

SOLID AND HAZARDOUS WASTE

OVERVIEW

Federal regulation of solid and hazardous waste includes a complicated set of regulations for hazardous waste disposal, transport, and cleanup. Regulation of nonhazardous household waste has largely remained a state-level concern, but members of Congress have made repeated efforts to increase the federal role in that area as well. The following briefs address the key waste debates of recent years. These include:

- **Superfund.** The federal Superfund law is designed to promote cleanups at contaminated property. After several decades in operation, the program is widely recognized as one of the greatest failures of federal environmental policy. Yet attempts to reform the law have stalled.
- **Brownfields.** The “brownfields” issue is a result of the faulty liability scheme of the federal Superfund law. In general, brownfields are abandoned, idle, former industrial sites that no one will redevelop because developers fear costly liability associated with the federal Superfund law. Fortunately, there is momentum to pass a brownfield law to address this problem. At question is whether reform will improve or exacerbate brownfield cleanup efforts.
- **Interstate Commerce.** This section focuses on recent debates to regulate interstate movements of municipal solid waste. The issue has heated up in recent years when New York City announced plans to increase its waste exports to other states. Members of Congress have responded by offering legislation to restrict trade in this industry.
- **Toxics Release Inventory (TRI).** This topic is included in solid and hazardous waste because in theory, this law is designed to inform the public of the by-products of industry. Under TRI, companies must report all releases of waste products into air, land, and water. However, as the brief indicates, it does not actually convey information on actual waste produced or the risks associated with such by-products.
- **Waste Management.** During the past decade, Congress considered legislation to regulate household waste via recycling mandates, bottle deposit bills, and similar measures. As noted in this section, these proposed policies have been based largely on myths about solid waste.

Another controversial area not covered in this book is the management of hazardous waste under the Resource Conservation and Recovery Act (RCRA). For information on that issue, see the following recommended readings.

— Angela Logomasini



Recommended Readings

Volokh, Alexander. *Recycling Hazardous Waste: How RCRA Has Recyclers Running Around in CERCLAs*. Los Angeles: Reason Public Policy Institute, October 1995, <http://www.rppi.org/ps197.pdf>.

Adler, Jonathan. "The Hazard of Regulating Waste." *Regulation* 16, no. 2 (1993), <http://www.cato.org/pubs/regulation/reg16n2g.html>.

Bovard, James. "RCRA: Origin of an Environmental Debacle." *Journal of Regulation and Social Costs* 1, no. 2 (January 1991).

Hahn, Robert. "Reshaping Environmental Policy," *American Enterprise*, May/June 1991.



SUPERFUND

There is perhaps no other environmental program that has been more often cited as a failure than the federal Superfund law. Because of excessive litigation promoted by the law's faulty liability scheme and needlessly expensive cleanup standards, the program has produced scant cleanups. Yet for more than 10 years, attempts to reform the law have failed. Meanwhile, states created and eventually reformed their own cleanup laws, which has resulted in thousands of state-led cleanups. This history makes strikingly clear that Congress needs to devolve all Superfund responsibilities to the states, where sites will eventually be cleaned.

Statutory Scheme

Federal Superfund¹ (also known as the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA) is allegedly designed to hold parties responsible for polluting property. Instead, the law arbitrarily holds anyone remotely connected to a contaminated site liable for cleanup. Responsible parties include waste generators (anyone who produced waste that eventually polluted a site), arrangers for transport of waste, waste transporters (anyone who simply transports wastes for legal disposal), operators (those who manage waste landfills), and property owners (anyone who owns the land). Under the law's strict, joint, and several liability scheme, each party can be held liable for 100 percent of the cleanup costs. Liability also is retroactive, which means the law applies to situations that occurred long before Congress passed the law. Accordingly, parties — ranging from small businesses, schools, and churches to large manufacturing plants — have been held accountable for sites contaminated decades before Superfund became law.

Cleanups can proceed in a number of ways. First, sites that the EPA deems a priority for cleanup are listed on the National Priorities List (NPL). After listing, EPA can clean a site (paying with funds in the federal Superfund, which was created by taxes on crude oil and other chemicals) and then it can seek reimbursement to the Superfund by suing “potentially responsible parties” (PRPs). Often, EPA engages in long and expensive litigation beforehand to collect funds from parties, and cleanup follows. In addition, parties found responsible may sue other parties to gain compensation for their costs. As a result, Superfund has produced a web of lawsuits, and it can take a decade or more to actually reach the cleanup stage.

The cleanup process entails setting cleanup standards that are based on “applicable, relevant, and appropriate requirements” (ARARs). That means EPA sets standards for each site based on state, local, and federal laws. For example, sometimes EPA will use federal drinking water standards to decide how clean water supplies at a site must be. Using extremely conservative assumptions when assessing risk, the cleanup standards usually demand very expensive cleanups.

Legislative History

Created as a temporary program in 1980 to clean up 400 sites, the NPL now contains more than 1,400 sites. The program and its taxing authority expired in 1995. Since then, members of Congress have battled over whether to restore taxing authority, with fiscal conservatives blocking Superfund reauthorization bills on tax issues alone. In addition, reform efforts have consisted of legislation designed to serve various lobbies, each seeking liability exemptions, leaving other parties to holding the bag.²

¹ People refer to the law as the “Superfund,” which is the name of the government fund created to assist with cleanups.

² For example, see David B. Kopel, *Privileged Polluters: The Case against Exempting Municipalities from Superfund* (Washington, D.C.: Competitive Enterprise Institute, March 1998), <http://www.cei.org/MonoReader.asp?ID=96>.



During recent Congresses, Superfund reform was high on the agenda, but has repeatedly fallen victim to the intense politics. During the 106th Congress, House Speaker Dennis Hastert (R-Ill.) encouraged members to produce Superfund reform legislation for the floor near the session's end. Commerce Committee members attempted to combine two competing bills, H.R. 1300, sponsored by Rep. Sherwood Boehlert (R-N.Y.), and H.R. 2580, by Rep. James Greenwood (R-Pa.). Both bills would reinstate the Superfund tax, and both would have left most of the faulty liability scheme intact.³ Neither bill made it to the floor. During the 105th Congress, the Senate leadership pushed S. 8 as one of its top 10 agenda items. Again, it ignored Superfund's fundamental flaws and offered a host of policies that were so bureaucratic that CEI analyst Jim DeLong could not help but call the proposal "beyond parody."⁴ During the 107th Congress, Superfund reform is largely off the table. Instead, members seek to address just one of the problems created by the law: the so-called brownfields problem.⁵

The Love Canal Hoax

Superfund grew out of the controversies of "Love Canal" — the toxic waste site that released chemicals into a community in Niagara Falls, New York. It is a symbol of corporate wrong doing and it raised calls for federal efforts to force industry to pay for cleanup at contaminated properties. But it's not surprising that the birth of this failed law would have emerged from a lie.⁶

In the case, Hooker Chemical Company selected the site in the early 1940s because, at the time, it was well suited for a waste site (low population, largely impermeable clay soil). But the local school board forced Hooker to sell the land by threatening to condemn the property. Under pressure, the company agreed in 1953 to donate the property to the school board for one dollar. Hooker attempted to set agreed-upon conditions for safe use (surface use only, no construction that would break the lining), and the deed stated that the liability would transfer to the school board and subsequent owners. The school board proceeded to build a school and then sell part of the land to developers — over Hooker's objections. Construction entailed digging into the clay cap, removing tons of soil, and building sewer lines that ran through the landfill, puncturing it and releasing waste throughout the community.

