TAB Technical Assistance to Brownfields | Kansas State University

Brightfields 101: Introduction to Brightfields in Indiana

THANK YOU for joining us for this webinar. We will get started in a moment. While you are waiting, please respond to the two poll questions on your screen.

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Technical Notes

If you experience technical difficulties with your connection:

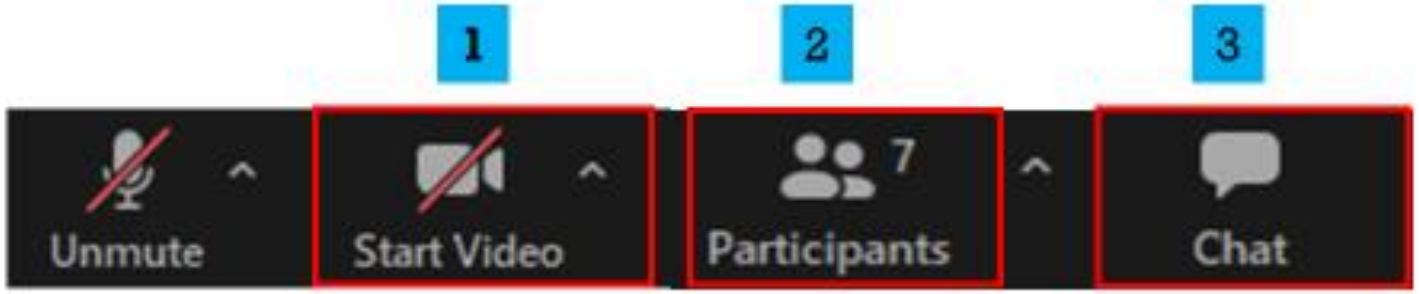
Dial 785.532.0783

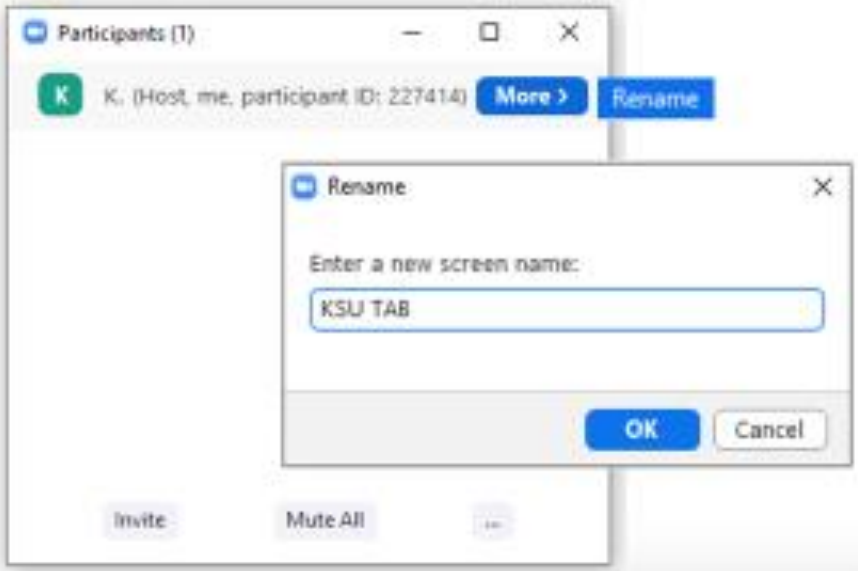
Email chsr@ksu.edu

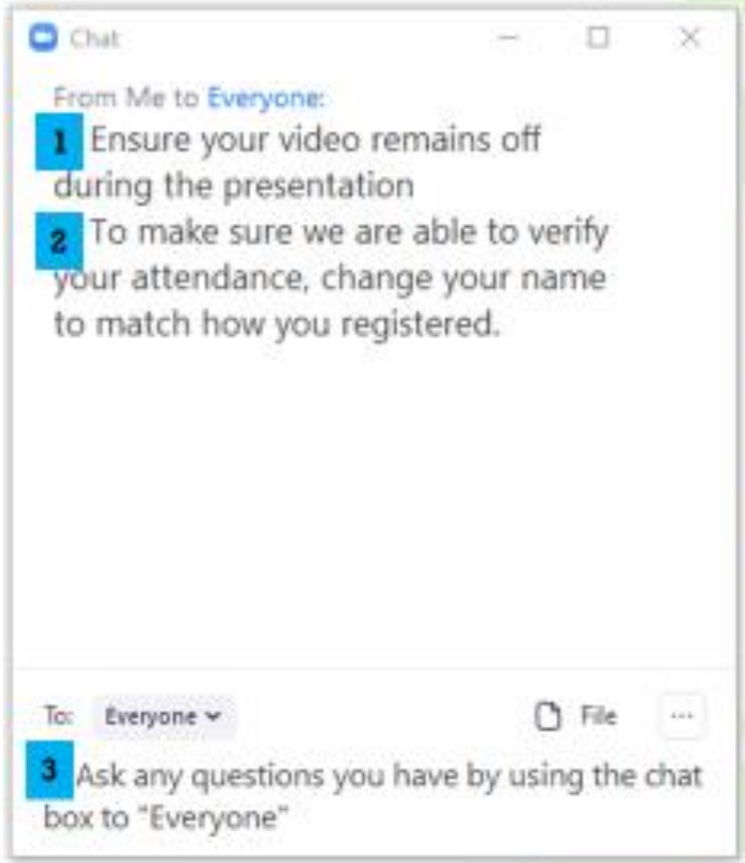
Additionally, please note:

