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Peak Water

An unintended consequence of solar power mandates.

Harry Reid has decided that Senate Democrats will put off their cap-and-tax energy ambitions for now, focusing on smaller-scale subsidies and mandates. Anyone who thinks this counts as a "compromise" might visit Arizona, where the green campaign for renewable energy is forcing the state to confront the limits of a nonrenewable resource—water.

With more than 10 months of sun a year and vast tracts of desert, Arizona is seemingly ideal for solar power, aside from the fact that solar isn't cost-competitive with conventional fuels. So, in a preview of the "renewable portfolio standard" that Democrats want to impose nationwide, the state mandated that utilities produce 15% of their electricity from green sources by 2025. Scores of solar projects are thus under review by federal and state regulators, with some of the applications fast-tracked so developers can qualify for tax credits in the stimulus.

One hitch: The hot, arid regions best suited for solar also tend to be short on fresh water, and Arizona is no exception. Utility-scale solar power works by generating steam that spins turbines. Cooling the system at the end of the process consumes almost twice as much water per megawatt hour as coal-fired power plants that use the same cooling technology, according to a 2009 report from the Congressional Research Service. The study, which examined the consequences of a solar expansion in the southwest, adds that it could consume as much as 1% of the state's finite water resources within a few years.

Environmentalists say other solar methods require less water, but these aren't as efficient for generating power and they raise costs even more than the usual solar process. At any rate, Arizona is already an electricity exporter, mostly to California, so it isn't as if energy is in short supply. The state's green regulations are effectively a mandate to export water, which is in short supply.

The greens also claim that advanced photovoltaic solar farms (which convert sunlight directly into electricity with de minimis water) are just around the corner. But photovoltaic technology is no closer to commercial scale than cellulosic ethanol, plug-in vehicles and the other "second generation" science projects that environmentalists claim are just five years off to excuse the shortcomings of technologies as they exist today. They're always just five years off no matter what year it is, in order to justify continued subsidies.

Jon Jarvis, now Mr. Obama's National Park Service director, warned in a memo last year that a green boom in the southwest could "strain limited water resources already under development pressure from

urbanization, irrigation expansion, commercial interests and mining." At least when endangered species regulations recently caused water shortages in California's San Joaquin Valley, it was on behalf of a living creature, rather than a speculative and immature technology that costs far more than ordinary power.

Green energy has been sold as a great free lunch, promising millions of new jobs and cheap electricity, but somehow it never turns out that way when you look under the hood.