Panic ensued regarding the risks, creating a fear campaign about "toxic waste" that eventually led to the passage of Superfund on the basis of the alleged need for governmental action to control industry (despite the fact that the local government should bear the blame at Love Canal) and hold it accountable. Ironically, the chemicals did not pose the risks claimed. While there were some controversial studies that postulated risks, the best studies eventually refuted numerous claims about health impacts.⁷

Status of Cleanups

Federal Superfund cleanups can take decades. EPA is still trying to clean sites 20 years after they were first listed. In fact, only a handful of sites have actually reached the level of "complete."

³ For an analysis, see Dana Joel Gattuso, "Superfund Legislation: True Reform or a Hazardous Waste?" *CEI On Point* (Washington, D.C.: Competitive Enterprise Institute, 3 November 1999), <http://www.cei.org/OnPointReader.asp?ID=834>.

⁴ For an analysis, see James V. DeLong, *Superfund XVII: The Pathology of Environmental Policy* (Washington, D.C.: Competitive Enterprise Institute, August 1997), <http://www.cei.org/MonoReader.asp?ID=105>.

⁵ For a description of this problem as well as pending legislation, see "Brownfields" in *The Environmental Source*.

⁶ For an excellent exposé of the Love Canal myth, see Eric Zuess, "Love Canal: The Truth Seeps Out," *Reason*, February 1981, <http://www.reason.com/8102/fe.ez.the.html>.

⁷ For overviews of the scientific studies, see Aaron Wildavsky, "Love Canal," in *But Is It True? A Citizen's Guide to Environmental Health and Safety Issues* (Cambridge, Mass.: Harvard University Press, 1995), 127-52; and Elizabeth Whelan, "The 'Disaster' of Love Canal," in *Toxic Terror* (Ottawa, Ill.: Jameson Books, 1985).



- According to the U.S. General Accounting Office (GAO), it takes about 10 years to clean up a Superfund site, and some sites require an additional stage — for monitoring groundwater and the like — that can last an additional 30 years.⁸
- According to EPA, there are about 1,450 sites on the NPL. EPA does not list the number of successfully cleaned sites. Instead, on its Web page, EPA says that it has deleted 233 sites from the NPL. Each has a link to a fact sheet on the site describing activities leading up to deletion. Some of these sites have undergone relatively extensive cleanup (soil removal and the like), while others involved more limited actions, and others were removed simply after studies revealed they met standards of “safe” without remedial action.⁹ In any case, after more than 20 years, 233 deletions is less than impressive.
- In addition, EPA also transfers Superfund sites to another cleanup program under the Resource Conservation and Recovery Act (RCRA). According to the EPA inspector general, of the 3,000 or so sites that EPA shifted to RCRA, only 2 percent have been cleaned.¹⁰

So What Are the Risks?

While often depicted as cancer hot spots, there is little evidence that Superfund sites pose much of any chronic health risks. In fact, it is very difficult to determine risks associated with any low-level exposures to chemicals in the environment, and the best research indicates that such risks are likely to be so low that they are undetectable. For example:

- In their landmark study on cancer risks, Sir Richard Doll and Richard Peto concluded that chemicals in the environment cause about 2 percent of cancer risks.¹¹
- The National Research Council concluded in 1991, “Whether Superfund and other hazardous-waste programs protect human health is a critical question ... Based on its review of the literature on the subject, the committee finds that the question cannot be answered.”¹²

In addition, the agency’s risk assessments grossly exaggerate the risks of these sites, which leads to needlessly expensive cleanup standards. Science writer Steve Milloy highlights some problems with EPA assumptions.¹³ Consider a couple:

- EPA assumes that chemicals that cause cancer in animals (animals that are usually bred to be susceptible to cancer and are exposed to massive doses) cause cancer in humans. Milloy notes: “Without this assumption, few substances (only 24 according to the National Toxicology Program) would be considered human carcinogens. According to EPA, this assumption ‘contributes to a high level of uncertainty,’ and actual risks calculated on this basis may be as low as zero.”¹⁴

⁸ U.S. General Accounting Office, *Superfund — Information on the Program’s Funding and Status*, GAO/RCED-00-25 (Washington, D.C.: GAO, October 1999), <http://www.access.gpo.gov/cgi/dbname=gao&dpcid=f:rc00025.txt>.

⁹ “Deleted National Priorities List (NPL) Sites — by State as of 10 July 2001,” Web-based document accessed July 18, 2001, <http://www.epa.gov/superfund/sites/query/queryhtm/npldel.htm>.

¹⁰ EPA Office of the Inspector General, *Annual Superfund Report to the Congress for Fiscal Year 1999* (Washington, D.C.: U.S. EPA, 2000), i.

¹¹ Richard Doll and Richard Peto, “The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today,” *Journal of the National Cancer Institute* 66, no. 6 (June 1981): 1,257. For more details see “Chemical Risk” in *The Environmental Source*.

¹² While noting the serious limitations of the studies, the NRC says risks might exist. The NRC proceeds to make a plea for additional research funding in this area. National Research Council, *Environmental Epidemiology, Vol. 1: Public Health and Hazardous Waste* (Washington, D.C.: NRC, 1991), <http://www.nap.edu/books/0309044960/html/index.html>.

¹³ Steve Milloy, *Science-Based Risk Assessment: A Piece of the Superfund Puzzle* (Washington, D.C.: National Environmental Policy Institute, 1995).

¹⁴ Milloy, *Science-Based Risk Assessment*, 22.



- EPA assumes that chemicals that cause cancer at high levels cause cancer at any level, no matter how low. This assumption is based on the linear model for risk assessment, which says as dose increases/decreases, cancer risks increase/decrease incrementally. However, many substances appear to have a threshold — an exposure level under which risk is zero. Thus employing only the linear model enormously overestimates risk (see chart below).

Potential Overestimation of Risk by Using Linear Model	
Substance	Potential Overestimation Factor
Dioxin	1,000
Carbon tetrachloride	10,000
Benzene	100-1,000
Arsenic	Infinite
Chlordane	1,000,000,000
Chloroform	1,000-10,000

Source: Steve Milloy, Science-Based Risk Assessment: A Piece of the Superfund Puzzle (Washington, D.C.: National Environmental Policy Institute, 1995), 25.

At What Price?

- According to EPA, it has collected more than \$16 billion in Superfund lawsuits.¹⁵
- According to the General Accounting Office (GAO), taxes paid into the Superfund between 1981 and 1998 came to \$13.5 billion, and the fund had a balance of \$1.4 billion at the end of fiscal year 1999.¹⁶
- GAO estimates that responsible parties' cleanup costs came to \$13 billion from 1980 to 1998.¹⁷
- Transaction costs incurred by responsible parties (for litigation and the like) ranged from \$3.2 billion to \$7.6 billion between 1980 and 1998.¹⁸
- Private parties total (both transaction and cleanup) costs ranged from an estimated \$19 billion to \$23 billion.¹⁹
- Congress also appropriated funds from general tax revenues for EPA to administer the program.
- In addition, the law demands that states kick in 10 percent for the cleanup of private sites and 15 percent for publicly owned sites.

