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Finality in Brownfields Remediation and Reuse

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Thirty years after CERCLA's enactment, the brownfields phenomenon is an anomaly in the statute's complex history. The statute was not designed to address this problem. Instead, as a near-perfect example of the law of unintended consequences, it arose after CERCLA was in place, and dealt with sites purportedly not contaminated enough to be addressed under it. The statutory net swept in brownfields sites (abandoned or underused properties, mostly in urban areas) along with highly contaminated sites, subjecting them to a fear of liability that hampered remediation and reuse prospects. Since the 1980s, however, state voluntary cleanup programs (VCPs), federal liability relief, and programs for brownfields developers have promoted redevelopment activities. After the 2002 Small Business Liability Relief and Brownfields Revitalization Act (SBLRBRA) added liability protections, brownfields largely faded from the CERCLA headlines.

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2. See Tom Rath, Deregulation by Any Other Name: New Jersey's Site Remediation Reform Act in Federal Context, 63 ADMIN. L. REV. 323, 332 (2011) (calling brownfields an "unexpected problem").


Brownfields' dramatic transformations from vacant or blighted sites to centerpieces of redevelopment activities have been core components of urban revitalization efforts. Thousands of brownfields abandoned for years are now being reborn as industrial, commercial, residential and even recreational sites. Take in a baseball game in Bridgeport, Connecticut or a soccer match at Red Bull Arena in Harrison, New Jersey, or shop or work at Potomac Yard in Alexandria, Virginia, and you are part of brownfields redevelopment in action.

The brownfields "problem" looks to be over, done, finished. Today, it merits little more than a few pages of attention in leading books on CERCLA. But nothing is ever final in CERCLA, and, to quote Yogi Berra, brownfields "ain't over 'til it's over." Many issues that arose at the outset of heightened concern about brownfields in the 1980s are still present today. By all accounts, many brownfields have not been addressed at all, and states have not done enough to ensure that sites that have been cleaned up don't backslide. In a parallel to ongoing concerns about CERCLA enforcement, the primary challenge is ensuring that there are proper appropriate inquiries" (including environmental investigation and remediation activities, if necessary) before acquiring ownership of brownfields sites. See 40 C.F.R. pt. 312 (2012).


9. See One and Two Potomac Yard, NAT'L INST. OF BUILDING SCI. (2012), http://www.wbdg.org/references/cs_potomac.php (stating that remediation was overseen by the EPA with a "no further action" letter issued by the EPA and the Virginia Department of Environmental Quality).

10. For example, in JOHN S. APPLEGATE & JAN G. LAITOS, ENVIRONMENTAL LAW: RCRA, CERCLA, AND THE MANAGEMENT OF HAZARDOUS WASTE 266-69 (2006), the authors addressed the problem in only four pages.


12. See Rath, supra note 2, at 327.
oversight resources. It should surprise no one that states often are reluctant to pay much attention to a problem they think they have “solved,” even if it is demonstrated that is not completely true.

Environmental justice advocates and others have demonstrated the need to involve the public in planning for the future at brownfields sites, and while public input is increasingly part of brownfields remediation and reuse, it is not always meaningful. Another trend of the past two decades is the emergence of a broader land use planning agenda centered on sustainability, and its intersection with brownfields laws and policies. As one report observes, “Communities will succeed in brownfields revitalization when they consider these properties as community and economic opportunities that happen to have an environmental challenge, and connect brownfields initiatives to their broader community vision and revitalization priorities.” This responds in part to the challenge of climate change, which was less well known at the time most VCPs began. To many, brownfields now “take center stage in a sustainable planning strategy of thwarting sprawl, preserving open space, reducing greenhouse gas emissions, and reinvesting in urban areas and their communities.”

The intersection of brownfields redevelopment and these broader concerns presents a host of issues. Does redevelopment of brownfields connect to a larger vision for the city that links with “smart growth” and climate action goals? Retooling the original developer-centered vision of VCPs to promote broader goals is an ongoing challenge. Has the affected community been involved in planning for brownfields remediation, or has the developer controlled the process? The latter narrows the ability to view

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the project as part of a community-wide plan, and undermines its legitimacy. Finally, if brownfields redevelopment yields benefits, how can we measure success over the long term? Metrics for assessing this are only just now emerging.

As I note in Part III, many key questions have incomplete answers today, and as a result, finality in brownfields remediation and reuse continues to elude us. I draw a number of examples from New Jersey, a Rust Belt state with many brownfields and a complex history of dealing with them. Recent developments in that state, including a 2009 state statute that privatized cleanups, and well-publicized funding shortfalls and regulatory errors in 2011, highlight the challenges of contemporary brownfields redevelopment.

I. THE BROWNFIELDS “PROBLEM”

“Brownfields” are abandoned or underused sites that the SBLRBRA defines as “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.” The United States has perhaps 400,000 to as many as one million brownfields, although reliable information is hard to come by.

These sites are found throughout the nation, but urban brownfields such as abandoned steel mills or other manufacturing facilities, and formerly grand railroad stations now idle, attract the most attention.

