Ministry of Energy
State of Israel



TRANSFORMING THE FUTURE OF ENERGY






- RENEWABLE
- INNOVATIVE
- COMPETITIVE
- CLEAN
- EFFICIENT
- RESILIENT

Vision

The state of Israel is known as a "Start-Up Nation" thanks to its creativity, innovative thinking and breakthrough technology.

It is these attributes that drive the Ministry of Energy in developing the Israeli energy sector to become cleaner, greener, more efficient and competitive. While Israel faces a number of challenges — including high population growth (three times higher than the OECD average) and limited land resources — in the past few years the Ministry of Energy has taken revolutionary, innovative steps to transform the country's energy sector and catapult it onto the global stage.

TO ACHIEVE ITS ENERGY GOALS, ISRAEL IS OPERATING IN A NUMBER OF ARENAS:

- The **Electricity sector** underwent essential reform over the past few years. Today, the sector is in the process of privatization while simultaneously weaning itself from polluting fuels and moving towards solar energy and clean, environmentally friendly fuels. The Ministry's goals over the next few years are to phase out coal by 2025, and increase the use of renewable energy resources to 30% by 2030.

- The **Natural Gas sector** continues to rapidly develop Israel's offshore reservoirs. The transition to locally produced natural gas greatly contributes to the country's energy security and economic well-being, while promoting economic relations with its neighbors and other countries.

- To maximize the efficient use of **Solar Energy,** Israel is encouraging increased construction and installation of photovoltaic systems. In light of the country's limited land resources, the Ministry is encouraging dual use of land in new solar facilities , such as the exploitation of rooftops or water reservoirs.

> *"The Ministry's goals over the next few years are to cease the use of coal by 2025, and increase to 30% the use of renewable energy resources by 2030.*

- In the **Transportation sector** Israel is encouraging consumers to purchase electric private vehicles. The Ministry is enabling this through the construction of EV charging points throughout the country. In the heavy vehicle sector Israel encourages the purchase of vehicles powered by natural gas.

- The Ministry is investing in pioneering **Research and Development** projects to further accelerate progress towards it's goals.

- In 2018 the Ministry published its goals for 2030 and is currently outlining strategic policy goals for 2050, which will be published soon.

Israel offers numerous opportunities for innovative thinking and cooperative ventures in all energy sectors. Together we can transform the state into one of the leading green nations in the Western world, while also ensuring economic stability and progress.

JOIN US IN TRANSFORMING THE FUTURE OF ENERGY.

MINISTRY OF ENERGY
IN NUMBERS

2020

Natural Gas

In the last decade **737 km** of gas transmission pipelines and **508 km** of distribution pipelines were installed.

In 2019 the Israeli market demand for natural gas grew to **11 BCM**.

70% of the electricity is produced by natural gas.

2 agreements were signed with Egypt and Jordan, ratifying that Israel will export **83 BCM** of natural year from the Levaithan and Tamar gas fields.

12 new offshore licenses were granted for oil and gas exploration in Israel's Exclusive Economic Zone.

2 new regional partnerships were established: **EastMed & EMGF**.

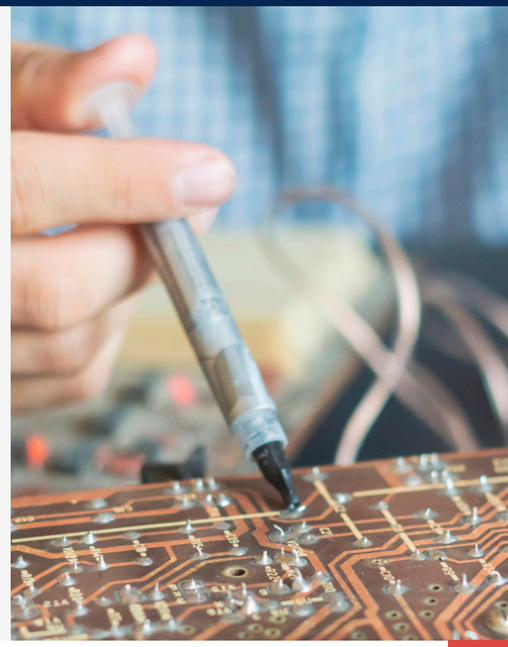
Research and Development

A joint U.S.-Israeli 'Center of Excellence' was established, granting **40 million USD** to **4 US-Israeli consortia** each year.

