



**Ministry of Energy**  
State of Israel

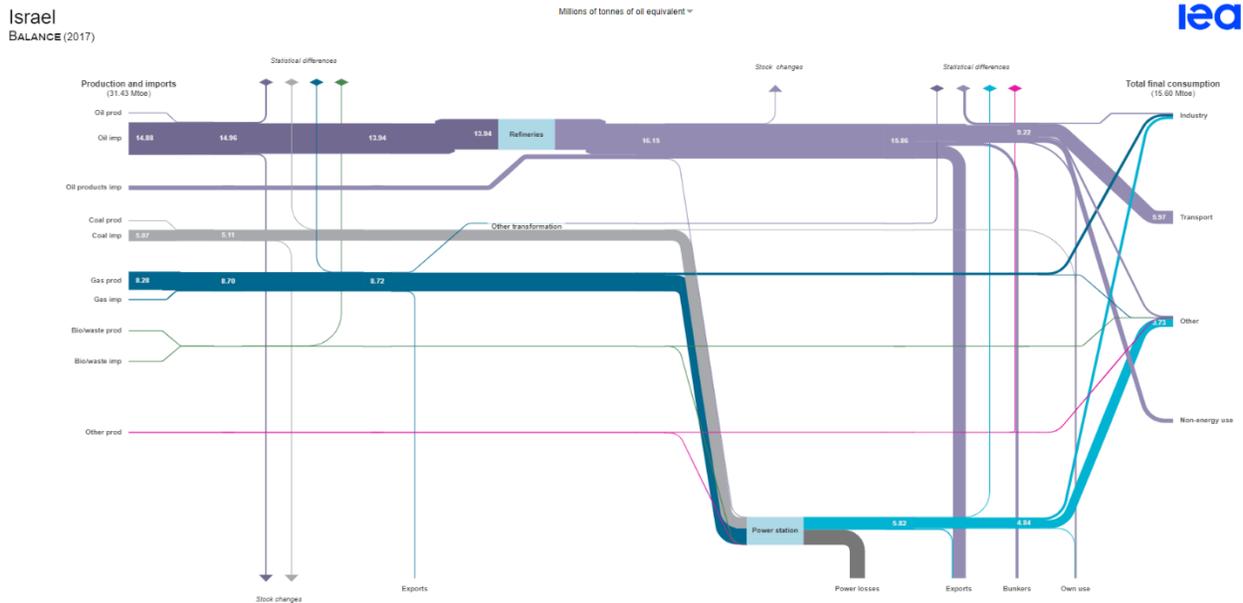
# The Structure of the Energy Sector in Israel



March, 2021

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The Israeli energy sector has developed greatly in the recent years. Large reservoirs of natural gas were found in Israel's economic waters, which changed the Israeli energy mix. Israel had changed from a country that is almost completely dependent on energy imports; to a country that can meet all its energy needs and also exports energy to its neighbouring countries. By the end of 2019, the country's electricity sector was based on approximately 66% natural gas, approximately 7% renewable energies, and the rest coal and other fuels; which gives Israel energy independence. The Israeli Ministry of Energy promotes efficient, economical and environmentally friendly energy: promoting reforms, developing infrastructure, investing heavily in R&D in the fields of conventional and renewable energy and many more. **The purpose of this booklet is to explain and the structure of the energy sector in Israel.**





## The Fuel Sector

Fuel is essential for all aspects of life in the modern age, in all sectors of the economy and wherever energy is required for propulsion, illumination, heating etc. In addition, fuel is used to produce a wide range of products.

The fuel market in Israel is mainly used for industry and transportation. The ministry is working to divert the use of fuel to the use of electricity and natural gas in coming years.