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20. For discussions of New Jersey’s site remediation programs, see generally Alexander Maro, Outsourcing the Filth: Privatizing Brownfield Remediation in New Jersey, 38 B.C. ENVT. AFF. L. REV. 159 (2011); Eisen, Brownfields at 20, supra note 3; Rath, supra note 2, at 336-42.


Some make up a brownfields variant of "orphan sites": former owners are gone, and cities or other public entities now own them. They have often had numerous owners and histories of industrial or commercial use, but have not been touched for years. Without environmental investigations, it is often difficult to discern the extent of contamination or need for remediation, let alone whether sites would be dangerous enough to qualify for the National Priorities List ("NPL").

Brownfields sites may have advantages over other locations. They often sit near railroads, highways, other forms of transportation, and the bulk of cities' populations. Yet developers often have the choice of foregoing them altogether for greenfield sites in suburbs and exurbs. The cost of redeveloping a brownfield can be higher than that of a greenfield site. This is not universally the case, however. If the greenfield site has been previously developed and requires rehabilitation of its own, that might negate the cost advantage, and if the infrastructure at the brownfield site is usable, that might help narrow the cost disadvantage.

Brownfields redevelopment has numerous potential benefits. As the EPA puts it, "Revitalizing brownfield sites creates benefits at the site and available at http://www.rff.org/rff/documents/RFF-DP-04-46.pdf [hereinafter WERNSTEDT ET AL., THE BROWNFIELDS PHENOMENON].

27. See Eisen, Brownfields at 20, supra note 3, at 725-26.
28. See WERNSTEDT ET AL., VOLUNTARY ENVIRONMENTAL PROGRAMS, supra note 25, at 14-15 (noting that over 50% of surveyed brownfields were vacant at the time of entry into a VCP).
30. See Eisen, Brownfields at 20, supra note 3, at 725.
Throughout the community. Building on urban sites, with their existing footprints and infrastructure, can alleviate sprawl by decreasing the need to consume greenfield lands. According to a 2001 study, redeveloping one acre of brownfields can conserve as much as an average of 6.2 acres of greenfields. Brownfield redevelopment can be an effective component of a climate change policy if it spurs a decrease in commuting and therefore in vehicle miles traveled, as transportation accounts for the nation’s second largest share of GHG emissions. Other potential benefits include reductions in storm water runoff and air pollution, and increased property values in neighboring areas. At five revitalized sites, the EPA found a 32 to 57 percent reduction in vehicle miles traveled, a 47 to 62 percent reduction in storm water runoff, and a 2-3 percent increase in adjacent property values.

In the mid- to late-1980s, some began to argue that a major challenge to brownfields redevelopment (and perhaps the most prominent one) was the stigma from the possible presence of environmental contamination. A 1992 Congressional field hearing in Ohio saw the first use of the term “brownfield,” in contrast to pristine “greenfield” sites. Many claimed reform to CERCLA and other laws was indispensable to removing the “brown” stigma. This fear of liability was overstated, as it turned out that the vast majority of brownfields sites were not contaminated enough to

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40. Deason et al., supra note 39, at § 5.3.

41. See Paull, supra note 36, at 5.


43. Paull, supra note 36, at 17-20; Nat’l Ass’n of Local Gov’t Prof’ls. & Ne.-Midwest Inst., supra note 18, at 101, 104.

44. Paull, supra note 36, at 29-30.

45. EPA, Brownfields Benefits, supra note 38.


48. See Bartsch, supra note 32, at ch. 1, pt. 1.
wind up on the NPL. 49 It also gave CERCLA greater prominence than it deserved among other barriers to urban redevelopment, such as changes in consumer preferences or residential patterns. 50

Still, there was something to the fear of liability. Throughout the 1980s, courts gave the EPA more power under CERCLA to investigate and remediate sites, and to the EPA and private parties to fasten liability on PRPs. 51 CERCLA’s broad liability provisions capture a wide group of entities, whether or not they did any actual waste dumping. Attempting to evaluate brownfield sites might subject developers to liability because owners and “operators” are jointly and severally liable under CERCLA, whether or not they owned the sites at the time of disposal. 52 Therefore, assuming serious contamination was discovered, a developer might face the full price tag of CERCLA remediation even if it did nothing to cause the contamination there. 53

Developers balked at becoming involved with brownfields, fearing the worst. 54 Remediation costs could not be quantified ahead of time, 55 and even after investigations, knowing cleanups’ price tags would be difficult. CERCLA cleanups cannot be priced in advance, because remediation is a lengthy process that includes (among other requirements) compliance with ARARs—requirements of other environmental laws. 56 And if merely investigating the conditions at a brownfield site, let alone making decisions

49. See BROWNFIELDS: A COMPREHENSIVE GUIDE, supra note 3, at 4-5; Eisen, Brownfields of Dreams, supra note 16, at 901.

50. See SHAW ET AL., supra note 37, at 2-4 (discussing the issue generally and listing the seven principal categories of barriers to brownfields redevelopment found by researchers at George Washington University in 2001).


