stage was the great importance of involving, a major international operator and investor in oil and natural gas production, with the know-how and experience required for efficient development of the natural gas sector.

In addition to conducting an international comparison and hearing opinions from the public, the Committee carried out extensive and in-depth staff work, part of which involved performing a probability analysis with regard to the potential supply of natural gas in the Mediterranean, as well as various demand scenarios estimating different development rates of demand for natural gas in the electricity sector, in industry, and for transport. The Committee's recommendations were formulated after many hours of discussions, accompanied by the presentation of a variety of issues, reports, and detailed analyses.

The top of the page features a photograph of an offshore oil and gas rig. The rig is a complex structure of metal towers, cranes, and pipes, situated on a platform in the middle of the ocean. The sky is a clear, bright blue, and the water is a darker blue. The rig's structure is intricate, with various levels and components visible. The image is partially obscured by a dark blue curved banner at the bottom.

The Committee's recommendations strike a proportionate and appropriate balance among the diverse objectives of government policy, and create a consistent and clear government policy that can be implemented and be influential in the immediate term. The main question debated by the Committee members was how to ensure the energy needs of the Israeli economy. The manner in which the Committee chose to do so was to impose certain limitations on the ability of lease holders who are operating in the natural gas sector under the Petroleum Law, to export the natural gas resources that exist in the area of their lease. An analysis of the policies of other countries shows that most of them, at least de jure, have chosen not to significantly limit the ability of the lease holders to export natural gas², a policy which has led to the efficient development of their respective natural gas sector and related industry. In contrast, countries that have chosen a policy of limiting exports in a significant and potentially uneconomic manner, or have interfered with local natural gas prices, are generally characterized by a less developed natural gas industry. Such countries have experienced a slowdown and even cessation of exploration activities leading to a loss of potential state income. The government policy proposed by the Committee gives total priority to supplying the natural gas needs of the Israeli economy, but in a way that takes into account considerations of economic feasibility. Such a policy optimizes the benefits of Israel natural gas potential for the society as a whole, particularly because natural gas is a public resource.

The Committee's recommendations were formulated as a set of complementary recommendations which, only when taken together, form the optimal desired policy. A change in any one of the recommendations requires adjustments to the others to maintain coherency and strike the necessary balance.

Alongside the positions held by holders of oil and gas rights, which opposed limitations on the companies' ability to export, voices were heard in support of preventing the use of natural gas other than for the needs of the local economy, or in support of placing a very significant and uneconomic restrictions on exports, which would effectively prevent the possibility of exporting natural gas.

There were also those asking that no export policy be set at this stage, and instead to wait for the level of certainty with regard to the supply of natural gas in the Israeli economy to increase, and only then take a decision. These proposals ignored the substantial cost to the economy involved in their implementation. The rationale for setting a clear government policy as quickly as possible is to create certainty for lease holders and licensees and to provide an incentive for them to develop the gas fields³, so as to ensure the supply of gas required for domestic market obligations. In the past year, the Israeli economy has “paid the price” for the delay in the supply of natural gas. Any delay in developing the next field, and the one after

2 In quite a number of countries, production takes place with some degree of involvement of government companies, and therefore the government is able to influence export policy de facto without the need to declare such a policy.

3 Field definition from SPE/WPC/AAPG/SPEE "Petroleum Resource Management System", 2007: An area consisting of a single reservoir or multiple reservoirs all grouped on, or related to, the same individual geological structural feature and/or stratigraphic condition. There may be two or more reservoirs in a field that are separated vertically by intervening impermeable rock, laterally by local geologic barriers, or both.



that, increases the fear that there will be repetition (whether partially or completely) of the present situation – wherein the natural gas is known to be in the ground but it is not being produced and cannot reach consumers. **Therefore, the cost of a year's delay in determining policy means a year's delay in developing the fields and supplying gas to consumers.**

Such proposals, which support preventing the use of natural gas for uses other than the local market or strictly limiting its export, or positions that propose not setting an export policy at this point in time but waiting until the level of certainty regarding the supply of natural gas is higher, ignore the substantial cost of their implementation. Policy for the natural gas industry was not set in a vacuum, but in light of the exploration, development and production operations being carried out in the Mediterranean with private initiative and funding, and in accordance with the Petroleum Law 5712-1952. As explained in detail in the report, the Committee believes that permitting export is essential in order to realize the government policy objectives for which the Committee was set up to maximize. **It should be emphasized that the perception that allowing exports of natural gas comes at the expense of guaranteeing the economy's needs is not correct. Permitting the export of natural gas does not prevent, but rather promotes, guaranteeing the energy needs of the local economy, and also supports the development of local industry based on natural gas. Unclear government policy does not allow rights holders to take the necessary decisions and obtain the funding that is essential for developing the fields, resulting in uncertainty along the natural gas industry's supply chain. The price of this uncertainty is delay, underperformance, and even cancellation of planned activities in the natural gas sector, especially exploration and development activities.** As previously stated, the Israeli economy has paid the price for the delay in the supply of natural gas during the past year. In this context, this does not relate only to the shortage of natural gas for electricity production, but also to a shortage of natural gas intended for local industrial requirements. Unlike the electricity sector, a delay in the supply of natural gas to local industry may lead to serious and even fatal harm to factories, and consequently to employment in the economy. Naturally, a delay in the supply of gas also has very substantial financial costs in terms of loss of income to the state. **(Just for the sake of illustration, according to calculations by the National Economic Council, delaying the development of the Leviathan reserve by one year will cause, among other things, a direct loss of income to the state on a scale of between \$400 - 700 million, depending on the different scenarios.)**