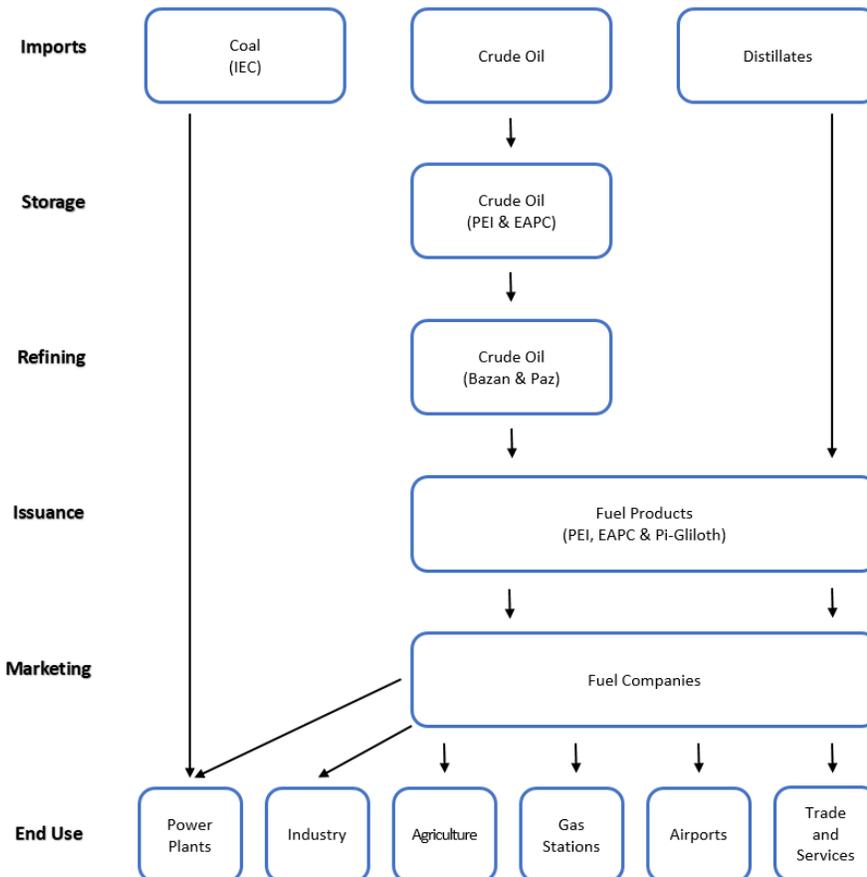
### **The fuel sector structure:**

**Oil:** There are no commercial oil wells in the country and therefore the oil market in Israel is based on imports. Crude oil is transported by private companies to the two refineries: 'Bazan' refinery located on Haifa coast and 'Paz' refinery located on the Ashdod coast. These refineries are privately owned but partially monitored by the government in the following areas: price and quality of fuels. After refining, the oil is transferred to storage tanks as final products or transmitted in pipelines for consumption and storage of large consumers such as power plants, airports and military bases.

**Europe Asia Pipeline Co. Ltd.:** A government company that is in charge of the transportation of crude oil and petroleum distillates through pipelines between the Red Sea and the Mediterranean. The company has two oil ports and two complexes and also provides long-term storage services for various types of fuel, as well as infrastructure services for LPG, fuel products and coal. [For further information click here](#)

**Petroleum & Energy Infrastructures Ltd.:** A government company responsible for the national infrastructure of the energy and fuel sector in Israel. The company is responsible for supplying the energy needs in routine times and emergencies. The company is mainly engaged in the storage of fuel distillates (including: fuel oil, diesel, kerosene and gasoline), dispensing fuel products to various marketing companies and transporting fuel flow in underground fuel lines for heavy consumers (defense system, Ben Gurion Airport, Electricity Corporation and more). The company has a subsidiary called Kav Delek Ltd., which is responsible, among other things, for the construction, operation and maintenance of the pipeline systems and for transmission of fuel distillates. [For more information click here](#)

**Pi-Giloth Petroleum Partnership:** A private company under government supervision that stores distillates and issues fuel at three terminals: Beer Sheva, Ashdod and Jerusalem.



**Gas stations:** The gas stations that are spread across the country are privately owned. There are approximately 1,200 gas stations spread throughout the country belonging to approximately 30 companies. The gas stations sell diesel, gasoline, LPG, methanol, biodiesel and biofuels. In the coming years, according to the [2030 plan published by the Ministry of Energy](#), the vehicle market will be based on electric cars for private vehicles, while heavy transportation will be fueled on natural gas, electricity and hydrogen. The ministry plans on a ban on the sale of new private vehicles powered by gasoline and diesel by 2030. To this end, the ministry is promoting incentive taxation for the purchase of electric vehicles and is working to deploy a network of electric charging stations and promote gas stations for natural gas refueling, through tenders published by the ministry that include significant budgeting.