52. CERCLA imposes liability on “the owner and operator of a vessel or a facility,” which applies to current owners without regard for whether they owned sites at the time of disposal of hazardous substances. 42 U.S.C. § 9607(a)(1) (2006). See also Eisen, Brownfields of Dreams, supra note 16, at 901.

53. See, e.g., United States v. Monsanto Co., 858 F.2d 160, 168 (4th Cir. 1994) (“The plain language of section 107(a)(2) extends liability to owners of waste facilities regardless of their degree of participation in the subsequent disposal of hazardous waste.”). See also ELIZABETH GLASS GELTMAN, RECYCLING LAND: UNDERSTANDING THE LEGAL LANDSCAPE OF BROWNFIELD DEVELOPMENT 53-54 (2000); Eisen, Brownfields of Dreams, supra note 16, at 901; Robertson, supra note 32, at 1084.

54. See Boyd et al., supra note 35, at 37.

55. See BROWNFIELDS: A COMPREHENSIVE GUIDE, supra note 3, at 8-9; Eisen, Brownfields of Dreams, supra note 16, at 906-07.

about how to remediate them, might expose a developer to liability, it was easier to shun the site.

Amendments to CERCLA and EPA policies aimed to lessen developers’ burden, but were largely unsuccessful. The 1986 SARA amendments 57 added an “innocent landowner” defense designed to protect those, like brownfields developers, who purchased sites after waste dumping took place, and were therefore not responsible for contaminating them. 58 However, this defense was not widely used, because meeting its requirements was difficult. 59 Those seeking to prove their innocence had to demonstrate that they had engaged in “all appropriate inquiry” before purchasing a site. 60 Most courts retained liability for prospective purchasers who had not discovered the contamination before purchasing the sites, reasoning they probably had not done enough investigation. 61

Thus, rather than protect brownfields developers, the innocent landowner defense's shortcomings led many to claim more CERCLA reform was needed. 62 Brownfields advocates sought partnerships with environmental agencies rather than adversarial enforcement-based relationships, shorter cleanup processes with more certainty (including releases or other forms of indicating that the brownfields purchaser would not face liability), and lesser cleanup standards that in some cases would allow less costly means of addressing contamination at the site (for example, so-called “institutional controls” such as fences and warning signs). 63

States hit hardest by the recession of the early 1990s tended to be the ones with the most brownfields. 64 Difficult economic conditions added to the increasingly widespread concern that CERCLA (and its state analogues

60. See id. at 159.
62. See, e.g., Smith, supra note 59.
created in the 1980s) were holding back productive investments.65 This
prompted calls to remove barriers to redeveloping cities,66 in which
CERCLA was no longer seen as a force for good, but as one of those
barriers. Any remediation and reuse activities at urban brownfields were
thought to be preferable to continued neglect, even if they did not comport
with CERCLA’s rigid remediation requirements.67

II. BROWNFIELDS REDEVELOPMENT IN THE STATES, AND FEDERAL
LIABILITY PROTECTION

While brownfields developers were said to fear CERCLA liability, far
more sites were subject to the cleanup requirements of state CERCLA-like
analogues.68 Several states in the Northeast, including New Jersey, also had
separate property transfer laws requiring evaluation (and remediation if
necessary) of potentially contaminated sites prior to their transfer.69 Given
this legal environment, the states became primary drivers for brownfields
redevelopment.70 Between the late 1980s and mid-1990s, many states
overhauled their environmental cleanup and property transfer laws, creating
VCPs to promote brownfields redevelopment.71

According to one recent estimate, state VCPs have addressed more
than 50,000 brownfields sites, and evaluate another 7,000 – 8,000 sites each
year.72 “Voluntary” indicates that the process begins when developers
approach the states to commence remediation and reuse activities.73 The
regulatory climate aims to create a working relationship between state
regulators and developers, and is sharply different from CERCLA’s

65. See CHARLES BARTSCH & ELIZABETH COLLATON, BROWNFIELDS: CLEANING AND
REUSING CONTAMINATED PROPERTIES 2, 19 (1997).
66. See BARTSCH, supra note 32, at ch. 1, pt. 1.
67. See NAT’L ASS’N OF LOCAL GOV’T PROF’LS. & NE.-MIDWEST INST., supra
note 18, at 11.
68. See WERNSTEDT ET AL., THE BROWNFIELDS PHENOMENON, supra note 26, at 2;
BARTSCH & COLLATON, supra note 65, at 5, 18.
69. See Eisen, Brownfields of Dreams, supra note 16, at 915; BROWNFIELDS: A
COMPREHENSIVE GUIDE, supra note 3, at 795-96; BARTSCH & COLLATON, supra note 65, at 17.
70. See BARTSCH & COLLATON, supra note 65, at 5, 19.
71. See Eisen, Brownfields at 20, supra note 3, at 721; Maro, supra note 20, at 171-73
(describing New Jersey’s program).
72. Paull, supra note 36, at 5.
73. BROWNFIELDS: A COMPREHENSIVE GUIDE, supra note 3, at 11. See also Eisen,
enforcement-driven model.\textsuperscript{74} VCPs typically include three central attributes:\textsuperscript{75}