The recommended government policy is based on a methodology that first guarantees the local economy's energy needs for an optimal period of time, and provides developers with the freedom to choose whether to sell any surplus natural gas (above and beyond local demand) for other industrial or commercial uses, or to export it. This does not mean that at the end of the period of time defined as optimal to guarantee natural gas for the local economy's needs there will be no natural gas available. It means that only in the extreme case (a likelihood of less than 5%), local natural gas fields will not be able to supply the energy needs of the local economy beyond the period defined. However, even in this situation demand will ultimately adjust itself to the limited supply. **Therefore, the likelihood that the proposed government policy will guarantee natural gas reserves for local consumption for a period exceeding that which the Committee sees as the maximum required, is very high.**

An offshore oil and gas rig is visible in the background, situated in the ocean under a clear blue sky. The rig features various structures, including towers and cranes, and is surrounded by a blue sea.

An issue that repeatedly came up in the Committee's discussions is the claim that allowing the option of exporting natural gas potentially harms the energy security of the Israeli economy by creating a future natural gas shortage. It has been claimed that each unit of natural gas exported is a quantity that will not be available to the economy in a few decades time, when it would be necessary to find alternative sources of energy or import natural gas. At the same time, **whether there are gas exports or not, the Israeli economy is expected to find itself with an increasing shortage of gas within a few decades.** The distinction between the different export scenarios and a scenario of no-exports lies in the timing of the start of the shortfall and the rate at which the shortfall increases. Therefore, the Committee's discussions focused on analyzing the cost – benefit of permitting exports as opposed to prohibiting it. In the Committee's assessment, because local demand for natural gas in the Israeli economy is limited, **there will likely be insufficient exploration and development activities in the coming years. To the extent such activities do occur, they will likely be too gradual⁴ unless lease holders in the gas fields are enabled to have additional possibilities for monetizing at least part of the natural gas for exports.**

The significance of gradual entry into the market is that another supplier will enter only when the existing suppliers cannot fill all the demand in the market. Such an outcome, although it may guarantee the supply of natural gas for the longest possible period of time (on the assumption that cheaper alternatives to natural gas are not found and that import of gas will be more expensive than the cost of extracting local gas), does not guarantee energy security in terms of continuity, redundancy, and variety of suppliers. It also harms the economic value of the fields, and consequently the state's income, and does not promote competition in the economy. On the other hand, permitting exports promotes all the above-mentioned objectives, but at a cost of potentially bringing forward the timing of the shortage of natural gas in the economy (in this context it is worth stating that the permitting of exports does not mean that all the gas that may be exported, or that it will be exported immediately).

It should be emphasized that the Committee recommends calculating export quotas and permitting export solely from fields that were granted leases (and not for example from fields with contingent resources). That is to say that permitting export depends on the existing gas supply (rather than the potential supply) in the Israeli market, and at a limited rate for each field.

Permitting exports creates the flexibility that is required by the various entities operating in the market, in order to achieve financial "justification" for their activities in exploring and developing the fields. As a rule, gas producers will always prefer to supply natural gas to the local market, in order to avoid the investment required for developing export infrastructures, and only when the characteristics of demand in the local economy do not justify developing the fields will the suppliers turn to other monetization channels such as exporting natural gas.

⁴ It should be clarified that the aforementioned does not derogate from the obligation of the rights holders to meticulously comply with the provisions of the Petroleum Law, nor does it preclude existing rights pursuant to the non-compliance with these provisions.



In this context it should be noted that a substantial part of the gas whose existence has yet to be “proven” is found in small and medium fields. Therefore, and in light of the understanding that these fields also represent a significant competitive potential, even though their aggregate contribution to the local economy is small – it is crucial that these fields are considered part of the redundancy needed for the local market and for guaranteeing its energy security. In addition, these fields will serve to generate competition in the local market and will become part of the local economy.

The Committee aimed to recommend natural gas exports policy, energy security policy, and the development of infrastructures, as well as tools for promoting competition in the natural gas market. On August 29, 2012 the Committee published the main points of its recommendations.

Summary of the Committee's recommendations

Policy to ensure the needs of Israel's natural gas industry in the short-term – The Committee sought to formulate recommendations for long-term policy for the natural gas industry in Israel. Nonetheless, within the context of the Committee’s work, the challenges and difficulties facing the natural gas industry in the short-term were presented to it. The primary challenge facing the natural gas industry subsequent to commencing production from the Tamar field is the inability to supply the full demand for natural gas at the hourly level during peak demand (see the table below). This is due to the absence of redundancy in the off-shore transmission and in the gas landing infrastructure. This shortage can be resolved by increasing the maximum capacity of the gas supplied to the market, whether by way of the entry of an additional supplier or by increasing capacity by the current supplier.

