



COLORADO
Department of Public
Health & Environment

Catalyzing Redevelopment with Brightfields

Bill Shrum, Downtown Colorado, Inc.

Ernie Megginson, BQ Energy

Amy Dzialowski, Geosyntec

Susan Brodie, Geosyntec (moderator)





DOWNTOWN COLORADO, INC.

CATALYZING DOWNTOWN REDEVELOPMENT

ABOUT DOWNTOWN COLORADO, INC.

Colorado's downtown champion since 1982

We are the Doers.

We are committed to building downtowns that are prosperous, equitable, creative, and welcoming. United in cause, we are Colorado's downtown champions.

Downtown Colorado, Inc. provides five core services to organizations and individuals engaged in downtown + commercial district development:

- Advisory Services
- Educational Events
- Advocacy and Information
- BID, DDA, URA Formation+ Training Assistance
- Colorado Challenge Program



Who We Are

CHAMPIONS + CATALYSTS



Bill Shrum

Director of Operations |

Downtown Colorado, Inc.

WHY WE LOVE DOWNTOWN



**PEOPLE ARE LONGING FOR
A PLACE NOT ONLY TO
LIVE, BUT ALSO TO LOVE.**

PETER KAGEYAMA

CATALYZING REDEVELOPMENT

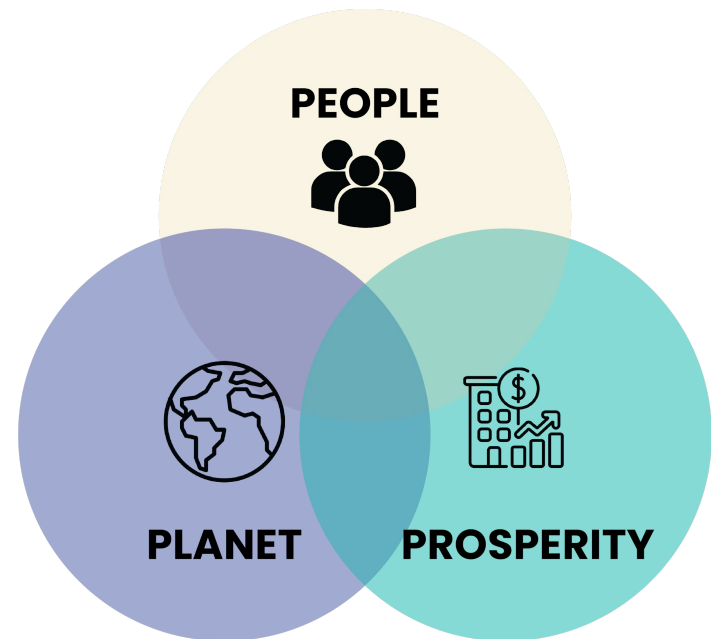
Thriving Downtowns:

*an investment playbook for
rural Appalachia*

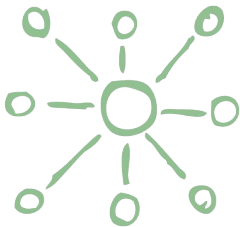
- Readiness Factors: Investment Assessment Tool
- Helping Groups Organize
- Investment Strategies
- Case Studies

Underlying Principles

- Communities Lead | Residents must decide the vision
- Better Together | All types of organizations
- Investing for the Long Haul | Double (Triple) bottom line
- Building Community Wealth:
 - Individual
 - Intellectual
 - Social
 - Natural
 - Built
 - Financial
 - Political
 - Cultural



