

Brownfields Reuse Planning for an Affordable Energy Future

July 23, 2026

***This is a recorded
webinar!***

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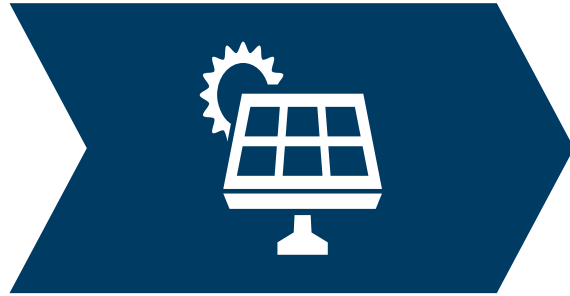
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**CENTER FOR CREATIVE
LAND RECYCLING**

RECLAIM. CONNECT. TRANSFORM.

Two-Part Virtual Workshop Series



Brightfields 101

July 23, 2026
12-1:30pm PST



How Brightfields Can Support Affordable Energy Planning

August 13, 2026
10-11:30am PST



The last 30 minutes of each webinar will be office hours with the technical assistance partners. Come prepared with any site-specific questions!



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This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement (TR84066401) to The Center for Creative Land Recycling. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document.

Rocky Mountain Institute (RMI) is an independent, non-partisan, nonprofit organization dedicated to accelerating a prosperous, clean energy future for all

What We Do:

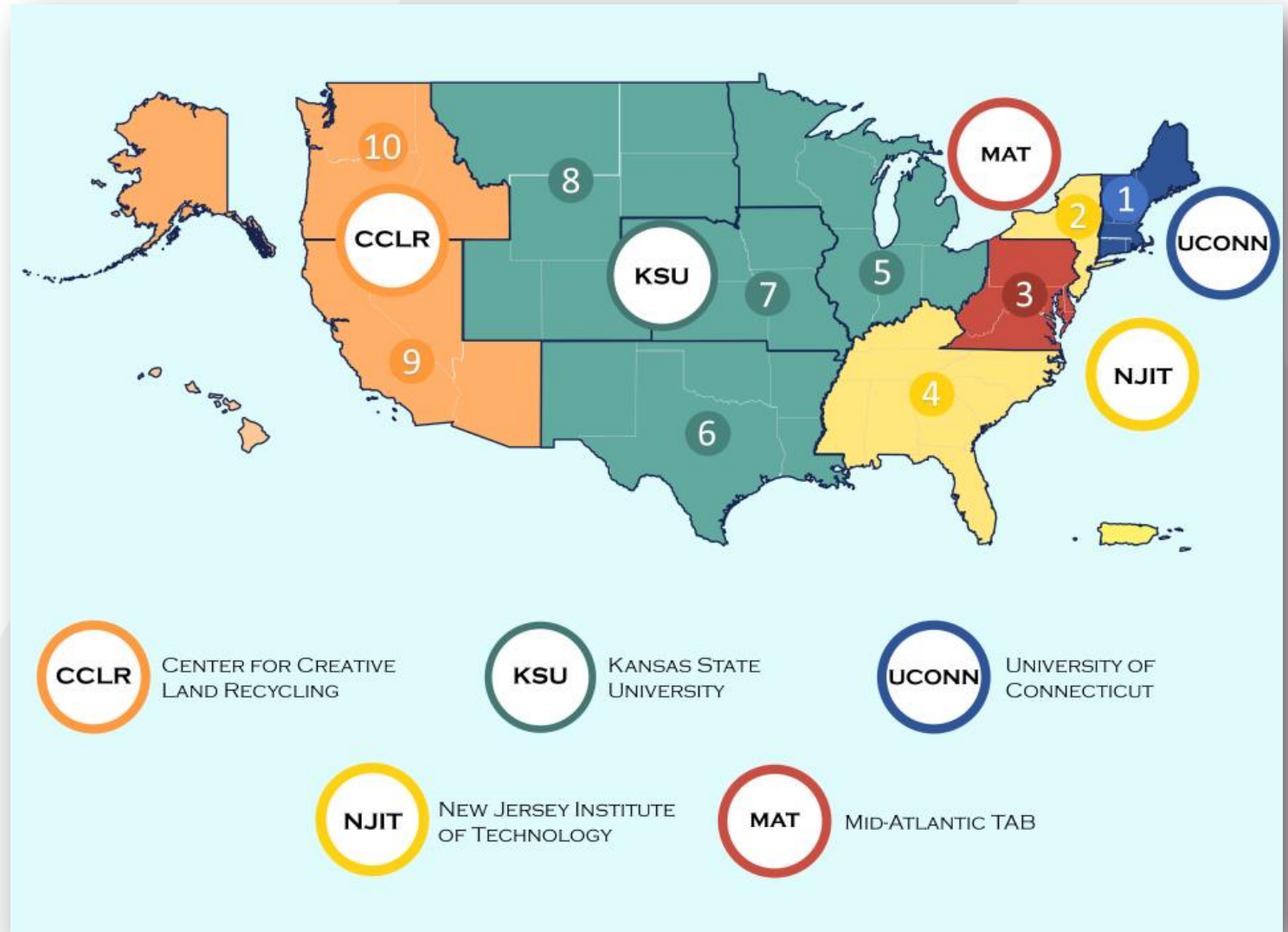
- *Founded in 1982, RMI now works across the United States and in 60 countries*
- *We combine research, whole-systems thinking, and unconventional partnerships to help communities advance sustainable, reliable, and affordable energy systems*