\textit{Streamlined administrative processes:} In VCPs, the steps between identification of a site as one to which the program will apply, and final remediation and reuse, are far less in number and shorter in duration than in enforcement-driven models.\textsuperscript{76} Often, developers are put in control of many steps of the process (in some states, by hiring licensed environmental professionals to administer the entire cleanup).\textsuperscript{77}

\textit{Risk-based cleanup standards:} In VCPs, the end use to which sites will be put (such as commercial, industrial, or residential) is factored into the risk assessment of the sites, leading to standards that typically require less than complete remediation.\textsuperscript{78} Often, developers can cut costs by adopting remedies such as entombing soils at brownfield sites rather than removing and treating them.\textsuperscript{79}

\textit{Liability protection:} States offer a number of means for developers to secure protection against future enforcement actions by their environmental agencies, ranging from "no further action" letters (statements of intent that developers would not face liability in the future) to full releases from liability.\textsuperscript{80}

In states such as New Jersey, licensed environmental professionals often decide cleanup levels within defined parameters.\textsuperscript{81} New Jersey’s 2009 Site Remediation Reform Act ended the previous Voluntary Cleanup Program and devolved cleanup decisions to licensed professionals.\textsuperscript{82} Licensed professionals may issue "Remedial Action Outcome" documents certifying completion of remediation activities without prior approval from


\textsuperscript{76} See Eisen, \textit{Brownfields of Dreams}, supra note 16, at 920 n.180, 970.

\textsuperscript{77} Id. at 965-70; Maro, supra note 20, at 181.

\textsuperscript{78} Eisen, \textit{Brownfields of Dreams}, supra note 16, at 936-38.

\textsuperscript{79} Id. at 948.

\textsuperscript{80} Id. at 950-58.


the Department of Environmental Protection. This process takes these critical decisions out of the hands of state environmental authorities, and relies on quality control of the professionals to ensure proper results. This “outsourcing” may provide brownfields developers with the state liability protection they seek, but provides no government’s guarantee that they have undertaken proper remediation activities.

Federal liability, of course, is another matter altogether. Before 2002, developers could obtain protection against state liability by completing remediation activities in VCPs, but there was no exemption from CERCLA liability. Even though states could not protect developers against federal liability, their releases were typically viewed as sufficient comfort to proceed with redevelopment activities. There was some federal activity on the liability front. States negotiated with the EPA to create memoranda of understanding that gave some protection to sites addressed in their VCPs without a full release from liability. The CERCLA innocent landowner defense and some federal programs, such as the EPA’s guidance on “prospective purchaser agreements,” provided limited protections.

After the SBLRBRA’s enactment in 2002, the prospect of CERCLA liability receded. The SBLRBRA provided a prospective purchaser exemption from CERCLA, which the EPA subsequently issued regulations to clarify. The EPA regulations require the prospective purchaser to allow access to and cooperate with regulators, and exercise care in dealing with the prior releases of contaminants at the site so as not to exacerbate the problem. The new law also restricted actions under CERCLA against developers who remediate sites in VCPs.

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84. See Peterson, supra note 82, at 13-39 (describing the “commandments” for LSRPs).
85. See Maro, supra note 20, at 180-82; Rath, supra note 2, at 337.
86. See NAT’L ASS’N OF LOCAL GOV’T PROF’LS. & NE.-MIDWEST INST., supra note 18, at 83.
88. See BROWNFIELDS: A COMPREHENSIVE GUIDE, supra note 3, at 52; Eisen, Brownfields of Dreams, supra note 16, at 964 n.348.
89. See BROWNFIELDS: A COMPREHENSIVE GUIDE, supra note 3, at 52; Eisen, Brownfields of Dreams, supra note 16, at 982-83.
90. See BROWNFIELDS: A COMPREHENSIVE GUIDE, supra note 3, at 83.
92. See id.; Mintz, New Loopholes, supra note 5, at 406, 412; Schnapf, supra note 61, at 10-11.
93. See Mintz, New Loopholes, supra note 5, at 420.
III. A COMPREHENSIVE APPROACH TO "FINALITY"

The SBLRBRA provided liability protection, but did not bring finality to the brownfields problem. One challenge is simply that many sites have not been addressed. While large urban brownfields have been reused, other sites sit neglected. According to one recent estimate, states have only successfully dealt with 1% to 2% of all brownfields sites.94

A VCP traditionally deals with each site on its own, and remediation and reuse plans often have no requirement to relate to any comprehensive plan for urban redevelopment.95 There are exceptions to this, as some American cities eschew parcel-by-parcel redevelopment in favor of more systematic redevelopment approaches.96 However, finality demands a broader approach than is currently employed at many sites.

