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Istanbul Energy

OFF-GRID/HYBRID PV/SOLAR CASE STUDY

SYSTEM SPECIFICATIONS	
Location	Turkey, North Africa, Middle East & Central Asia
System Power	3 to 6kW PV/solar systems; (future models up to 30kW are planned)
Components	• FLEXware 250 Series • FLEXware 500 Series • VFX3524M inverter/chargers

OVERVIEW

The International Energy Agency (IEA), comprised of 28 member countries including the U.S., Germany, Japan and the U.K., identified Turkey as the country "likely to see the fastest medium-to-long-term growth in energy demand."[1] With a young, rapidly urbanizing population and an expanding economy, Turkey has earned a top spot on the list of emerging global economic success stories. But growth requires energy, and at Turkey's rate of growth, the country expects to spend $10 billion USD on new power generation each year for the next 10 years just to keep up.[2] About 90% of Turkey's energy comes from imported fossil fuels, putting Turkey on the list of economic engines running up against the challenge of dependence on external energy sources.

All this is transforming Turkey into an environment for alternative and renewable energy development. This, plus a near-perfect geographical position for solar PV, is inspiring a new breed of energy innovators. One of those innovators is Istanbul Energy, which is taking technology developed in Turkey and exporting it around the region—important first steps in reversing the external-dependence equation.

CHALLENGE

- Meet growing demand for renewable energy, led by a goal of 30% electrical generation from renewables by 2023
- Provide complete energy systems for remote locations with no access to grid power
- Reduce or eliminate the need for diesel-generated electricity and the associated fuel, maintenance and environmental costs

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SOLUTION

Istanbul Energy designs and produces a range of complete energy systems for use in agriculture, education, housing, community power, telecommunications, lighting, manufacturing and other applications. The company's new line of Triac hybrid & solar generators is designed to take the lessons learned in Turkish solar development and use them to transform quality of life from African villages to Asian deserts and anywhere else electricity currently depends on diesel.

Triac systems incorporate all power conversion components and sub-systems including inverting, charging, programming, control and storage, in a ready-to-ship enclosure with deployable solar array panels built-in. Because the systems are essentially plug-and-play and requiring only annual maintenance, compared to every 15 days for a diesel system, they are the perfect design for use in places where it is cost-prohibitive to send in engineers and technicians for set-up, commissioning and maintenance. Most important, a Triac system deployed in a strong solar area can reduce fuel costs to zero, making these systems cost nearly half of what a comparable diesel electricity systems costs over a 10 year period.

OUTCOME

- Triac hybrid and solar generators represent an easily deployable, cost-effective system for powering remote locations where access to grid power is difficult or non-existent
- Because of the system's durability and minimal maintenance requirements, operating costs are significantly reduced over time compared to diesel generator-only options
- Turkey's leadership as an innovator and exporter of leading-edge renewable energy technology is assured

[1] IEA/OECD report, Turkey in Review, 2010 | [2] Stefan Nicola & Gelu Sulugiuc, Bloomberg, February 4, 2013

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