The Center for Creative Land Recycling (CCLR) is part of a broader network of technical assistance for brownfields (TAB) to help communities address brownfields challenges

TAB Guidance & Services:

- Inclusive community visioning
- Acquiring, assessing, cleaning up and redeveloping brownfield properties;
- Health impacts of brownfield sites
- How to comply with voluntary cleanup requirements
- Funding and financing strategies, including EPA brownfields grant application support
- And more...



RMI is partnered with CCLR TAB to provide **free and tailored technical assistance** to help communities across Regions 9 and 10 responsibly plan for and deploy clean energy on brownfields and closed landfills.

Our goals are...



To ***educate communities and site owners*** about brownfields reuse options that include clean energy



To ***provide pre-development site evaluation and analysis*** to communities considering “brightfields”



To ***provide other technical assistance and tools*** to help with reuse planning, funding, financing, and clean energy procurement

Our Objectives

For The Series

- ***Educate communities in EPA Regions 9 and 10 about the continued opportunities to reuse brownfields and closed landfills for hosting clean energy projects***
- Help site owners and municipalities more deeply understand how brightfield projects can offer opportunities for more affordable energy and support long-term budget planning

For Today

- Ensure all participants understand **what** brightfields are, **why** communities and site owners might consider brightfields, and **how** to advance a brightfield project where appropriate for your community

Today's Agenda

1

What, why, and how?

Learn about brightfields, the opportunity for your community, and how to start a brightfield project

2

Q&A

Questions from participants

3

Office Hours

Stick around to ask your site-specific question or discuss your site/needs in more detail
(optional)

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What are brightfields?

“Brightfields” reuse previously disturbed, often-contaminated land to reactivate sites and support a local energy transition



Photos courtesy of Matthew Popkin, RMI

Brownfield:

- A property where the expansion, redevelopment, or reuse may be complicated by the *presence or potential presence of a hazardous substance, pollutant, or contaminant*
- Common brownfields include former industrial sites, inactive landfills/dumps, old factories, abandoned mines, and closed power plants