4 million USD annually are invested by the US DOE and Israel in the Bird Energy Program.

In 2019, **6.6 million USD** were granted to **17 pilot and demo projects** in the fields of electricity, renewable energy, storage, alternative fuels, energy efficiency, environment, etc.

5.7 million USD were awarded to **42 proposals** submitted by academic and research institutes to conduct studies in the fields of energy, electricity, earth sciences and oceanography.



Transportation

9 million USD were granted to companies and local municipalities for the installation of **2,500 public charging points** across the country, including more than **100 fast and ultra-fast chargers**.

1.2 million USD were granted for the establishment of the first hydrogen fueling station in Israel.

13 companies will build **29 compressed natural gas fueling stations**.

Renewable Energy

3,496 photovoltaic systems with an installed capacity of **550 MW** were approved for operation.

7 photovoltaic systems were installed on water reservoirs.

Competitive procedures for approximately **1,000 MW** electricity generation in photovoltaic facilities were published.

OUR **GOALS**

MAXIMIZING
energy efficiency by establishing long-term, viable goals

ENCOURAGING
research and development initiatives that will promote innovative solutions

IMPROVING
quality of life by creating energy resources that are clean, sustainable, efficient and safe

DEVELOPING
industrial initiatives with a focus on benefiting the country's economy

ENSURING
a reliable supply of energy at all times to all of the country's citizens

MANAGING
natural resources with maximum efficiency

Offshore Discoveries - **Natural Gas**

1999

Israel's first discovery of two natural gas reservoirs Noa and Mary B, within the country's Exclusive Economic Zone in the Mediterranean Sea.

2010

Tamar and Leviathan reservoirs were discovered.

2013

Israel started producing natural gas from the Tamar reservoir; as well as the discovery of Karish-Tanin fields and others.

2016

By the end of 2016, natural gas accounted for more than 60% of Israel's electricity generation. In heavy industry, natural gas is gradually replacing polluting coals, petroleum and diesel fuels.

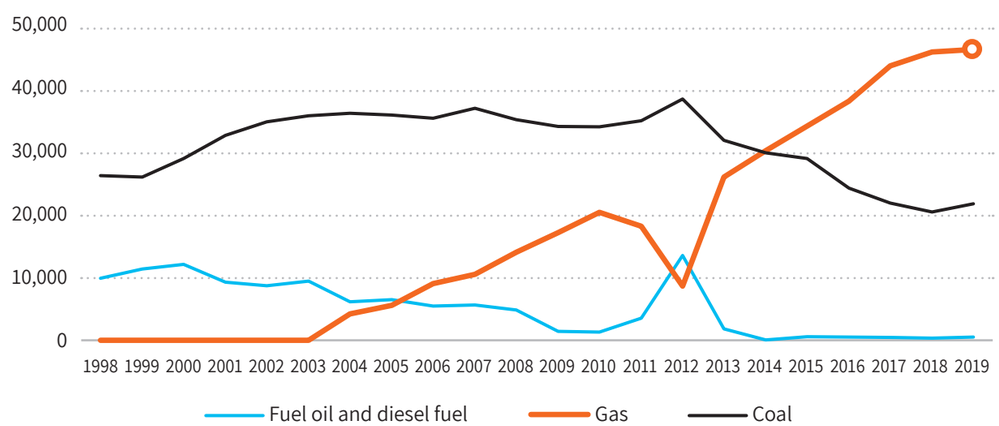
2019

Israel's consumption of natural gas stood at 11.25 BCM, of which 4.2 BCM is attributable to industrial consumption.

2020

Two active natural gas fields: Leviathan and Tamar. Karish and Tanin fields are expected to begin production by 2021.