The presentation is being recorded and will be available on the website. The link has also been placed in the chat box.

Using Zoom – The Basics







Today’s Agenda

- **Welcome**
- **What Are Brightfields?**
- **Brightfields' Benefits and Challenges**
- **Case Study: Monroe County, IN**
- **Technical Assistance Available in Indiana**
- **Next Steps and Office Hours**

TAB
Technical Assistance to Brownfields

KANSAS STATE UNIVERSITY

Welcome

John Morris, Indiana Brownfields Program, IFA

Brightfields 101: Introduction to Brightfields

Indiana Brightfields Webinar Series

Presented by

TAB Technical Assistance to Brownfields | Kansas State University

Environmental Resilience Institute

RMI Energy. Transformed.

Indiana Brownfields Program

IDEM Indiana Department of Environmental Management Est. 1986

Indiana Brightfield Series Webinar

Brightfields 101:

Introduction to Brightfields

October 1, 2025
1-2:30pm ET

Brightfields 201:

Permitting and Liability

October 22, 2025
1-2:30pm ET

Brightfields 301:

Solar Procurement

November 19, 2025
1-2:30pm ET

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

Virtual Workshop Ground Rules

Be Present	• Close other apps (email, messaging, etc.) except Zoom as if we were in person
Be Aware	• Keep yourself muted during presentations/when others are speaking • Create space for others to contribute
Embrace a Learning Environment	• This is an introduction to the topics for many participants • This is *not* a sales environment

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 energy systems*

RMI is partnering with KSU TAB to help communities across America reuse brownfield sites with clean energy

Our goals are…

To ***educate communities and site owners*** about brownfield 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

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Poll #2 Question

“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

Photos courtesy of Encore Renewable Energy and Clean Capital

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)

Photos courtesy of Matthew Popkin and Clean Capital

Brightfields have been and can be built safely and responsibly

Has this been done before?

- Yes – **over 624** clean energy projects have been built on brownfields, closed landfills, and other contaminated sites according to the US EPA through October 2024

Is it safe to build on these types of sites?

- 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 on brownfields and closed landfills

NUMBER OF INSTALLATIONS BY SITE TYPE[5]	
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

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

Pittsburgh, PA

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

Phoenix, AZ

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

Rivesville, WV

- 5.5 MW of solar on brownfield near a shuttered coal-burning power station

Columbus, OH

- 18 MW of solar on 135 acres of closed municipal landfill

Martin County, KY

- 200 MW of solar planned on shuttered Martiki mine land

Desert Star Solar, Buckeye, AZ

Rinesville, WV

At least two landfill solar projects have been built in Indiana to date (and more in the works)

Crane Naval Site

- Completed in 2017 by Duke Energy
- Federally-owned landfill site in Crane, IN
- 17 MW across 145 acres

Marion County Solar Site

- Completed in 2015 by GroSolar (now EDF Renewables)
- Privately-owned monofill landfill
- Indianapolis Power & Light (now AES)
- 5.2 MW

Source: EDF Renewables

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 impeding 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 the site large enough to make sense economically? (typically, 5 acres minimum, ideally at least 20 acres)
- ❑ ***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?

Poll #3 Questions

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Closed landfills are particularly promising sites for hosting solar energy

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

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

Poll #4 Question

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Case Study: Monroe County, Indiana

Tom McGlasson Jr., Waste Reduction District of Monroe County

WASTE REDUCTION DISTRICT OF MONROE COUNTY, INDIANA

Feasibility of Installing Solar Panels at the Closed Monroe County Landfill
7740 N. Fish Road
Bloomington, Indiana

Waste Reduction District OF MONROE COUNTY

WHY EXPLORE SOLAR AT THE CLOSED LANDFILL

- Providing renewable energy is consistent with:
  - The District's mission
  - The Monroe County Government Climate Resilience Plan, and its sustainability goals and objectives
  - The City of Bloomington Climate Action Plan, and its sustainability goals and objectives
- Gas recapturing has been determined to not be feasible due to the small size of the landfill and the age of the waste in place.
- Provide a beneficial use for substantial acreage of public land that would otherwise have limited options for use.

