



Office of the State Comptroller
Annual Report 71A | 2020

Issues of Broad Importance

Energy Efficiency

Abstract

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Background

Energy Efficiency is defined as the efficient utilization of energy resources; i.e., producing products, generating economic benefits and maintaining the modern quality of life while reducing energy use¹. Energy efficiency is the key to ensuring a safe, reliable, inexpensive and clean future energy economy, it contributes to savings in costs, to improving the quality of life, to reducing air and water pollution and, on the national level to reducing the economic burden and the dependence on fuel imports and to advancing the Israeli economy's energy independence.

Key figures

ILS 10.9 billion

estimated volume of annual damage from greenhouse gas emissions in Israel in 2019

7.5% compared to the target of 20%

the forecasted reduction in electricity consumption in 2020 was 7.5%, compared to the target of 20% set in 2008

17%

Israel's energy efficiency target for 2030, under the scenario of "business as usual"²

ILS 8.1 billion

the saving potential expected from installing "smart meters"³, which lead to diverting and reducing demands for electricity and results in the postponement of investments in the construction of power plants from 2011 to 2027

47%

of the government ministries failed to report their energy consumption to the Ministry of Energy and 44% of the local authorities failed to report their electricity consumption in 2018, as required in the law and regulations

20%

ratio of the reduction in private mileage required in 2030 compared to its volume under the scenario of "business as usual"

15%

ratio of the cumulative increase in the volume of private mileage from 2015 to 2018, compared to the 2% increase in public mileage





- 1 Israel Energy Forum, Energy efficiency in Israel – Modes of Implementation, Obstacles and Policy Proposals for Resolving Obstacles, (2009), p. 4.
- 2 Scenario reflecting the forecasted volume of electricity consumption in 2030, according to the trends of 2006.
- 3 Smart meters enable continuous remote measurement of energy consumption and the collection of other data relating to electricity consumption.

Audit actions

 From July 2019 to January 2020, the Office of the State Comptroller audited the actions taken by government ministries to achieve energy efficiency in the economy and to reach the government's targets in this regard. Inter alia, the Office of the State Comptroller examined the energy efficiency measures in the electricity and transportation sectors, in the public sector and in the efficiency sector. The audit was conducted in the Ministry of Energy, in the Israel Electric Corporation Ltd. (IEC), in the Electricity Authority, in the Ministry of Environmental Protection, in the Ministry of Transportation and Road Safety (the Ministry of Transportation), in the Israel Tax Authority (ITA), in the Planning Administration in the Ministry of Finance (the Planning Administration), in the Ministry of Construction and Housing and in the Ministry of Finance (in the Budget Department and in the Accountant-General's Department).

Key findings







-  **Partial achievement of the energy efficiency target for 2020** – according to the target set in 2008, the energy efficiency in 2020 would be achieved by reducing the forecasted electricity consumption in 2020 by 20% (from forecasted consumption of 80 TWh⁴ to 62 TWh). This target was not fully achieved, and the actual electricity consumption in 2020 was indeed lower than the forecasted consumption, but remained higher than the target set (in 2020, it is expected to reach 74 TWh instead of the defined target of 62 TWh). As a result, the actual reduction was only 7.5%, instead of the 20% defined target.
-  **The energy efficiency plan –reduction of electricity consumption in 2016 – 2030** does not include interim targets⁵, budgets, control indicators or monitoring of the extent of the target achievements.
-  **Smart meter project**– the percentage of smart meters that were installed in Israel in 2019 was about 2.8% of all meters. Since 2010 and up until the audit completion date, the Ministry of Energy and the Electricity Authority have not determined if and in what ways the smart meter project will be advanced.
-  **Reduction of private mileage** – from 2015 to 2018, a 15% increase was recorded in the volume of private mileage, while a 2% increase was recorded in public mileage. Therefore, the target of diverting 20% of the private mileage to public transportation by 2020 was not achieved. A plan prepared by the Ministry of Transportation for

⁴ Energy measurement unit equivalent to one billion watt-hours.

⁵ The target for 2020 – 20% reduction, compared to the "business as usual" scenario, was defined in 2008 and is not included in the energy efficiency plan for the years 2016 – 2030.



reducing private mileage is not leading to the achievement of the 20% target reduction by 2030, and a strategic plan for developing supplementary measures is needed.








-  **Loans for investing in energy efficiency ventures** – the Ministry of Energy and the Accountant-General's Department in the Ministry of Finance allocated, inter alia, a budget of ILS 500 million for loans under a State guarantee for the purpose of investing in energy efficiency ventures and reducing the greenhouse gas emissions over ten years, but these have not yet been utilized.
-  **Energy consumption reports** – 47% of the government ministries and Independent Subsidiary Units failed to report their energy consumption to the Ministry of Energy in 2018, and 44% of the local authorities failed to report their electricity consumption to the Ministry of Energy in 2018, thereby failing to comply with the statutory requirements.
-  **Few green construction standards have been adopted** – despite the inherent advantages of green construction, and notwithstanding the assimilation of green construction at the beginning of the planning process is more worthwhile than building renovations, the volume of green construction in Israel has remained low. In 2018, only 2% of the total housing units constructed received certification under Green Standard 5281. It should be noted that, in March 2020, the National Planning and Building Council resolved to adopt a green construction standard as a compulsory standard as of 2021.
-  **Implementation of green construction standards in government housing projects** – the planning authorities did not have a consistent policy for implementing a green construction standard in various programs that they initiated, such as in the Buyer's Price program, which did not adopt the standard, compared to the Apartment for Rent program, which does obligate compliance with the standard.