¹⁵ U.S. Environmental Protection Agency, *Superfund Accomplishments*, Web-based document, accessed 18 July 2001, <http://www.epa.gov/superfund/action/process/mgmtprpt.htm>.

¹⁶ U. S. General Accounting Office, *Superfund — Information on the Program's Funding and Status*.

¹⁷ *Ibid.*

¹⁸ *Ibid.*

¹⁹ *Ibid.*



Systematic Evaluation of the Risks

In the book *Calculating Risks*, James T. Hamilton and W. Kip Viscusi assess risks at 150 Superfund sites (selected because risk assessment data were available). They find that even using EPA's unrealistically conservative risk assumptions, 140 of these sites would generate no increase of cancer. Hence spending millions — perhaps billions — to clean these sites would produce zero benefit.

At 10 sites, Hamilton and Viscusi find that these sites might produce a total of 731 cancers over 30 years. But this number is probably far higher than real risks because it is based on EPA assumptions about exposure and risk. One site would allegedly generate 652 cancers related to PCB exposure. But scientist Michael Gough points out: "Given the results for the largest population of PCB-exposed workers ever studied, which show that PCBs have not caused cancer in humans, the 652 expected cancer cases may be overestimated by 652."²⁰ Plus, as Gough notes, the California site is a parking lot — with all the chemicals under asphalt. Only if one digs up the asphalt and builds playgrounds, homes, or the like, will there be risk of exposure.

Devolution Solution: State-Level Successes

While the federal government's record of Superfund is an abysmal failure, state governments are doing much better. In fact, they take much less time to clean more sites at far lower costs. Consider some figures collected in 1995 by former EPA assistant administrator for solid waste, Dr. J. Winston Porter:²¹

- While EPA spent about \$1 billion working on about 1,000 sites, states were spending about \$700 million annually cleaning about 11,000 sites.
- States clean sites in a fraction of the time it takes the federal government to clean its sites, and states do so at far lower costs. For example, Minnesota cleans sites in two to three years at a cost of less than \$5 million.
- While the federal government had cleaned very few sites, states had reached "construction completion" on 2,844 sites by 1994.

State programs have proven more successful because they focus on setting more realistic cleanup standards (assessing risks with more realistic assumptions considering use of property, etc.) and provide fairer liability policies that promote voluntary cleanup activities by the private sector. Superfund's history confirms a basic point: those closer to a problem are better suited to fix it. Superfund sites are exclusively a state and local concern. Given the demonstrated successes of states (in stark contrast to serious federal failure), there is little reason for Congress to "reform" federal Superfund. Instead, members should seek ways to completely devolve the program to the states.

— Angela Logomasini

²⁰ Michael Gough, "Superfund: The High Cost of Environmental Alarmism," *Regulation* 23, no. 2 (2000): 58-60.

²¹ J. Winston Porter, *Cleaning Up Superfund: A Case for Environmental Leadership* (Los Angeles: Reason Public Policy Institute, 1995), <http://www.rppi.org/environment/ps195.pdf>.



Key Experts

Angela Logomasini, CEI, (202) 331-1010, alogomasini@cei.org.
Dana Joel Gattuso, CEI and PERC, djoel@cei.org.
Jerry Taylor, Cato Institute, (202) 842-0200, jtaylor@cato.org.
Bonner Cohen, Lexington Institute, (703) 522-9643, cohen@lexingtoninstitute.org.

Recommended Readings

DeLong, James V. *Superfund XVII: The Pathology of Environmental Policy*. Washington, D.C.: Competitive Enterprise Institute, August 1997, <http://www.cei.org/MonoReader.asp?ID=105>.

Gattuso, Dana Joel. "Superfund Legislation: True Reform or a Hazardous Waste?" *CEI On Point*. Washington, D.C.: Competitive Enterprise Institute, 3 November 1999, <http://www.cei.org/OnPointReader.asp?ID=834>.

Kopel, David B. *Privileged Polluters: The Case Against Exempting Municipalities From Superfund*. Washington, D.C.: Competitive Enterprise Institute, March 1998, <http://www.cei.org/MonoReader.asp?ID=96>.

Milloy, Steve. *Science-based Risk Assessment: A Piece of the Superfund Puzzle*. Washington, D.C.: National Environmental Policy Institute, 1995.

Porter, J. Winston. *Cleaning Up Superfund: A Case for Environmental Leadership*. Los Angeles: Reason Public Policy Institute, 1995, <http://www.rppi.org/environment/ps195.pdf>.



BROWNFIELDS

The U.S. inner-cities are home to hundreds of thousands of old, abandoned commercial and industrial sites, called “brownfields.” While the majority of these sites are not actually hazardous, many potentially contain contaminants from industrial waste and chemical deposits. Rather than face the uncertainties of cleanup costs and regulations associated with the federal Superfund law, prospective developers have turned to outer-urban and suburban areas for expansion, a less costly and less risky venture. To address resulting urban decay, states have initiated “brownfields” laws. These laws attempt to provide liability relief to parties that voluntarily clean and develop these sites. But because states can only provide relief from state liability laws, the impact of state programs is limited and many sites remain idle. The only way to fully address liability problems involves removing the perverse incentives created by the federal Superfund law.

Legislative History

Brownfields legislation has widespread, bipartisan support. Several bills have been introduced in Congress, and President George W. Bush made brownfields reform a key element of his campaign. In the past, brownfields reform was tied to a larger Superfund reform package because members of Congress hoped its popularity would carry the larger reform effort. Accordingly, during the 106th Congress, House Republicans attempted brownfields reform as part of a larger Superfund reform package, working to meld two bills — H.R. 1300, sponsored by Rep. Sherwood Boehlert (R-N.Y.), and H.R. 2580, sponsored by Rep. James Greenwood (R-Pa.). In the 107th Congress, members are pushing brownfields reform as a separate package, thereby increasing its chances of passage. The Senate passed S. 350, sponsored by Sen. Lincoln Chafee (R-R.I.), and members of the House Energy and Commerce Committee are working on legislation as well. The specifics of the legislation are discussed below.

State Successes

Any brownfields reform effort should seek ways to capitalize on successful state-level brownfields and Superfund programs.¹ During the past decade, states have made enormous strides in reforming their own Superfund laws to allow more flexible standards — producing 40,000 site cleanups, according to one estimate.² In recent years, states have begun passing brownfield laws that provide liability relief to parties that voluntarily clean sites as well as flexible cleanup standards and financial incentives. In total, 46 states operate some form of voluntary brownfields cleanup program.³ As a result, states have cleaned tens of thousands of brownfield sites.

The states that currently operate some form of a voluntary brownfields cleanup program owe their success largely to new and creative approaches that encourage potential developers to clean up the property and restore it to use. The state programs typically deviate from federal policy by emphasizing incentives over harsh enforcement standards, liability relief for innocent parties over unfair and debilitating liability laws, risk-based remediation requirements over one-size-fits-all policies, and financial inducements such as tax relief.

¹ For a more complete documentation of state successes, see Dana Joel Gattuso, *Revitalizing Urban America: Cleaning up the Brownfields* (Washington D.C., Competitive Enterprise Institute, 2000), <http://www.cei.org/MonoReader.asp?ID=1080>.

² Environmental Law Institute (ELI), “Developments in State Programs,” in *An Analysis of State Superfund Programs: 50-State Study, 1998 Update* (Washington D.C.: ELI, 16 October 1998).