GETTING STARTED

- The District initially reached out to the Indiana University Environmental Resilience Institute (ERI)
- ERI referred the District to the Rocky Mountain Institute (RMI) and Kansas State University Technical Assistance to Brownfields (TAB)
- First met with RMI and TAB on 3/24/25
- Subsequent meetings have been held to identify potential developers, utility partners, off takers, and programs available to distribute produced energy

IDENTIFIED STAKEHOLDERS

- Utilities
  - Duke Energy
  - South Central Indiana Rural Electric Membership Corporation (SCI-REMC)
- Potential off takers
  - Indiana University – Bloomington Campus
  - Monroe County, Indiana
  - City of Bloomington Utilities
  - Other large electric consumers have been identified but not contacted yet
- Developers
  - Potential developers have been discussed, but we have not yet reached the point where we are ready to engage a developer

WHO IS WORKING ON THIS PROJECT

- Waste Reduction District of Monroe County
  - Executive Director
  - Landfill Director
  - Board Chairperson – City of Bloomington Common Council Representative
  - Board Vice-Chairperson – Monroe County Board of Commissioners Representative
  - Board Secretary – Monroe County Council Representaitve
- Indiana University
  - Associate Vice-President and Chief Sustainability Officer
  - ERI Assistant Director for Strategy and Engagement
- Monroe County Government
  - Fleet and Building Supervisor
- City of Bloomington Utilities
  - Conservation and Energy Resource Manager

SITE DETAILS

- Publicly owned and operated Municipal Solid Waste (MSW) and Construction and Demolition (C/D) Landfill
  - Began accepting waste in 1972
  - Stopped accepting waste in 2004
  - Final closure work completed in 2008
- Located at 7740 N. Fish Road, in Monroe County, Indiana
  - Approximately 9 miles Northeast of Bloomington

Monroe County Landfill Buffer Solar Overview

Address:

- 7740 N Fish Road, Bloomington IN
- Monroe County Landfill

Estimated Viable Site Acreage:

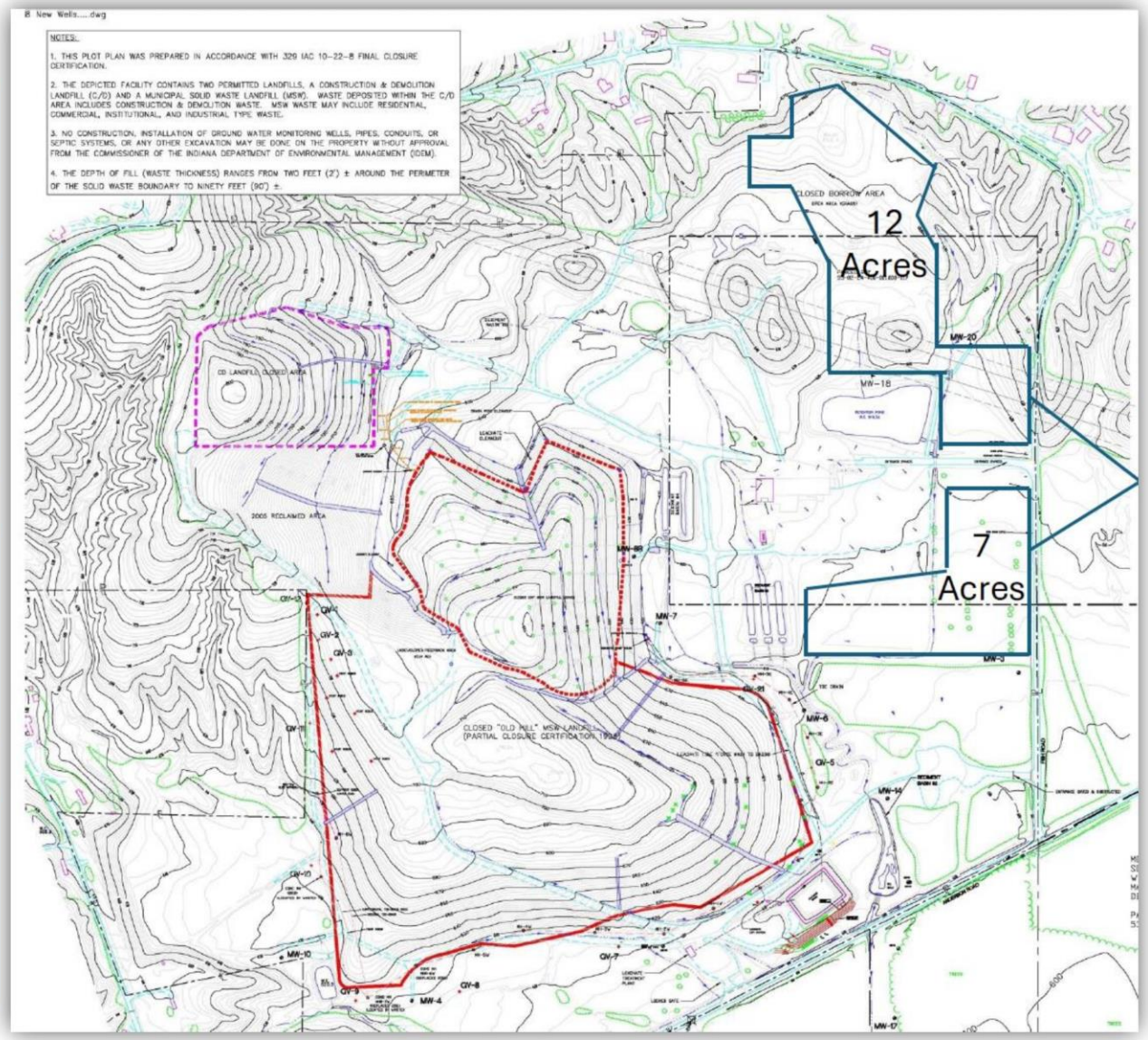
- Usable acres: 19 acres
- Viable acres: 13.3 acres