For further details about ministry plans and tender visit the website:

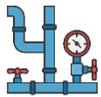
<https://www.gov.il/en/departments/topics/fuels>

**CNG:** The ministry is interested in encouraging heavy transportation fueled by CNG in Israel. In order to do so, the Ministry is acting in a variety of ways: working to promote the provision of grants for the establishment of CNG fueling stations; acting to upgrade the natural gas distribution network, is providing grants to reduce connection and consumption tariffs; providing grants to assist in the purchase of CNG trucks; encouraging the purchase of vehicles with alternative propulsion in public transportation tenders; Accelerated depreciation for trucks and buses and filling stations; Granting a five-year licensing fee exemption, and promoting a campaign to raise awareness and make availability of tools to encourage natural gas by the government.

**LPG:** as opposed to what is customary in the world, where LPG is used mainly in the periphery and natural gas is the raw material for cooking and heating in major cities; in Israel LPG is used throughout the country mainly for cooking and some for heating. In this market there is competition-supporting legislation with price control at the refineries and regulation on LPG companies regarding safety issues. In this market there are approximately private and licensed LPG suppliers.

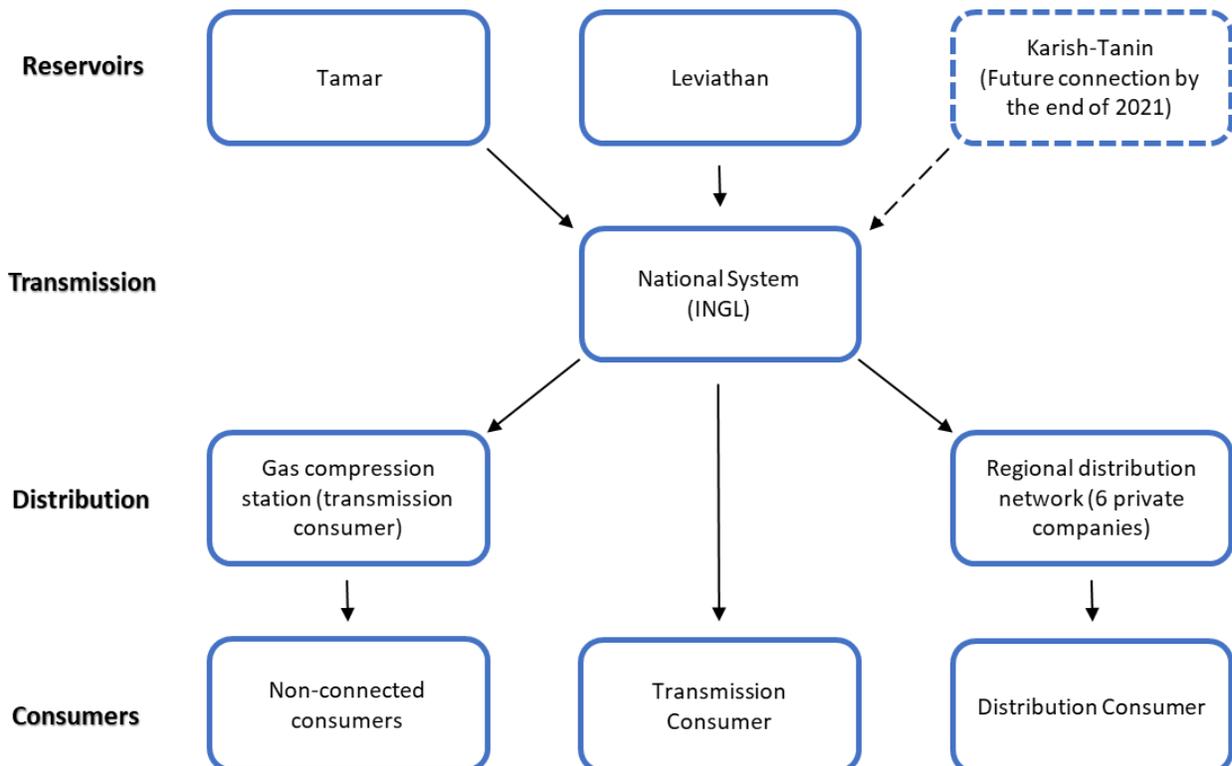
For further details about the ministry's activities in the field of LPG [click here](#)