Fuel mix of electricity generation measured in kWh, during the years 1998-2019



The Government of Israel is encouraging industries, institutional consumers and heavy vehicle companies to convert to natural gas. These actions will: decrease air pollution and GHG emmissions | increase the country's income | ensure the country's energy independence | and reduce its dependence on imported petroleum.

Along with a higher standard of living and Israel's natural population growth as well as that of its neighboring countries, the demand for natural gas will only increase over the coming years, which means that Israel must continue developing the natural gas reserves within its Exclusive Economic Zone.

Offshore Discoveries - **Natural Gas**

Israeli gas reservoirs are supplying natural gas to the nation's transmission network which is connected to the largest industrial areas and provides the gas to Jordan and Egypt. Moreover, as a signatory to the EastMed agreement, Israel plans to export natural gas to Europe via Cyprus and Greece. Furthermore, Israel is exploring the possibility of increasing export via LNG and exporting to additional neighboring countries.

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

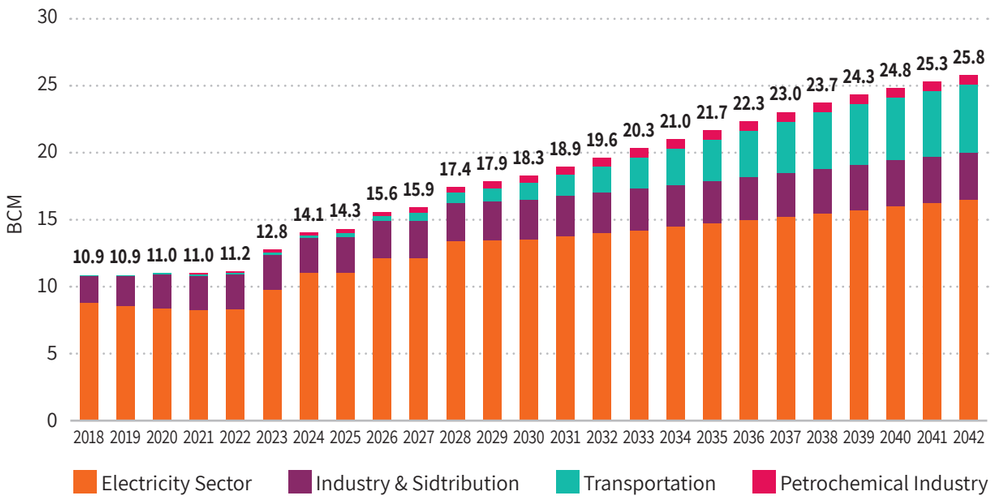
In total natural gas reservoirs stand at approximately 900 BCM; Israel's annual usage stands at approximately 12 BCM. As such, there is a valuable economic benefit to produce natural gas for both local market and export.

EXPLORATION OF NATURAL GAS AND OIL

Israel has completed **2 successful bid rounds** granting **18 new exploration licenses** to international companies. In light of this successful competitive processes, the Ministry of Energy has **launched its next offshore bid round** for natural gas and offshore oil explorations.