Estimated Energy Capacity:

- 2.7 MW
- This is approximately equal to powering 443 homes per year

Site History

- Owned by Monroe County Solid Waste Management District, IN
- Landfill closed in 2008



Monroe County Landfill Solar Overview

Address:

- 7740 N Fish Road, Bloomington IN
- Monroe County Landfill

Additional Estimated Site Acreage (yellow):

- Usable acres: 65 acres
- Viable acres: 46 acres

Estimated Energy Capacity:

- 9.1 MW
- This is approximately equivalent to powering 1,517 homes per year

Site History

- Owned by Monroe County Solid Waste Management District, IN
- Landfill closed in 2008

CHALLENGES

- Costs to design and install solar field
- Costs/fees for off takers that are Duke Energy customers
  - Green Source Advantage program
    - $10,000 application fee
    - $50,000 annual fee split among participating off takers
- Logistics of landfill maintenance and upkeep with solar field in place
  - e.g. increased mowing costs

Contact Info

Tom McGlasson Jr.

Waste Reduction District of
Monroe County
tmcglass@mcswmd.org

Questions?

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RMI's Brightfields Accelerator

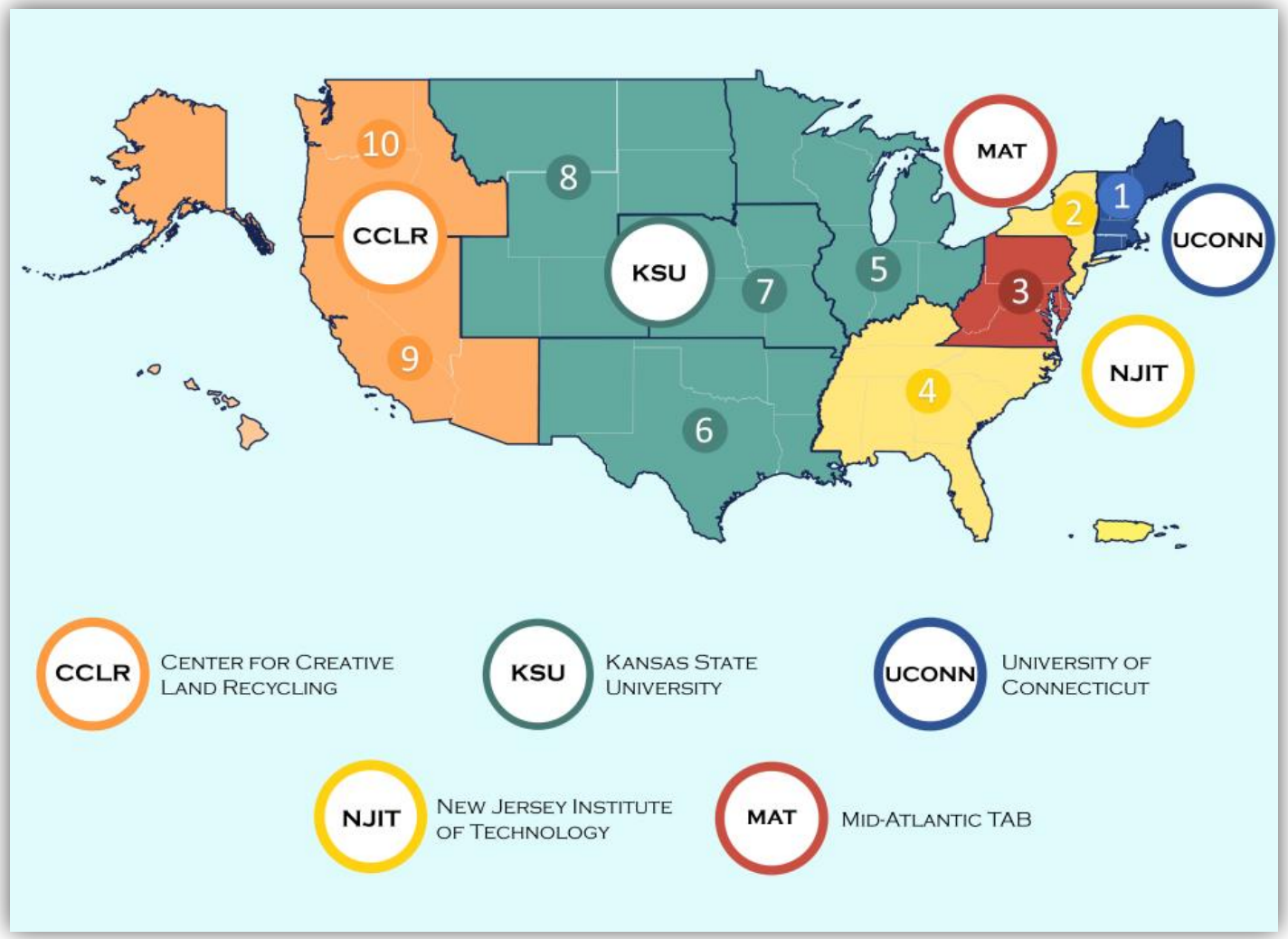
Rocky Mountain Institute

RMI's Brightfields Accelerator is partnered with Kansas State University's Technical Assistance to Brownfields (TAB) to directly assist communities

TAB is a nationally-funded technical assistance for communities and tribes revitalizing communities through brownfields redevelopment

Services from KSU TAB and its partners (including RMI) are free and tailored to meet specific needs across EPA regions 5-8

RMI is a partner specifically to help responsibly plan for and deploy clean energy on brownfields and closed landfills



RMI’s Brightfields Accelerator

Identifying Your Most Promising Brightfields Opportunities

- Site pre-screening
- Strategic reuse planning
- Utility engagement

Funding & Financing Guidance

- Unpacking relevant incentives and funding
- Assistance with brownfields grant applications