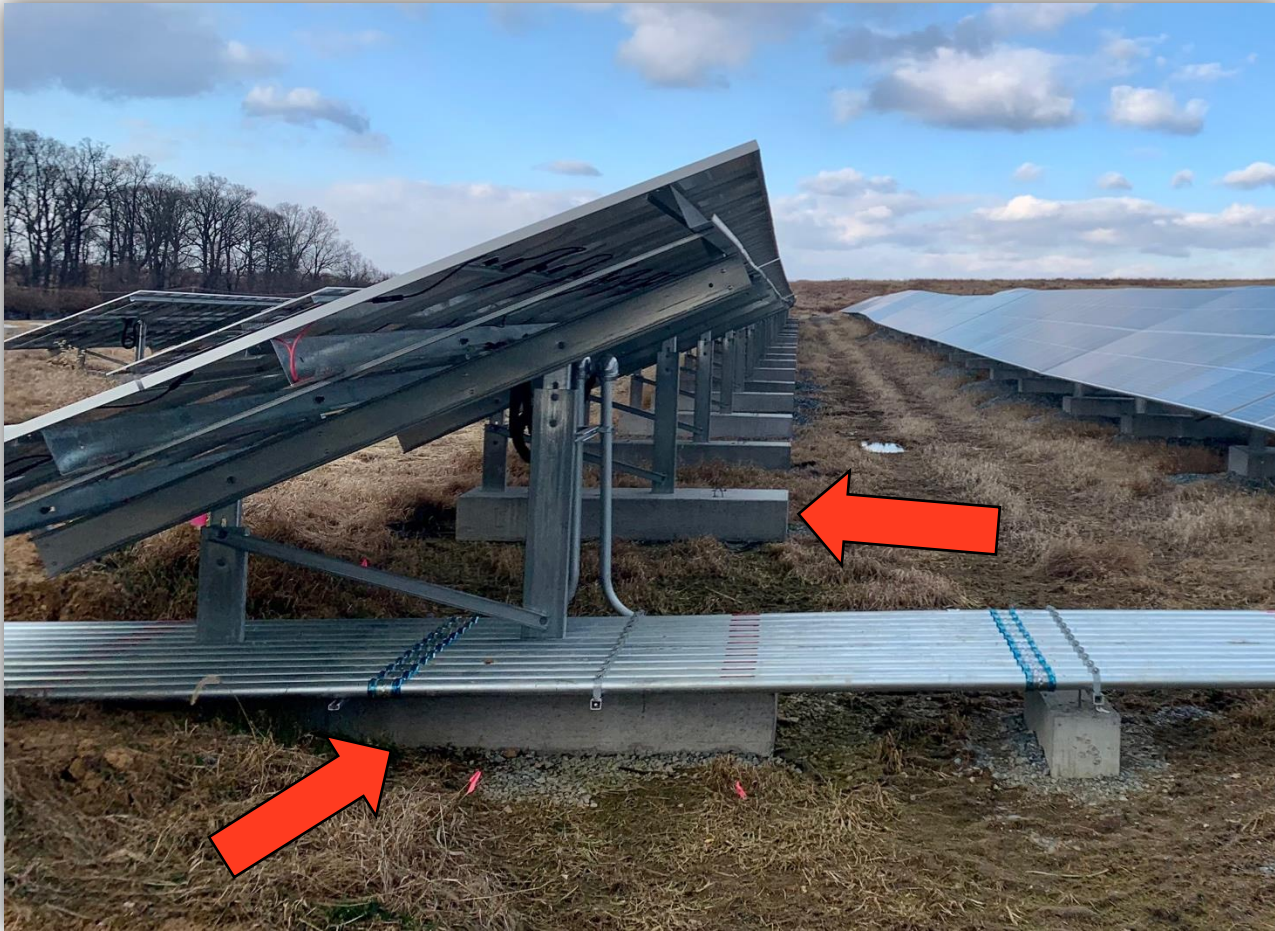
Brightfield:

- A type of redevelopment where renewable energy (typically solar) is built on a former brownfield or Superfund site

Brightfields come in all shapes and sizes



Landfill solar looks like most solar projects with a few exceptions, including ballasted structures to build on the surface and designs that work around on-site operations and monitoring wells



Left: Montgomery County, MD (6 MW); **Right:** Annapolis, MD (17 MW)

Brightfields have been and can be built safely and responsibly

Has this been done before?

- Yes – at least 624 clean energy projects have been built on closed landfills according to the US EPA through October 2024

Is it safe to build this on a closed landfill?

- Yes – and energy developers should be required to take precautions to not damage the existing landfill cap and other infrastructure
- Procurement processes can specifically seek qualified developers who understand the challenges of building solar on a closed landfill