Extent of hourly shortage in natural gas anticipated in Israel (m³/hour)

	2014	2015	2016
Total hourly capacity – pipeline from Tamar	1,100,000	1,100,000	1,100,000
Hourly capacity available to consumers other than the IEC	440,000	440,000	440,000
Hourly capacity required in a pipeline for consumers other than the IEC	559,394	826,085	943,088
Shortage in capacity	119,394	386,085	503,088

Source: Natural Gas Authority, Ministry of Energy and Water Resources, 2012

In accordance therewith, the Committee sees fit to enlist all government entities responsible for this subject to act with full authority to preclude or at least limit the duration of time in which there will be a shortage in the supply of gas to the market, inter alia, by means of providing accessibility of infrastructures which will enable additional capacity to the economy.

A photograph of an offshore oil rig in the ocean under a clear blue sky. The rig is a complex of metal structures, including towers and cranes, with various pipes and equipment. The water is a deep blue, and the sky is a lighter blue.

Policy for guaranteeing the needs of the Israeli economy - the set of analyses carried out by the Committee shows that, based on conservative assumptions, it is necessary to guarantee a local supply of natural gas for energy needs for a period of 25 years. A conservative quantitative analysis indicates a range of between 15 and 20 years as being reasonable in economic terms for preferring to retain natural gas for future local supply over export⁵.

This range fits in with common practice in the energy world with regard to accepted timeframes for entering into investments from the point of decision. Supply will be in accordance with demand in the Israeli economy, including meeting the maximum hourly demand required by this economy (in particular at peak demand periods). A policy of retaining natural gas reserves for significantly shorter periods of time is not economically viable, from the perspective of the Israeli economy, and in any event is not possible due to the investments that have been and are being made in the electricity sector in Israel (Conversion of power generation units from coal to natural gas). Guaranteeing local supply for a period of time that is significantly longer than 25 years is likely to harm the feasibility of exploration and development. Furthermore, and in a longer term economy-wide view, guaranteeing local supply for a period of time longer than 25 years will not be feasible, among other reasons, due to the significant loss of direct income to the state.

The Committee reached the conclusion that due to the range of time in question, it is not possible to base its decisions on any individual scenario. It is necessary to examine a range of scenarios and choose a balance point that, on the one hand, will guarantee stability of the proposed policy even if the government does not succeed in meeting all policy targets in the electricity sector, while on the other hand, will provide high probability that the policy targets (that are inherent to the proposed policy) will be realized. The Committee felt that this balance point occurs when demand for natural gas in the Israeli economy for the coming 25 years is approximately 450 BCM (on the basis of the demand scenario of approximately 500 BCM by 2040). According to the proposed policy principles, this scenario involves a clear preference for local economy needs. It should be noted that all scenarios were built on the basis of different forecasts for natural gas demand in the electricity sector, in industry and transport, where the forecast demand for natural gas in the electricity sector and for industry are based on currently existing demand and on development plans at relatively high stages of certainty. **Forecast demand for natural gas in transport is not based on existing demand for natural gas, but on government policy promoting a transition to the use of natural gas in transport, whether by means of methanol or by means of other natural gas-based products. The Committee seeks to encourage the development of alternative fuels based on natural gas for local consumption in the Israeli economy by including demand for natural gas for transport in its policy recommendations.**

5 Given two alternatives – one, to permit export of an energy unit now (which means an income to the economy of \$5 per energy unit); or two, to prohibit export and to keep that energy unit in the ground until such time in the future when it is required (we assume that at that time the Israeli consumer will be able to acquire the same energy unit at \$6). If we export the energy unit the Israeli consumer will have to purchase it in the future at the global price which, by most estimates, is expected to range between \$12-\$15 (where \$15 is the extreme price, at this point in time). Nevertheless, if the price is subsidized so that the price is identical for both of the aforementioned alternatives, the Israeli consumer is expected to be indifferent regarding the two alternatives (export vs. keeping it “in the ground”) (it should be noted that in our example, the subsidy would range between \$6-\$9). In other words, if the benefit of exporting natural gas is greater than the subsidy required in the future, in present terms, then it is worthwhile to export. Therefore, given the benefit to the economy of export today in the amount of \$5 per energy unit, cost surplus as a result of future import of \$9 per energy unit (an extreme case!), and real interest of 3% (the interest the state uses to raise its long-term debt), it is economically feasible to retain gas in the economy for a period of up to 20 years. $5 = 9 / 1.03^x \Rightarrow X = -20$.



It should be noted that the Committee wanted to guarantee the demand for natural gas, as this is a commodity which is not easily imported. With regard to natural gas-based alternative fuels for transport that are tradable commodities, the Committee left the economic decision to the market as to whether these will be imported or produced locally. It should be noted that the Committee's assumptions regarding transport correspond with the goals of the national plan for developing alternative fuels as set forth by the Prime Minister's Office.

The policy of ensuring the Israeli economy's needs is derived not only from local economic needs but also, to a considerable degree, from the existing and potential supply of natural gas in Israel. The volume of gas that is considered available, with a high degree of probability (reserves and contingent resources) is approximately 800 BCM, thus there are an additional 680 BCM classified as prospective resources, with various probabilities of geological success. Given the information existing today, there is more than 90% probability that of the 680 BCM, at least a further 150 BCM of gas is expected to be discovered. Accordingly, in light of the desire to base the Committee's decisions on a scenario of natural gas exports that realistically anticipates the future, but on the other hand is conservative, the Committee has decided that a supply scenario that includes natural gas reserves, contingent resources and a 90% probability of an additional 150 BCM represents current assessments with regard to the natural gas supply in the Israeli economy in an appropriate and conservative manner, in light of which government policy in the natural gas industry should be determined⁶.