Accelerating Brightfields Procurement

- Procurement support
- Insights from the brightfields market

Contact Info

Tansy Massey-Green

Rocky Mountain Institute
tmassey-green@rmi.org

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TAB Resources in Indiana

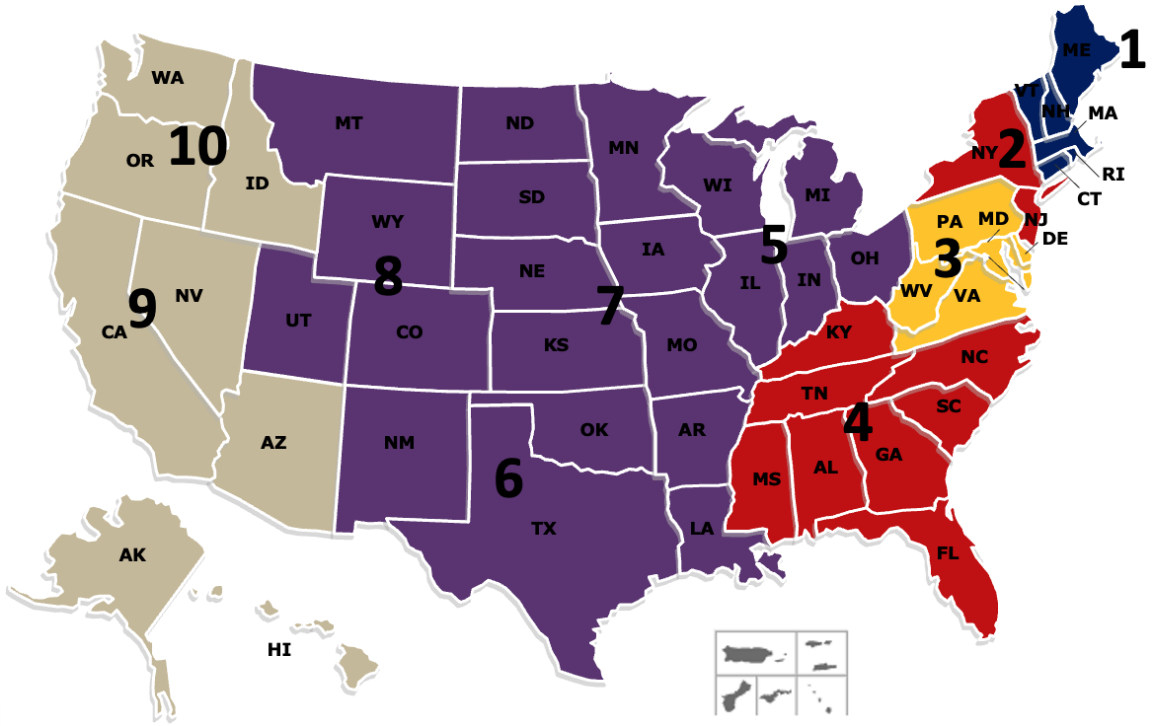
Beth Grigsby, Assistant Regional Director, KSU TAB
October 2025

ksutab.org

Technical Assistance to Brownfields (TAB)

- Nationally funding program by U.S. EPA
- Technical assistance for communities and tribes revitalizing communities through brownfields redevelopment
- Services provided are free and tailored to meet specific needs

Technical Assistance to Brownfields (TAB)



TAB Service Providers

University of Connecticut EPA Region 1

New Jersey Institute of Technology (NJIT)

EPA Regions 2 & 4

Mid-Atlantic TAB EPA Region 3

Kansas State University – EPA Regions 5, 6, 7 & 8

Center for Creative Land Recycling (CCLR)

EPA Regions 9 & 10

You've Got a Friend in TAB

TAB providers can fill gaps and help support overall project goals.

- Help identifying your community's brownfields
- Strategic planning and reuse visioning
- Solar and Green Energy Strategies
- Economic feasibility and Market Impact/Analysis
- Community outreach and input
- Educational workshops
- Help identify funding sources
- EPA Brownfields Grants-strategy development and application reviews

We Want to Hear Your Feedback

Please provide feedback on today's event:

1. Click this link
   Brightfields 101 10/1/2025

2. Click the link provided in the chat box

1. Scan this QR image from your smartphone

Contact Info

Let's Connect!

Scan to get in touch with a TAB team member or to join our mailing list

SCAN ME!

Beth Grigsby

Assistant Regional Director,
KSU TAB
beth27@ksu.edu

This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement (41-84066501) to Kansas State University. 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.

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Indiana University Environmental Resilience Institute

Bill Brown and Marie Renahan

Indiana University Environmental Resilience Institute

Leveraging **McKinney Climate Fellows (MCF)** across all sectors

Enabling communities to obtain funding for climate and resilience projects

Advancing climate action in communities through **Resilience Cohorts (RC)**

Catalyzing strategic climate engagement

Serving as a hub for knowledge sharing and networking through, for example, the annual **Indiana Sustainability and Resilience Conference (ISRC)**.

McKinney Climate Fellows
By the numbers

- 267 placements from 6 IU campuses
- 100,000+ hours served
- 60% of past climate fellows work in sustainability and environmental careers
- 58% of past climate fellows live and work in Indiana

August 2025

Indiana Resilience Funding Hub (IRFH)

- Empower rural communities to successfully apply for federal funding for their local resilience and energy projects.
- Engage IU faculty and students to provide technical support and professional development.
- Share tools, data, resources, training, webinars, and guides.

With funding from Resource Rural and the Energy Foundation, IRFH is a collaboration of the IU Environmental Resilience Institute and the IU Center for Rural Engagement.