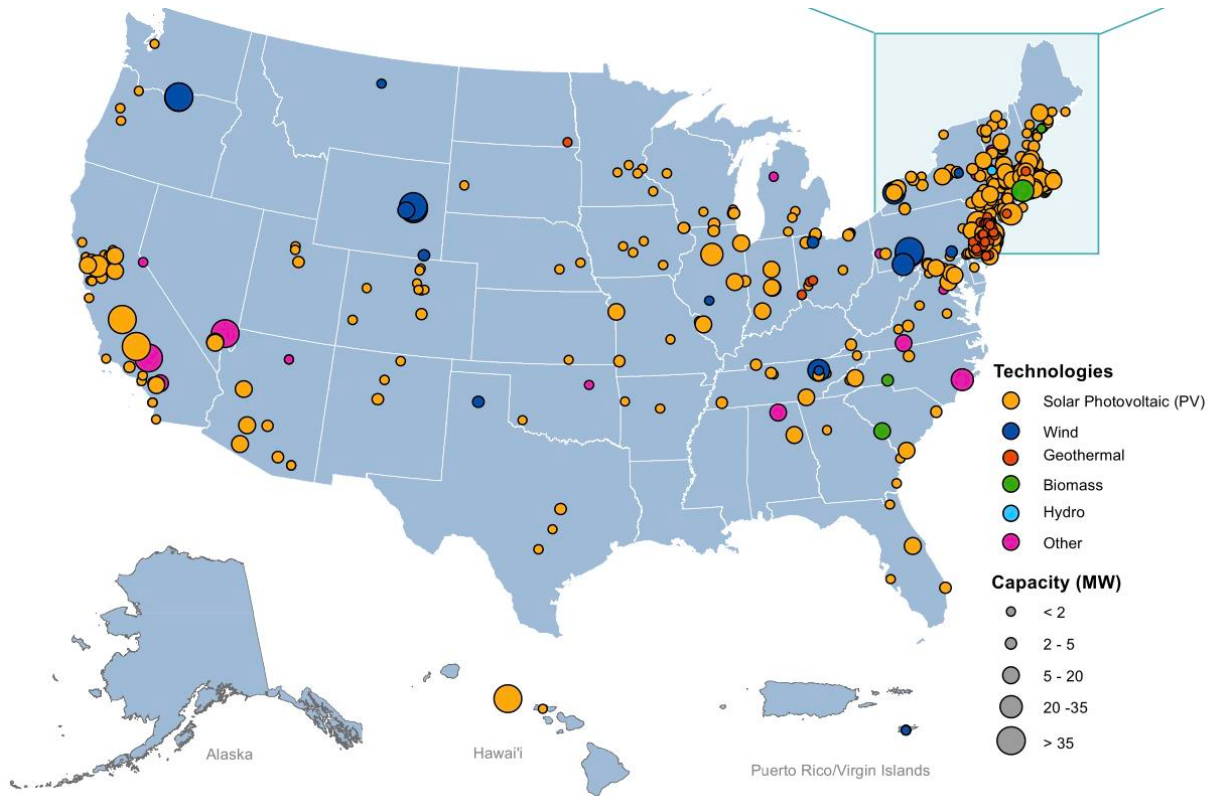
NUMBER OF INSTALLATIONS BY SITE TYPE⁵

Solar and wind projects on landfills/ landfill buffer	338
Renewable energy projects on brownfield sites ⁶	147
Renewable energy projects on Superfund sites ⁷	132
Renewable energy projects on current/former federal facilities and contaminated properties	73
Renewable energy projects on RCRA corrective action sites	22
Renewable energy projects on mine sites	32
Renewable energy projects with battery storage	17

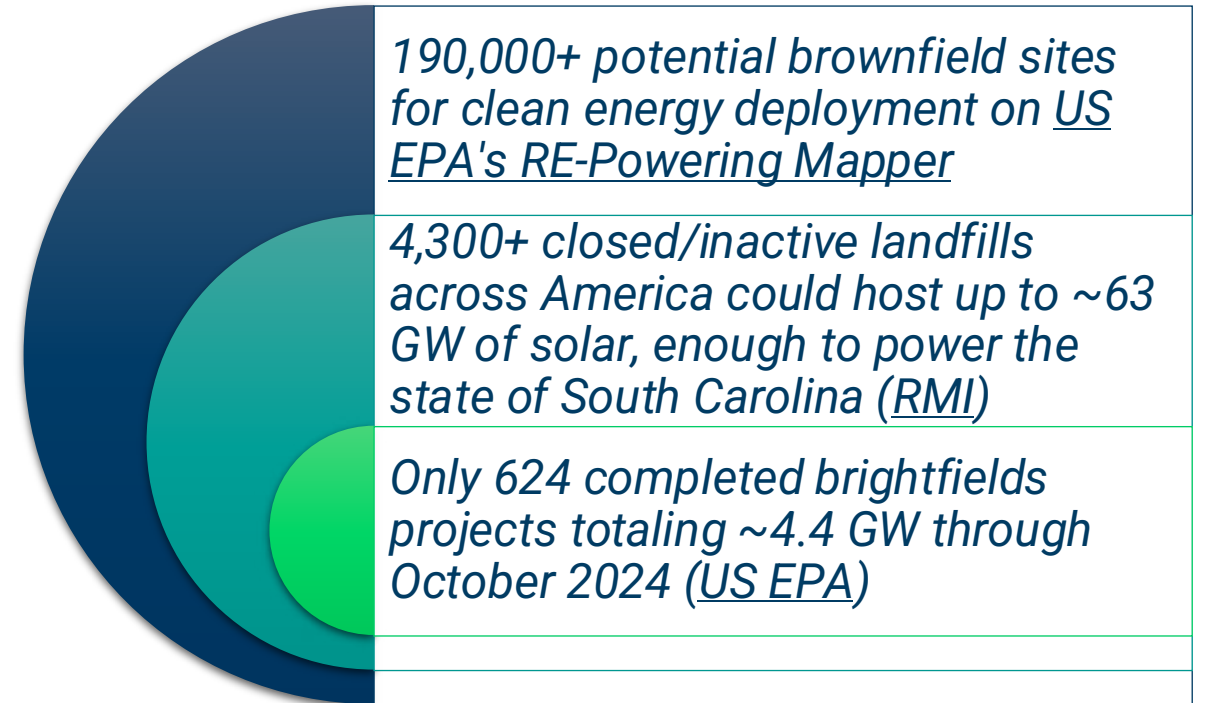
[Source: US EPA 2024 RE-Powering America's Land Tracker](#)