Readiness Factors

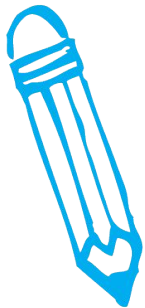


Community Assets (out of 10)	
	Leadership: Leadership that is willing to learn, think out of the box, and be responsive to input from local stakeholders and residents across formal and informal structures
	Engagement: Ability to engage diverse stakeholders and a broad range of local community members, fostering respect, openness to new perspectives, and collaboration
	Shared Vision: Vision, goals, and a plan for your downtown shared by diverse stakeholders and residents and an inclusive process in place to adjust as community priorities and opportunities shift
	Quality of Life: Assessment of quality-of-life assets – recreation, arts/culture, third spaces (informal social gathering), entertainment, etc.
Local Government and Civic Structure (out of 5)	
	Downtown Group: Downtown revitalization working group, Main Street organization and/or downtown coordinator supported by local residents and businesses
	Local Government: (through a Main Street program or other mechanism) that promotes streetscape improvements, affordable commercial space, appropriate zoning regulations. A plan or process to incentivize redevelopment.
	Virtual Gathering Places: including online meetings of civic organizations, local residents, and visitors, as well as access to free webinars about tools/strategies for transforming downtowns
Economic Ecosystem (out of 11)	
	Diversity of Business: An understanding of the focus and diversity of businesses and organizations best suited to the sustainability of your downtown, including: retail, food, attractions, services, small manufacturing, education institutions, residential, etc.
	Business Engagement: Business engagement and networking opportunities
	Business Friendliness: Business friendly environment with existing demand (may be local and/or from outside of the area) for products/services.
	Small Business Development: supports for small businesses, such as a one-stop shop for small business development, including licensing and local incentives, education and training, strategy and plan development, market analysis and more.
	Downtown Experiences: Events/experiences that help draw diverse residents and non-residents to the downtown
Built Infrastructure (out of 10)	
	Water: Resilient water/wastewater infrastructure
	Walkability: Sidewalks, walking trails and/or outdoor structures/places to connect or gather in person
	“Third Places”: Third places that encourage mixing among diverse cultural groups
Natural Environment (out of 5)	
	Natural Assets: Access to and maintenance of natural assets
	Connection to Other Green Spaces: Greenways and/or bike paths that connect to downtown
	Green Spaces Within: Parks, pocket parks, trees, flowers, or other greenery are included downtown
	Outdoor Recreation: Recreation focused on nearby natural resources
	Protected & Maintained Land: Protection of scenic and ecologically valuable land



Key Functions and Roles

- Spotter: The (Local) Visionary
- Framers: The Deal Maker
- Engager: Build Trust and Share Stories
- Developer: The Risk Taker
- Primary Contact: The Connector



Poll Questions

Private

Public-Private

Public

- Volunteer Driven
- Grants, Members, Contracts

- Paid Staff/ Business Driven/ Property + Business Vote
- Mill Levy/ Contracts

- Paid Staff/ Council Appointed/ Property & Business Vote
- Mil Levy/ Contracts/ Tax Increment Financing

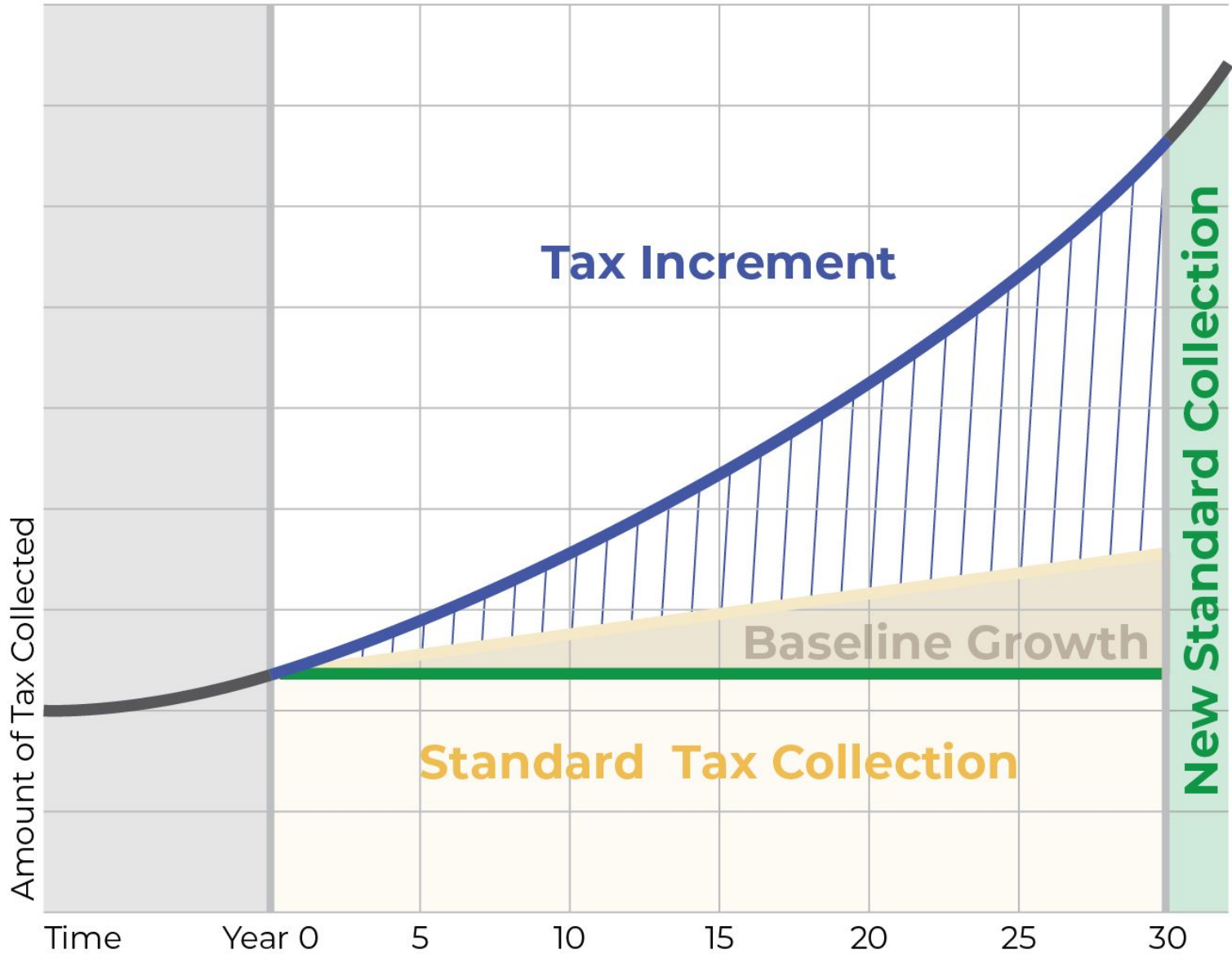
- Paid Staff, Council or Council Appointed
- Tax Increment Financing