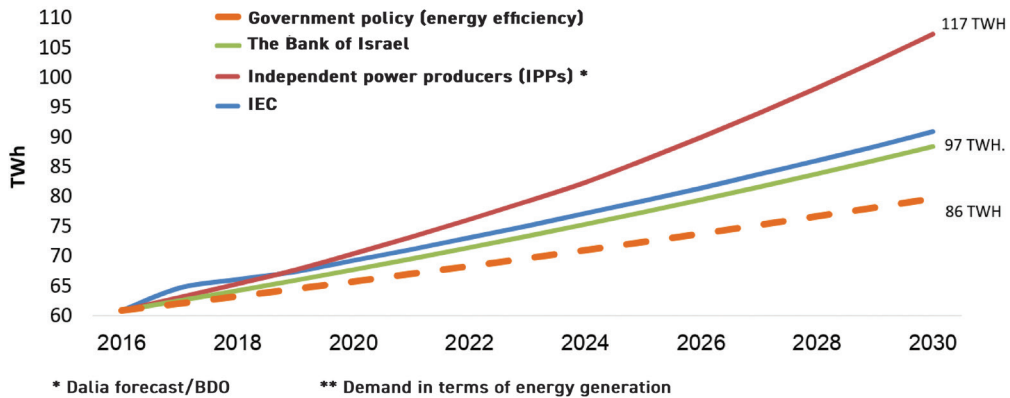
Reduction in carbon dioxide emissions in Israel – a reduction in carbon dioxide emissions was recorded in the electricity sector, from 59% of all emissions in 2000 to 55% in 2018, a reduction deriving, inter alia, from the transition to the use of natural gas instead of coal and diesel fuel.

Planning according to a green construction standard in the "Forum 15" cities – 73% of the housing units planned in the "Forum 15" cities – cities that are not receiving government grants and are managing closed independent economies using their own independent financial resources – are being planned according to a green construction standard.

Key recommendations

-  Considering the high costs of carbon dioxide damages, it is recommended that all authorities involved in the matter – the Ministry of Energy, the Ministry of Environmental Protection, the Ministry of Transportation and the Ministry of Finance – should continue taking action to reduce greenhouse gas emissions, particularly in the transportation sector, inter alia, by reducing private mileage through transitioning to the use of clean fuels, and in the electricity sector by transitioning to the use of clean energy sources.
-  It is recommended that the government ministries, including the Ministry of Energy, the Ministry of Environmental Protection, the Ministry of Finance and the Ministry of Transportation, should prepare a comprehensive energy efficiency program that integrates the actions in all segments of the electricity, transportation and industrial sectors and includes the definition of targets, setting timetables for execution and the allocation of budgetary resources for every component of the program.
-  The Ministry of Energy, the Electricity Authority and the IEC should continue monitoring the implementation of the Smart Meter project and should reach decisions in this regard in order to increase the efficiency in the electricity economy and excise the potential savings inherent in this initiative.
-  The Ministry of Transportation should formulate a comprehensive program for encouraging the use of public transportation, which should include measures taken on both the supply and demand sides. The Ministry should also define a timetable, interim targets and indicators for monitoring the implementation of the program's measures.
-  It is recommended that the Ministry of Energy, the Ministry of Environmental Protection, the Ministry of Transportation and the Ministry of Finance should continue taking action to encourage energy efficiency in all sectors of the economy, including in the public sector.
-  It is recommended that the relevant authorities – the Planning Administration, the Ministry of Construction and Housing, the Ministry of Environmental Protection and the Ministry of Finance – should take action to encourage the rapid and wide-scale assimilation of energy efficiency technologies in the construction industry.
-  The Wage Commissioner and the Civil Service Commission should consider regulating the employment model with the employers and employee organizations in the public sector at the same current cost, or in a way that will incentivize employees to use public transportation or to carpool in order to reduce private mileage, which would result in lower costs of the damage caused by congestion on the roads and by air pollution. It is also recommended that they analyze the results of the remote working during the coronavirus crisis and formulate a comprehensive policy accordingly, for allowing employees to continue working from home during routine times, in order to reduce private mileage.

Electricity demand forecasts for 2017 - 2030, by various parties compared to the energy efficiency targets



Source: The Electricity Authority, Roadmap for Developing the Electricity Generation Segment 2018 – 2030 (2018)

Summary

The State of Israel undertook, within the framework of international agreements, to participate in the global efforts to achieve the objectives included in the UN Climate Change Convention⁶. Israel's commitment is reflected, inter alia, in the setting of energy efficiency targets. To this end, the State enacted a law and regulations and passed several operative resolutions, including the allocation of significant budgets; however, notwithstanding its efforts, it failed to achieve its own efficiency targets and, in 2020, the ratio of energy efficiency undershot the target by more than 50%.

In order to achieve the targets that the government set for 2030, the government authorities (the Ministry of Energy, the Ministry of Environmental Protection, the Ministry of Finance, the Ministry of Transportation, the Planning Administration, the ITA and the Ministry of Construction and Housing) should take prompt joint action to remove obstacles that are delaying energy efficiency, they should examine the Israeli economy's overall energy needs and improve the economy's readiness and preparedness to face future energy challenges.

⁶ United Nations Framework Convention on Climate Change, (1992).