Brightfields offer a huge (yet largely untapped) potential market

Brightfields Deployed in the US by Technology



Source: [US EPA Re-Powering America's Land Tracking Matrix 2024](#)

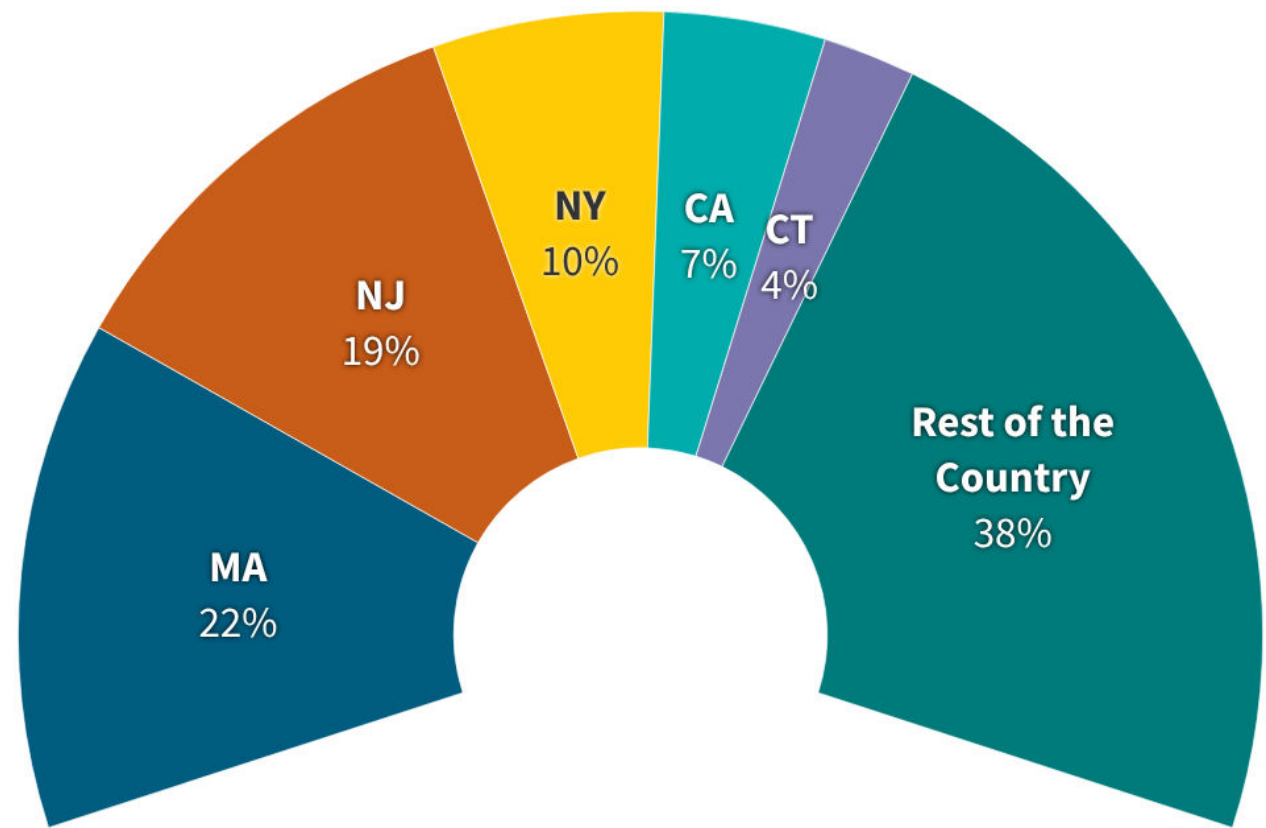


Just 1% of potential brightfields sites could support ~6 GW of clean energy and 60,000+ jobs



**What's the opportunity for
brightfields in Regions 9-10?**

Five states host 60% of US brightfields projects



Source: EPA Repowering Matrix, 2024

Brightfields are growing across the country, yet over 60% of the progress has been in just 5 states

While a few states initially led the brightfields push, these types of projects are becoming part of the clean energy transition across America

