

Interior Dept. wants 100GW of solar power on federal land

The US Department of Interior has announced that it will be using some of its stimulus money to do a single environmental review for the best 24 solar sites on western public lands, clearing the way for more than 100GW of solar capacity. That's enough to power 30 percent of US homes.

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On Tuesday, the US Department of the Interior announced plans that should radically streamline the process of building utility-scale solar facilities in the US Southwest. After having surveyed terrain administered by the Bureau of Land Management, the DOI has identified the best sites for solar facilities. It will now withdraw these areas from consideration for other uses and undertake a single environmental review for all of them. Assuming their use for solar power production is approved, the land may be able to produce roughly 30 percent of current US residential energy use.

The program, which was published in the Federal Register in order to solicit public comment, was jointly announced by Interior Secretary Ken Salazar and Senate leader Harry Reid (D) of Nevada, one of the states included in the program; the rest are Arizona, California, Colorado, New Mexico, and Utah. The move follows a general solicitation for comments on solar production using BLM lands that was initiated last year. Participants obviously thought it was a good idea, and the stimulus bill provided the DOI with \$41 million specifically to promote the production of renewable energy on public land.

One of the most frequent complaints about the production or transmission of renewable energy has been that the permitting process involves a patchwork of federal, state, and local initiatives and regulations that makes obtaining approval to build on the optimal sites a drawn-out hassle.

The new initiative, termed a "Programmatic Environmental Impact Statement," intends to eliminate the worst parts of this process. The DOI has already identified some of the best sites for solar energy and will handle the environmental impact assessment in bulk. Once the land is approved, DOI will accept applications to develop it from commercial entities, which will know that they face far lower barriers to project approval.

The solar energy study areas were selected based on some remarkably sensible criteria. The areas under consideration must receive at least 6.5kWh/m² of sunlight energy per day, have less than a five degree slope, and be near existing roads, transmission equipment, or corridors designated for transmission. The list of sites that met these criteria was then cut back by removing areas like endangered species habitats, wildlife corridors, recreation areas, and areas subject to tribal concerns.

That process left 24 tracts of land covering nearly 700,000 acres (statewide maps are available). Depending on the precise technology that's ultimately employed, the potential power capacity of the sites ranges from 75GW to over 135GW.

Assuming a figure of approximately 100GW installed, that capacity could cover about 30 percent of the nation's current residential electric use—during the day.

While the environmental review is taking place, the Department won't accept any other applications for the use of these lands. Some of the areas, primarily those in California, have already been seen applications for utility-grade solar projects, but none of the locations in Arizona or New Mexico have. Those applications will continue to be handled separately while the new evaluation begins. Once it's done, any new applications will be required to have a minimum of 10MW of installed capacity. Companies will pay the government upfront to lease the land.

The 35 projects already proposed for the new solar energy study areas constitute about 20 percent of the total applications for solar facilities that the DOI is currently considering. In total, those existing applications would add up to about 100GW of capacity. Although it's not quite clear what the Venn diagram of proposed and potential developments looks like, it's possible that this could mean over 150GW worth of solar alone; for comparison, the Department of Energy lists the 2007 national generating capacity as about a Terawatt, less than a Gigawatt of which comes from solar.

Add to that the fact that many states are developing solar projects on lands not controlled by the BLM, and that wind power is growing at a rapid clip and from a larger base, and it's clear that the US will almost certainly run up against the point where the National Academies of Science conclude that the existing grid won't tolerate additional intermittent power sources.

Regardless of whether the grid is actually ready, however, this is precisely the sort of program that the US will need if it is to develop its renewable energy sources: identify and develop the most productive sites, but only if they're situated where they can be quickly integrated into the grid. And make sure that the permitting process doesn't take decades.