



TOPIC TALK

**POWERING THE FUTURE:
BROWNFIELDS REDEVELOPMENT
AND THE GROWING DEMAND FOR
DATA CENTERS**

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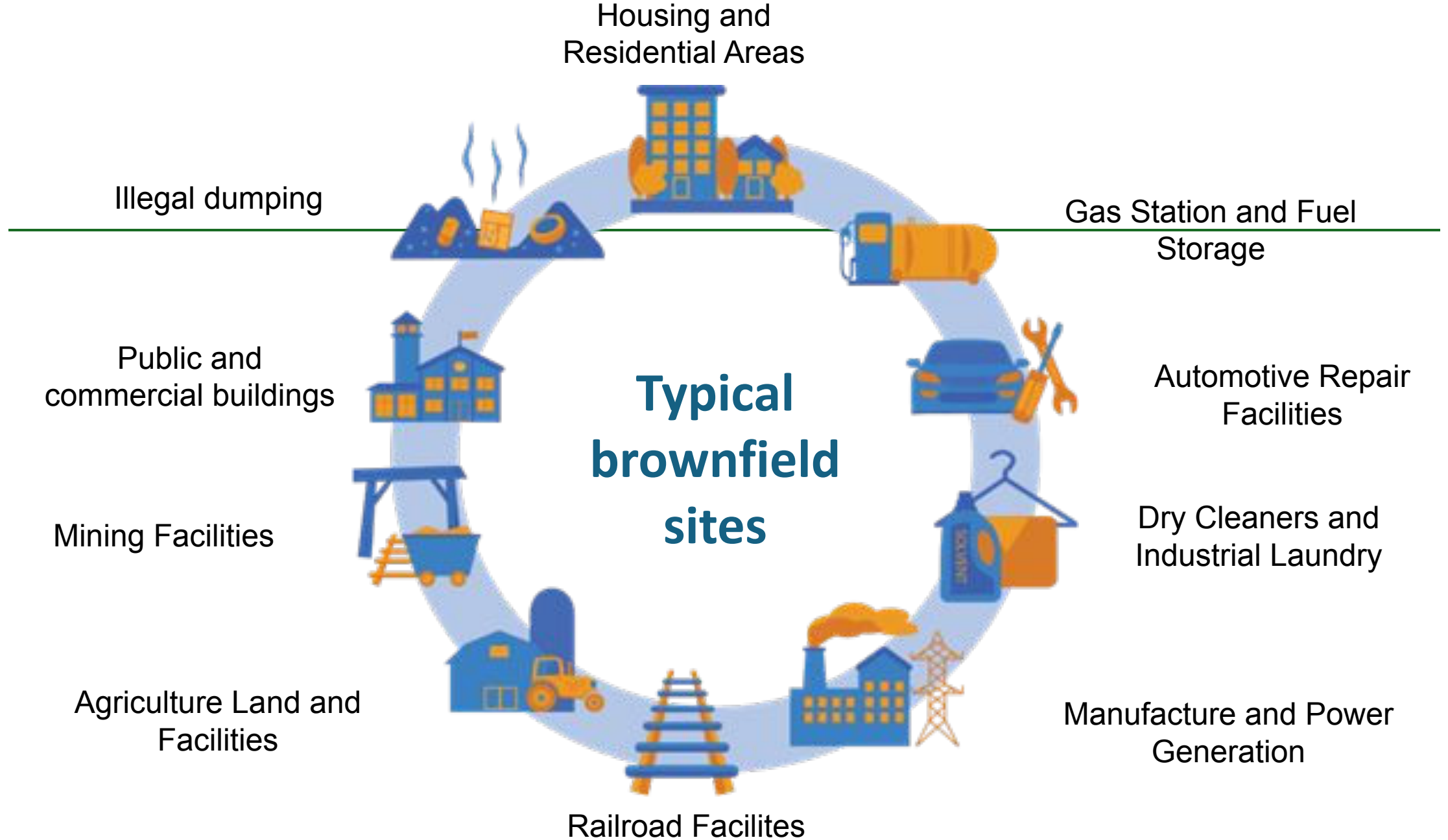
Powering the Future: Brownfields Redevelopment and the Growing Demand for Data Centers

Sam Sigal
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California Land Recycling Conference Topic Talk