Contact Info

Bill Brown

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Marie Renahan

IU Environmental Resilience Institute
mrenahan@iu.edu

TAB
Technical Assistance to Brownfields

KANSAS STATE UNIVERSITY

Indiana Department of Environmental Management

Kim Vedder

Indiana Brightfields Webinar Series

Brightfields 101

Kim Vedder

Indiana Antique Landfill Coordinator

IDEM Assistance for Landfills and Solar Projects

- Site Visits
- Post-Closure Use Questions
- Legal Authority Clarification Questions
- Indiana Brownfields Program Referrals

Site Visits are an *Opportunity*

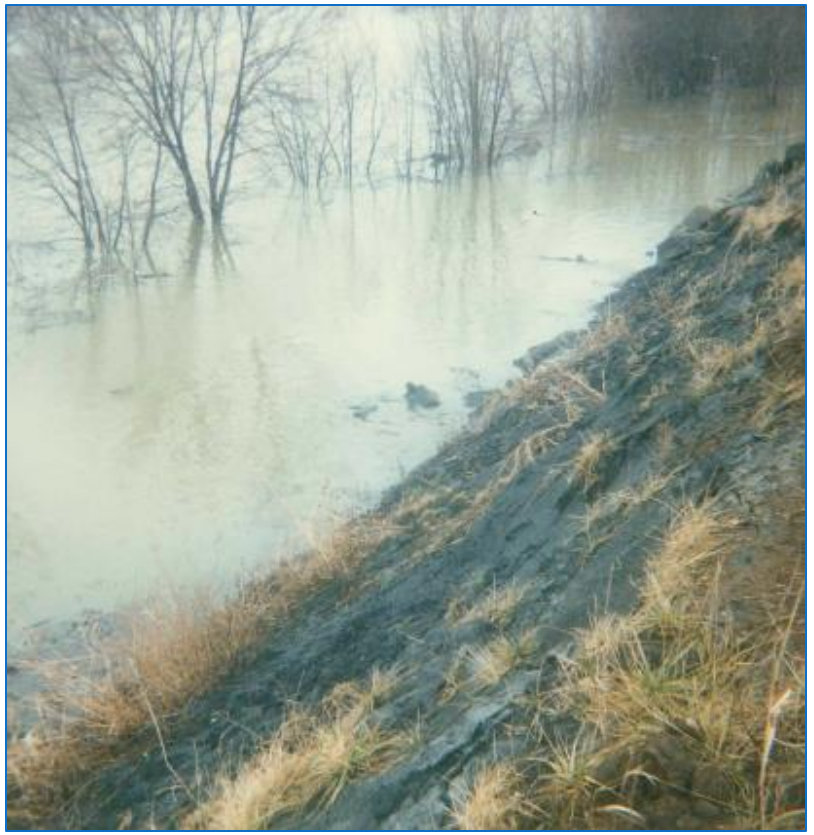
- For everyone to see the same thing at the same time
- To ask questions and receive answers as a group
- Caveat: Limited availability for site visits most months

Post-Closure Use Examples

- Horse barn and riding ring
- Miniature airplane landing strip
- Waste excavation for new infrastructure
- Hydrogen fuel station
- Golf course
- Green space
- Solar
- Water park

Legal Authority Clarification Questions

- Is waste deposited 50+ years ago regulated?
- Which part of which rule applies?
- Are there other parties with potential liability?



Indiana Brownfields Referrals

- We don’t have any funding for this landfill. Now what?

- Contact the Indiana Brownfields Program at:
  John Morris, Stakeholder Engagement Coordinator,
  at jmorris@ifa.in.gov or 317-234-0235
  or https://www.in.gov/ifa/brownfields/

For More Information

www.idem.IN.gov

(317) 232-8714

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Indiana Brownfields Program

John Morris, Indiana Brownfields Program, IFA

Indiana Brownfields Program

Brownfields Program Overview

Brightfields 101: Introduction to Brightfields

October 1, 2025

Mission Statement

Our mission is to encourage and assist investment in the redevelopment of brownfield properties by helping communities via educational, financial, technical, and legal assistance to identify and mitigate environmental barriers that impede local economic growth

Indiana Brownfields Program

- Provides **free governmental assistance** to address environmental issues that impede brownfields redevelopment
- Works typically with communities or prospective purchasers
- Allows for **voluntary participation**– not enforcement
- Works in partnership with U.S. EPA & IDEM
- Has different processes for different incentives
- Uses consultants differently per incentive
- Utilizes IDEM's Risk-based Closure Guide (R2)
- **Offers closure & liability clarification documents**

Program Basics

Financial Incentives - Environmental Assessment and Remediation Awards of Professional Services and Loans

Technical Resources - Environmental Evaluations and Field Work Oversight

Education and Outreach – Workshops, Trainings, Community Meetings and EPA Assistance

Legal Assistance - Liability Interpretations and Enforcement Discretion Determinations

Financial Incentives

State and federal $: loans, subgrants (or awards of professional services), coordination, leveraging funds

- Phase I Environmental Site Assessment (Phase I ESA) Initiative
- Petroleum Orphan Sites Initiative (POSI)
- Revolving Loan Fund (RLF) Incentive (federal $) (loans/grants)
- IFA State Revolving Fund (SRF) Loan Program coordination
- IDEM Supplemental Environmental Project (SEP) coordination
- OCRA-IFA partnership coordination (e.g., demo/clearance)
- Misc. brownfield determinations/support letters (e.g., PEDs)
- Current/Future funding via U.S. EPA (e.g., 128(a), RLF)

Financial assistance varies throughout the years…. Some assistance via rolling applications… some not…. Assistance is not mutually exclusive and is not linear….