Non Profit

BID

DDA

URA



TIF INCENTIVE

BONDS
LOANS
REIMBURSEMENTS

TIF ELIGIBLE COSTS

PUBLIC INFRASTRUCTURE/UTILITIES

PARKING

STORMWATER IMPROVEMENT

PERMITTING + FEES

ENVIRONMENTAL REMEDIATION

FACADES

MULTI-MODAL IMPROVEMENTS

AFFORDABLE HOUSING

Case Study: Belmar

- Communities Lead
- Better Together
 - Continuum Partners
 - CDPHE (Brownfield Loan Fund)
 - City of Lakewood
 - 3 Metro Districts
 - Lakewood Reinvestment Authority
 - Several local committees
- Investing for the Long Haul
 - Double (Triple) bottom line
- Building Community Wealth





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ABOUT US

GOVERNANCE

About Us

What kinds of projects does ACBID work on?

ACBID focuses on the core areas of street beautification, corridor safety, and economic development. The ACBID annual operating plan sets out the details of programs as well as the budget for each of these priority areas.

Public art projects have been a cornerstone for ACBID street beautification from the start. Follow [this link](#) for a list with photos of all the ACBID sculptures, murals, and other public art installations!

Parkway on the south. Within the corridor, commercial property owners voted to tax themselves to make their community cleaner, safer, and more vibrant.

Readiness Factors of BID

Community Assets (out of 10)	
	Leadership: Leadership that is willing to learn, think out of the box, and be responsive to input from local stakeholders and residents across formal and informal structures
	Engagement: Ability to engage diverse stakeholders and a broad range of local community members, fostering respect, openness to new perspectives, and collaboration
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- Leadership
- Engagement
- Shared Vision
- Downtown Group
- Local Government
- Diversity of Business
- Business Engagement
- Downtown Experiences
- Walkability
- “Third Places”
- Natural Assets
- Connection to Nature

Brownfields as Transformative Investment

Readiness Factors + **Catalytic Capital** + **Investment Capital** = **Transformative Investment**

- City of Lakewood Investment = \$500,000 in TIF
- Brownfield Cleanup = \$5 million
 - \$110,000 Brownfield Grant
 - \$1.95 million Brownfield Revolving Loan
- Increase in Tax Revenues = \$5.2 million
- Construction-related Costs = \$426.1 million
- Local Solar Power Generated = 1.7 MW

Building Community Wealth

- 1,300 Condominiums + 87 SFH + 109 MFH
- Belmar Center – 1170 person event center
- 9 acres of parks, plazas, public spaces
- Public Art Program
- Total Household Income = \$14.5 million
- \$59,280,000 Increase in Total employee earnings



QUESTIONS + THOUGHTS



CONTACT DCI

WEBSITE

www.downtowncoloradoinc.org

EMAIL ADDRESS

operations@downtowncoloradoinc.org

PHONE NUMBER

303.282.0625

FAX

Just kidding HA HA

A black circular logo with white text. The text reads "DO-ER." in a large, bold, sans-serif font. Below it, in a smaller font, is "DOWNTOWN COLORADO" with a horizontal line under "COLORADO" and "inc." in a very small font to the right.

DO-ER.
DOWNTOWN
COLORADO
inc.