**Price control:** There is currently partial control over the prices of fuels sold in Israel, but there is no licensing regulation for fuel companies. In 2006, a control order for prices and services was updated, according to which, products under government supervision are: infrastructure tariffs in the fuel sector (storage), issuance, transport and port unloading; price of aviation gasoline and refueling services for aviation gasoline, and gasoline sold at gas stations. At the refinery gate, the supervised products are LPG and the price of bitumen. The rest of the products (diesel for transportation, oil and heating diesel, jet fuel and various mazut products) are supervised and monitored by profitability and prices. In addition, the prices of embedded aggregates are monitored. Furthermore, the country has two privately owned refineries and three fuel infrastructure companies, one of which is privately owned. There are various methodologies through which the state determines the price of the various fuels that are under government supervision. Unsupervised products have recommended prices based on the average MED CIF fuel prices advertised in PLATTS.



## The Natural Gas Sector

The natural gas sector has changed drastically in the recent years, mainly due to the discovery of the natural gas reservoirs in the Israeli economic waters. Today, Israel is not only undergoing an extensive process of promoting the use of natural gas through the entire supply-chain, instead of the use of more polluting fuels; but also exporting natural gas to neighboring countries. The natural gas discoveries have enabled the Israeli energy sector to move from energy based on coal and various high polluting fuels to natural gas that is cheaper and more environmentally friendly. 'Tamar' and 'Leviathan' reservoirs which are currently operational, supply natural gas to the entire Israeli economy, with close to 70% of the electricity sector already operating on natural gas. In 2021, the 'Karish-Tanin' reservoir is expected to operate, and together with the continued operation of "Tamar" and "Leviathan" reservoirs, they will bring about a real revolution in the field of energy for Israel and its neighboring countries. The ministry is encouraging the use of natural gas and other alternative fuels, as a substitute for existing fuel products, as cleaner and more environmentally friendly energy sources. These developments are expected to continue intensifying the demand for natural gas in Israel and lead to a reduction in Israel's strategic and economic dependence on oil and coal that will also result in an improvement to the environment.

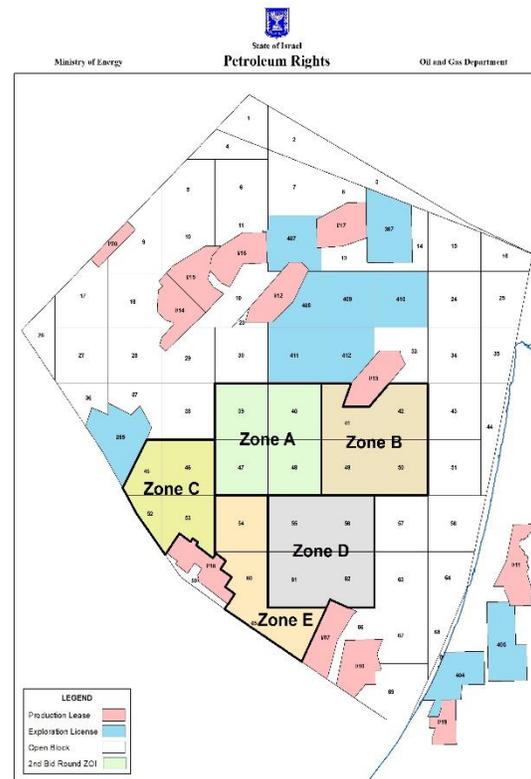
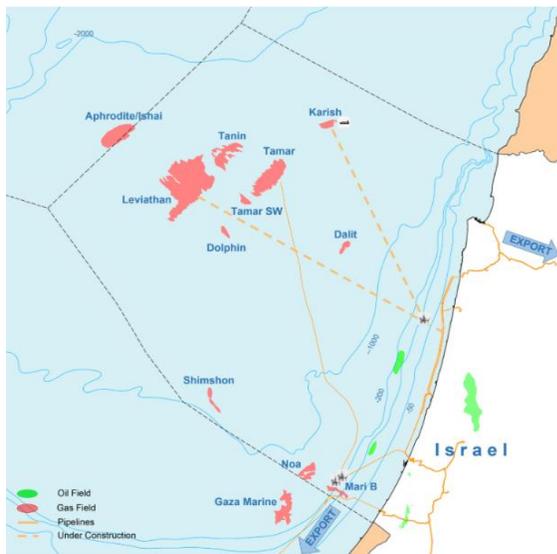


