



# Solar thermal energy israel

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Negev Energy Ashalim Thermo-Solar Ltd. (Negev Energy) is a special purpose company (SPC) established for planning, financing, constructing and operating a 121 MW thermo-solar power plant under a B.O.T (built, operate, transfer) Concession Agreement for a period of 28 years beginning July 2015, the State of Israel commissioned Negev Energy to commence the 3 years construction period to be followed by a 25 years of commercial operation period.

Negev Energy is held by: Shikun & Binui Renewable Energy, a subsidiary of Shikun & Binui group (50%), Noy Fund (40%) and TSK (10%); bringing together Israeli and International expertise in the field of project financing, engineering, construction and thermo-solar technology.

He was involved in Megaprojects including Megalim Solar Tower in Israel and the Ivanpah Solar Towers located in the Mojave Desert, Cal. USA with various key companies such as NRG, Bechtel, RPI, Parson, and Burns & McDonnell.

In addition, Achiam led many other projects in India, Turkey, Germany, and in the USA. In these roles, Achiam led different setup projects including joint venture, turnkey, and supply. Achiam Tigger holds a B.S.c in Mechanical Engineering (Ben Gurion University 2004 with Honors) and an M.B.A. (Haifa University 2015).

Located in the Negev Desert, the Ashalim thermo-solar power plant is an environmentally friendly renewable energy project that serves as an important milestone in promoting Israel's national target of generating 10% of its power from renewable energy sources by 2020.

At approximately 390 hectare, Negev Energy's thermo-solar power plant is Israel's largest renewable energy project. With the output sold directly to Israel Electric Corporation, the state-of-the-art 121 MW facility will provide clean, renewable energy to over 60,000 households. At full capacity, the plant will help reduce ~245,000 tons of CO<sub>2</sub> emissions per year, the equivalent of taking 50,000 vehicles off the road.

The Ashalim 121 MW state of the art thermo solar plant is based on parabolic through technology. The plant is leveraged by one of the largest molten salt storage systems in the world which enables it to store and provide additional 4.5 hours in full capacity of clean energy each day even after sunset or during cloudy sky, allowing 11 hours (yearly average) of daily operation.

Solar energy is absorbed by parabolic mirrors supported by a metal frame spread throughout the solar field. The mirrors rotate to track the sun and radiation is concentrated on special tubes that are positioned at the center of the through. The heat transfer fluid that flows in the tubes absorbs the concentrated sunlight, reaching 390°C, and by using heat exchangers, the thermal energy is then transferred to water to generate steam that



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propels the turbine to produce electricity power.

We strive to ensure that our sustainable actions in the project will reduce the environmental impacts and maximize its social benefits. We pursue this by implementing international standards concerning environmental protection, stakeholder engagement, worker's rights and biological diversity conservation.

We believe that a project of this scale and magnitude should provide and contribute additional value to the area in which it operates in. We have made a lot of efforts and dedicated resources that were allocated to crystalize our vision:

With over 50% of construction employees and 34% Bedouins, sourced from the southern area of Israel, the project contributes to the local employment in the region which suffers from low employment rate. Negev Energy will continue to pursue the efforts to source local employment also during the operation period of the power plant.

The project will enhance regional development, by promoting environmental planning as well as boosting tourism with a unique scenic observation point; It introduced new infrastructures including: a 32 km natural gas pipeline, a 161KW electricity line, and a new water pipeline.

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Web: <https://www.sumthingtasty.co.za/contact-us/>

Email: [energystorage2000@gmail.com](mailto:energystorage2000@gmail.com)

WhatsApp: 8613816583346