Solar Development on Landfills and Brownfields



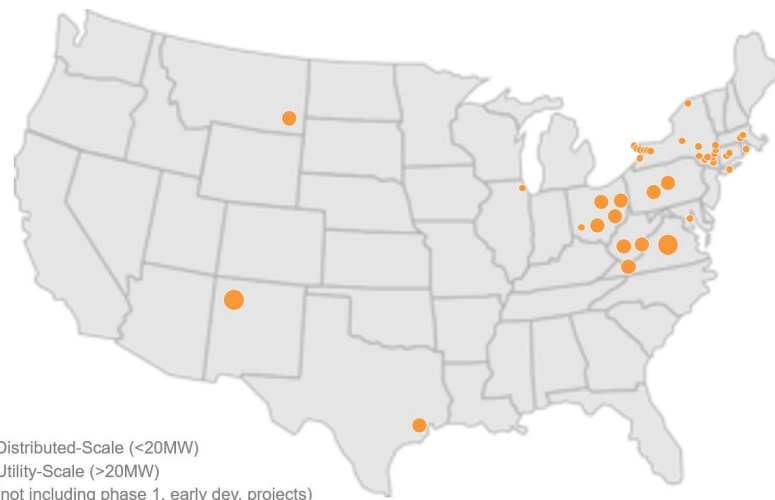
**Colorado Brownfields Conference
Lakewood, CO
June 12, 2023**



Who We Are



- BQ Energy is a solar energy company located in Wappingers Falls, New York
 - Founded in 2002
 - Globally experienced team
 - 105 MW built and in operation
 - Over 875 MW in development
 - Recently acquired by CleanCapital



CleanCapital

- Founded in 2015, is among the top 10 commercial solar asset owners in the US
- CleanCapital has successfully acquired and managed 200 projects in 24 states, totaling more than 300 MW



What We Do

- Develop, finance, build, own, operate & maintain solar projects exclusively on brownfield & landfill properties
- Collaborate with stakeholders for:
 - Permitting
 - Interconnection
 - Engineering and Design
 - Equipment Procurement
 - Power sales
 - Construction
 - Operations & Maintenance
- Fund and execute all aspects of project development with a 20-person team



Examples of Our Operating Projects



PatterSun 1.3 (NY) (2016)

Power Sold to Watchtower Educational Center
Debt Supplied by NYS Green Bank

Esopusol (NY) (2017)

Power Sold to Town of Esopus
Debt Supplied by NYS Green Bank



Sunlight Beacon (NY) (2018)

Power Sold to City of Beacon
Debt Supplied by NYS Green Bank



PatterSUN 1 (NY) (2014)

Power sold to Trinity Pawling High School
Debt Supplied By M&T



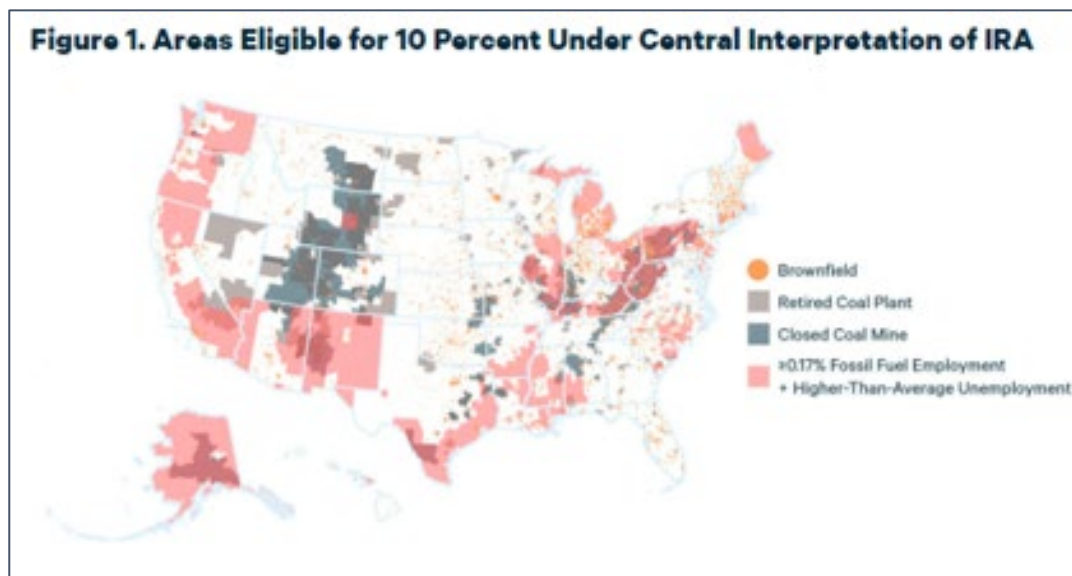
Green Derby (CT) (2015)

Power Sold to City of Derby (CT)
Debt Supplied by KeyBank



Target Market

- It is estimated that there are more than 450,000 brownfields, over 50,000 landfills, and over 2,000 Superfund sites in the US
- The RE-Powering Mapper ~ over 190,000 brownfields, Superfund, landfill, mine sites and other contaminated land that are pre-screened for renewable development reuse
- The EIA generator Inventory ~ information about existing generators and planned retirement dates (Ex: 609 Coal Fired Power Plants; 350 retired and 259 in operation)



Landfill & Brownfield Reuse

Why are these types of sites typically well suited for solar projects?