Natural gas supply	BCM
Prospective resources known today	Approx. 680
Of these, prospective resources with over 90% probability	Approx. 150
Reserves and contingent resources	Approx. 800
Total natural gas supply (reserves, contingent resources and prospective resources)	Approx. 1,480
Total natural gas supply for the purpose of setting policy	Approx. 950
Cumulative demand for natural gas for 25 years	Approx. 450
Maximum quantity permitted for export	500

Source: Natural Resources Administration, Ministry of Energy and Water Resources.

Data: National Economic Council.

Accordingly, the Committee recommends:

- Determining that the volume of natural gas that should be guaranteed in favor of the local economy (hereinafter: local economy needs) will be 450 BCM.
- Determining that the volume of natural gas to be guaranteed for local economic needs will be updated again five years after the approval of the recommendations, and will be determined on the basis of a methodology similar to that used by the Committee, that is, by defining a number of scenarios of demand for natural gas in the Israeli economy

⁶ Five years after the date of approval of the Committee's recommendations by the government, the government will assess the situation in light of the supply of natural gas and anticipated demand for natural gas for 25 years after this point in time, with regard to the need to revise the overall export quota.



for a period of 25 years and finding the balance between them. The Ministry of Energy and Water Resources will publish the demand scenarios that have been determined in this matter and the economy's needs as derived from them (hereinafter: binding demand forecast).

- Determining, in light of the economy's needs and the natural gas supply that the export of Israeli natural gas⁷ will be permitted so long as the volume of natural gas permitted for export from all fields that have been given a lease, (that is, for which an application for export has been submitted and approved), does not exceed 500 BCM (hereinafter: the overall export quota). Should the volume of gas permitted for export reach 500 BCM, or if five years have passed from the date of approval of the Committee's recommendations, the government will assess the situation **in light of the natural gas supply and the anticipated demand for natural gas for 25 years from that point in time, with regard to the need to update the overall export quota.**
- It should be noted that the five year period aims to focus the operative recommendations on those fields for which the feasibility of natural gas production is guaranteed (or nearly so) at present, and enables an additional decision point.

Domestic market obligations – the Committee's work focused on defining and ensuring the needs of the Israeli economy. The committee looked into setting limitations on the ability of rights holders to use their natural gas other than for the local economy's energy needs (among other things, through exports), and did not examine or recommend any limitation on the supply of natural gas to consumers in the local economy; rather, it proposed incentives for this, for example, in planning infrastructures. In other words, **the Committee gave total priority to supplying natural gas to the Israeli economy and recommended imposing certain limitations on the ability of rights holders to do anything else with their natural gas resources, including export.**

The Committee felt that it would be right and appropriate to require all existing and potential natural gas lease holders to sufficiently allocate the natural gas in their possession to the local economy. At the same time, in light of the characteristics of the Israeli gas industry, it is clear that the requirement of domestic market obligations make it necessary to distinguish between fields according to their size, in order to encourage their development over time.

Definition regarding the size of fields:

Small field – a field whose volume is less than 25 BCM

Large field – a field whose volume is greater than 200 BCM

Medium field – a field whose volume is between 25 and 200 BCM

Determining the volume of a field – on the basis of 2P reserves category of the Petroleum Resources Management System (PRMS)

After much discussions and in-depth analyses of the various alternatives, including simulations, and with the aim of creating policy that is both simple and at the same time enables the set

⁷ By lease holders (in accordance with the Petroleum Law).



of considerations and principles to be upheld in an optimal way, the Committee recommends determining that the requirement to fulfill domestic market obligations between existing and potential fields should be carried out in the following manner:

- In general, all fields will be charged with supplying a certain percentage of natural gas to the local economy (domestic market obligations). The volume of gas in the field for the purpose of calculating the domestic market obligations will be determined by the Petroleum Commissioner in the Ministry of Energy and Water Resources (hereinafter: the Commissioner) on the basis of category 2P of the Petroleum Resources Management System (PRMS).
- The minimum domestic market obligation that will apply to lease holders of fields whose volume, as determined by the Commissioner, is greater than or equal to 200 BCM will be 50% of the volume (hereinafter: the minimum domestic market obligation).
- The minimum domestic market obligation for lease holders of fields whose volume, as determined by the Commissioner, is greater than or equal to 100 BCM but lower than 200 BCM will be a rate of 40% of this volume.
- The minimum domestic market obligation for lease holders of fields whose volume, as determined by the Commissioner, is greater than or equal to 25 BCM but lower than 100 BCM will be a rate of 25% of this volume.
- Fields whose volume is less than 25 BCM will have a domestic market obligation but not at a specified volume. In this context it should be noted that a substantial part of the gas whose existence has yet to be proven is in small and medium fields. Therefore, and in light of the understanding that these fields also represent a significant competitive potential, despite their limited cumulative contribution to the local economy, it is crucial that these fields be considered part of the redundancy needed for guaranteeing energy security to the Israeli market, and when possible, will promote competition in the local market. It is therefore important that these fields be connected to the local gas infrastructure.
- The Committee's recommendations are intended to cover all fields that operate in accordance with the Petroleum Law, however, the Committee recognizes the fact that there are certain differences between fields that are under complete Israeli control within Israel's exclusive economic zone, and between fields that cross maritime boundaries and are shared with other countries. Accordingly, the Committee recommends determining specific conditions for fields that are shared by Israel and its neighbors on an individual basis, in the framework of the specific arrangements that are relevant to the circumstances, and based on the policy principles as recommended by the Committee.