**Natural Resources Administration:** The National Resources Administration is the government body responsible for regulating the exploration, licensing and production of natural resources; including oil, natural gas and oil shale ,raw material used for construction and paving, industrial minerals, and is engaged in quarry rehabilitation. The administration receives periodic data from companies such as the scope of activities in oil rights, geophysical information, geological data, drilling, engineering plans, environmental documents and more. The information is stored at the Ministry of Energy.

The administration grants search licenses for natural gas and oil, in the sea and land, as part of competitive bid round procedures. So far, there have been three competitive process publications for natural gas exploration, and in 2021 the fourth procedure is planned.

The first bid round was held in 2017 in which 6 licenses were granted for natural gas exploration. The licenses were given for 400 km each.

[For more details on the first bid round:](#)



The second bid round, which ended in 2019, was carried out on larger search areas. Each license included 3-4 search licenses. Initially the winner gets all the licenses, and after three years the licensee must decide whether to continue drilling or give up his rights. There is another exit point after five years..

[For further details about the second bid round click here](#)

The third bid round was launched in June 2020 for one exploration license that is in close proximity to the Lebanese economic waters.

[For further information about the third bid round click here](#)

**From time to time, the state announces competitive procedures for natural gas exploration in the state's marine territory.**

For further details regarding marine exploration:

1. [Geoscience data sources and maps.](#)
2. [Granting natural gas and petroleum rights.](#)
3. [Exploration and production of natural gas and petroleum.](#)

There are a number of large companies that operate in the field of natural gas in Israel:

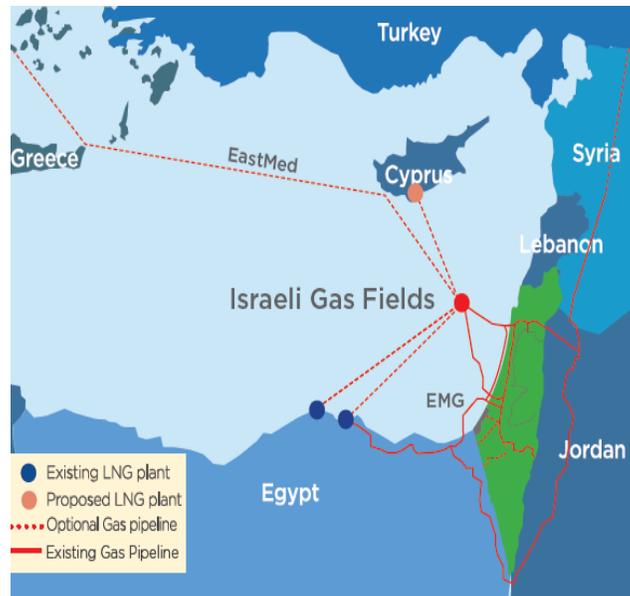
Below are some of the natural gas exploration and production companies operating in Israel:

- Noble Energy Mediterranean – <https://www.nblenergy.com/>
- Dekel Drilling – <https://www.delekdrilling.co.il/>
- Energean – <https://www.energean.com/operations/israel/israel/>
- Cairn Energy- <https://www.cairnenergy.com/operations/israel/>
- Pharos Energy- <https://www.pharos.energy/operations/israel/>

**Natural gas export:**

In order to develop the natural gas sector in Israel, to enable Israel to generate profits from the natural gas and to enable its neighbors to enjoy the ecological and economical profit that natural gas provides; Israel is making great efforts to enable the license holders of the natural gas reservoirs to export gas. Israel currently exports natural gas to Jordan and Egypt as well as promoting natural gas export options with Cyprus and Italy under the EastMed project agreement; from there, gas can be transported to the whole of Europe.