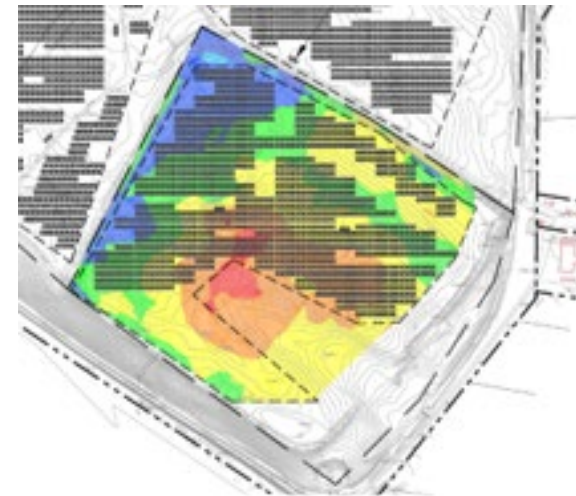
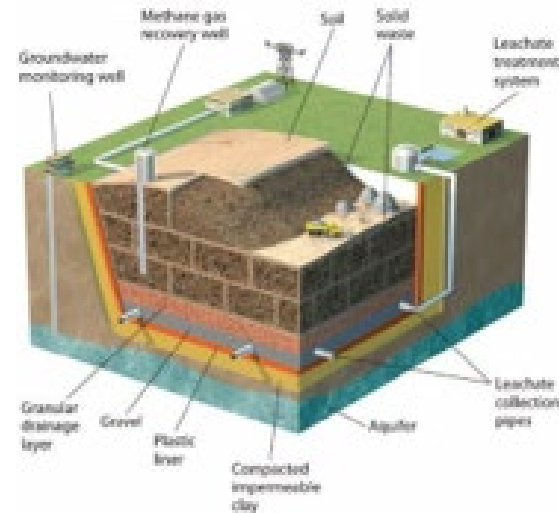
- Land Attributes:
 - Large, mostly flat areas with minimal shade
 - Doesn't require tree removal
 - Close proximity to power lines / electric infrastructure
 - Don't have to retire farmland
 - Limited number of alternative uses
 - Lower lease costs compared to greenfield properties
 - Often located in low-income or marginalized communities
 - Helps address past environmental injustices
- Financial Incentives:
 - Energy Adder (per IRA)
 - State Policy & Incentives



Landfill & Brownfield Reuse – Technical Feasibility

- Remediation & Preparation
 - Research site history
 - Closure records
 - Environmental reports
 - Permitting and risk management

- Looking Ahead
 - Develop a project schedule to estimate operations date
 - Identify out-of-the-norm costs
 - Design layout of project for accurate capacity & production