Guaranteeing energy security and giving priority to supplying the local market – The main principle that concerned the Committee was ensuring energy security for Israel's citizens. Accordingly, the Committee advises the following:

- To determine that each producing field will require a physical connection to the Israeli natural gas infrastructure so as to provide an available supply for the local market. The timing for connecting to the field and the extent of availability of natural gas required from each field will be defined by the Commissioner within the development plan for the field.

The top of the page features a photograph of an offshore oil and gas rig. The rig is a complex structure of metal towers, cranes, and pipes, situated on a platform in the middle of the ocean. The sky is a clear, bright blue, and the water is a deep blue. The rig is the central focus of the image, with other smaller structures visible in the background.

The Commissioner will consider the economy's needs in terms of peak hourly supply and infrastructure redundancy, as well as the various characteristics of the producing fields, including their domestic market obligations.

- To determine that consumers in the Israeli market will have the priority for purchasing a contract for the supply of natural gas from fields that are under Israeli control.⁸ Compliance with this condition will be examined when authorization is given to sell natural gas other than to the Israeli market. In considering whether to grant an Export License, the Minister of Energy and Water Resources will take into account, inter alia, the extent that such exports may lead to a shortage in the supply of natural gas to the local economy, including in terms of any potential effect on maximum hourly supply. It should be clarified that in this regard, the report is not exhaustive and regulations or instructions for this matter will be defined.

Promoting and incentivizing the development of small fields – It is estimated that a considerable part of the natural gas and oil fields located in the Eastern Mediterranean are small- or medium-sized. Natural gas-producing countries tend to determine a variety of incentives aimed at promoting the development of small and medium-sized fields, in order to increase the natural gas supply to the economy and the number of suppliers to the market and in order to promote various policy objectives. The Committee has deemed it appropriate to recommend determining several supplementary procedures with the aim of providing incentives for the development of small and medium-sized fields. Accordingly, the Committee proposes the following:

- To determine that a lease holder of a developed field may swap his export quota with the domestic market obligations of another lease holder who has submitted a development plan that has been approved (hereinafter: a “Swap Transaction”). Such a Swap Transaction would have to be approved by the Petroleum Commissioner and the Antitrust Commissioner, after weighing all the relevant considerations, including the need to incentivize and encourage smaller fields. Approval to carry out a Swap Transaction should be conditioned on the extent the field serves the needs of local demand, the existence of an approved and detailed development plan, and an investment plan sufficient to ensure a physical connection to the Israeli gas distribution infrastructures.
- To determine that a lease holder of a field with a volume that exceeds 200 BCM will be permitted to take part in Swap Transactions so long as the minimum domestic market obligation will be at a rate that is no less than 25% of the total field volume. In other words, the overall amount that will be permitted for export from a field with a volume greater than 200 BCM will not exceed 75% of the volume of gas in the field.
- To determine that a lease holder of a field with a volume that exceeds 200 BCM will be permitted to carry out Swap Transactions so long as the volume of the Swap Transaction does not exceed 50% of its export quota.
- That these recommendations will also be considered when granting regulatory

⁸ The intention is to preclude a situation in which an Israeli consumer requests to purchase natural gas from an Israeli supplier and the supplier prefers to sell the natural gas at similar conditions to a foreign consumer.



authorization to a Joint Venture of different petroleum rights holders.

- For the purpose of enabling smaller fields to generate competition, the Petroleum Commissioner and the Antitrust Commissioner will be able to determine that fields with a volume of less than 25 BCM will be required to carry out Swap Transactions. If a Swap Transaction is carried out, the rights holders of the small field will have a domestic market obligation at the same volume that had been swapped, a policy which should foster competition among suppliers in the local economy.
- To continue examining the means in accordance with the Natural Gas Industry Law for promoting the entry of small and medium-sized fields to the local market. This will be made possible by the use of natural gas from fields already active in the market. Such means will bridge the supply required for several years until the development of new fields.
- In order to enable and encourage the development of small fields, an unreasonable refusal by rights holders to carry out a Swap Transaction should be prohibited so long as it involves a small field that has an approved development plan that provides for participation in an export facility. Such a prohibition would require appropriate legislation.