³ Charlie Bartsch and Christine Anderson, *Matrix of Brownfield Programs by State* (Washington, D.C.: Northeast-Midwest Institute, 29 September 1998).



States nonetheless are severely impeded by federal policies that prevent them from ensuring liability protection for innocent parties (an essential component to reduce risk); developing their own rules for remediation; cleaning up sites free from the threat of “environmental justice” provisions; and other federal policies.

Failure of Federal Brownfields Programs

The Environmental Protection Agency (EPA) operates several brownfields programs under the authority of, and with some financial support from, the federal Superfund law. In addition, Congress has appropriated special funds for brownfield grants programs, but has yet to pass into law authorizing legislation. Unfortunately, these programs have accomplished little more than the creation of a few show-case communities that the agency and politicians have used for political purposes.⁴ Meanwhile, few sites are actually cleaned under these programs, funds have been abused, and recipients have found themselves bound in federal red tape.⁵

Federal policy has created enormous roadblocks for state cleanup efforts through two primary means: (1) maintaining the threat of intervention in brownfields cleanups through the federal Superfund law; and (2) operating pilot projects that provide grants to states and localities only if they follow Superfund and other federal requirements. Both policies have hindered the states from getting the job done. The former has discouraged cleanup by inflating the risks and costs for all parties involved, similar to the Superfund program. The latter has enabled EPA to enforce onerous requirements at the expense of site assessment and cleanup needs.

Legislative Reform Efforts

Unfortunately, rather than simply providing needed liability relief, federal brownfield legislation has focused on the creation of a federal brownfields program, which promises to create a whole new set of problems. During the 106th Congress, the Superfund reform bill, H.R. 2580, included some liability exemptions for innocent parties and would have given states some added authority. However, the legislation expanded the federal role in brownfield redevelopment with grant programs and federal standards that would have likely made cleanup efforts more difficult and stymied state-level creativity.

In the 107th Congress, S. 350 makes some overtures to liability reform. But these are rendered meaningless by other provisions in the bill. In particular, the bill does not provide the essential elements that would make brownfields reform effective. It does not provide finality — the assurance to private parties that the federal government would not step in and apply additional cleanup standards after the cleanup was complete. It also promises to increase federal involvement and red tape by using a grant program to apply federal standards to state-led brownfields cleanup efforts.

Some Essential Elements of Federal Brownfields Reform

If lawmakers are truly interested in making brownfields reform work, they will need to make sure certain key elements are included in their legislation. Among these are the following:

- **Finality.** For any brownfields bill to be effective, it must provide “finality.” Finality is the commitment that once a cleanup meets the state’s approval and required standards, federal, state, or

⁴ For example, see Dana Joel Gattuso, “Father of Deception: Gore Is the Anti-Reformer,” *Washington Times*, 31 August 2000.

⁵ For specifics, see Gattuso, *Revitalizing Urban America*.



local authorities will not renege on their agreement with private parties by imposing additional cleanup standards. Without providing developers the needed assurance of “finality,” the risks to parties are simply too high to warrant their interest in the brownfields cleanup project. Unless parties are convinced that the federal government will not override state programs, existing brownfields will continue to lie abandoned.

- **State prerogative in standard setting.** Federal funding should not be used as a means for mandating federal standards and approaches. As a 1997 General Accounting Office (GAO) report found,⁶ state programs have been successful largely because they have abandoned the federal government’s standards and “stick” approach, opting for innovative methods that rely on incentives and flexibility.
- **No more listing on National Priorities List (NPL).** Given the federal government’s dismal record cleaning up Superfund sites and the success at the state level, brownfields legislation should prohibit additional listing on the NPL.⁷ At a bare minimum, brownfields reform should not allow new NPL listings unless a state requests the listing in writing.

Conclusion

To date, Washington’s policies intended to help the states clean up brownfields have impaired efforts by giving EPA ultimate reign and control. The best help Washington can give the states is to simply get out of the way — repealing the laws and policies that prevent the rapid and effective recycling of the nation’s brownfields.

— *This brief was derived from work of CEI Adjunct Scholar Dana Joel Gattuso*

Key Experts

Dana Joel Gattuso, CEI, (202) 331-1010, dgattuso@cei.org.
Angela Logomasini, CEI, (202) 331-1010, alogomasini@cei.org.

Recommended Readings

Gattuso, Dana Joel. *Revitalizing Urban America: Cleaning up the Brownfields*. Washington, D.C.: Competitive Enterprise Institute, July 2000, <http://www.cei.org/MonoReader.asp?ID=1080>.

Gattuso, Dana Joel. “Senate Brownfields Bill Needs a Cleanup.” *CEI On Point*. Washington, D.C.: Competitive Enterprise Institute, 23 April 2001; <http://www.cei.org/OnPointReader.asp?ID=1450>.

Gattuso, Dana Joel. “Superfund Legislation: True Reform or a Hazardous Waste?” *CEI On Point*. Washington, D.C.: Competitive Enterprise Institute, 19 November 1999, <http://www.cei.org/OnPointReader.asp?ID=834>.

⁶ General Accounting Office (GAO), *Superfund: Extent to Which Most Reforms Have Improved the Program Is Unknown* (Washington D.C.: GAO, 2000).

⁷ The National Priorities List contains those sites that EPA considers are priority for Superfund cleanups. Unfortunately, when sites end up on this list, cleanup becomes less likely because the bureaucratic Superfund process can delay cleanup for decades.



INTERSTATE WASTE COMMERCE

For more than two decades, various states and localities have battled over interstate and intrastate movements of municipal solid waste. States have passed import bans, out-of-state trash taxes, and other policies to block imports. Localities, on the other hand, passed laws preempting the movement of wastes outside of their boundaries for disposal under so-called flow-control laws. Federal courts have struck down both types of laws as protectionist policies that violate the U.S. Constitution's Commerce Clause, which gives only Congress the authority to regulate interstate commerce. Yet some federal lawmakers want to pass a federal law to give states authority to regulate trade in the waste disposal industry.

Legislative History

Congress has attempted to deal with this issue on several occasions starting with the 1992 attempt to reauthorize the Resource Conservation and Recovery Act (RCRA). Bills dealing with interstate commerce and flow control advanced during every Congress starting in 1992, but none have passed into law. Last Congress, the issue heated up when New York City decided to send increasing amounts of waste for disposal in Virginia. When localities agreed to take the waste to collect "host fees" (see below), state legislators objected. As a result, several bills were introduced in Congress that would institute complicated schemes under which state lawmakers could regulate waste imports and/or flow control.¹

Host Communities

The current debate focuses mostly on interstate trade. In recent years, many communities chose to "host" regional landfills, agreeing to allow waste imports in exchange for free trash disposal and a cut in the landfill profits. These agreements have enabled communities nationwide to cut taxes, repair and upgrade infrastructure, give pay raises to teachers, build schools and courthouses, as well as close and clean up old, substandard landfills.²

Flow Control

The debates over interstate waste became more complicated when the Supreme Court ruled on the constitutionality of solid waste flow-control ordinances. Local governments passed these ordinances to mandate that haulers take all trash generated within the locality's jurisdiction to government-designated facilities. Bureaucrats used these ordinances to prevent competition with facilities that local governments owned or backed with bonds. But in 1994, the Supreme Court ruled in *C & A Carbone, Inc. v. Town of Clarkston, N.Y.*, that solid waste flow-control laws were unconstitutional because they violated the Commerce Clause.³

Carbone has resulted in more economically sound public policy. Flow-control laws forced trash haulers to take wastes to the most expensive facilities. As a result, the public faced higher disposal costs, and cities were encouraged to invest in inefficient, and otherwise uncompetitive, waste disposal facilities. After *Carbone*, many localities argued that they needed flow-control laws to protect their investments in government-bonded facilities that were built with the assumption that localities

¹ For a more complete overview of these bills, see Angela Logomasini, *Trashing the Poor: The Interstate Garbage Dispute* (Competitive Enterprise Institute, 1999), 11-14, <http://www.cei.org/MonoReader.asp?ID=817>.