Brownfields 101

- Definition of “Brownfield Site”
 - Real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant
- *Statutory definition found in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) §101 (39)*





EPA Supports Brownfields Revitalization

- Grants and technical assistance to promote:
 - Community-driven planning, assessment, clean up and reuse of brownfield sites
 - Training for brownfield jobs and workforce development
 - Building local capacity to manage brownfield projects and successfully revitalization targeted areas.
- Liability protections to encourage acquisition and investment in brownfield reuse
- Establishing and enhancing state and tribal response programs



Criteria for Data Center Consideration

- Top considerations for brownfield sites are **energy availability** and **property size**
- Full [Guidance on the Redevelopment of Superfund and Brownfield Sites as AI Data Centers](#)

Site Characteristic Criteria	Considerations for Data Center Development
Size & Topography	• A minimum of 100 acres is typically needed for a 100 mega-watt (MW) campus-style data center. Data centers generating fewer MW may be accommodated on smaller sites. • Additional land for power generation, substations, cooling, stormwater management, parking, security, and phased expansion is usually desired. • Rectangular sites with slopes less than ~2-5% are generally preferred. 5-10% are riskier and slopes greater than 15-20% are not generally pursued.
Population & Location	• Ideally less than one hour from a metropolitan area, as proximity to reliable workforce and customers is important for ensuring service reliability and user experience. • Accessibility for construction and maintenance of data center.
Energy	• Power: High demand for power requires sufficient grid capacity, substation access, redundancy, and favorable tariffs. Onsite generation and backup sources often needed to ensure uninterrupted power supply. • Often, data centers are built directly next to or together with substations or power plants. • Multiple power sources (hydro, nuclear, fossil) could be beneficial. • Some data centers utilize renewable energy, such as solar, with solar arrays or turbines built on-site or located within a few miles.
Water	• Operations require substantial cooling, which may use millions of gallons per MW per year. Access to reclaimed or reliable water source is necessary. • 1-10 miles from municipal water supply (with dedicated pipelines and large contractual agreements). • Some data centers are directly adjacent to or less than 1 mile from major rivers/lakes or treatment plants (especially true for hyperscale sites in water-rich areas).