Licensing the sale of natural gas to markets other than the Israeli market – The Committee acted under the perception that natural gas resources are resources of national significance. Accordingly, the Committee believes that the sale of a national gas resource is not the same as a contract to export any other product. Accordingly, the Committee recommends the following:

- To determine that due to the extensive economic and geopolitical significance, lease holders will be required to obtain advance authorization for natural gas sales contracts that are not intended for the Israeli market. The purpose of an Export License is to ensure that the sale is not counter to a national interest of the State of Israel,⁹ and does not harm the State of Israel's energy security. The Minister of Energy and Water Resources will authorize the Export License in light of the opinions he receives from the Ministry of Energy and Water Resources, the Ministry of Finance, the Foreign Ministry and the Office of National Security in the Prime Minister's Office, and other entities so designated.
- To determine that with the approval of the Minister of Energy and Water Resources, an export license will be granted for a period of 25 years. It is also proposed that the natural gas volume permitted for exports in the Export License will be determined in terms of maximum daily production permitted for export, as is customary in many gas-exporting countries throughout the world. With regard to this matter, maximum daily production will be determined as the quotient of the field's gas volume permitted for export from

⁹ The condition is similar to that set forth in the American regulations: "Under section 3 of the Natural Gas Act (NGA) 15 U.S.C. §717b), DOE must evaluate applications to import and export natural gas and liquefied natural gas (LNG) to or from the United States. The NGA requires DOE to grant a permit unless it finds that such action is not consistent with the public interest."



(hereinafter: the Dividend) divided by 7,300¹⁰ (hereinafter: the Divisor). It should be noted that the Minister of Energy and Water Resources may set a maximum daily production limit for the field, in accordance with the provisions of the exports contracts.

- The Foreign Ministry will promote an array of political inter-governmental agreements for future cooperation in the natural gas industry, in accordance with these recommendations.
- It is hereby clarified that the authority to restrict exports and enable exports swaps shall not derogate from other authority, including the authority to approve the transfer of oil and gas rights.
- In any event, the Committee wishes to clarify that at the time of granting authorization for the transfer of rights, the Petroleum Commissioner will continue to examine and to act in accordance with considerations with regard to the contribution made by the applicant for a license or lease toward promoting the development of the Israeli natural gas market, ensuring energy security, increasing competition in the natural gas market, maximizing economic benefits, public interests and security, as well as additional relevant considerations..

It is hereby clarified that the Commissioner shall be permitted to revoke an export license that was granted if it becomes known that the conditions of the license are not being met, or that any information on the basis of which the license was issued proves to be false (or for other reasons), or if there was a change in the circumstances that led to the issue of the export license to begin with (including circumstances relating to local market needs or the supply available from other fields). In addition, the Commissioner shall not issue an export license unless the applicant complies with the same conditions necessary for obtaining a lease, and the license shall only be valid for a lease holder as defined in the Petroleum Law 5712-1952.

Encouraging competition in the natural gas market – Competition in the natural gas market ensures the public interest, leads to the effective allocation of resources in the exploration and development of fields, and guarantees the supply of natural gas under conditions and at prices that do not reflect market power, while increasing energy security and varying supply sources. The problem with having so few entities in the supply sector is reflected on a number of levels. First, it is difficult for a single supplier with limited capital who holds several gas fields, to simultaneously develop his different fields, both economically and practically. Second, a lack of competition is liable to restrict the realization of the potential of natural gas for the Israeli economy due to the fact that consumers, which constitute an essential part of the Israeli economy, would be highly dependent upon a single supplier.

The presence of competition depends both on the number of consumers interested in purchasing gas, the extent of the demand of each one relative to total demand in the market, and the number of the different suppliers interested in selling gas and the extent of the supply of each of them relative to total supply in the market. Another essential condition for creating competition is that the total supply in the economy exceeds the total demand in the economy

¹⁰ Twenty years multiplied by 365 days per year equals 7,300.



for any point in time at which a consumer wishes to contract with a supplier to purchase natural gas.

Creating conditions for competition in the economy is one of the government policy goals that guided the Committee in formulating its recommendations. Accordingly, a significant portion of the Committee's recommendations is directed, among other things, towards promoting competition in the market, whether directly or indirectly. For example, **permitting exports encourages the development of additional fields that will lead to increasing the number of suppliers in the natural gas market, and as a result, will increase the supply of gas and the potential for competition in the economy.**

The Committee believes that separate sales by joint partners in a natural gas field, is a more competitive situation than the current practice in the market, where the partners sell the gas jointly. Accordingly, the Committee recommends that:

- The authorities that are in charge of ensuring competition in the market will examine this issue in depth and will consider making regulatory provisions for separate sales, while taking note of international experience and the positive and negative effects of such course of action on the natural gas market.

In contrast to cooperation in the supply of gas to the Israeli economy, cooperation among the various suppliers and operators in joint investment and in establishing and operating infrastructure and facilities designated for exporting natural gas is desirable, and often necessary. Furthermore, the export policy that the Committee recommends is based on providing an option for cooperation, subject to regulatory authorization, among the various suppliers and operators in the natural gas market. Therefore, the Committee's members view positively promoting cooperation among natural gas suppliers in infrastructures for the export of natural gas. Accordingly, the Committee advises the following:

- The Petroleum Commissioner and the Antitrust Commissioner shall determine and publicize regulations or administrative guidelines for cooperation among the various suppliers in the market with regard to infrastructures for the export of natural gas. The objective of such cooperation is to produce the certainty required by these entities. It should be noted that publicizing these regulations and criteria would not infringe on the existing powers of the relevant regulators.
- In order to promote competition in the local natural gas economy the relevant government ministries will continue to determine other possible means for creating competition among fields in the local natural gas market.