A. Relationship to Smart Growth and Climate Action

A brownfields project should fit within an overall plan of development for the affected community, with the community viewing the economic, environmental and institutional elements in a framework that considers all impacts and not just those of remediation.97 One problem, as noted above, is the parcel-specific nature of brownfields redevelopment.98 New York and New Jersey have area-wide brownfields initiatives, in which regulators attempt to address multiple brownfields in the same community.99 It has been noted that, "[i]n contrast to site-specific remediation, the area-wide approach of the [New Jersey] BDA provides a framework that addresses the

96. See, e.g., U.S. Conf. of Mayors, supra note 64, at 9.
98. See supra notes 95-96 and accompanying text.
larger physical, political and social contexts of an affected community." 100

The EPA has called for more "area-wide planning among areas and corridors of brownfield sites," 101 selecting twenty-three communities for grants to develop area-wide plans. 102

In one encouraging development, there are active links between the "smart growth" movement and brownfields redevelopment. 103 "Smart growth" refers to the myriad of "creative strategies to develop in ways that preserve natural lands and critical environmental areas, protect water and air quality, and reuse already-developed land," which stand in opposition to the existing patterns of "sprawl"-centered development. 104 However, the fact that brownfields projects use existing urban land and, at times, some existing infrastructure, does not necessarily make that growth "smart." 105

There are many opportunities for smart reuse of brownfield sites that would not only conserve greenfields acreage but also deploy green technologies to reduce carbon emissions and produce other benefits. 106 Some sites have been transformed into urban greenways. 107 An intriguing new use of brownfields sites is for renewable energy facilities, 108 including so-called "brightfields" 109 locating solar panel arrays and wind turbines at


101. EPA, Brownfields Benefits, supra note 38.


urban sites. Using green design and construction techniques in overhauling existing buildings at a brownfields site may conserve energy and feature sustainable building materials and creative waste reduction strategies. The LEED certification system for sustainable buildings awards points for building on a brownfields site, and adds points for variables like building close to existing transportation systems.

An evolving long-term trend involves planning activities that explicitly connect brownfields with actions to address climate change. Local sustainability or environmental quality departments are integrating brownfields redevelopment with community-wide land use planning efforts. Climate action plans (such as those developed in Portland and Cincinnati, which discuss the role of brownfields redevelopment) can be excellent tools for integrating brownfields redevelopment planning in a city’s climate change response.

Although there has been much progress in this area at brownfields sites, “there is still room and need for further experimentation and implementation of sustainable and green methodologies.” That could serve as a summary of the relationship between greentech and brownfields redevelopment at present: much has been accomplished, but there are still considerable opportunities. Some form of evaluative approach will also be necessary to determine whether brownfields policies meet the criteria outlined in climate action plans.


112. LEED Green Building Rating Systems, supra note 111.

113. See Paull, supra note 94, at slide 17.


116. Lewis, supra note 106, at 15.

B. Community Participation

Brownfields remediation and reuse often "dramatically impact[s] the health and economy of the nearby communities," and community planners have therefore viewed participation of the affected community as critical to a brownfields project's success. As one report observes, "Community involvement and consensus is one of the most important ingredients for a successful brownfield project." Different actors may have diverging ideas about the ideal plan for transforming an urban brownfield site, and public involvement in the process can bring a wider focus on community redevelopment than that of a developer. Discussing a number of successful projects since the 1990s, the EPA has observed that, "By creating a dialogue among all stakeholders in a brownfields project, community engagement enhances the final reuse of the property and the long-term success of the project." Public participation in brownfields redevelopment also recognizes the central concern of environmental justice advocates that sites are often in areas of cities where residents have "traditionally been left out of the planning process," and community outreach can address the political marginalization of these residents.

Yet to many developers, economic concerns are paramount. For this reason, the initial design of many VCPs empowered developers to fix the extent of public input in decision-making at brownfields sites. This is a sharp distinction between this process and the CERCLA model, where extensive public participation in cleanup activities is mandatory.

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120. NAT'L ASS'N OF LOCAL GOV'T PROF'LS. & NE.-MIDWEST INST., supra note 18, at 6.

121. See Eisen, Brownfields Policies for Sustainable Cities, supra note 17, at 202.

122. See SARNI, supra note 97, at 84-85.


124. Speiss, supra note 119, at 35.

125. WERNSTEDT ET AL., THE BROWNFIELDS PHENOMENON, supra note 26, at 4-5.

126. See Eisen, Brownfields of Dreams, supra note 16, at 998, 1000, 1002-03, 1005, 1008.

Although VCPs do not typically require public participation, developers are increasingly working with affected communities to garner support for individual projects. 129 Unfortunately, even when developers conduct public meetings or other means of involvement, the level of participation can fall far short of meaningful input. 130 In many cities, there are no obvious stakeholders to voice concerns of residents near brownfields sites, let alone engage in discussions with developers that have already committed to moving projects forward. 131 Designating or forming a citizen “steering committee” or other community-based group can lead to enhanced public participation and a wider focus on community redevelopment, particularly if that organization is an existing group that has knowledge and expertise in the affected community. 132 Regardless of the means chosen to provide for public input, the challenge remains at many sites and in many cities to allow affected communities to have a meaningful say in the future of brownfields projects. 133