Additional Criteria for Data Center Consideration

Remedy Compatibility

Community Support

Environmental Conditions

Fiber Optic Cable/Connectivity

Transportation and Supply Chain Infrastructure

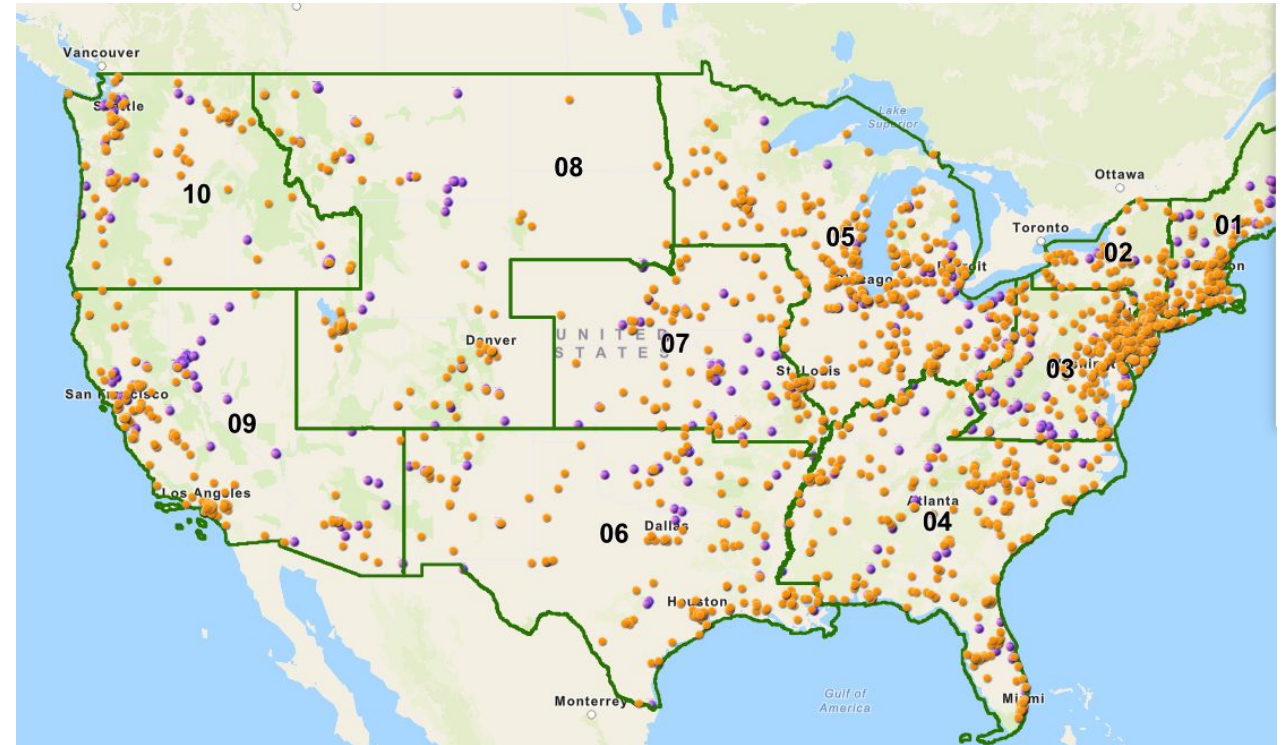
Flood/Natural Disaster Risks

Regional Climate

Regulatory and Legal Factors

EPA's Redevelopment Mapper

- Includes all brownfield sites that are over 100 acres with no known reuse
- Relevant filters such as proximity to highways, transmission lines, and water resources



EPA's Redevelopment Mapper for Superfund and Brownfield Sites

Why Brownfield Sites?

- Many brownfields are large, formerly industrial sites
- These sites include existing connections to utilities and infrastructure important for data centers
- Industrial sites are often near population centers, but not located within them
- Many such sites have sat idle for years due to the lack of a project that justified the cost of cleanup



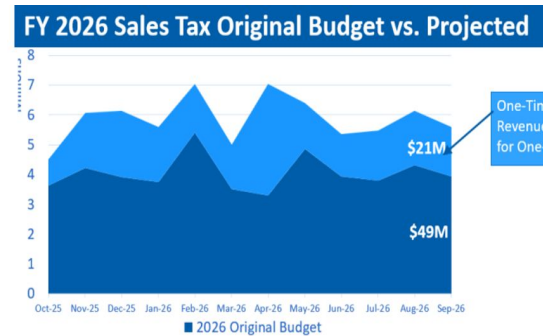
How Communities Can Benefit



Cleanup of otherwise
unfeasible brownfield site



New construction jobs and
infrastructure



<https://www.aol.com/articles/city-abilene-doing-data-center-211248000.html>

New tax revenue for local
government, depending on
state/local setup

NEWS

**Data center developers dangle millions in perks
for central Pa. township**

Updated: Jun. 04, 2026, 7:59 a.m. | Published: Jun. 04, 2026, 5:11 a.m.

Community benefits
agreements

Common Criticisms

- Energy Consumption
- Water Consumption
- Drain on public funding
- Limited benefit to community
- Noise and air pollution from diesel backup generators



Industry Improvements

- On-site generation and more fair grid connection deals
- Closed-loop cooling systems
- Less public subsidies and better tax arrangements
- Robust community benefit agreements
- Improved backup generators

Case Study – U.S. Steel Fairless Works, PA

- Began steel production in 1952, employing over 5,000 workers
- Production decline began in the 1990s with most steelmaking operations stopped by 2001
- Soil was found to be contaminated with arsenic, lead, and other heavy metals
- EPA determined U.S. Steel to be the responsible party and issued a RCRA Corrective Action to cleanup the property



Case Study – U.S. Steel Fairless Works, PA

- In 2022, a 247-acre portion of the site was acquired by an industrial developer, still with major remediation required
- Selected as the location for a hyperscale data center due to:
 - Proximity to Energy Infrastructure
 - Proximity to the Delaware River
 - Relative isolation from residential areas
- \$10 billion investment accelerated a very prolonged cleanup
- Economic and Health benefits to the community





CALIFORNIA LAND RECYCLING CONFERENCE

Imagine | Innovate | Implement
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THE FUTURE OF LAND RECYCLING**



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OFFICE OF BROWNFIELDS
Department of Toxic Substances Control - Cleanup in Vulnerable Communities Initiative



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