Policy proposed for government intervention in planning and setting up infrastructure in the natural gas market – In order to supply natural gas in a reliable and consistent manner to the Israeli energy market in the long-term, central planning of off and onshore infrastructure is required, in order to ensure efficient utilization of resources, removal of barriers to competition,



increased redundancy and the creation of suitable conditions for rapid development of fields and their connection to the shore. In this context, consideration must be given to economies of scale in these infrastructures and to the location of facilities in relation to the transmission system, the geographic distribution of the demand sources, and limiting the dependence of consumers in the north and center of the country on the southern systems located in the south, as is the situation at present.

The Committee recommends that the Government of Israel act, either directly by way of the Ministry of Energy and Water Resources and other relevant ministries, or through government-owned companies (hereinafter: the Government), with regard to the segment of the natural gas transmission and processing infrastructures within the territorial waters of the State of Israel in the following manner:

- As a rule, the planning, allocation and construction, as necessary, of onshore infrastructure and infrastructure in the territorial waters of the State of Israel designated for the natural gas market, will be carried out with Government intervention and in accordance with laws and plans, particularly National Master Plan 37 H (which in Israel is referred to as "the Land Lord System"). At the time of the planning and allocation of land, inter alia, considerations of increasing system redundancy,, competition, and the number of suppliers to the Israeli natural gas market will be taken into account.
- In addition, the government will take steps, insofar as possible, to make statutory arrangements for these infrastructures in order to curtail, to the extent possible, the duration required for such proceedings.
- The Ministry of Energy and Water Resources, in coordination with other relevant ministries, will examine the various alternatives for Government intervention in developing infrastructures for the transmission and treatment of natural gas with the aim of ensuring access to the Israeli market by allocating available land for receiving the gas, or by any other means that will ensure that these infrastructures will not be an obstacle preventing the fields from entering the market. In order to create certainty for future fields and to incentivize them, it is proposed that the conclusions of the examination and the recommendations derived therefrom will be presented to the government no later than the end of June 2013. As stated above, the examination will be made in light of various considerations, among other things, increased redundancy, competition, the diversity of suppliers in the Israeli natural gas economy, and the speed at which the fields can be connected to the infrastructures.
- Without derogating from the aforesaid, lease holders who intend to set up an offshore transmission pipeline in the exclusive economic zone would be required to invite other developers to participate in the transmission infrastructure, insofar as possible, in accordance with the regulations set forth, similar to that which has been done in other markets.



In conjunction with this, the Committee also set its sights on the objective of ensuring a connection to the local market for several fields at the earliest possible date. Accordingly, along with the establishment of the abovementioned "Land Lord System", and the examination of the various alternatives for Government intervention in the development of infrastructure, the Committee recommends the following:

- To enable certain fields to develop their own independent infrastructures (provided that a field has obtained a lease no later than the end of 2013, and has an approved development plan that ensures the ability to enter the local market by the end of 2017, and that in light of the alternatives, if any, this plan would ensure full and effective utilization of onshore resources, and infrastructures). Such lease holders will then be allowed to develop infrastructures independently without relying on those to be developed with Government intervention. It is clear that if such a field opts to rely on the Government framework, it will be allowed to do so.
- To determine that, for reasons of a reliable supply to the economy, notwithstanding the aforementioned, the Government will act in such a way as to ensure that at all times there is the statutory and technical possibility of connecting a new find to the Israeli market. In other words, the Government will ensure that any reserve that wishes to connect to the Israeli market will have the statutory and technical possibility of doing so.

The Israeli market is expected to suffer a natural gas shortage on the hourly level in the near future, even if the Tamar field is connected successfully to the supply system to the planned extent. From among the storage options presented in the Committee's report (daily-hourly storage, monthly-seasonal storage, and strategic-national storage), it appears that only daily-hourly storage, i.e., an addition to linepack storage in the transmission system, is the suitable storage option for the natural gas industry's requirements in Israel in the short-term. Nonetheless, and without derogating from this, it is important to develop an operational storage reserve with a view to the longer term. An option such as this will improve the reliability of supply to the local economy. Accordingly, the Committee advises the following:

- To instruct the Gas Authority, in consultation with Israel Natural Gas Lines Company, to conduct an in-depth analysis of the options to create hourly-daily storage in the transmission system in Israel and to formulate recommendations that address the local market demand in the coming years, no later than the end of December 2012.
- To instruct the Ministry of Energy and Water Resources to examine the suitability of the Mary B field or the development of another field to serve as an operating storage site for the Israeli economy's needs. In the event that it is found to be suitable, optimal means must be found to grant a storage license to an entity that is selected to operate the site. In the event that it is found to be unsuitable, alternative options for the development of an operational storage field must continue to be examined.