Phoenix, AZ

- 10 MW on 118 acres of the City of Phoenix's landfill

Pittsburgh, PA

- 2 MW of solar installed on old steel mill in Hazelwood Green

Martin County, KY

- 200 MW of solar planned on shuttered Martiki mine land

Franklin County, OH

- 50 MW of solar planned on closed landfill



Desert Star Solar, Buckeye, AZ



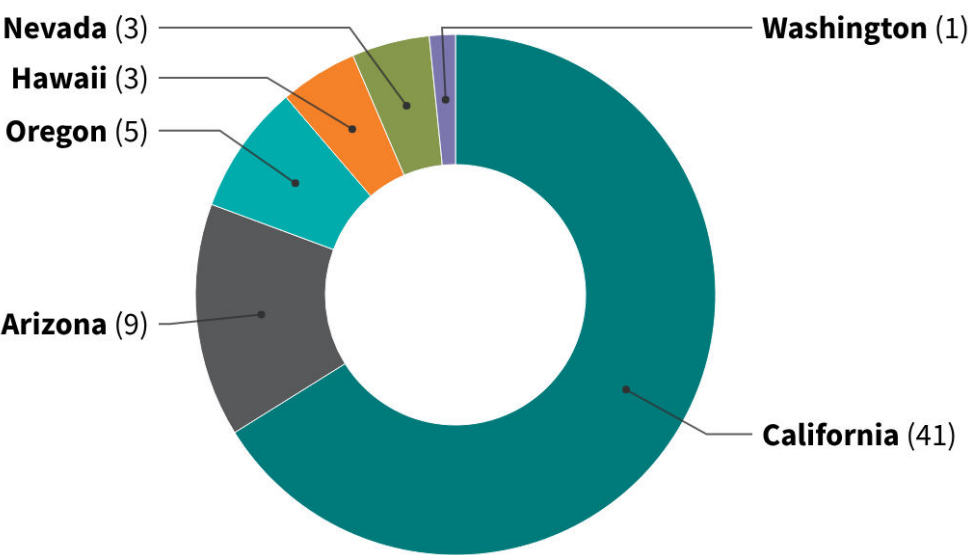
Hazelwood Green, PA

Purdy Landfill Solar project in Pierce County, WA sells power to the grid



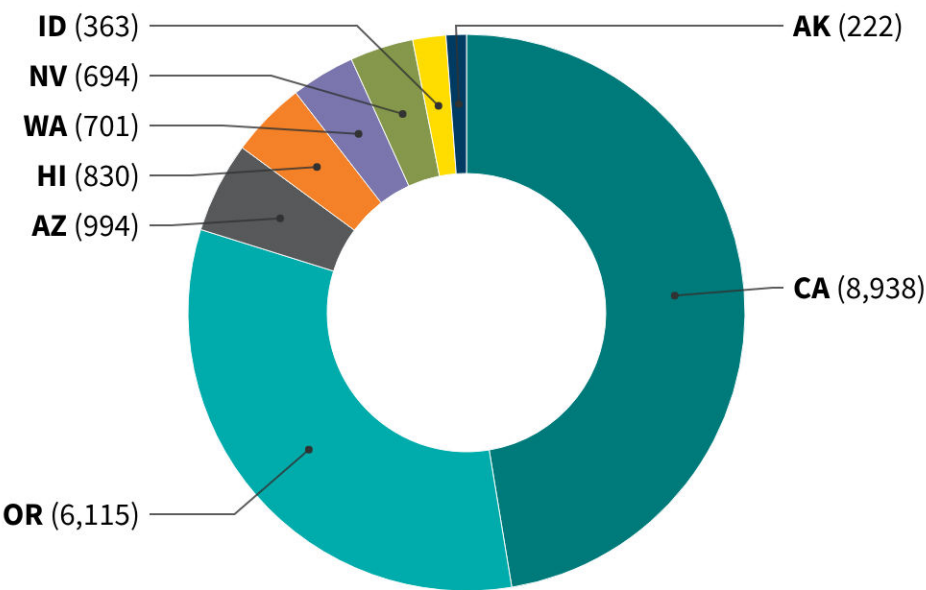
There are 62 completed Brightfields in EPA Regions 9 and 10 to date...

