

America's Clean Energy Future: Smart from the Start

Beacon Solar Energy Project, Kern County, California

Beacon Solar Energy Project is developing smart from the start

Sited on old farmland once used to grow alfalfa, the proposed Beacon Solar Energy Project will soon be harvesting enough sunlight to power some 88,000 homes each year. The Beacon project shows how renewable energy developers can build our clean energy future *smart from the start*.



Developer FPL Energy purchased the privately held lands for this project because of their solar energy potential and prime location in the western Mojave Desert. But it isn't just the sunshine that makes this a suitable place for a large-scale solar

project. The site is near to a major highway and other easily accessible roads, which will ease construction costs and impacts to wildlife and the environment. And nearby transmission facilities are already equipped to deliver Beacon's power.

Solar thermal projects, such as Beacon, use fields of mirrors to gather sunlight – super-heating water that then drives steam turbines and generates electricity. These mirrors need to be kept dust free – no easy feat in the desert, where water is needed to rinse them clean.

Water scarcity is often a concern in this arid region. But because alfalfa farming here required substantial amounts of water, Beacon will draw around 89 percent less groundwater than past agricultural uses. And to help further conserve groundwater, Beacon plans to pump recycled wastewater from nearby cities and towns for maintenance such as washing mirrors.

Courtesy of BLM/California



These mirrors are used to gather solar energy

Fast Facts

Energy output: 250 megawatts

Technology: Solar thermal

Water use: Approx. 153 acre-feet per year, supplemented by recycled city wastewater

Site footprint: Approx. 2,000 acres of private property in the Mojave Desert

Developer: FPL Energy

Wildlife impact: **Low**

Project status: California Energy Commission approved project and issued a certificate to construct and operate

Fast-track: Yes

What is smart from the start? Renewable energy projects should...

- Be subject to a comprehensive environmental review based on thorough analyses of the direct, indirect and cumulative impacts of proposed projects
- Be built near cities, big energy users and existing transmission lines
- Be sited on disturbed and/or degraded lands (such as brownfields, former industrial sites, defunct mines, abandoned agricultural lands), or on places of low resource value
- Avoid wilderness quality lands, sensitive wildlife habitat and important natural and cultural resources
- Mitigate any impacts on wildlife and natural resources by protecting or restoring similar habitat and ecosystems