

Office of the State Comptroller Annual Report 71A | 2020

Issues of Broad Importance

Advancing Renewable Energy Sources and Reducing the Dependence on Fossil Fuels

Abstract



Advancing Renewable Energy Sources and Reducing the **Dependence on Fossil Fuels**

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Background

In the State of Israel, like all over the globe, there is a growing awareness that the transition to renewable energy should be encouraged - solar energy, wind energy and additional renewable sources in place of fossil fuels.¹ This trend is based on the understanding that the non-renewable energy sources will not last forever and therefore there is a need to prepare for this eventuality by diversifying our sources of energy. The main technologies being used today for generating renewable energy in Israel are photovoltaic solar technology² (hereinafter: solar energy) and wind technology.

figures

17%

the target ratio of electricity generation from renewable energy sources out of all energy sources in 2030.

3.5%

of the quota of 730 megawatts (26 megawatts) are being generated by wind energy in 2020.

5%

46%

the ratio of electricity generation from renewable energy sources out of all energy sources in 2019.

electricity generation

built-up regions.

from solar energy are in

of the total potential

ILS 5 billion

by 2030.

ILS 3.5 billion

savings to the economy in the costs of back-up alternatives to renewable energy³ if the guota for generating electricity from wind energy is increased to 1,500 megawatts.

the forecasted benefit to the economy

from transitioning to electric vehicles

100%

of all private vehicles to be sold in 2030 will be electric, according to the Ministry of Energy's goals.

18.18 agorot

minimum cost for generating electricity from solar energy in 2019 in a farm project initiated by the Ministry of Finance, compared to the forecasted cost of 71.1 agorot.

Fuels created from fossils of plants or animals deep underground or underwater. Fossil fuels include coal, oil and natural gas. The primary uses of fossil fuels are for energy generation, transportation and industrial uses.

² A related technology produces solar thermal energy.

³ Generating electricity from renewable energy also requires the construction and use of conventional power stations for generating electricity.



Audit actions

From July 2019 to February 2020, the Office of the State Comptroller audited the actions taken by government ministries to reduce air pollution by promoting renewable energy sources and the measures to reduce the dependence on polluting fuels. The audit was conducted in the Ministry of Energy, in the Israel Electric Corporation Ltd., in the Electricity Authority, in the Ministry of Environmental Protection, in the Ministry of Transportation and Road Safety, in the Israel Tax Authority, in the Government Vehicle Administration and in the Government Housing Administration in the Accountant-General's Department and in the Planning Administration in the Ministry of Finance, and in the Fuel Substitutes and Smart Transportation Administration in the Prime Minister's Office.

Key findings

Master plan for the energy economy – on the audit completion date, a policy document exists on the subject of the energy economy targets for 2030, but there is no master plan for the energy economy, although the Ministry of Energy has been promoting such a plan over the last two decades. The lack of a master plan or a strategic plan could cause the energy economy to develop by way of fulfilling specific government targets and specific needs of the economy instead of developing the energy economy from an integrated and long-range perspective.

Achievement of targets for generating electricity from renewable energy sources – the increased volume of electricity generation from renewable energy sources is a positive development, but a comparative analysis against the defined targets – 5% of the entire installed output in 2014 and 10% of the entire installed output in 2020 – finds gaps of 58% and 50%, respectively, between the target and the actual achievement.

Electricity generation from wind energy – at the beginning of 2020, the volume of electricity generation from wind energy was only about 3.5% of the quota defined by the Israeli government (2.6 megawatts installed, compared to the target of 730 megawatts). The factors that are delaying the implementation of electricity generation from wind energy are, inter alia, disruption of Security Establishment activities and the threat to birds. Furthermore, although it was found that the Planning Administration had thoroughly examined possible relevant sites where wind turbines could be installed as shown in the diagram attached to the draft national outline plan. It was found that only one site was located, on an area of about 3 square kilometers, and that the national outline plan had not yet been approved.