C. Evaluation of Site and Program Results

In 2011, news reports pointed to numerous shortcomings in the New Jersey Department of Environmental Protection’s (DEP) assessments of the 1,600 sites awarded grants under the state’s fund for brownfields remediation. 134 Officials did now know, for example, whether the sites had ever been developed for the specific purposes identified in the grants. 135 The DEP’s Commissioner subsequently criticized these reports, calling the program a “national model” and stating that, “the DEP and EDA closely track exactly how much HDRSF money is being spent on each brownfields project through a rigorous process that includes thorough technical and financial reviews.” 136 This fell short of addressing all of the critics’ claims, and highlighted a larger problem present in New Jersey and many other

129. See Eisen, Brownfields at 20, supra note 3, at 224.
130. Speiss, supra note 119, at 32. See SARNI, supra note 97, at 85.
131. See BROWNFIELDS: A COMPREHENSIVE GUIDE, supra note 3, at 282.
132. See HOLLANDER ET AL., PRINCIPLES OF BROWNFIELDS REGENERATION, supra note 19, at 88; NAT’L CTR. FOR NEIGHBORHOOD & BROWNFIELDS REDEVELOPMENT, supra note 118, at 1-1.
133. BROWNFIELDS: A COMPREHENSIVE GUIDE, supra note 3, at 283.
135. Id.
states: while a large number of projects have been processed through state VCPs, there is little adequate analysis of the results. 137 The VCP process focuses on the present day problem of transforming an abandoned or underused site into a locus for commerce, and, as a result, has not focused on impacts of site redevelopment after initial remediation and reuse activities. 138

To date there has not been much “systematic, careful documentation of actual practice at a wide range of [brownfield] sites,” 139 and states do not have formal processes in place to evaluate sites over time. 140 Years after VCPs have been operating, research is finally underway to assess long-term impacts, 141 but adequate methodologies are not in place. In particular, it has been noted that, “methods and estimates for quantifying life cycle impacts, especially climate change mitigation associated with Brownfield development, do not currently exist.” 142 States should do more to address this shortcoming of understanding the impacts of brownfields redevelopment in affected communities.

D. Public Investment in Brownfields Sites: Critical But Often Lagging

In a high-profile “miss,” the New Jersey DEP announced in summer 2011 that the fund it administers to provide funding for assessment and remediation of brownfields sites had run out of money. 143 Projects in the

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137. See SHAW ET AL., supra note 37, at iii.
139. NAT’L ASS’N OF LOCAL GOV’T PROF’LS. & NE.-MIDWEST INST., supra note 18, at 9-10; WERNSTEDT ET AL., THE BROWNFIELDS PHENOMENON, supra note 26, at 1. See Richard C. Hula & Rebecca Bromley-Trujillo, Cleaning Up the Mess: Redevelopment of Urban Brownfields, 24 ECON. DEV’T Q. 276 (2010) (“Although [brownfields] programs are often perceived as having a positive impact, there is remarkably little evidence beyond anecdotal examples to support such claims.”).
140. See Auld et al., supra note 117; WERNSTEDT ET AL., THE BROWNFIELDS PHENOMENON, supra note 26, at 6.
141. SHAW ET AL., supra note 37, at iii (listing specific proposals relating to measuring impacts of brownfields projects in New Jersey).
pipeline totaling $71 million were suspended, leaving their future in doubt.\footnote{144}{\idCard}\footnote{Baxter, N.J. to shut down state initiative, supra note 22; Broke Brownfield Fund is Bad Policy, says Sierra Club, NJToday.NET, (June 16, 2011), http://njtoday.net/2011/06/16/broke-brownfield-fund-is-bad-policy-says-sierra-club/}. This highlights a major challenge of current brownfields policy. Public support (including funding for site assessment and other purposes) is often critical for the success of brownfields redevelopment.\footnote{145}{\idCard}\footnote{See Broke Brownfield Fund is Bad Policy, says Sierra Club, supra note 144.} Initiatives at all levels of government target remediation and social, economic, institutional, and other aspects of brownfields reuse.\footnote{146}{\idCard}\footnote{SARNI, supra note 97, at 42-43.} Public involvement begins at the very start of the process. In many communities, interest in brownfields is low, and this is especially true for small brownfields or those in cities with “little interest from developers and a lack of knowledge on how to proceed with redevelopment.”\footnote{147}{\idCard}\footnote{W. Pa. Brownfields Ctr., USEPA Training, Research, and Technical Assistance Project, CARNEGIE MELLON UNIV., http://www.cmu.edu/steinbrenner/brownfields/epa-lca-project/index.html.} Localities and prospective developers interested in brownfields reuse often must also address capacity and management issues.\footnote{148}{\idCard}\footnote{HOLLANDER ET AL., PRINCIPLES OF BROWNFIELDS REGENERATION, supra note 19, at 66.} Developers can find the brownfields redevelopment process overly complex.\footnote{149}{\idCard}\footnote{Catherine Finneran, Attracting Development to Brownfields Sites: A Local Challenge, PUB. MGMT. MAG., Nov. 2006, available at http://webapps.icma.org/pm/8810/public/cover.cfm?author=Catherine%20Finneran&title=Attracting%20Development%20To%20Brownfields%20Sites%3A%20Local%20Challenge&subtitle.} Matching developers with opportunities to remediate and reuse brownfields requires careful planning, for example, by employing marketing approaches and designating local officials as contact points to navigate complex approval processes.\footnote{150}{\idCard}\footnote{Id.}\footnote{Charles Bartsch, Financing Brownfield Cleanup and Development, GOVERNMENT FINANCE REVIEW, 27 (February 2002), http://www.gfoa.org/downloads/FinancingBrownfieldCleanupandRedevelopment_000.pdf (describing available federal and state resources).} Public funding can be an important factor in a project’s success. Developers can obtain resources for a site’s evaluation, remediation and reuse from a wide variety of federal and state agencies.\footnote{151}{\idCard}\footnote{HOLLANDER ET AL., PRINCIPLES OF BROWNFIELDS REGENERATION, supra note 19, at 13-14.} As Table 1 indicates, state grant, loan, training and education programs, and tax and other financing incentives support brownfields redevelopment.\footnote{152}{\idCard} At the federal level, the EPA implemented the SBLRBRA with federal grants and
other tools to address brownfields sites. These resources include grant programs for characterization of brownfields sites, and site analytical tools that can help make the process of environmental investigation and remediation less onerous and costly. The EPA’s Brownfields Assessment Grants are available to “inventory, characterize, assess, and conduct planning and community involvement related to brownfields sites.” Once a site has been selected for analysis, the use of comprehensive site analytical tools such as the EPA’s Triad approach can streamline environmental investigation and cut remediation costs. The EPA’s brownfields website cites a number of redevelopment “Success Stories” linked to its brownfields programs.