² For a sampling of such benefits see Logomasini, *Trashing the Poor*.

³ *C & A Carbone, Inc. v. Town of Clarkston, N.Y.*, 511 U.S. 383 (1994).



could ensure revenues by directing all waste business to those facilities. They claimed that these plants would go out of business and their communities would pay high taxes to cover the debt. In an open market, some firms go out of business when they are not efficient. That's considered a good thing because it means only the best providers survive. However, *Carbone* did not result in this alleged financial "disaster."

Communities benefit from the newly competitive environment because now these facilities must find ways to compete with more efficient operations, and haulers may conduct business with the lowest-cost providers. Under these circumstances, localities must make more sound decisions based on market realities, which helps their constituents avoid more faulty government investments.⁴

Public Safety

During 1999, public officials claimed that regional landfills posed a host of health and safety problems. The landfills allegedly would lead to cancer clusters in the future. Officials in Virginia, Maryland, and the District of Columbia conducted an investigation of trucks transporting waste from state to state, which they alleged showed that transporting wastes created severe highway hazards. They also argued that garbage barges were not a safe means of transporting the waste because waste would allegedly spill and pollute waterways. Finally, they claimed that medical waste was being dumped illegally into Virginia landfills, creating dire health hazards. All these claims proved specious.

- Rather than increasing public health and safety risks, these landfills enable communities to close substandard landfills and construct safe, modern landfills.
- It is estimated that modern landfills pose cancer risks as small as one in a billion, an extremely low risk level.⁵
- People should be concerned about truck safety, particularly those in the industry who drive the trucks and employ others who do, but the problems were not as severe as suggested.
- During the 1999 government investigation, out of the 417 trucks stopped and inspected in Maryland, District of Columbia, and Virginia, 37 experienced violations. That number represented a 9 percent violation rate — an above average performance, considering the 25 percent rate nationwide.⁶
- Virginia's "solution" to the traffic problem — banning garbage barges — could put more truckers on the road and prevent industry from using a safer transportation option.

⁴For a more detailed discussion of the problems with flow control, see Jonathan Adler, "The Failure of Flow Control," *Regulation*, no. 2 (1995); National Economic Research Associates (NERA), *The Cost of Flow Control* (Washington, D.C.: NERA, 1995); and Angela Logomasini, *Going against the Flow: The Case for Competition in Solid Waste Management* (Washington, D.C.: Citizens for a Sound Economy Foundation, 1995), available at the Heartland Institute's *PolicyBot*: <http://www.heartland.org>.

⁵Jennifer Chilton and Kenneth Chilton, "A Critique of Risk Modeling and Risk Assessment of Municipal Landfills Based on U.S. Environmental Protection Agency Techniques," *Waste Management and Research* 10 (1992): 505-16. For some additional facts on landfill risks, see brief "Waste Management" in the *Environmental Source*, see also, Logomasini, *Trashing the Poor*, 18-20; <http://www.cei.org/MonoReader.asp?ID=817>.

⁶Craig Timber and Eric Lipton, "7 States, D.C., Crack Down on Trash Haulers," *Washington Post*, 9 February 1999, B1; see also *Motor Carrier Safety Analysis, Facts & Evaluation* 3, no. iii (Washington, D.C.: U.S. Department of Transportation, 1998).



- Barges not only reduce traffic, they carry cargo nine times farther using the same amount of energy, emit less than one-seventh of the air pollution, and have the fewest accidents and spills of any other mode of transportation, according to a 1994 U.S. Department of Transportation study.⁷
- Medical waste is not even more dangerous than household waste. According to the Centers for Disease Control and Prevention, “medical waste does not contain any greater quantity or different type of microbiologic agents than residential waste.”⁸

Finally, one key concern raised by the landfill debates involves the externalities they create for people who either live near them or along transportation routes. Clearly, problems can arise and lawmakers should be concerned about odors, litter, and traffic. These are the real issues that demand local government attention, employing trespass and local nuisance laws.⁹ However, these local concerns are not an excuse to ban free enterprise in any industry.

Conclusion

Public officials need to learn that the best way to manage our trash is to stop trying to micromanage the entire trash-disposal economy. In recent years, market forces have begun to correct many of the problems caused by faulty government planning schemes. With the Supreme Court restoring competition, resulting trade has proven beneficial to both host communities and states that lack landfill capacity. Allowing states to impose import limits or flow-control laws will only turn back the progress that the private sector has made. These policies will mean a return to a system where lawmakers impede market efficiencies, thereby increasing costs and reducing economic opportunity. Those who feel the real pain of these policies will be the many poor, rural communities that desperately seek ways to improve their infrastructure and quality of life.

— Angela Logomasini

Key Experts

Angela Logomasini, CEI, (202) 331-1010, alogomasini@cei.org.
Jerry Taylor, Cato Institute, (202) 842-0200, jtaylor@cato.org.

Recommended Readings

Logomasini, Angela. *Trashing the Poor: The Interstate Garbage Dispute*. Washington, D.C.: Competitive Enterprise Institute, 1999, 11-14; <http://www.cei.org/MonoReader.asp?ID=817>.

Logomasini, Angela. *Going Against the Flow: The Case for Competition in Solid Waste Management*. Washington, D.C.: Citizens for a Sound Economy Foundation, 1995, available at the Heartland Institute's *PolicyBot*: <http://www.heartland.org>.

⁷ U.S. Department of Transportation, U.S. Maritime Administration, *Environmental Advantages of Inland Barge Transportation* (Washington, D.C.: Department of Transportation, 1994).

⁸ “Perspectives in Disease Prevention and Health Promotion Summary of the Agency for Toxic Substances and Disease Registry Report to Congress: The Public Health Implications of Medical Waste,” *Morbidity and Mortality Weekly Report* 39, no. 45 (16 November 1990): 822-24.

⁹ See Bruce Yandle, *Common Sense and Common Law for the Environment* (Lanham, Md.: Rowman & Littlefield, 1997).



TOXICS RELEASE INVENTORY

Several states and the federal government have in place various “right-to-know” laws. Based on the idea that the public has a “right to know” about chemical risks they face, these programs require that the private sector report chemicals they release, use, and sell. Some environmentalists suggest that supporting these regulations gives the public enough information to demand less polluting, lower risk facilities. While these laws seem straightforward and reasonable, an analysis of one key federal program — the Toxics Release Inventory (TRI) — demonstrates serious flaws.