[For further information click here](#)



**The Natural Gas Authority:** After the natural gas leaves the economical water borders (Energean), or when it is at the bottom of the reservoir (Tamar and Leviathan), the responsibility passes from the Natural Resources Administration to the Natural Gas Authority. The Natural Gas Authority is responsible for the regulation in the natural gas sector including transmission and distribution of the natural gas, and coordinates between all the parties involved including licensees, government ministries, authorities and consumers. The responsibility includes regulating safety issues, setting criteria for tariffs, approving projects for further development of the natural gas sector and safety regulatory supervision. In light of the discovery of natural gas in the Israeli exclusive economic zone (EEZ), the professional knowledge and the deployment of the transmission and distribution networks throughout the country are developing tremendously. The Natural Gas Authority is developing the natural gas sector in Israel through "Israel Natural Gas Lines Ltd." (INGL) in the transmission segment and through companies from the private sector in the distribution segment; while ensuring services of high levels of quality, reliability and availability, all while maintaining safety.

**The process of transmitting natural gas to consumers:**

The natural gas passes through underwater pipes owned by the reservoir owners, through rigs in the Mediterranean to the reception facilities located in Ashdod and Ashkelon. The process until this point was under the Natural Resources Administrations responsibility, and from this point, the Natural Gas Authority is responsible. At this point the gas is cleaned and filtered; and from there passes through the transmission network (a network of pipes that conduct the gas at high pressure (80 BARG) by Israel Natural Gas Lines.

**Israel Natural Gas Lines (INGL)** is a government company licensed to plan, establish and operate the natural gas transmission system in Israel. By 2019, INGL deployed approximately 755 km of transmission pipeline, and is expected to continue to do so in coming years.

For more information about INGL [click here](#)

At this stage, the gas is transported at high pressure, it passes through INGL pipes to pressure reduction facilities (PRMS) mainly to heavy industry. The gas is transported to large electricity producers and to the distribution network in low pressure (less than 16 BARG), with various pressures to the medium and small consumers. The distribution network is owned by private companies that are responsible for developing pipeline infrastructure according to a geographical division of six areas. By 2019, approximately 508 km of distribution pipes were deployed throughout the country. The state is investing a lot of money to encourage remote consumers to the distribution network.

**Tariffs** – Infrastructure tariffs in Israel are supervised and non-discriminatory. The tariff rates are determined and approved by the natural gas economy council. The tariff rates for the distribution companies were set in tenders and are updated every 5 years as specified in the license.

Each distribution license holder enjoys regional exclusivity, and the consumer can purchase infrastructure services only from a single entity in his area. Each consumer can purchase natural gas from suppliers or marketing companies. Natural gas and marketing prices are monitored at the reporting level only.

Natural gas distribution companies:

- Darom Natural Gas (Southern area): <https://gasdarom.co.il/en/home/>
- Negev Natural Gas (Negev area): <https://negevgas.co.il/en/homepage/>
- Super NG (Central):  
<http://www.supernaturalgas.co.il>
- Super NG Hadera & the Valleys (Central/Hadera & the Valleys):  
<http://www.superng.co.il/hadera/>
- Rimon Natural Gas North (Haifa & the Galilee): <https://rimonltd.co.il/>
- Rotem Natural Gas (Jerusalem area): <https://rotemng.com/>