Completed Brightfields in Regions 9 and 10



...but more than 18,800 sites pre-screened by EPA for brightfields reuse

EPA Screened Sites in Regions 9 and 10





Benefits and challenges

Communities can leverage brightfields to deliver wide ranging local benefits



Sustainable land reuse



Using existing infrastructure



Local jobs & site revitalization



Reinvesting in communities left behind in the energy transition



Generating local revenue from innovative reuse



Hedge against rising utility bill



Closed landfills are particularly promising sites for hosting solar energy

	<i>Conducive Site Conditions</i>	Landfills typically have good sun exposure and other characteristics that support solar energy installation
	<i>Limited Reuse Options</i>	Closed landfills have few, if any, competing redevelopment options, and using landfills avoids land-use conflict with other revitalization priorities
	<i>Sustainable Land Reuse</i>	Landfill solar can repurpose already disturbed land to reduce the use of greenfield development for clean energy siting
	<i>Potential for Revenue</i>	Landfill solar can bring new revenue from property taxes and land leases from an otherwise inactive site

Montgomery County, Maryland supports low-income PEPCO customers as host and anchor buyer with community solar subscription program on closed landfill

Brightfields are not without their complications compared to undeveloped or vacant land (that's why they're less common)

- **Assessment & cleanup costs**
Site owners and developers may need to invest time and resources to evaluate and clean up brightfield sites, which can increase project costs
- **Federal, state, and local regulations**
Permitting, zoning, land-use, and environmental reviews can add complexity to site requirements
- **Site remediation timeline**
Ongoing remediation activities will likely need to be completed before beginning project construction
- **Liability between stakeholders**
Clarity on liability is critically important to share with developers during procurement, who may view contaminated sites as riskier
- **Grid interconnection**
Interconnection costs and timelines can vary substantially between projects due to existing infrastructure

Landfill solar may also face complications – none of which are insurmountable – but may add cost

Cap Considerations

- Capped landfills will likely require system designs with non-invasive foundations
- Uncapped landfills may require effective capping and closure prior to solar installation

Existing Infrastructure and Operations

- Need to accommodate any on-site infrastructure such as leachate and gas collection systems

Settlement

- Pattern and rate of settlement may impact timing and areas of solar deployment

Lack of On-Site Electricity Consumption

- Because of limited, if any, on-site operations, there are fewer opportunities for immediate electricity offtake or electric meter reduction

Community Concerns

- Projects need to consider potential longstanding environmental justice and site reuse concerns
- This should include explicitly educating residents and other stakeholder groups about design strategies and relevant regulations

Interdepartmental Coordination

- Reuse and revitalization of landfills for solar rarely fit neatly in a single department's purview



Brightfields Economics 101

Despite additional site preparation and design-related costs, key brightfield benefits can help reduce overall project costs



Reactivating a site that lacks other viable reuse options can stimulate new tax revenue



Co-locating with existing operational costs (ex. vegetation management, wildlife management, other blight-related issues)



When located near existing infrastructure (ex. roads, poles, or wires), redevelopment costs can be lower compared to undeveloped land