$100M Funding Milestone

In 2023, the Brownfields Program reached a funding milestone…

over $100M in financial assistance awarded for brownfield projects since 1997!

TOTAL IFA STATE AWARDS

Assessment Grants	$	8,154,170
Low Interest Loans	$	13,517,267
Remediation Grants	$	6,050,127
Federal Matching Grants	$	1,151,000
Petroleum Remediation Grants	$	15,024,283
Petroleum Orphan Sites Initiative	$	32,990,547
Phase I ESA Initiative	$	102,055
Auto Sector Initiative	$	504,846
Revolved Loan Repayments*	$	3,130,557
TOTAL STATE AWARDS	**$**	**80,624,852**

TOTAL IFA FEDERAL AWARDS

Leaking Underground Storage Tank ARRA	$	4,039,000
Brownfields ARRA Revolving Loan Fund (RLF) Loans	$	2,478,000
Regular RLF Loans	$	9,379,069
RLF Subgrants	$	4,146,575
Multipurpose Grants	$	119,771
128(a)	$	2,940,571
Trails & Parks Initiative	$	583,315
TOTAL FEDERAL AWARDS	**$**	**23,686,301**

*Funds used to supplement other awards

TOTAL IFA STATE AND FEDERAL AWARDS $ 104,311,153

Technical/Legal Incentives
Liability Clarification Letters

Comfort Letter (CL):

- Issued to a party that qualifies for an *applicable exemption to liability* found in Indiana law or IDEM policy but is *not a legal release* from liability.

- Explains IDEM's exercise of enforcement discretion under an applicable liability exemption or IDEM policy.

*If want to be a BFPP, **Phase I ESA needed prior to purchase** for due diligence!*

Phase II ESA recommended to establish due care/continuing obligations/reasonable steps!!

Technical/Legal Incentives Closure Letters

Site Status Letter (SSL):

- Issued to a *non-responsible party* that can demonstrate that current levels of contaminants of concern substantially meet current risk-based cleanup criteria as established by IDEM per its *Risk-based Closure Guide* (R2)

- Does not address the potential liability of the applicant

- States that based on a technical analysis of information submitted to IBP pertaining to site conditions, IBP concludes that current site conditions do not present a threat to human health or the environment and that IDEM does not plan to take or require a response action at the brownfield site.

Evaluation & Wrap-Up
Looking Ahead

Brownfields: can bring blight… but can also bring people together for beautiful revitalization!

***Small sites/small communities*:** can lead to big successes.

***Success*:** can be achieved along the journey with the right attitude and right resources.

The end: can help you start the revitalization process.

Indiana Brownfields Program: can offer resources (via different processes depending on needs and types of assistance) to help address environmental issues to facilitate brownfield redevelopment.

***Next steps*:** can be as simple as asking for help….

Contact Info

John Morris

_____

Indiana Brownfields Program
jmorris@ifa.in.gov

Poll #5 Question

Today’s Agenda

- Welcome & Introductions
- What Are Brightfields?
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Next Steps

Slides and recording will be shared by October 6th

The next workshop on liability and permitting concerns with IDEM and Indiana Brownfields will be on October 22 at 1pm.

Fill out our evaluation survey! It helps us improve for next time.

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

We Want to Hear Your Feedback

Please provide feedback on today's event:

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2. Click the link provided in the chat box

1. Scan this QR image from your smartphone

Thanks for joining us! Interested in technical assistance? Get in touch!

RMI Contacts:

- *Tansy Massey-Green* tmassey-green@rmi.org

KSU TAB Contacts:

- *Beth Grigsby* beth27@ksu.edu

IU Environmental Resilience Institute Contacts:

- *Bill Brown* brownwm@iu.edu
- *Marie Renahan* mrenahan@iu.edu

Indiana Brownfields Contacts:

- *Morris, John (IFA)* jmorris@ifa.in.gov

IDEM Contacts:

- *Kim Vedder* kvedder@idem.in.gov

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Thank You

For joining us for this webinar. Please get in touch if you have any questions or comments!

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