Statutory Scheme

TRI requires that firms¹ with 10 or more employees that annually manufacture or process more than 25,000 pounds (or otherwise use 10,000 pounds) of a TRI-listed chemical² report the release or transfer of such. The law currently covers about 650 chemicals, and EPA has the authority to add and delete chemicals. Releases include emissions, discharges into bodies of water, releases to land, materials recycled, and disposal into underground injection wells. Transfers include movement of chemicals off-site for recycling, incineration, treatment (such as in a water treatment facility), or landfill disposal.

The Problematic Nature of TRI Data

Among TRI’s most serious flaws is that it creates the illusion that the mere release of a chemical is equivalent to risk, while, in fact, low-level releases and subsequent low-level exposures likely pose no significant risks.³ Some suggest that EPA could address TRI’s failure to provide meaningful information on risk. But devising a risk-based system is practically impossible, and given the investment required, it is not desirable. Building such a system would require billions of dollars in expenditures — billions that would be diverted from other wealth-creating, quality-of-life-improving uses. Despite this very high quality-of-life cost, this program would likely return few benefits because chemical risks overall are relatively low.⁴

Other problems also prevent TRI data from providing meaningful information:

- Safe disposal of waste is counted as a “release” — conjuring up images of dumping sewage into rivers — even if the disposal method is virtually harmless and far from most people’s intuitive understanding of what constitutes a release. For example, TRI counts underground injection of liquid wastes as a “release into the environment.” Yet underground injection is one of the safest means to dispose of liquid waste — the waste is injected 4,000 to 5,000 feet below the earth’s surface, far from places where it could damage the environment and far from underground drinking water sources. Because underground injection is called a release, it hikes TRI numbers and has become the target of environmental campaigns. As a result, companies are eliminating underground injection and instead must release wastes directly into surface waters — a far less environmentally sound option.⁵

¹ For a list of regulated industries, see <http://www.epa.gov/tri/siccode.htm>.

² For the lists of chemicals regulated under TRI, see <http://www.epa.gov/tri/chemical.htm>.

³ For a discussion of low-level exposures and chemical risks, see “The True Causes of Cancer” in *The Environmental Source*.

⁴ See “True Causes of Cancer” in *The Environmental Source*.

⁵ For additional information on underground injection and TRI call the Ground Water Protection Council at (405) 516-4972.



- TRI counts the reuse of chemicals within a production process as an additional chemical use. This policy wrongly inflates TRI numbers by counting materials every time they go through the recycling process.
- Large firms emit more pollution by the nature of their size and hence are labeled the “biggest polluters.”⁶ Likewise, a firm might emit a large amount of an innocuous substance, but it can still be listed as a bigger polluter than one that emits a small amount of a highly toxic substance.

The Right to Scare: How Activists Use TRI

“In 1994, Wisconsin Citizen Action and Citizens for a Better Environment released a study called ‘Poisons in our Neighborhoods: Toxic Pollution in Wisconsin.’ According to the study, Wisconsin manufacturers ‘released over 55 million pounds of toxic chemicals into air, water, and land in 1992.’ The study also used TRI data to compile a list of the ‘Dirty Dozen’ facilities with the largest combined air, water, and land releases along with discharges for sewage treatment.

“Number 2 of the ‘Dirty Dozen’ was Charter Steel of Saukville, Wisconsin, which released 2,645,088 pounds. ‘This is the amount of toxic waste we are certain is being thrown into Wisconsin’s environment,’ said a spokesperson for the environmental groups, indicating that the TRI numbers could be interpreted as a lower bound for pollution. Charter Steel disagreed. The ‘toxic waste’ it was releasing was spent pickle liquor, a by-product of steel manufacture which contains sulfuric acid. But its pickle liquor was not being ‘thrown into Wisconsin’s environment,’ as the environmental report suggested. Instead it was being given for free to sewage treatment plants, which used the sulfuric acid in the pickle liquor to help treat their sewage water. The Milwaukee Metropolitan Sewerage District, which gets 6 percent of its pickle liquor from Charter and more pickle liquor from eight other companies, saves \$300,000 per year because of Charter Steel’s production of this ‘hazardous waste.’”⁷

In addition, TRI and other “right-to-know” programs carry other trade-offs:

- Right-to-know data may jeopardize some firms’ trade secrets by making information available to their competitors. Of particular concern was a 1997 EPA proposed expansion of TRI to include materials accounting — which requires firms to report on the materials they merely use, not just the ones they “release” — as well as numerous databases that EPA is posting online containing information it collects under various laws.⁸
- TRI often is marketed as a low-cost program. But the burden placed on the private sector is significant. Estimated total costs of TRI range up to nearly a billion dollars a year, and costs of all EPA “right-to-know” regulations from TRI and various other programs range up to \$3.4 billion.⁹

⁶ For example, Eastman Kodak has carried the label in New York simply because it happens to be the largest facility in the Northeast; see “Eastman Kodak Again New York’s Biggest Polluter 1997 Data Show,” *AP State & Local Wire*, 14 May 1999.

⁷ Alexander Volokh, Kenneth Green, and Lynn Scarlett, *Environmental Information: The Toxics Release Inventory, Stakeholder Participation; and the Right to Know, Part 1 of 2: Shortcomings of the Current Right to Know Structure*, Policy Study no. 246 (Los Angeles: Reason Foundation, November 1998), 17; <http://www.rppi.org/ps246.html>.

⁸ U.S. Government Accounting Office, *Environmental Information: EPA Could Better Address Concerns about Disseminating Sensitive Business Information*, GAO/RCED-99-156 (Washington, D.C.: GAO, June 1999).

⁹ Volokh, Green, and Scarlett, *Environmental Information: The Toxics Release Inventory*, 12.



TRI Is Not a Reliable Source for Measuring Pollution Trends

TRI's most often cited achievement is its ability to measure pollution trends. Supporters say that TRI gives firms the incentive to reduce toxic releases and that data reveal that these incentives have indeed led to reductions of these emissions. According to EPA, total TRI releases have declined 45 percent between 1989 and 1998.¹⁰ At question is whether all declines can be attributed to TRI. Consider some potential problems:

- The U.S. General Accounting Office (GAO) notes: "EPA cannot determine whether reported reductions in waste are due to improved environmental performance or to other factors, such as annual changes in companies' production or methods of estimating waste."¹¹
- GAO notes that reductions also may be a result of firms switching to "alternative chemicals that may be as harmful as those for which reductions are reported."¹²
- Since estimating TRI emissions often is a subjective task, some firms may work on how they measure emissions to justify lower numbers each year to ensure that they can report lower emissions in their annual reports. GAO notes, "Companies often change their estimation techniques from one year to the next, preventing data users from accurately evaluating the progress of source reduction."¹³
- Rather than measuring environmental performance, TRI can simply measure changes in the economy. Declining TRI releases can result as facilities close or downsize during a recession. Likewise, if a facility expands, TRI may indicate a "poor performance" as "releases" go up.¹⁴
- EPA databases, such as TRI, are unreliable. GAO notes: "In various reviews, we and others have identified persistent concerns about the accuracy of the data in many of EPA's information systems."¹⁵

However, it is not unreasonable to assume that pollution and materials use have in fact declined. Even with increases in market activity, reduced pollution and more efficient materials use should be expected without TRI. The main reason is that market incentives to cut waste are a stronger influence on materials use because such reductions translate into a financial gain. For example, the Reason Foundation compiled some examples of such market-driven source reduction:¹⁶

- To construct a skyscraper today, builders need 35 percent less material than they did a few decades ago;
- The amount of aluminum required to produce an aluminum can has declined by 30 percent from 1972 to 1995;

¹⁰ U.S. Environmental Protection Agency, *1998 Toxics Release Inventory Data and 1995-1998 Trends* (Washington, D.C.: U.S. EPA, May 2000), 2-23, <http://www.epa.gov/tri/tri98/pdr/index.htm>.