To explore the unexplored
CLICK HERE

Predicted natural gas demand



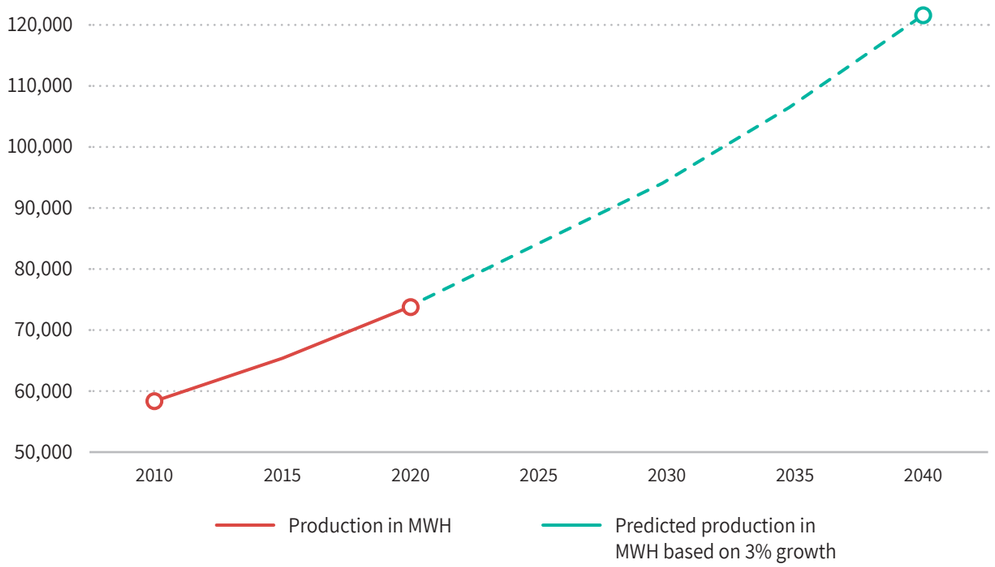
OPPORTUNITIES

- Bid rounds for offshore natural gas and oil exploration
- Developing and expanding the natural gas grid
- Natural gas export
- Conversion of industry to natural gas

Innovative and Competitive - **Electricity**

The demand for electricity in the State of Israel is increasing, and is expected to continue to do so in the coming years due to population growth, electrification, economic growth of the country and the move towards electric-powered transportation. **According to the Israel Electric Company (IEC) and the Bank of Israel, the annual demand for electricity in Israel is expected to increase by 2.8%, as compared to a worldwide average of 1.5%.**

Prediction for Energy Production by 2040



The Ministry ensures full supply of electricity to every household and 100% of Israel's population is connected to the electric grid. Simultaneously, the Ministry is acting to reduce GHG emission and pollutants by promoting cleaner environmental energy sources, while contributing to a healthier local environment and helping to mitigate global warming.

Israel has characteristics that intensify the challenge of transitioning to green energy: limited land area, high density population and inability to produce hydro-electric or geo-thermal energy. Israel's greatest potential of transition to renewable energy lies in solar power. **As such, Israel is a world leader in the production of electricity from solar power, accounting for approximately 90% of its renewable energy sources.**

While solar power offers numerous benefits, relying on it, requires the development of technology that ensures efficient and affordable energy storage. **As such, the Ministry is exploring ways to develop energy storage facilities that would encourage a dual use of land such as: roof tops, water tanks and fish ponds, agricultural fields, enclosed installations, and others.**

ELECTRICITY SECTOR REFORMS

Since the establishment of Israel, the IEC has been the only supplier of electricity for the country, while having a few private suppliers for heavy industry. In 2018, the electricity sector underwent an historical reform, opening itself to private and international competition. **The reform stated that BY 2025, 60% OF ELECTRICITY SUPPLIERS MUST BE PRIVATELY OWNED. In the past two years, two power plants have already been sold to international companies and three more power plants will be sold in the next few years.**