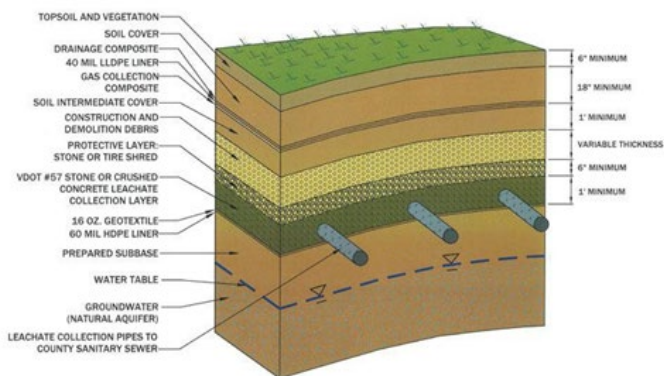


Component Assessment – Landfill Considerations

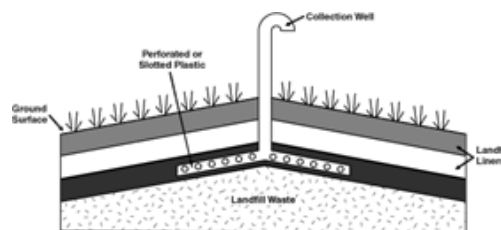
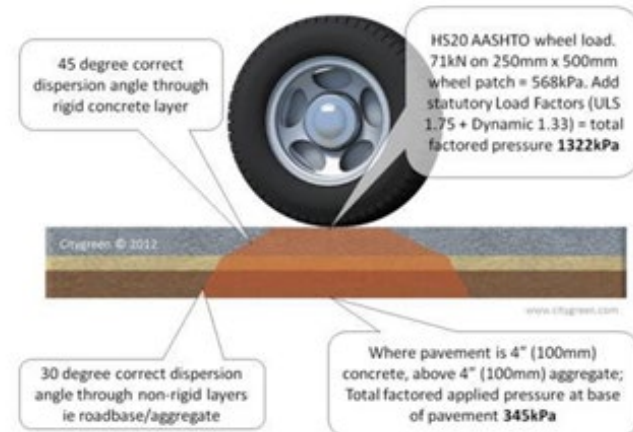
- Special permits/approvals requirements
- Settling period for waste determination
- Geotechnical engineering
 - Cap depth & composition



CROSS-SECTION OF LANDFILL CONTAINMENT SYSTEMS



HS20 Wheel Load – Correct Calculations



Component Assessment – Equipment Selection

- Site composition plays a role in determining viable equipment
 - Ballasted vs. driven posts
 - Fixed tilt vs. single axis trackers
- Identify manufacturers for technology, equipment, and panels early to avoid supply chain risks
- Remain in contact with critical solar and electrical vendors across multiple projects to have constantly updated equipment lead times and pricing



Questions?



BQ Energy Development, LLC

Dedicated to the Development of Clean Energy Facilities



BQ Energy llc
400 Market Industrial Park, Suite 32
Wappingers Falls, NY 12590
(845) 473 0300
www.bqenergy.com





Community Power: Funding for Brownfields and Brightfields

Amy M. Dzialowski
Senior Principal
Geosyntec Consultants, Inc.



As brownfields advocates, we have focused on protecting public health and the environment as we cleanup properties and strengthen local economies. Increasingly, we turn our attention to creating healthier, affordable, equitable and more livable communities.

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consultants

engineers | scientists | innovators

- Revitalize the community
- Reduce urban sprawl
- Promote green and sustainable resources and construction



- Design redevelopment options with a public-safety focus
- Merge redevelopment with innovative cleanup approaches
- Engage community stakeholders with solutions

- Improve infrastructure
- Create new business opportunities
- Generate increased revenue for cities

Future funding opportunities will focus on ways community engagement, assessment, and the brownfields process can improve sustainability, renewable energy, health, environmental justice, preparedness and resilience.

What Drives Brownfields Redevelopment?

Redevelopment Scenario

Implication

Market value exceeds cleanup costs

Private sector completes cleanup and redevelopment

Value close to covering development & cleanup costs

Targeted public investment can make project feasible

Environmental liability far exceeds property value

Requires significant public investment or market change

Strengthening our Communities Through Brownfields Redevelopment



Considerations

- Shovel-Ready Projects
- Focus of Funding
- Budget Cycle
- Administrative and Programmatic Readiness