¹¹ U.S. General Accounting Office, *Toxic Substances: EPA Needs More Reliable Source Reduction Data and Progress Measures*, GAO/RECD-94-93 (Washington D.C.: U.S. GAO, 23 September 1994).

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ While TRI suggests otherwise, as wealth improves environmental well-being improves; see "Environmental Trends" in *The Environmental Source*.

¹⁵ Statement of Peter F. Guerrero, Director, Environmental Protection Issues, U.S. GAO, Before the Senate Committee on Environment and Public Works, 3 October 2000; GAO-01-97T.

¹⁶ Volokh, Green, and Scarlett, *Environmental Information: The Toxics Release Inventory*, 12.



- The average weight of a stove declined by 17 percent between 1972 and 1987.

The Right to Terrorism

A federal “right-to-know” provision in the Clean Air Act demonstrates how far activists will go. Under the federal Clean Air Act, certain industrial facilities must prepare risk management plans. These plans include a section outlining the potential impacts (including the number of fatalities and injuries to the surrounding community) that would result under the “worst case scenario” from a catastrophic accidental chemical release. The law demanded that EPA make the information available to the public.

When EPA announced it would post this information on the Internet, the FBI, the CIA, and other security organizations pointed out that such posting could give terrorists anonymous access to a searchable database for potential targets — enabling them to select the ones that would produce the highest number of fatalities. When EPA agreed not to post the information, “right-to-know” advocates said that they would get the information and post it on the Internet themselves.

Congress passed a law in 1999 asking the Department of Justice (DOJ) and EPA to issue a rule to minimize security risks. The final rule makes the information available in at least 50 “reading rooms” throughout the nation and at state and local emergency planning committee offices, where potential terrorists can view the information and where activists can copy it down and eventually post it online. In any case, the rule allowed EPA to post the bulk of the RMP information online, with summaries included on every facility.

— Angela Logomasini

Key Experts

Angela Logomasini, CEI, (202) 331-1010, alogomasini@cei.org.
 Alexander Volokh, Reason Foundation, volokh@fas.harvard.edu.
 J. Winston Porter, Waste Policy Center, (703) 777-9800, jwp@winporter.com.

Recommended Readings

Dudley, Susan. Persistent Bioaccumulative Toxic Chemicals — Toxic Release Inventory (TRI). Arlington, Va.: Mercatus Center, 1 April 1999, RSP Comment 1999-2, <http://www.mercatus.org>.

Dudley, Susan. TRI Reporting of Lead and Lead Compounds. Arlington, Va.: Mercatus Center, 15 December 1999, RSP Comment 1999-13, <http://www.mercatus.org>.

Logomasini, Angela. “The Clean Air Act’s Federal Terrorist Assistance Program.” *CEI On Point*. Washington, D.C.: Competitive Enterprise Institute, May 1999, <http://www.cei.org/OnPointReader.asp?ID=688>.

Volokh, Alexander, Kenneth Green, and Lynn Scarlett. *Environmental Information: The Toxics RElease Inventory, Stakeholder Participation; and the Right to Know, Part 1 of 2: Shortcomings of the Current Right to Know Structure*. Policy study no. 246. Los Angeles: Reason Public Policy Institute, November 1998.



WASTE MANAGEMENT

Americans like to recycle, and recycling is indeed an important part of our “integrated waste management system.” This system recognizes that some portions of our waste are most efficiently recycled, some placed in landfills, and some burned in incinerators. The key is finding the mix of options that conserve the most resources, while protecting the environment. Market-driven competition is the best way to achieve this goal. Each option represents its costs to society: the value of the water, energy, land, labor, and other resources that the disposal option requires. Hence, by allowing competition between disposal options, we enable the most resource-efficient (the least expensive) option to win in any given case. Yet state and local governments don’t follow this advice. They try to manage their waste with plans similar to economic plans of the former socialist nations, creating a host of economic and environmental problems.

Legislative Background

For the most part, state and local laws govern waste management. However, federal law has an important impact on how they operate. The federal Resource Conservation and Recovery Act (RCRA) sets voluntary guidelines for states to develop “solid waste management plans.” When devising these plans, state and local officials estimate how much waste they expect each community to create over a 5- to 30-year period, and then they plan ways to manage that waste. Because the federal government provides financial assistance to state bureaucracies that gain EPA approval of their plans, nearly all states and localities employ waste management planning.

Misplaced Political Priorities

Relying on 30-year waste plans presents serious problems. Officials cannot possibly estimate future waste generation, nor can they envision future disposal technology. As a result, public officials often make poor decisions, invest in the wrong technologies, and often choose the less efficient disposal options.¹

In addition, with increasing government involvement, waste management increasingly serves politically popular goals at the expense of safe and efficient disposal. In particular, the Environmental Protection Agency (EPA) set up a system of politically preferred waste disposal options, called the “waste management hierarchy,” which governs most state and local waste management plans. According to the hierarchy, waste policy should first focus on reducing the amount of trash people make, so-called source reduction. Second, it should emphasize recycling. And wastes that we cannot reduce or recycle should go to the politically unpopular options: to the landfill (third on the list) or to an incinerator (fourth on the list). By relying on this political formula, bureaucrats often work to promote source reduction and recycling at any cost to the environment and consumers.

Source Reduction

The desire to reduce waste — defining “waste” as not using our resources efficiently — is a worthy goal. But source reduction confuses waste reduction with plans to abolish useful products. Ironically, attempts to eliminate useful products can increase refuse by eliminating packaging that

¹ Numerous states and localities have invested in waste disposal facilities — primarily waste to energy incinerators — only to find they are not economically efficient. As a result, they have gone as far as banning competition with these plants, until the Supreme Court ruled such laws unconstitutional; see “Interstate Waste Commerce Superfund” in *The Environmental Source*.



prevents spoilage or product damage. For example, developing countries experience food spoilage of 30 percent to 50 percent because of inadequate packaging, storage, and distribution. With sophisticated packaging, storage, and distribution, developed nations only experience 2 percent to 3 percent food spoilage.²

Manufacturers know that *more efficient packaging* — rather than its elimination — saves resources. It makes more sense to employ such market forces than to assume government bureaucrats can mandate more efficient options. For example, between 1980 and 1998, manufacturers reduced the material necessary to make

- a two-liter plastic bottle from 65 to 48 grams;
- an aluminum can from 19 to 14 grams;
- a glass bottle from 255 to 170 grams;
- a steel can from 48 to 36 grams; and
- a plastic grocery sack from nine to six grams.³

In the rush to serve the politically preferred source reduction goal, some public officials seek to reduce disposable products, such as paper cups and utensils. But a Waste Policy Center report,⁴ which reviewed 34 studies on disposable packaging, highlights why this policy does not necessarily serve public health or environmental goals. The study finds:

- Disposables reduce exposure to dangerous bacteria. For example, one study examined a sample of utensils from restaurants, hotels, medical institutions, and schools. It found that, on average, there were 410 bacterial colonies on reusable utensils compared to two bacterial colonies on disposable utensils.
- Because it does not require washing, disposable packaging uses less water and produces less wastewater. For example, the Waste Policy Center study found that washing a china cup in the dishwasher just once produces more water pollution than the entire life cycle of a disposable cup.
- Reusable products are only better for the environment (in regard to solid waste disposal, air pollution, and energy usage) if they are used several hundred times.

