



Revitalizing underperforming and contaminated land through voluntary action: Perspectives from U.S. voluntary cleanup programs[☆]

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ABSTRACT

Nearly every state in the United States has developed a voluntary land cleanup program to support an alternative, more decentralized approach to the revitalization of contaminated and underperforming land. Yet, despite the ubiquity of such programs and the thousands of properties enrolled in them, we know relatively little about their formation and attractiveness. This paper reports results from interviews of officials in voluntary cleanup program in all fifty states, and from a survey of program participants in one state. It seeks to characterize attitudes about the desirability and performance of voluntary cleanup programs and to motivate further research into policies to improve their efficacy. Results suggest the primacy of economic redevelopment in motivating state officials to develop voluntary cleanup program, with improving environmental quality, promoting regulatory reform, easing political pressures, and improving the cleanup process also playing roles. Program participants in the state examined in detail indicated that gaining liability protection, decreasing cleanup costs, and facilitating property sales constitute the most important potential benefits of enrolling properties in voluntary cleanup programs.

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Introduction

The redevelopment of contaminated properties has received attention in all regions of the world (e.g., Cao and Guan, 2007; Miyagawa and Nakayama, 2001; Newton, 2010; Simons and Karam, 2008; Thornton et al., 2007; Turvani, 2010; Yacovone, 2011), a product both of interest in revitalizing underperforming, previously developed land and of concern over environmental distress. Because these so-called brownfields may pose threats to public health and the environment and depress the economy of local neighborhoods, as well as provide potential opportunities for densifying and combating sprawl, their redevelopment mixes elements of contemporary practice in development and environmental protection. With respect to the latter, brownfield redevelopment practices have begun to draw on the cooperative bargaining and

voluntary approaches that have appeared in broader environmental regulatory reform efforts in Europe and the U.S. since the early 1990s (Brouhle et al., 2005; Schnabl, 2005). Such voluntary approaches, while less common in most western European countries approach, now appear ubiquitous in the U.S., operating principally through individual state-level programs.

This paper seeks to help develop a better understanding of the components of voluntary cleanup programs that encourage urban redevelopment, the features that motivate voluntary environmental behavior, and the gaps in understanding that warrant further research on using voluntary programs to stimulate land redevelopment. To this end, it summarizes voluntary approaches to brownfield redevelopment in the U.S., describing both the different features of state-level voluntary cleanup programs (VCPs) across the country and the attitudes of a small set of VCP participants regarding a single state VCP. This effort draws on interviews of 51 state program officials and results from a survey of participants in Virginia's voluntary cleanup program.

The substantive discussion starts in the "Background" section, which provides a background to VCPs. In "Overview of the literature and VCP rationales" section, we review the literature on voluntary behavior, cleanup programs, and contaminated sites more generally, concluding the session with five rationales to frame the examination of motivations for VCP design and participation. A

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description of the study approach follows in the “Methodology” section. Section “Findings: VCP interviews and participant survey” presents the results of the examination of VCP officials and participants, while the “Conclusion” section offers concluding comments.

Background

Brownfields in the U.S. include both properties defined in federal legislation as abandoned, idled or underutilized industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived contamination (42 U.S.C. §9601, amended 2002), as well as other types of properties contaminated with hazardous substances that may fall outside the federal definition but nonetheless constitute sites of interest under state or local laws. Collectively such sites number in the hundreds of thousands across the country, perhaps a million according to some estimates. They host past and current manufacturing plants, gas stations, mines, landfills, dry cleaners, foundries, wholesale distributors, and scores of other activities that may have generated contamination. And they are found in urban, suburban, and rural settings, occupying parcels smaller than the average home lot or spanning thousands of hectares (Adams et al., 2010; Heberle and Wernstedt, 2006).

The 1980 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), referred to more colloquially as the Superfund law, long attracted widespread condemnation for providing perverse disincentives that discouraged site owners and prospective buyers and developers from cleaning and reusing contaminated properties, because of concern over potential exposure to long-term legal liability for cleanup and health damages. Critics argued that these disincentives unnecessarily kept many lesser-contaminated sites from undergoing redevelopment, the properties remaining dormant and continuing to pose threats to public health and the environment and depressing the economy of local neighborhoods. Similar complaints emerged that “mini Superfund” laws at the state level – which typically cover contaminated sites that fall outside the CERCLA realm – also deterred public and private parties, including lenders of capital, for taking on redevelopment of environmental distressed properties.

