






# A solar nowcasting, forecasting system and atlas to guide energy management and planning in Egypt

## Summary

A Solar Atlas and forecasting solar energy system developed for the Government of Egypt, with support from the Group On Earth Observations GEO CRADLE initiative and E Shape project, is being used by the government to plan future national investments and the efficient exploitation of solar energy.

Sponsor	Project	Soluti
<div></div> <div>The e-shape project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement 82085</div>	<div></div>	<div></div> <div></div> <div></div>

# Taxonomy

Forecasting sunlight exposure, Map and monitor solar energy (solar farms)

## User profile

The first dedicated Ministry for the Electricity & Energy in Egypt was instituted in 1964. The last decree was in 1974 and stated that the goal of the ministry is to provide the electricity to all consumers all over the country. And in order to full fill that obligation, the ministry has to:-

- Settle the general plan & energy generation, transmission and distribution using the high-tech and the latest scientific development and supervise the execution of such plan and follow-up the different activities concerning the electrical network.
- Suggest the electric energy prices for all different voltage levels and different usages.
- Supervise the study and execution of essential electrical projects.
- Publish the statistics and data relating to electric energy production & consumption.
- Provide the technical consultancies and services in the electric fields to Arab countries and all others.



## Service description

The Service has been provided within the collaboration of the National observatory of Athens, Greece and the PMOD World Radiation center, Switzerland. It includes historical data (climatology), current and future solar radiation component's data using EO data, Copernicus Atmospheric Monitoring System data and radiative transfer modeling tools. During the E Shape project the service has been upscaled in pan European and N. African and middle East domains.

## Customer experience

*The Ministry of Electricity and Renewable Energy together with the New and Renewable Energy Authority of Egypt considers this Solar Atlas as an excellent addition, complementing the government's efforts in finding other venues of electricity production*

Mohamed Shaker El-Markabi, Minister of Electricity and Renewable Energy

## Need

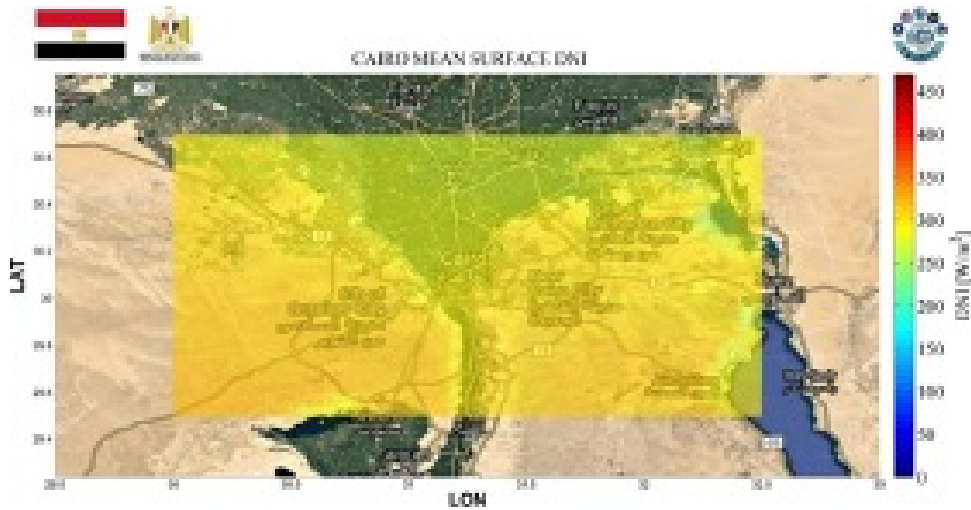
Egypt's economic development is heavily reliant on the energy sector. To tackle a growing energy demand, the Integrated Sustainable Energy Strategy (ISES) to 2035 aims to ensure security and stability of supply in Egypt, emphasizing the role of renewable energy and energy efficiency. The Egyptian government has set renewable energy targets of 20% of the electricity mix by 2022 and 42% by 2035, to be achieved through new investments as well as rehabilitation and maintenance programmes in the power sector.

## Challenges

The continuous provision of accurate and timely information, through coordinated and sustained Earth observation activities, is considered a key enabler for informed decision-making in response to challenges such as increased access to energy in the face of climate change. In this context, large international initiatives such as GEO and Copernicus are promoting the integration and coordination of Earth observation capacities at regional, national and international levels. Despite continuous progress, further potential remains for improving the uptake of Earth observations for energy applications, including in North Africa and the Middle East.

## Results

- The Solar Atlas provided information on the climatology of the solar resources and its application for management of solar-based electricity power plants and grid integration strategies across three sub-regions (Cairo, Alexandria, and Southern Egypt).



## References

Learn more about the service: pan-European and MENA regions is the following: <http://solea.gr/solar-energy-management/> <http://solea.gr/solar-atlas-of-egypt-2/>

Learn more about e-shape: [www.e-shape.eu](http://www.e-shape.eu)

A question? Contact the Helpdesk: <https://helpdesk.e-shape.eu>