Obstacles to the construction of facilities for generating electricity from solar

energy (photovoltaic) on roofs of government ministries and educational institutions – the obstacles to implementing the government resolution of 2016, which instructed the accountant-general in the Ministry of Finance to promote the construction of photovoltaic facilities on government ministry buildings have not yet been removed. The obstacles to constructing photovoltaic facilities on roofs of educational institutions have also not yet been removed and there is no obligation to include suitable infrastructure for these facilities in new educational institutions.

- Upgrading and expanding the power line network there are difficulties upgrading and expanding the power line network, which derive mainly from a new directive of the Planning Administration and from illegal settlements under the power lines. These difficulties are causing a delay in connecting several renewable energy facilities for electricity generation to the national power grid
- Defining targets for an electric car pilot program clear targets have not been set for the pilot program being prepared by the Government Vehicle Administration in the Ministry of Finance and by the Fuel Substitutes Administration in the Prime Minister's Office. Consequently, it is difficult to determine the degree of its success.

Actions to promote the use of renewable energy sources – in November 2019, the Minister of Energy announced that he intends to increase the volume of electricity generation from renewable energy sources to 25-30% by 2030. Additionally, with the goal of promoting the entry of electric cars to the market, the Ministry of Energy published a tender for the construction of 2,500 charging stations in built-up areas, at an investment of about ILS 30 million.

Minimizing the threat to birds – with the aim of minimizing the threat to birds, a team comprised of participants from the Ministry of Environmental Protection, the Nature and Parks Authority, the Society for the Protection of Nature and the Jewish National Fund drafted guidelines for the planning institutions when examining the feasibility of constructing and operating wind turbines and guidelines for formulating a strategy that will minimize the threat to birds. The planning authorities are using these guidelines already at the preliminary planning stage, during the planning stage and during the turbine operation stage.

Key recommendations

- It is recommended that the Electricity Authority should continue integrating the forecasts for electricity generation from solar energy in its examination and should analyze the impact of the actual costs on the electricity tariff.
- It is recommended that the Ministry of Energy should complete the preparation of a master plan or strategic plan, which should include the desirable mix of energy

sources in the economy. It is advisable to consider a flexible strategy for selecting the alternatives for the mix, including technological developments relating to existing energy sources and the development of currently unknown energy sources – and to approve the plan.

To the extent needed, the Ministry of Defense and the Ministry of Energy should promptly discuss the arrangement of additional wind turbine ventures currently being planned within the framework of extensive plans, by region, and they should consider constructing them at different heights, while finding solutions to additional security problems.

It is recommended that the Tax Authority, the Ministry of Finance and the Ministry of Energy should ensure that decisions about changing the taxation policy of "green" vehicles are consistent with the objectives that the Ministry of Energy is promoting in relation to "green" vehicles, after having analyzed the economic, physical and transportation implications of these changes and their impact on air pollution and on the government's ability to achieve the emission reduction targets that it undertook to achieve.

It is recommended that the Ministry of Energy, which is responsible for tenders for the construction of charging stations for electric vehicles, closely monitor the difficulties faced by those local authorities that won the tender for the construction of charging stations for electric vehicles and assist them by providing solutions to these difficulties, to the extent possible.



Targets for electricity generation from renewable energy for 2030

Source: EU data processed by the Office of the State Comptroller.⁴

⁴ European Commission, PV Status Report 2019.



Summary

In 2013, an inter-ministerial team examined the economic benefit to the economy from generating electricity from renewable energy sources. This report constitutes a recommendation that the relevant authorities should continue taking action to manage a policy for integrating renewable energy sources in the electricity economy in order to achieve the expected economic benefits. Today, electricity may be generated from renewable energy sources at a price that is on par with the price for electricity generation from natural gas. The State of Israel has set long-range targets for the volume of electricity generation from renewable energy sources and for expanding the use of electric vehicles. The audit findings show that there are obstacles that are impeding the achievement of these targets. A failure to achieve these targets may unnecessarily prevent the economy from gleaning the environmental and economic benefits deriving from the use of renewable energy sources and electric vehicles, and cause the government to not uphold its international commitments. In order to achieve the targets for electricity generation from renewable energy sources, the Ministry of Energy, the Electricity Authority, the Israel Land Authority, the Planning Administration and the Ministry of Finance, together with all other relevant ministries, should take action to remove the obstacles and rectify the deficiencies presented in this report.