Innovative and Competitive - **Electricity**

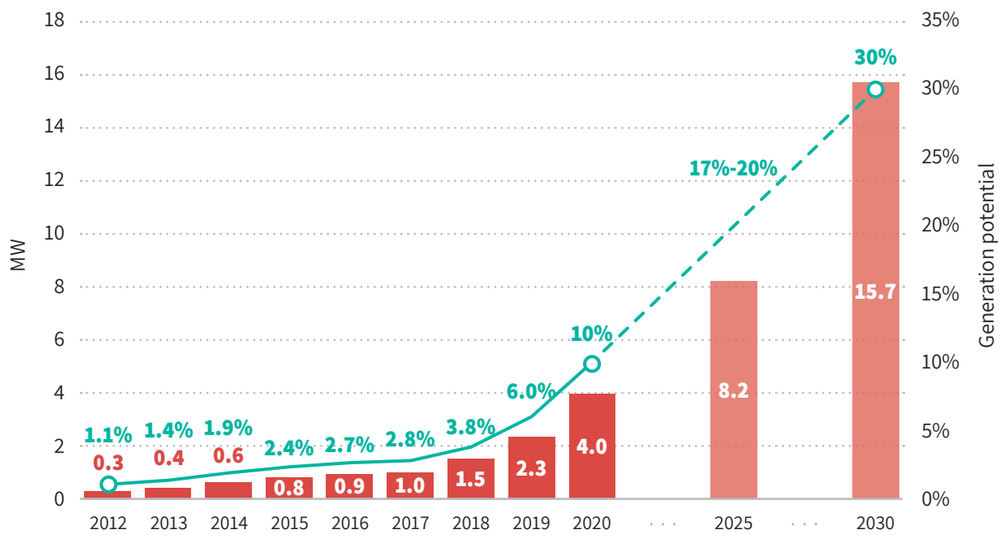
TRANSITION TO CLEANER ENERGY

In the past few years, Israel has been transitioning to greener energy thanks to the increased usage of natural gas and renewables, while phasing out the use of coal.

The Ministry is working towards phasing out the use of coal powered stations in the country and converting all of them to natural gas by 2025. **Israel already succeeded in transforming about 70% of it's electricity production to natural gas, and by the end of 2020 anticipates achieving 10% renewable energy.**

Our goal for 2030 is to achieve an electricity production fuel mix that will consist of **30% renewable energy and 70% natural gas.** To fulfill this goal, the Ministry is promoting tenders for construction of photovoltaic systems and in the upcoming years the plan is encourage building additional energy stations for meeting the market's growing needs.

Growth in Renewable Energy Production



OPPORTUNITIES

- Power plant tenders
- Renewable energy tenders
- Storage facilities
- Innovation in the electric grid

Greener and Cleaner - **Transportation**

The global vehicular industry is at the threshold of a new era, in which electric-powered vehicles will become more economical and efficient. Simultaneously, global warming has motivated consumers to become increasingly more aware and interested in using nonpolluting vehicles. Many countries have given greater impetus in promoting the transition to such vehicles, of which the next stage, in the close future, will be towards transitioning to autonomous vehicles.

ISRAEL POSSESSES SOME DISTINCT ADVANTAGES OVER OTHER COUNTRIES, **in the adoption of alternative vehicles thanks to the country's relatively small size and the fact that Israelis are quick to adopt new technologies. Therefore, the Ministry expects the transition to be rapid and easy.**

With some 3.5 million vehicles on the nation's roads, Israel suffers from major traffic jams and a high level of pollution, particularly in the larger cities. As a result, the Ministry is taking a number of steps to drastically reduce dependence on pollutant fuels, and encourage the the transition to ZEVs (such as battery electric vehicles and hydrogen) vehicles in several ways:

ESTABLISH
a nationwide network of electric charging points.

ADVANCE
regulations to facilitate installing charging points in private homes and public buildings.

PROMOTE
the use of electric, CNG or hydrogen powered buses and heavy transportation.

REDUCE
taxes on imported zero emission vehicles.

BAN
the importation of oil based fuels and benzene powered vehicles by 2030.

Greener and Cleaner - **Transportation**

GOALS FOR 2030

PRIVATE CARS

Israel plans to ban the import of oil based private vehicles so that all imported cars will be only ZEVs. This is an achievable goal based on the anticipated penetration of ZEVs within the global market and continuing technological and economic improvements. In order to promote this change, the Ministry is creating a broad scale network of electric charging points in public venues, gas stations, shopping centers, etc. In addition the Ministry is advancing to permit the installation of such stations in private homes and multi-level buildings.