Recycling

Similarly, because recycling is so politically popular, public officials developed goals as part of their waste management plans to recycle a specific percentage of household waste. To meet these goals, local governments have employed mandated recycling programs and mandated that certain products contain a percentage of recycled content.⁵ As a result, local governments expend enormous

²“Packaging in Perspective: Environmental Economics of Packaging, Packaging and the Environment, Special Report,” *Packaging Week* 5, no. 39 (21 February 1990): S17; report cites the World Health Organization for these figures.

³J. Winston Porter, *Trash Facts — In a Small Package* (Leesburg, Va.: Waste Policy Center, 1999), <http://www.winporter.com>.

⁴J. Winston Porter, *Environmental and Public Health Aspects of Food Service Packaging* (Leesburg, Va.: Waste Policy Center, 1996).

⁵For information on why recycled content laws cannot promote efficient recycling, see Jerry Taylor, “Minimum Content, Minimum Sense,” *This Just In* (Cato daily commentary), 25 April 1997, <http://www.cato.org/dailys/4-25-97.html>; Ken Chilton, *Do We Need a Federal Garbage Man?* (Los Angeles: Reason Public Policy Institute, March 1992), <http://www.rppi.org/environment/ps137.html>.



resources to promote recycling, even when that means using more resources than recycling saves. Note the following facts:

- Despite conventional wisdom, recycling has environmental trade-offs, and in many cases it can be the less environmentally sound option because recycling can use more energy and water, and emit more air pollution than other alternatives.⁶
- States spend a total of \$322 million annually to subsidize recycling, according to one study.⁷
- Recycling costs are passed to the consumer through trash bills or taxes. One study finds that the average cost per household with curbside recycling was \$144 annually, and without recycling, the cost of trash disposal was \$119.⁸
- These costs can consume a considerable amount of a city's budget. For example, the city of Sanford, Maine, spent \$90,990 to recycle waste that it could have safely placed in landfills for \$13,365.⁹
- As citizens sort their trash for recycling, most assume that those materials then go to a recycling facility. But many times, local governments can't find markets for all the goods they collect, and much of the materials simply end up in a landfill.¹⁰ It's very difficult to determine how much governments actually recycle.

Landfills and Incinerators

Recycling is pushed largely to avoid landfilling or incineration of waste. Anti-landfill sentiments arose because many needlessly feared that we would run out of landfill space. The battle against landfills heated up in the 1990s when public officials wrongly proclaimed that we faced a "garbage crisis" because we were "running out of landfill space." One reason for this problem, they said, was that existing landfills would close in five to 10 years.¹¹ But that is true at any point in time since landfills only last that long. Problems arise when states fail to permit new facilities.

There was then (and still is) plenty of land on which to place new landfills. During the alleged landfill crisis, A. Clark Wiseman of Gonzaga University pointed out that, given projected waste increases, we would still be able to fit the next 1,000 years of trash in a single landfill 120 feet deep, with 44-mile sides.¹² Wiseman's point is clear: land disposal needs are small compared to the available land in the three million square miles of the contiguous United States.

The real landfill problem was political: Fears about the effects of landfills on the local enviro-

⁶Mathew A. Leach, Austillio Bauen, and Nigel J. D. Lucas, "A Systems Approach to Materials Flow in Sustainable Cities: A Case Study of Paper," *Journal of Environmental Planning and Management* 40, no. 6 (November 1997): 705-23. The study contends that recycling paper can mean more of various emissions and energy use.

⁷Christopher Douglas, *Government Hand in the Recycling Market: A New Decade*, no. 48 (St. Louis, Mo.: Washington University, Center for the Study of American Business, September 1998), 7. The Center for the Study of American Business (CSAB) is now called the "Weidenbaum Center on the Economy, Government, and Public Policy." CSAB studies are available at <http://csab.wustl.edu/>.

⁸Ibid., 14.

⁹Ibid.

¹⁰Bruce Van Voorst, "Recycling Stalled at Curbside: More and More People Are Sorting Their Garbage: But Industry Often Can't Handle the Volume," *Time*, 18 October 1993, 78.

¹¹For example, see Office of Technology Assessment, *Facing America's Trash: What Next for Municipal Solid Waste?* (Washington, D.C.: U.S. GPO, 1998), 283.

¹²A. Clark Wiseman, *U.S. Wastepaper Recycling Policies: Issues and Effects* (Washington, D.C.: Resources for the Future, August 1990), 2.



ment led to the rise of the so-called not-in-my-backyard syndrome (NIMBY), which made permitting facilities difficult. Actual landfill capacity was not running out. The market response to this problem was the construction of larger landfills, creating greater disposal capacity even with fewer landfills.¹³

Landfills are a politically unpopular approach because many citizens fear public health risks. But estimates of landfill risks — based on EPA assumptions that “maximally exposed” individuals face a cancer risk of one in a million — reveal that the risks to public health are not significant. When compared to most other forms of businesses and activities we experience in daily living, the risks posed by landfills to the surrounding communities are miniscule (see chart).

Cancer Risks	One in a Million Risks of Death (Assumes One Year Exposure)
60 percent of landfills pose a one in 10 billion risk.	Smoking 1.4 cigarettes
6 percent pose a one in a billion risk.	Drinking a half liter of wine
17 percent pose a one in a million risk.	Living two days in New York or Boston
Modern landfills pose the lowest of risks.	Traveling six minutes by canoe
	Traveling 10 miles by bicycle
	Traveling 300 miles by car
	Flying 1,000 miles by jet
	One chest x-ray
	Eating 40 tablespoons of peanut butter

Sources: Jennifer Chilton and Kenneth Chilton, “A Critique of Risk Modeling and Risk Assessment of Municipal Landfills Based on U.S. Environmental Protection Agency Techniques,” *Waste Management and Research* 10 (1992), 505-16. Richard Wilson, “Analyzing the Daily Risks of Life,” in *Readings in Risk*, Theodore S. Glickman and Michael Gough, ed. (Washington, D.C.: Resources for the Future, 1990), 57.

— Angela Logomasini

Key Experts

Angela Logomasini, CEI, (202) 331-1010, alogomasini@cei.org.

J. Winston Porter, Waste Policy Center, (703) 777-9800, jwp@winporter.com.

Jerry Taylor, Cato Institute, (202) 842-0200, jtaylor@cato.org.

Recommended Readings

DeLong, James V. *Wasting Away: Mismanaging Municipal Solid Waste*. Washington, D.C.: Competitive Enterprise Institute, May 1994, <http://www.cei.org/MonoReader.asp?ID=582>.

Douglas, Christopher. *Government Hand in the Recycling Market: A New Decade*. St. Louis, Mo.: Washington University, Center for the Study of American Business, September 1998.

Taylor, Jerry. “Minimum Content, Minimum Sense.” *This Just In*, 25 April 1997, <http://www.cato.org/dailys/4-25-97.html>.

¹³ The growth of the regional landfill industry led to increased interstate movements of waste; see brief “Interstate Waste Commerce” in the *Environmental Source*.