## KARISH AND TANIN RESERVOIRS

**Over 50 BCM**

Year of discovery | 2012-2013  
Expected production | 2021

## LEVIATHAN RESERVOIR

**500 BCM**

Year of discovery | 2010  
Start of production | end of 2019

## TAMAR RESERVOIR

**319 BCM**

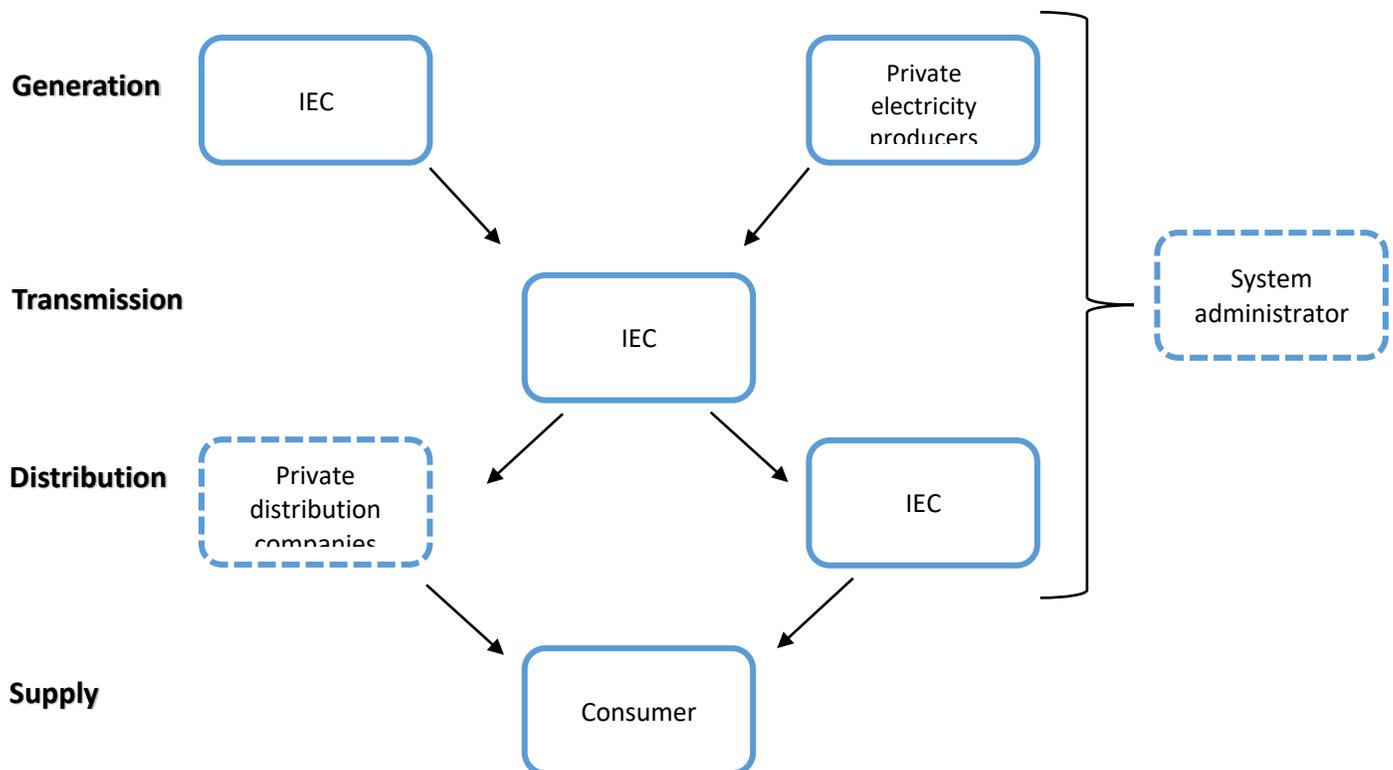
Year of discovery | 2009  
Start of production | 2013  
Average production | 10 BCM annually