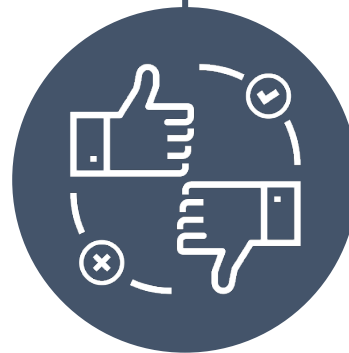


Funding Types

- Formula Funding
- Competitive Grants
- Incentives

Opportunities

- Think Long-Term
- Cross-Departmental Projects
- Comprehensive Budget Strategy



Infrastructure Investments and Jobs Act

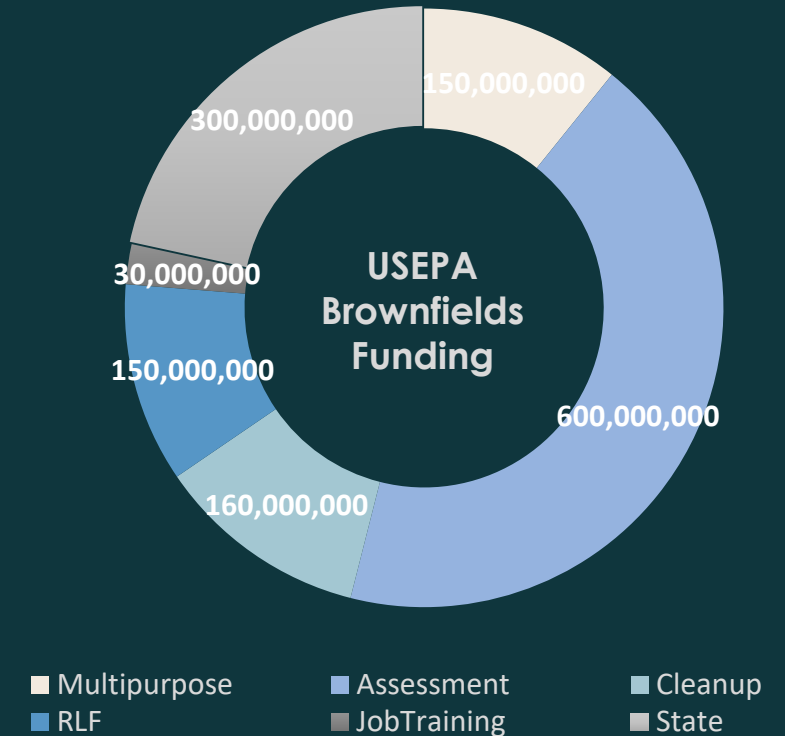
Historic Federal Brownfields Investment

The 2021 IIJA increased funding for brownfields grants by 6-20 times previously funded levels.

USEPA expects to leverage up to \$30.2 Billion in additional public/private funding.

\$1.5 Billion in IIJA for Brownfields Grants

- Focus on EJ communities, climate action, resilience, energy.
- \$1.5 Billion in IIJA funding over the next 5 years. IIJA funds will be in addition to typical appropriated funds.



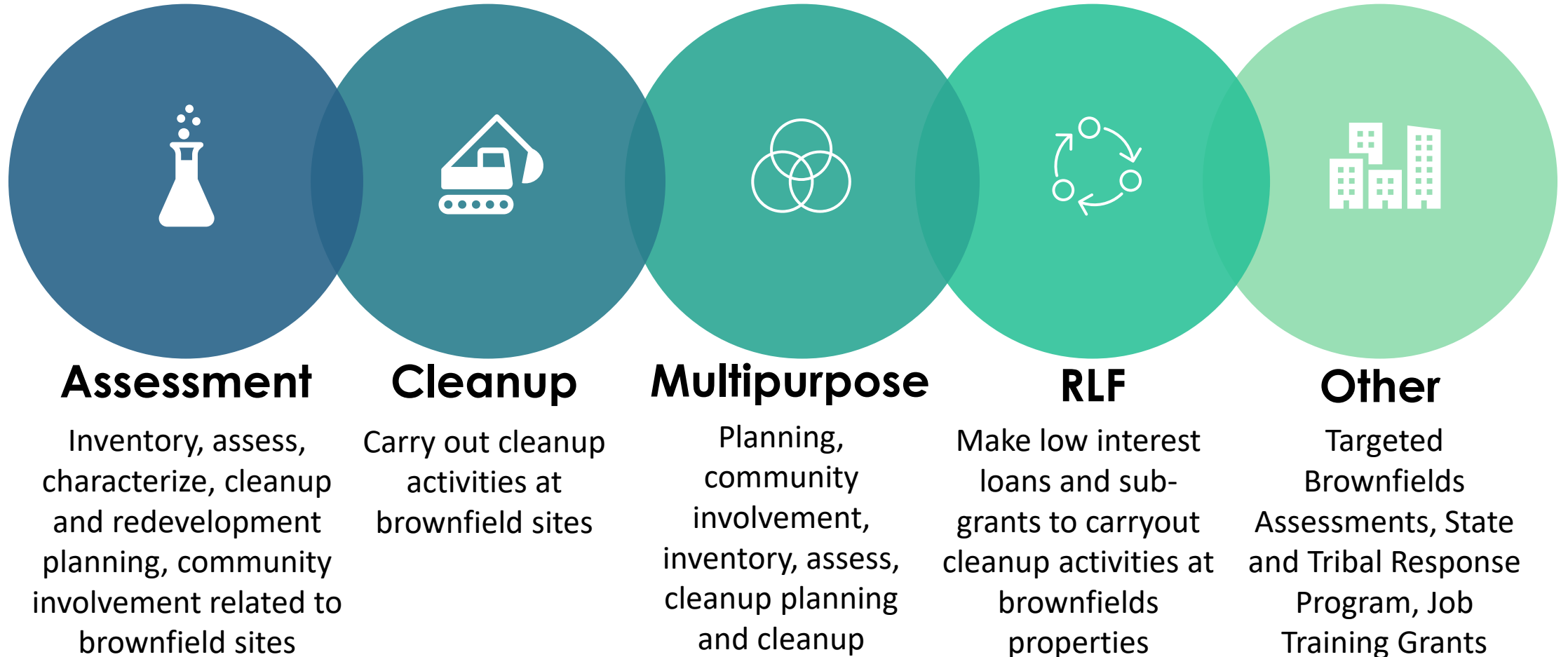
USEPA Administration Priorities



- Justice 40 Initiative
- Reaching new communities and non-profit organizations
- Strong community engagement and representation
- Anti-Displacement efforts
- Sustainable site reuse
- Climate adaptation and mitigation measures

Types of Grant Funding

USEPA Brownfields Program





Assessment

Up to \$1Million per application

- Community-wide (new and existing), Coalition
- **Eligible Applicants:** General Purpose Unit of Government, Non-Profits, States, Tribes
- **Eligible Activities:** Brownfields Inventories Phase I ESA, Phase II ESA, Asbestos Survey, Lead-Based Paint Inspection, Household Hazardous Waste, Planning (Market Evaluation or Analysis, Site Design and Redevelopment Planning).

