

Could green kill the desert?

If we're not careful, our rush to produce green energy could do irrevocable damage to some fragile California ecosystems.

By Bruce M. Pavlik
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California's desert lands are in some ways a perfect fit with the renewable energy industries necessary to combat climate change. There's sun. There's wind. There's space.

But without careful planning and regulation, these "climate solutions" could irrevocably damage the planet they are intended to protect.

The biologically rich but arid desert ecosystems are remarkably fragile. Once topsoil and plant life have been disrupted for the placement of solar arrays, wind farms, power plants, transmission lines and CO₂ scrubbers, restoration would be cost-prohibitive, if not technically impossible. And widespread desert construction -- even of projects aimed at environmental mitigation -- would devastate the very organisms and ecosystems best able to adjust to a warming world.

Nevertheless, there is a public land rush underway. The U.S. Bureau of Land Management is processing more than 180 permit applications from private companies to build solar and wind projects in the California deserts.

One such venture, the Ivanpah Solar Electric Generating System, will begin construction this year in a beautiful valley near the California-Nevada border in San Bernardino County. It will occupy 3,400 acres, and that doesn't include the land needed for transmission lines.

Most projects are even larger, averaging 8,000 acres, with a few exceeding 20,000 acres. The total public land under consideration for alternative energy production exceeds 1.45 million acres in this state alone.

The scale of some proposals borders on fantasy. One Columbia University scientist, Wallace Broecker, has proposed installing 60 million CO₂ scrubbers, each a 50-foot-tall tower, throughout the world's deserts -- 17 million of them in the United States -- for the purpose of capturing greenhouse gases.

One appeal of locating projects in remote regions is that there isn't as much NIMBYism in those areas, so approvals can be easier to get. But there is another way. Why not install scrubbers in parking garages, skyscrapers, transit tunnels and other existing structures? Existing commercial and residential rooftops, landfills, marginal agricultural lands and mine sites could readily accommodate these green technologies, and we would be creating energy closer to where it is needed.

At this point in the evolution of our ecological psychology, we need to acknowledge the true costs of any energy development. When a dam is built, a river is lost. But people who turn on their tap and draw that water rarely think about the river that was destroyed to produce it. Similarly, if we choose to place our "ugly" industrial technologies in the wilderness, there will be less awareness of the damage, less incentive to conserve.

The out-of-sight-out-of-mind approach to solving such problems exacerbates parochial thinking and reduces the obligation of each citizen to contribute by consuming less, or by allowing solar panels to be installed on rooftops.

Besides, haven't we learned these lessons from the destruction of other valuable ecosystems? We now spend billions of dollars every year to repair levees and restore wetlands that never should have been "reclaimed" in the name of land development.

Although the government should be encouraging alternative energy, the cumulative effects of projects need to be analyzed across the entire desert landscape. Many are within or adjacent to designated wilderness, desert tortoise habitats, archaeological sites and the BLM's areas of critical environmental concern. Roads, rails and aqueducts already harm desert bighorn sheep and other sensitive species while spreading weeds, increasing fire frequency and degrading the life-giving qualities of the native vegetation.

Such large-scale effects cannot be addressed on a project-by-project basis, as is done through the existing environmental review process. We need effective, desert-wide planning that engages the major public and private stakeholders that determine the fate of California desert land.

The costs of industrializing the biologically rich California deserts will be measured in terms of species extinction, ecosystem degradation and the perpetuation of human self-deception.

We know better than to rush. A cautious, informed and integrated approach will secure sustainable, clean energy without sacrificing the future of these precious lands.

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