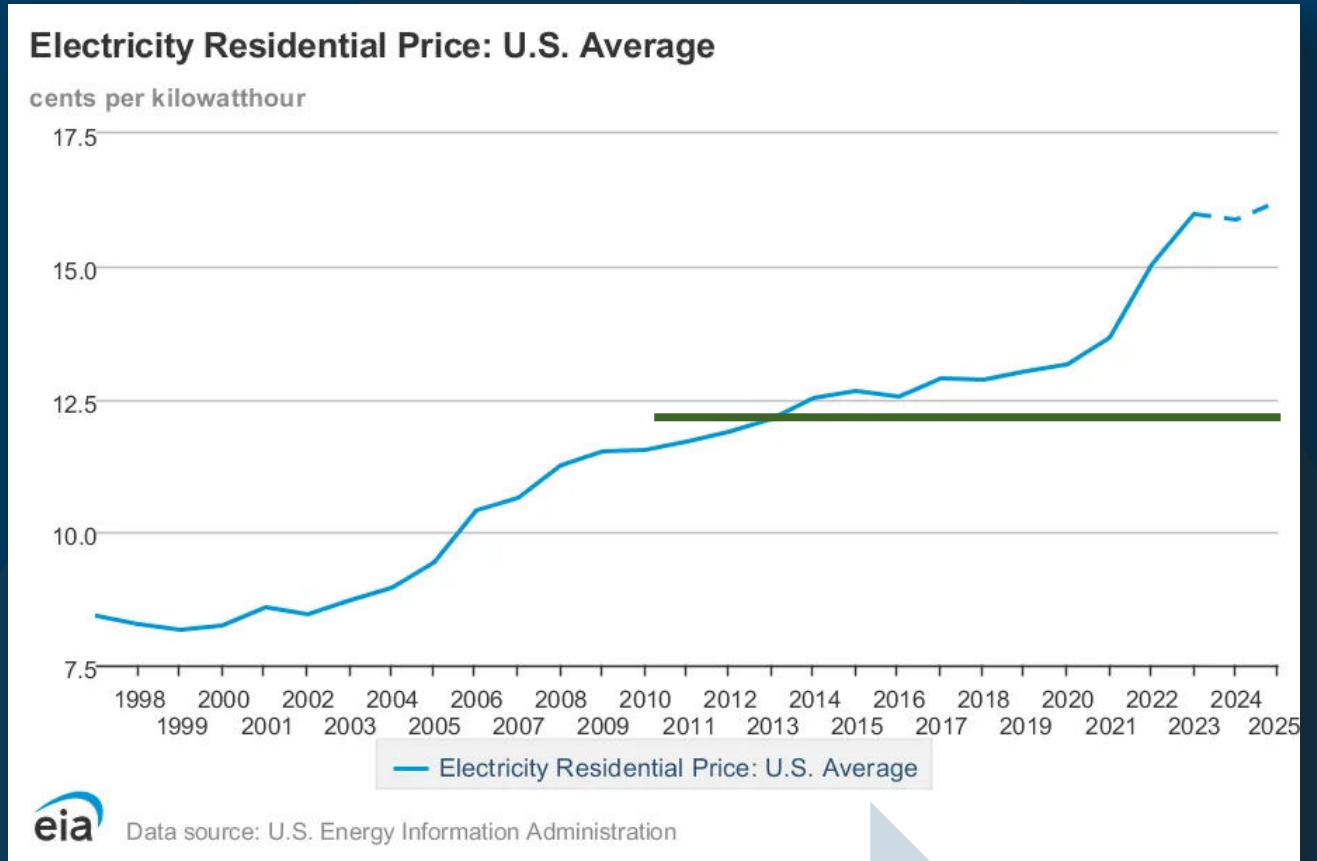


Siting on closed landfills, former mine lands, or brownfields typically prompts little community opposition — and these costs can add up



Previously disturbed, potentially contaminated land does not compete for the same market as other land uses

Fixed-cost energy projects hedge against rising electricity and volatile fuel prices — this is what to examine when understanding the longer-term return on investment



Electricity prices in the US increased by over 26% in last 5 years

Because solar offers fixed-cost energy prices, savings *increase* as prices increase

Imagine if your community added solar in 2010 at a price of 12 cents per kWh. Where are you now?

By understanding what is possible, communities and site owners can include brightfields as a part of broader community revitalization

There are hundreds of thousands of brownfields available

The technical potential of brightfields is significant

Different incentives and electricity markets will shape what's financially attractive





Moving forward

Brightfields Site Selection Checklist

Strategic Reuse:

- ☐ ***Is this a productive reuse of the site?***
 - ☐ Does this reactivate a site without current plans?
 - ☐ Does this risk impede future reuses nearby?
- ☐ ***Is this the “highest and best use” of this site?***
 - ☐ How well does this align with existing site owner goals and/or community visioning?
 - ☐ Are zoning, right-of-way, or land-use conditions aligned with the proposed reuse for this site?
 - ☐ Can co-locating clean energy further enhance plans for the site?

Technical Reuse:

- ☐ ***Does the site seem like it can reasonably support clean energy?***
 - ☐ What clean energy technologies (i.e., solar, wind, geothermal, or energy storage) could make sense?
 - ☐ Are there serious concerns about shading (for solar), wetlands, or floodplains?
 - ☐ Is there infrastructure on-site or nearby that may complement clean energy reuse?
- ☐ ***Is there an economically feasible pathway for how the electricity generated would be consumed?***
 - ☐ Is there on-site or nearby demand for electricity?
 - ☐ Would the electricity support the utility’s grid?



Key steps can guide you as you proceed with development...





***...but developing a
brightfields project is
rarely a linear journey.
There is NO cookie
cutter approach that can
serve every project or
every community.***

What technical assistance is available?



Identifying Your Most Promising Brightfields Opportunities

Site pre-screening
Strategic reuse planning
Utility engagement



Funding & Financing Guidance

Unpacking brightfields-related incentives and funding strategy
Assistance with brownfields grant applications



Accelerating Brightfields Procurement

Procurement support
Insights from the brightfields market

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Questions from participants
(Put questions in the chat or raise your hand)

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Office Hours

Stick around to ask your site-specific question or discuss your site/needs in more detail
(optional)



Questions?

Next Steps



Slides and recording will be shared by end of month



The second part of this series will be on **Thursday, August 13th** at **10am PT / 1pm ET** — **where we will dig into the financials.**

Stick around for the next 30 minutes for office hours to ask site/community specific questions





Reflections & Feedback



Thanks for joining us!

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- Matthew Popkin mpopkin@rmi.org
- Jacob Becker jbecker@rmi.org

CCLR Contacts:

- Claire Weston claire.weston@cclr.org
- Jean Hamerman jean.hamerman@cclr.org

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