

U.S.-Israel Energy Cooperation: A Renewable Resource

In an era of booming populations, shrinking resources, environmental degradation and over-reliance on fossil fuel for energy, Israel is a world leader in critical fields such as solar power generation and seawater desalination. Israel's cutting-edge technologies promise to improve energy efficiency as well as reduce oil dependence, while making industry more efficient and minimizing the environmental impact of human activities. As the United States focuses on energy security issues, Congress and the administration have sought to expand cooperation with Israel to harness the Jewish state's expertise.

Congress Moves to Foster U.S.-Israel Energy Cooperation

In late 2007, Congress passed the U.S.-Israel Energy Cooperation Act as part of the Energy Independence and Security Act of 2007. The law establishes a grant program for joint cooperative ventures between American and Israeli business entities, government agencies, academic institutions and nonprofit entities aimed at developing alternative sources of energy.

The act also establishes an advisory board consisting of a representative of the U.S.



The Israeli company Solel is building the world's largest solar energy park in California's Mojave Desert.

government, a representative of the Israel-United States Binational Industrial Research and Development Foundation (BIRD) and a representative of the United States-Israel Binational Science Foundation (BSF). Working together, the grant program seeks to promote development of solar energy, wind energy, biomass energy, geothermal energy, wave and tidal energy, energy efficiency and advanced battery technology.

Noting that reducing dependency on foreign oil remains a long-term national security interest, the law authorizes a grant program through the year 2014.

In early 2009, U.S.-Israel energy cooperation received funding for the first time. In fiscal year 2009 and fiscal year 2010 spending bills,

Congress allocated a total of \$4 million for U.S.-Israel energy cooperation. President Obama signed the most recent allocation into law in October 2009. Members of Congress have already voiced strong support for funding in fiscal year 2011, which currently remains pending in committee.

In November 2009, the U.S. Department of Energy and the Israeli Ministry of National Infrastructures announced they would each contribute funds that amount to \$3.3 million to cooperate on clean energy initiatives. The Binational Industrial Research and Development (BIRD) Foundation awarded the funding as part of the U.S.-Israel Energy Cooperation Act. The joint-programs are researching the conversion of solar energy into electricity, Smart-Grid technology, solar energy capturing building materials, and biodiesel production.

Israel's Energy Initiatives and Technologies

Project Better Place

Israel plans to become the first country to begin mass deployment of electric cars. Better Place, a venture-backed company that aims to reduce global dependency on oil through the creation of a market-based transportation infrastructure that supports electric vehicles, chose Israel to be the first market in which to deploy its model. By partnering with car manufacturers and battery suppliers, Better Place, the brain-child of Israeli entrepreneur Shai Agassi, offers subscribers access to lower car and battery prices, reducing the stranglehold of oil on its economy and

environment. Recognizing the possibilities of such an innovation, U.S. policy makers from California and Hawaii are developing plans to implement the project in their regions, while others have expressed a similar interest.

Solar Energy Parks

In 2007, Pacific Gas and Electric (PG&E) contracted with an Israeli company, Solel, to build in California's Mojave Desert the world's largest solar energy park. When completed in 2011, Solel's Solar Energy Generating Systems (SEGS) will have a capacity of 553 megawatts—enough electricity for 400,000 homes.

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Water Desalination

Israel also houses the world's largest seawater reverse osmosis desalination plant, located in its southern city of Ashkelon. The plant came online in 2005. It can produce up to 320,000 cubic meters of fresh water daily, or around five percent of Israel's total water needs. Given that Israel is 60 percent desert with limited resources of fresh water, desalination over time will become a necessity of life. Israeli companies also lead in revolutionary technologies for water purification, wastewater treatment, and water quality monitoring. Israeli products are being used by municipal water treatment plants and other facilities throughout the U.S.

Driving Toward Better Energy

An Israeli company has recently announced that it found a way to capitalize on the pressure that is created by the weight of cars on the road in order to produce electricity. The company's aim is to produce commercial quantities of electricity that would help power street lights, reducing costs and increasing efficiency. The project was developed by scientists at Innowattech, a start-up company partially owned by Israel's Technion Institute and private investors and is soon to be piloted on a short section of road in northern Israel, in conjunction with Israel's Department of Public Works.

Sustaining and Expanding U.S.–Israel Energy Cooperation

Cooperation between the United States and Israel has already led to many scientific, technological and commercial breakthroughs. With Israeli scientists and engineers at the forefront of renewable energy research and

development, enhanced cooperation between the U.S. and Israel could significantly benefit both countries.

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