## The Electricity Sector

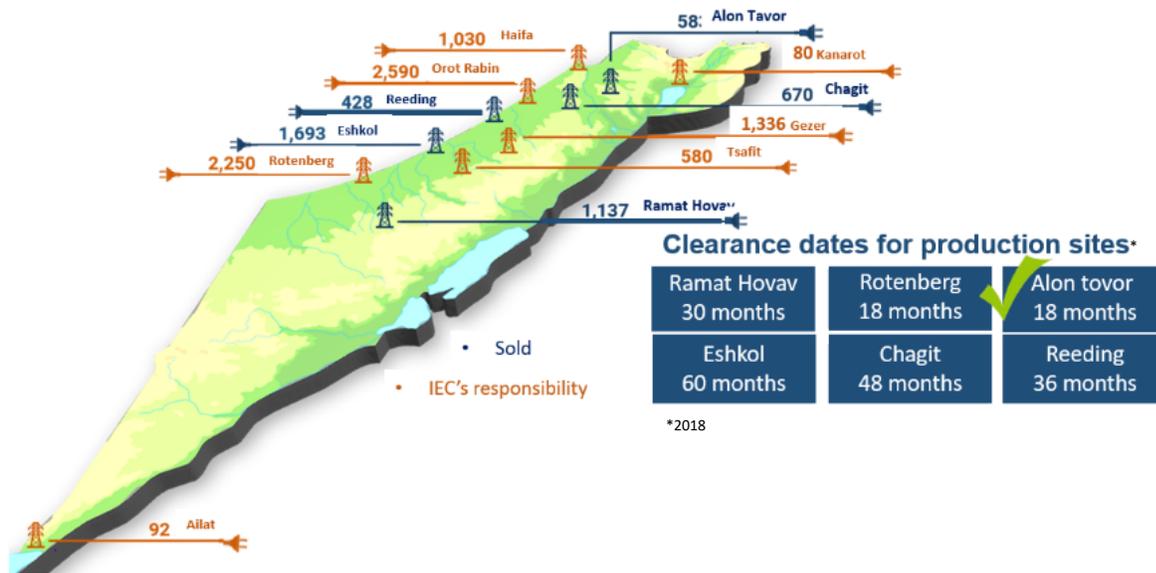
The demand for electricity is consistently growing in Israel in light of the growth of the sector and an increase in the Israeli population. In 2018, a comprehensive reform was approved in Israel, with significant implications for the electricity sector, as part of which it was agreed to implement a comprehensive structural change in the Israeli Electric corporation (IEC). As part of the reform, most of the electricity production will be transferred to private ownership, the electricity supply will be opened to competition and the management of the electricity system will move from the IEC to a new government company- the system administrator. In addition, as part of the reform, it was decided to sell six power plants in the coming years from the IEC to private producers.



**Power stations:** The energy sector in Israel is in the process of undergoing a structural change in the fuel mix. As part of this, coal production will cease at the end of 2025 and be replaced by natural gas; and the share of renewable energies will increase to 30% by 2030 mainly on the basis of photovoltaic technology and storage facilities of various types will be added.

**Electricity Authority:** The Electricity Authority is in charge of regulating the electricity sector in Israel and advising the Minister of Energy on electricity policy. The Authority works to promote a reliable, competitive, efficient and safe electricity sector for manufacturers and consumers. To this end, the Authority leads policy measures and a wide range of regulatory and tariff tools, with extensive involvement of government and private actors. The Authority is the body that supervises the essential electricity producers and service providers operating in the sector and is committed to the efficiency and transparency of all players in the field. The Authority operates under the Electricity Sector Law and the Electricity Law and under the authority and leadership of the plenum of the Electricity Authority and within the framework of the policy of the Minister of Energy.

For more information about the Electricity Authority [click here](#)



**IEC:** The Electric Corporation is the largest electricity producer in Israel and the dominant electricity distributor in the sector. The company is committed to connecting every private, business and public consumer to the electricity grid to any extent and anywhere in Israel. The Electric Corporation is a government company supervised by the Electricity Authority. As part of the 2018 reform, the transmission and distribution network will remain in the hands of the IEC and it will invest greater resources than ever before in the development and expansion of the network in coming years, as part of a development plan approved by the ministers of energy and finance.

For more information about the IEC [click here](#)

**Private producers:** In addition to the Electricity Corporation, there are dozens of private producers of electricity, in gas, solar, wind, storage and other production facilities. These manufacturers set up their facilities as part of competitive procedures, tenders and across-the-board regulations, and promote the Israeli electricity sector for competition and efficiency. The tenders are published from time to time in the [IEC website](#) and in the [Ministry of finance website](#)

**Electricity storage:** The need for electricity storage is growing due to the almost exclusive reliance on solar energy as the source of renewable energy. The electricity storage is managed in a way that it starts production in hours that the electricity consumption increases but the production from solar facilities decreases. In Israel, there is currently a first pumped-storage facility with a capacity of 300 MW, and another facility with a capacity of 340 MW is under construction. In addition, in 2020 the Electricity Authority launched competitive procedures for the construction of photovoltaic fields combined with storage with a total installed capacity of over 370 MW with a minimum of 4 hours of storage. These storage systems will provide a significant component in the electricity production segment and at the same time will be able to provide a network management service including frequency control, voltage balancing and more. The Electricity Authority and the Ministry of Energy are working to produce an advanced and relevant regulatory-planning infrastructure for the rapid integration of storage technologies to meet the renewable energy goals of the Government of Israel.

For further details [click here](#)