Since the early 1990s, the federal government and nearly all states have responded to such regulatory criticisms and supported efforts to develop state voluntary cleanup programs to remediate contaminated sites in a more cooperative and less burdensome fashion. These VCPs target properties that typically have less contamination than federal Superfund sites (or state Superfund counterparts). They can include both publicly- and privately-owned properties, and sites specifically targeted for enrollment as well as those that states may be unaware of prior to enrollment. Some states allow parties responsible for causing the contamination to enter voluntary cleanup and brownfield programs, while others do not.

VCPs encourage revitalization of contaminated properties in a variety of ways, including:

- tailoring cleanup standards to the expected future use of a property, rather than requiring a uniform standard for all uses
- offering financial incentives to spur investment in contaminated sites
- providing regulatory oversight and guidance on a fee-for-service basis
- providing some form of liability release upon state approval of cleanup
- delegating state regulatory functions (including monitoring and oversight of cleanup activities) to the private sector.

Liability releases are particularly important since they may offer participants more certainty than traditional regulatory processes. Protection against further cleanup requirements, for example, means that once a state environmental agency approves remediation, it will not require further cleanup even if new contamination is discovered in the future, regulatory standards change or, in some cases, the remediation fails. Some states also provide protection against third-party suits – claims from site workers, occupants, or neighbors for environmental and/or health damages.

Although some states offer both brownfield and voluntary cleanup programs, the difference between the two often reflects semantics (Reisch, 2002, p. 3). Not all voluntary sites are truly cleaned voluntarily – a landowner may enroll a property in a state VCP to forestall a state action that would compel the site to undertake a mandatory cleanup – and many brownfield sites are redeveloped voluntarily by interested parties in VCPs. Some states use the terms interchangeably, with no meaningful distinctions between the two labels. However, brownfields and VCPs may differ in two subtle ways.

First, while brownfield programs in many states historically have emphasized economic development objectives, principally at commercial and industrial sites, and often targeted distressed urban areas as part of a larger, statewide socio-economic revitalization agenda, many VCPs ostensibly focus on the environmental repair of contamination from a leak or environmentally unfriendly industrial practice in a more general, opportunistic statewide effort to improve environmental quality (Environmental Law Institute, 2002). Second, brownfields have been codified in revisions to the federal Superfund law in the Small Business Liability Relief and Brownfields Revitalization Act in 2002 (42 U.S.C. §9601, amended 2002) and are eligible for federal financial support. From Fiscal Year 2003 through Fiscal Year 2011, the U.S. Environmental Protection Agency (EPA) doled out nearly 3000 brownfield grants and loans totaling more than US\$850 million to sites and communities around the country. Many VCP properties do not qualify for financial support under the federal brownfields program (for example, VCP sites under complete private ownership), and even at eligible sites, a lack of direct redevelopment benefits may mean some perform poorly under grant scoring criteria.

Overview of the literature and VCP rationales

Several streams of the literature undergird this paper. These reflect studies of voluntary environmental behavior at the general level, as well as more focused work on the development of VCPs from the programmatic side and the rationale for site level actors to participate in VCPs.

Voluntary environmental behavior

The literature on voluntary environmental behavior is substantial and multi-disciplinary. For example, economic studies (Alberini and Segerson, 2002; Blackman, 2008; Khanna and Anton, 2002; Lyon and Maxwell, 2002, 2004) attribute such behavior to a desire to preempt regulatory pressures and/or gain preferential treatment from regulatory entities; market pressures that reward firms that improve environmental performance beyond required levels or produce environmental friendly products; and social or community pressures to mitigate local environmental bads. These pressures may be mediated through public disclosure of environmental performance. Organizational theories from sociology (DiMaggio and Powell, 1983) partially overlap these economic perspectives, suggesting that some firms that seek social legitimacy may be as strongly shaped by external traditions, values, and norms, as much as internal profit considerations (see, for example, King and Lenox,

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