Export facilities – The primary alternatives for exporting natural gas from Israel include exports from the Israeli coast via a liquefaction facility or pipeline to another market. It is

A photograph of an offshore oil and gas platform in the ocean under a clear blue sky. The platform is a complex of white and yellow structures with various pipes and cranes. The water is a deep blue, and the sky is a lighter blue.

possible to export natural gas without connecting to the Israeli coast, either by way of pipeline from the field to the target country, by way of a floating platform (FLNG) or by an artificial island on which a liquification facility is constructed. Setting up an export facility in an area under Israeli control appears to be the best alternative. Locating an export facility within the sovereign or economic domain of the State of Israel has additional significant advantages in terms of national security and promoting competition within the economy.¹¹ Accordingly, the Committee views the means for natural gas exports from an area under Israeli control (including its exclusive economic zone) as an economic and strategic asset. Therefore, the Committee advises the following:

- To determine an absolute preference for the export of Israeli natural gas from an export facility (offshore or onshore) in an area under Israeli control (including in Israel's exclusive economic zone). The Committee believes that it is necessary to continue studying in depth the various means of exporting and the statutory feasibility for their establishment. Exports from a foreign area will only be possible in the framework of a bilateral agreement between countries.
- The Committee recommends that a process should be implemented in the framework of an inter-ministerial committee headed by the director-general of the Prime Minister's Office (hereinafter: Obstacles Committee). It is proposed that this committee should examine the best ways of removing obstacles in the natural gas industry and promoting the possibility of exports in short timeframes. Due to the critical importance of developing the natural gas industry's infrastructures in Israel, including infrastructures for exporting natural gas, the Committee recommends, in the framework of the said committee, measures that will define these infrastructures as national infrastructures of strategic importance. Feasibility examinations conducted by the Obstacles Committee will be made in light of the recommendation concerning an absolute preference for exporting Israeli natural gas from a facility (offshore or onshore) located in an area under Israeli control (including Israel's exclusive economic zone).
- At the same time, the Committee views promoting the exports of Israeli natural gas intended for consumption of neighboring countries as of the utmost importance.
- As already indicated, the Committee believes that the effective and complete development of the natural gas industry and export infrastructures, in particular, will be more likely to be executed if a major international player is present in Israel, one with the knowledge and experience who can effectively develop the natural gas industry. In order to promote the entry of such entities to the natural gas market in Israel, it is proposed that the Director-General of the Ministry of Energy and Water Resources be authorized to act in coordination with other relevant entities in the government to take the steps needed to promote their entry into the Israeli market.

¹¹ It should be noted that according to the position of the Antitrust Commissioner and that of the Office of National Security in the Prime Minister's Office, a facility under Israeli control has advantages in terms of promoting competition within the economy and in terms of aspects of national security, respectively. However, this is not the best alternative economically speaking.



In conclusion, the Committee chose to employ a methodology that determines the percentage of natural gas that each field must supply to the domestic market. Regarding the balance of the gas in the field, the developer is free to decide whether to supply this to the local economy, or to export it.

The Committee has recommended adopting a policy, which in relation to other countries, was cautious and conservative. According to best of the Committee's knowledge, virtually no other country has adopted a policy to ensure the needs of the local market at the level proposed in the Committee's report. In order to further express the Committee's conservative approach, even given the extent of domestic market obligations, the Committee recommended that total exports be limited until the policy is reexamined as the industry matures. On the other hand, the committee has recommended enabling exports to a limited extent in order to provide long term certainty for developers. Such certainly should work toward encouraging them to continue exploring for natural gas in Israel.

The Committee members wish to thank the Committee secretaries – Adv. Michal Franco-Kedmi, senior advisor to the Director-General of the Ministry of Energy and Water Resources; Mr. Morris Dorfman, senior economist of the National Economic Council of the Prime Minister's Office, and Adv. Nati Birenboim, advisor to the Minister of Energy and Water Resources; the members of the PDC consulting firm – Mr. David Aron and Mr. Ray Tomkins, and the Yarden Group – Mr. Gil Meirovich and Adv. Hagai Stadler.

In addition, The Commite would like to thank: Mr. Shuki Stern, Director of the Natural Gas Authority; Ms. Dora Lifschitz, Legal Advisor of the Ministry of Energy and Water Resources; Mr. Shaul Meridor, Deputy Budget Director, Ministry of Finance; Dr. Gabi Golan, Deputy Government Secretary; Ms. Irit Ben-Abba, Deputy Director-General for Economics, Ministry of Foreign Affairs; Mr. Yossi Wurzberger, Director of the Natural Resources Administration, Ministry of Energy and Water Resources; Mr. Alexander Warshavsky, Petroleum Commissioner, Ministry of Energy and Water Resources; Dr. Michael Gardosh, Head of Geophysics for the Ministry of Energy and Water Resources; Mr. Constantin Bluze, Director of Economics and Tariffs for the Natural Gas Authority; Mr. Saar Shafir, Head of Energy Security for the National Security Council; Dr. Shlomo Prizat, Head of the Economics Department of the Antitrust Authority; Mr. Uri Sherf, economist, Antitrust Authority; Adv. Edna Harel, Head of Legislation and Consulting for the Ministry of Justice; Dr. Ran Shaharbani, Senior Economist for Infrastructures, Bank of Israel; Adv. Oren Tamir, Consulting and Legislation, Ministry of Justice; and Mr. Ohad Kutler, National Economic Council of the Prime Minister's Office.

The Committee consulted a number of leading international experts and consultants in the field of natural gas, who provided a comprehensive comparative review on natural gas export policies around the world, including development of physical infrastructures and LNG market trends while taking into account Israel's political situation. Special thanks to David Aron (PDC), Karen Sund (SUND), Dr. Eduard Chow (CSIS), Nick Butler (Kings College, London) and Dr. Brenda Sheffer (Haifa University).