Other federal agencies support site redevelopment activities, and agencies are teaming together to address brownfields, with the HUD-DOT-EPA Interagency Partnership for Sustainable Communities (formed in 2009) serving as a notable example. Federal programs on infrastructure and housing and community development are adapting to promote site redevelopment and reuse. A particular focus is the link between brownfields redevelopment and economic growth. Brownfields Job Training Grants, part of the $100 million that the American Recovery and Reinvestment Act made available to the EPA, are an example of this trend. Brownfields redevelopment is a source of “green jobs,” linking

154. Id.
156. See Brownfield Site Contamination Investigation, supra note 81, at 5 (“The Triad approach is useful for Brownfield sites because it considers the whole site (not just Area of Concern focuses), [and] is flexible (can be adjusted to unexpected conditions) and integrates all stakeholders into the site decision making process . . . .”).
158. HOLLANDER ET AL., PRINCIPLES OF BROWNFIELDS REGENERATION, supra note 19, at 13.
160. See SARNI, supra note 97, at 57.
161. Id. at 57-58.
greentech such as renewable energy sources and green building construction with job creation.\textsuperscript{163}

**Table 1**  
Selected Brownfields Financial Assistance Programs\textsuperscript{164}

<table>
<thead>
<tr>
<th>Program/Incentive</th>
<th>Level of Government</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brownfields Expensing Tax Incentive</td>
<td>Federal</td>
<td>Allows the developer to deduct environmental cleanup costs in the year that they are incurred, rather than capitalize them over time</td>
<td>Reauthorized through December, 2011</td>
</tr>
<tr>
<td>Historic Rehabilitation Tax Credits</td>
<td>Federal</td>
<td>Tax credits for restoration of certified historic properties &amp; for rehabilitation of non-certified sites</td>
<td>$4.7 billion in work at 1,044 sites in 2009 (Source: National Park Service)</td>
</tr>
<tr>
<td>Tax-increment Financing (TIF) guarantees</td>
<td>States</td>
<td>Guarantees stream of increased property taxes that repay TIF bonds</td>
<td>Example: Pennsylvania TIF Guarantee Program</td>
</tr>
</tbody>
</table>

\textsuperscript{163} SARNI, supra note 97, at 58. See VAN JONES, THE GREEN COLLAR ECONOMY 191 (2008) (discussing this trend).

\textsuperscript{164} This Table is derived from programs described in A Guide to Federal Tax Incentives for Brownfields Redevelopment, U.S. EPA (2011), www.epa.gov/brownfields/tax/tax_guide.pdf [hereinafter EPA Tax Incentives].
The availability of public funding can be critical to brownfields redevelopment, and project success often "depends on the extent that public investments leverage private funds." Public funding is especially important when site assessment and remediation costs exceed current property values, which front-loads the developer's investment. As the New Jersey program's shortfall illustrates, continued public investment is not always guaranteed in the current tight budgetary climate. This is a serious threat to future brownfields remediation and reuse projects.

<table>
<thead>
<tr>
<th>Bond, loan and/or grant funding</th>
<th>States</th>
<th>Direct funding programs that differ depending on the state</th>
<th>Examples: Low-interest cleanup loans (Delaware, Indiana, and Wisconsin); Remediation grant funds (New Jersey and Minnesota)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other programs</td>
<td>Federal/state</td>
<td>Programs designed for other purposes that can be used for brownfields sites</td>
<td>Examples: State Clean Water Revolving Loan Funds; renewable energy incentive programs</td>
</tr>
</tbody>
</table>

165. In New Jersey, these funds come from the HSDRF, the program underfunded in 2011. Hazardous Discharge Site Remediation Fund, supra note 143.

