

U.S. Landfills Are Getting a Second Life as Solar Farms

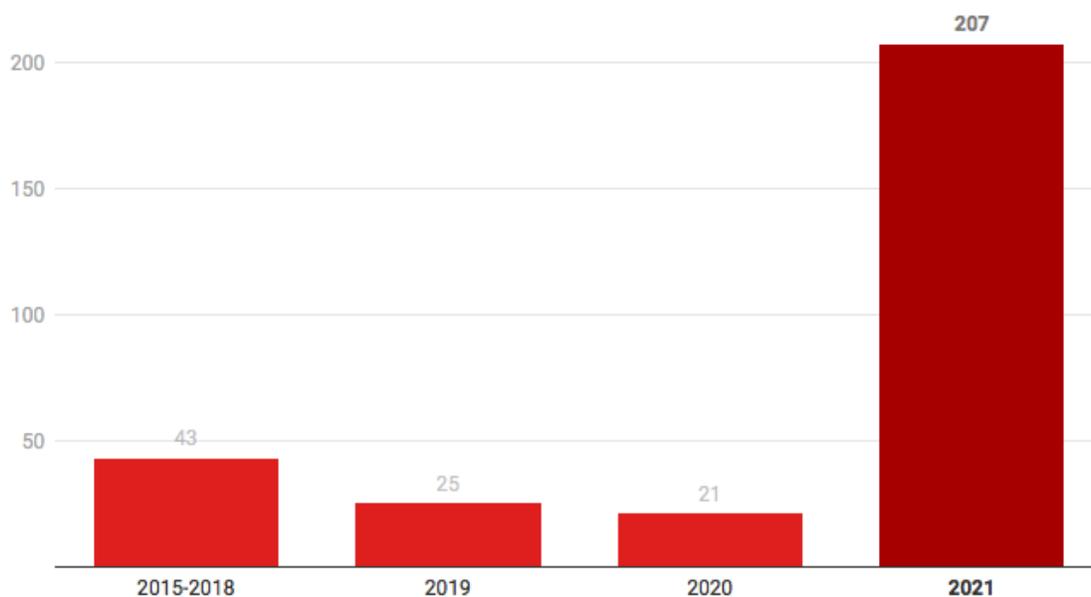
BY **EMILY BARONE** JUNE 2, 2022 11:45 AM EDT

When landfills get capped and grassed over, they have the appearance of lush, rolling hills. Despite their green appearance, however, these sites are known as “brownfields”—a term for an environmentally hazardous site without a promising future. Indeed, landfills are typically unsuitable for development because the contents below the surface are both contaminated and physically unstable.

But what they can be repurposed for are solar farms, and these so-called “brightfields” are growing in number and size.

Local government "brightfield" deals announced by year

In megawatts



Projects listed by operation start year when announcement year was not available.

Chart: Emily Barone • Source: [WRI](#) / [RMI](#)

Last year, local governments across the U.S. announced a combined 207 megawatts of energy from 21 landfill solar projects, according to **recent figures from the World Resources Institute** and RMI, an organization that advances clean energy projects. That's a 10-fold increase in energy capacity compared with recent years, and it includes the three largest projects in the country to date.

The surge reflects growing interest among municipalities to develop increasingly ambitious clean energy projects. For example, one brightfield deal in Columbus, Ohio, announced last September, will generate 50 megawatts of energy. Another project of similar capacity, announced in January 2021, is being developed on 240 acres of landfill in Houston, Texas. Those two projects account for half of the brightfield energy announced last year, and each will power about 5,000 homes annually.

While it's not unheard of for capped landfills to become parks or golf courses, solar farms can be a more feasible alternative, as there's no need to prepare or maintain the site to accommodate the public. Solar farms can also leverage resources that typically exist near landfills already, like access roads and connections to electric infrastructure. And unlike golf courses, brightfields harness a clean power source that can be distributed to a broad population, thereby helping to correct environmental injustices that people living near the landfill site have endured.

On a national scale, there is huge potential in these projects. Based on **an RMI brightfield analysis** from late 2021, closed landfills could host more than 60 gigawatts of solar capacity—enough energy to power the state of South Carolina.

But getting there will take time. Brightfields require different upfront costs and regulatory oversight than other solar projects because of the nature of the land they sit on. “There's more due diligence, there's more design and engineering, and people's time that has to go into sufficiently planning this,” says Matthew Popkin, an urban transformation manager at RMI. “If you put a stake in the grass in a random field poorly, the dirt might suffer. If you put a stake in a landfill poorly, the community might suffer.”

There are ways to mitigate those barriers, however. Large scale projects may be more attractive as it is cheaper and easier to go through those planning processes once for a massive solar farm than many times for smaller farms. Also, the federal government and state governments offer brownfield cleanup grants that can offset the cost. Finally, costs could go down over time as the solar industry gains experience and refines best practices to manage and implement future brightfield projects, such as using installations that don't penetrate the ground.

“Local governments are really pushing their clean energy goals,” says Popkin. “And sure, you can put 200 kilowatts on your city hall. You can put it on a couple of facilities, buildings, or fire stations. But when you start to look at municipally owned land that is in your control and that is able to host a large project, suddenly a brownfield or a closed landfill looks very attractive because it can't be used for ... housing, mixed-use apartments, or the next Walmart or Target superstore.”