HEAVY VEHICLES

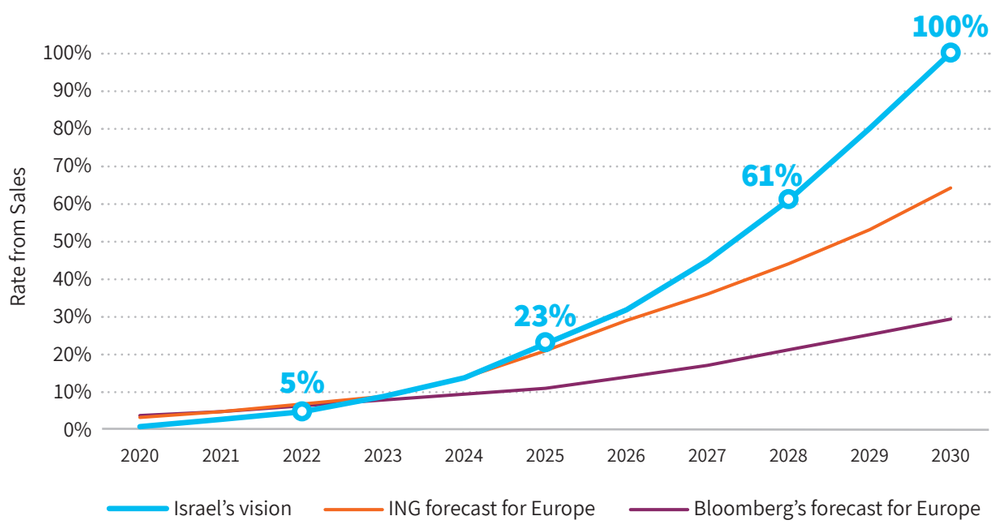
In light of the slower development of technology in the heavy vehicle industry, the Ministry is assessing and encouraging the use of electric powered vehicles alongside CNG powered vehicles and hydrogen vehicles, depending on the type of vehicle and its usage.

TO ACHIEVE OUR GOALS FOR 2030 WE ARE ENSURING:

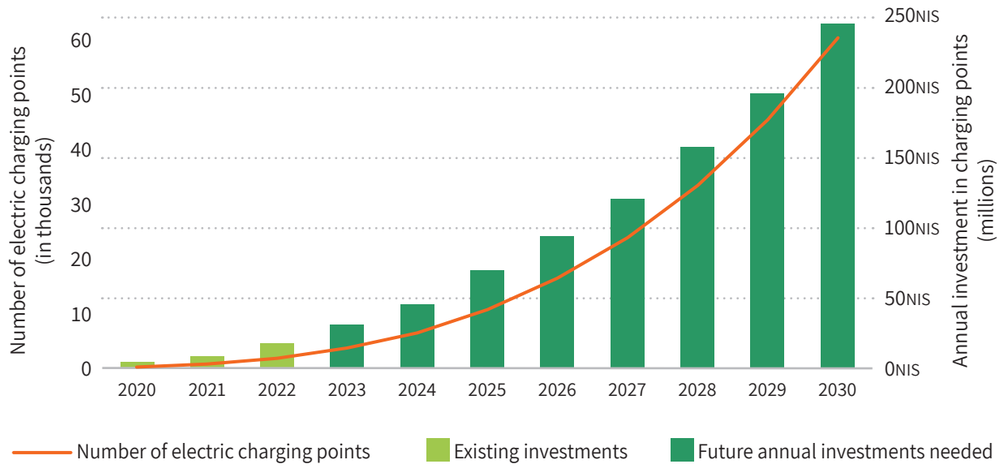
- **Limiting the importation of oil based powered vehicles by 2030.**
- **Natural gas and hydrogen powered powered vehicles will comprise 60% of heavy vehicles weighing more than 5.3 tons and 20% of vehicles weighing under 5.3 tons.**
- **80% of light-weight trucks will be electric-powered.**
- **25% of public buses will be natural gas or hydrogen powered, while 75% will be electric.**

In light of the rapid technological advances taking place in the industry on a global scale, the goals are repeatedly reassessed and updated by the Ministry.

Goals for sales of ZEVs in Israel



Annual investment required for electric charging points by 2030



Looking Beyond the Horizon - **Research**

The State of Israel is known as the “Start-Up Nation” as it advances innovation, science and technology in all fields. Therefore the Ministry sees high value in encouraging and investing in technological initiatives, research and development in the Israeli energy sector.