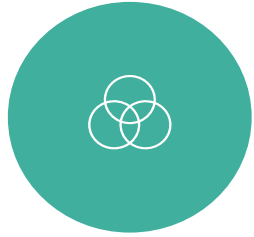




Cleanup

Up to \$2Million per application

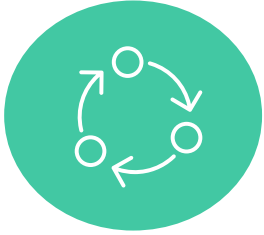
- *Must have FEE SIMPLE TITLE* of the property; public notice requirements
- Must have Phase II ESA complete prior to grant application submittal
- **Eligible Applicants:** General Purpose Unit of Government, Non-Profits, States, and Tribes
- **Eligible Activities:** Vapor Mitigation, Cleanup Planning, Active Remediation, Asbestos Abatement



Multipurpose

Up to \$800,000 per application

- Must include Phase II ESA and cleanup activity.
- **Eligible Applicants:** General Purpose Unit of Government, Non-Profits, States, and Tribes
- **Eligible Activities:** Assessment, planning and cleanup activities. Inventories, prioritization, reuse plan, cleanup activities on brownfield sites owned by the applicant, overall plan for revitalization.



Revolving Loan Fund

Up to \$1Million per application

- Applied for and administered by the grantee to provide low interest loans for cleanup to the private sector and sub-grants to non-profits.
- Sophisticated program, best suited for experienced brownfields programs.
- **Eligible Applicants:** General Purpose Unit of Government, Non-Profits, States, and Tribes
- **Eligible Activities:** Low-interest loans and subgrants for cleanup activities.

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consultants

engineers | scientists | innovators



Assessment for States and Tribes

Up to \$2Million per application

- Applied for and administered by the grantee to provide low interest loans for cleanup to the private sector and sub-grants to non-profits.
- Sophisticated program, best suited for experienced brownfields programs.
- **Eligible Applicants:** General Purpose Unit of Government, Non-Profits, States, and Tribes
- **Eligible Activities:** Low-interest loans and subgrants for cleanup activities.

IIJA Grants for Solar Development

Clean Energy Demonstrations on Current and Former Mine Land

To demonstrate the technical and economic viability of carrying out clean energy projects on current and former mine land. Up to five 5 clean energy projects are to be carried out in geographically diverse regions, at least 2 of which shall be solar projects.

Energy Efficiency Conservation Block Grant

Development and implementation of an energy efficiency and conservation strategy, conducting residential and commercial building energy audits.

Development, implementation, and installation on or in any government building of the eligible entity of onsite renewable energy technology that generates electricity from renewable resources, including—(A) solar energy;(B) wind energy;(C) fuel cells; and(D) biomass



Inflation Reduction Act Loans & Incentives

Investment Tax Credit for Energy Property-Provides a tax credit for investment in renewable energy projects.

Production Tax Credit for Electricity from Renewables - Provides a tax credit for production of electricity from renewable sources.

Increase in Energy Credit for Solar and Wind Facilities Placed in Service in Connection with Low-Income Communities - Provides an additional investment tax credit for small-scale solar and wind facilities in low-income communities.

Electric Loans for Renewable Energy -To finance the construction of electric distribution, transmission, and generation facilities, including system improvements and replacements required to furnish and improve electric service in rural areas, as well as demand side management, energy conservation programs, and on-grid and off-grid renewable energy systems.



Your Community

- Identify community and project needs now!
- Decision-makers will need to weigh time spent lobbying for formula funds at the state level and time spent on competitive grants directly to local government.
- Work collaboratively across departments to determine funding opportunities that benefit more than one function.
- What are your long-term goals for sustainability and resiliency, cost savings and efficiency—how can grant funding or incentives serve those needs?
- Stack funding to accomplish bigger projects.
- Will funding in one area free up dollars for another type of project in your community?

**INSTEAD OF THINKING
OUTSIDE THE BOX, GET
RID OF THE BOX**

DEEPAK CHOPRA

Questions