166. See EPA, INVESTING IN PARTNERSHIP, POSSIBILITY, AND PEOPLE, supra note 6, at 33. See also U.S. CONF. OF MAYORS, supra note 64, at 11 ("Cities were asked to identify the most useful tools to redevelop brownfield sites. The top four, in order, were: EPA Assessment Funding, Private Sector Investment, EPA Clean-Up Funds, and State programs such as the State Voluntary Clean-Up Programs.").

167. NAT'L ASS'N OF LOCAL GOV'T PROF'LS. & NE.-MIDWEST INST., supra note 18, at 5.

168. See U.S. CONF. OF MAYORS, supra note 64, at 11; EPA, INVESTING IN PARTNERSHIP, POSSIBILITY, AND PEOPLE, supra note 6, at 33-34.

169. EPA Tax Incentives, supra note 164, at 24; NAT'L ASS'N OF LOCAL GOV'T PROF'LS. & NE.-MIDWEST INST., supra note 18, at 7.
E. Oversight . . . After All These Years

Brownfields remediation activities do not eliminate all risks, in part due to relaxed cleanup standards. As the brownfields history grows longer, there may be problematic sites if states do not have aggressive provisions for revisiting cleanups. The efficacy of some brownfields cleanups has come under fire years afterwards as contamination has been discovered. In one notorious example in New Jersey, the “Kiddie Kollege” day care center built on a former brownfield turned out to be situated on contaminated land.

States typically protect against backsliding with reopeners in VCPs that allow state environmental departments to require additional cleanup activities at a later date if changed conditions warrant it. These reopeners have several drawbacks. In a system such as New Jersey’s post-2009 Site Remediation Program, the state has no involvement with the site in its initial cleanup, so it is unlikely to be vigilant in discovering post-remediation flaws. Also, reopeners in VCPs tend to be limited to intervening to prevent imminent harm, as any broader provision is typically perceived as a deterrent to the initial entry into a VCP (although one empirical study has found that few sites are reopened and the fear is largely unwarranted).

One study suggests that “reopener rates may increase with more vigorous enforcement and over the passage of time,” but it seems more likely that fewer sites will be addressed in the future. Any reopener provision depends both on resources available in the future to state environmental agencies, and on the willingness of those agencies to tackle problems at sites they believed were successfully addressed in the past. The problem of resources to devote to enforcement is especially problematic in tight budgetary climates, as cutbacks in state budgets can lead to a slower

170. WERNSTEDT ET AL., THE BROWNFIELDS PHENOMENON, supra note 26, at 2, 12 (noting that “more opportunities for reopeners will arise as site histories lengthen at voluntarily remediated sites”); Pendergrass, supra note 63, at 1308-09 (discussing the need to audit sites with institutional controls).
171. See Eisen, Brownfields Policies for Sustainable Cities, supra note 17, at 216-217.
172. Rath, supra note 2, at 338-39, and Eisen, Brownfields at 20, supra note 3, at 744-45, discuss this and other sites involving the New Jersey site remediation programs.
174. See Maro, supra note 20, at 159.
175. See Pendergrass et al., supra note 173, at 257 (noting that “among the 46 states with VCPs, only 12 cases were reopened out of 11,497 closed environmental cases, a reopener rate of between 0.1% and 0.2%”).
176. Id.
pace of cleanups and less vigilant oversight of brownfields sites.\textsuperscript{177} State environmental agencies have been paring back the resources they devote to enforcement generally, and New Jersey is no exception.\textsuperscript{178} With limited resources, few state environmental agencies will prioritize oversight and monitoring of completed brownfields sites ahead of ongoing enforcement actions.

IV. CONCLUSION

"Finality" is elusive in brownfields redevelopment. Decades after their inception, brownfields redevelopment programs are mature environmental programs with many successes. However, closing the book on brownfields means much more than simply assessing whether remediation at some individual brownfields sites has been successful. Given the original preoccupation with shining a light on these neglected sites and getting them back into the stream of commerce, finality would mean that all of them have been inventoried, investigated, and remediated if needed. Moreover, the focus on initial cleanups comes at the expense of monitoring sites and assessing long-term results, all of which need increased attention. If states discover contamination more significant than originally present, they must address it. In addition, major societal developments in the two decades since "brownfields" first entered the nation's vocabulary, particularly the growth of the environmental justice movement and the increased focus on addressing climate change, have shown the limitations of VCPs' parcel-by-parcel, developer-centered approach.

The specter of federal liability may be less significant than it once was, and VCPs have been responsible for many successes, but the final verdict on brownfields programs has yet to be rendered.

\textsuperscript{177} See EPA, \textit{STATE BROWNFIELDS AND VOLUNTARY RESPONSE PROGRAMS}, supra note 8, at 1; Eisen, \textit{Brownfields Policies for Sustainable Cities}, supra note 17, at 216.

\textsuperscript{178} Rath, supra note 2, at 342-43 (describing the funding cutbacks and deregulatory legislation that have decreased the state's role in waste remediation).