The Ministry, through it’s Chief Scientist’s Office, is dedicated to the innovation in the energy market and in boosting Israeli energy companies and academic research. The Ministry serves as a catalyst by encouraging and advancing development in the fields of:

- RENEWABLE ENERGY
- SOLAR TECHNOLOGY
- ALTERNATIVE FUELS
- BIO-GAS
- ELECTRICITY STORAGE
- HYDROGEN
- AND MANY OTHERS

Dedicated research projects in these fields receive Ministry’s support, starting from academic research, to early stages of development and up to to demonstration projects.

The Ministry spearheads cooperative ventures with International bodies in academic research, development and implementation projects. The Ministry seeks to create local centers of excellence, knowledge and original technology tailored for the energy’s dynamic and changing market. Thanks to the Ministry’s partnerships with BIRD, DOE, ERA-NET and JPI, Horizon, etc. we are moving towards achieving these goals.

ACADEMIC RESEARCH AND DEVELOPMENT

The Ministry funds academic researchers in the fields of energy land and sea sciences. Dozens of researchers from Israel’s leading academic institutions are fully funded by the Ministry.

START-UP FUND

The Ministry launched a start-up fund to encourage entrepreneurship in exploring the feasibility of novel technological concepts in the energy field. This fund supports as much as 220,000 USD per project, or 62.5% of the total project investment.

PIONEER AND DEMONSTRATION PROJECTS

The Ministry promotes entrepreneurships in the various energy fields which have reached the stage of demonstrating their capability in the Israeli marketplace. This enables the Ministry to examine, within a relatively short period of time, the potential of the technologies and their impact on commercial application.

SCHOLARSHIPS AND POSTDOCTORATES

One of the goals of the Chief Scientist’sOffice is to develop a high quality database and outstanding human resources to engage in research and development in the Ministry’s areas of interest. The Ministry grants scholarships to students who have demonstrated excellence in the fields of energy, geology, geophysics, etc. These students represent the future providing added knowledge and economic value and helping to maximize the financial potential inherent in Israel’s march to cleaner, renewable and more efficient energy.

Join Us **in Transforming the Future of Energy**

Natural Gas

- Bid rounds for offshore natural gas and oil exploration
- Developing and expanding the natural gas grid
- Natural gas export
- Conversion of industry to natural gas

Electricity

- Power plant tenders
- Renewable energy tenders
- Storage facilities
- Innovation in the electric grid

Transportation

- Import of electric vehicles and buses
- Charging points for ZEV's
- Natural gas and hydrogen for heavy vehicles
- Tenders for charging points, import of electric cars and natural gas powered vehicles

Research & Development

- International cooperation in the energy field
- Start-ups funds
- Pioneer and demonstration projects
- Innovation and cross border projects

What We **Can Do For You**

Israel has a lot to offer potential investors. Yet, with its myriad of options and opportunities, making a decision to invest in a new location can be challenging.

We are here to help you make the best decision possible to maximize your investment.

For more information CLICK HERE

FROM NATURAL GAS TO ELECTRIC CARS, WE'LL PROVIDE YOU WITH ALL THE INFORMATION YOU NEED.

Starting a new operation in a new location requires alot of information. Every detail counts. We'll help you understand every aspect of your journey here in Israel, from the smallest to the biggest issue. Laws, regulations, locations, taxes, incentives and costs — we'll help you understand it all.

FEEL AT HOME, FROM DAY 1.

No need to feel like it's your first time in Israel (even if it is…) Meet your peer companies and key figures in your line of business, so you can easily build your network of connections. Join the best companies in the world, in the most innovative ecosystem on earth.

A VISIT IS WORTH A 1,000 WORDS. COME SEE FOR YOURSELF.

There's nothing like an actual tour to help make a decision.

We invite you to come to Israel and see why so many companies have decided to invest here. Meet the people, see the locations, hear the stories.

LET'S TALK, LET'S MEET.

You can schedule a meeting, give us a call or send us a mail, and we'll get back to you.

We are here to help you.

Foreignaffairs@energy.gov.il

Ministry of Energy
www.energy.gov.il

For more information
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