

Brownfields Forum

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Table of Contents

OVERVIEW	1
David Lloyd Director, EPA - Office of Brownfields and Land Revitalization Washington, DC	
I. BROWNFIELDS INVENTORIES.....	2
Judy McKinney-Cherry Director, Delaware Economic Development Office Dover, DE	
II. LAND REVITALIZATION & LOCAL AND REGIONAL ECONOMIC DEVELOPMENT STRATEGIES.....	6
Chris Harrell Brownfields Coordinator, Dept. of Metropolitan Development Indianapolis, IN	
III. MOTHBALLING	8
Tracey Vernon Director - Brownfields Action Team, PA Dept. of Environmental Protection Harrisburg, PA	
IV. SUSTAINABILITY / GREEN BUILDING / ROI.....	12
Evans Paull Senior Policy Analyst, Northeast Midwest Institute Washington, DC	
V. WRAP-UP AND NEXT STEPS	14



Overview

David Lloyd, Director, EPA, Office of Brownfields and Land Revitalization

Land revitalization is increasingly becoming a priority within the U.S. Environmental Protection Agency (EPA). EPA wants to ensure the sustainable reuse of land in the future i.e. the sites that have been cleaned remain clean in the future.

While the funding for brownfields programs is very small as compared to the number of sites that need to be cleaned up, additional funding, made available through the states, is able to provide enough resources to develop sustainable brownfield response programs. Many states, however, are facing resource constraints making the sites that are not considered high risk more vulnerable to further deterioration. On the other hand, in spite of such limited funding, there has also been remarkable progress made in the past few years with increasing number of applications received for grant funding for brownfields cleanup. Approximately 250,000 acres of land was cleaned up in 2007 through state voluntary cleanup programs. The new grant funds coming out of EPA focus on sustainable and equitable development. In addition to sustainable and equitable development, priorities such as mothballed properties, long-term stewardship and institutional controls are gaining greater momentum within the agency. Another EPA priority is Environmental Justice in association with brownfields.

Significant challenges, however, still remain. While additional funding and resources would always help in reaching out to more sites and more cleanups, the funding levels may remain the same in the short term. Therefore, the biggest challenges are ensuring the efficient use of the funds, continuing to develop partnerships with the private industry and ensuring that the maximum amount of cleanup activity is accomplished with the same funding levels.

The Northeast Midwest Institute is preparing a report on economic and environmental benefits related to redeveloping brownfields. Key question examined by the report is whether or not the funding for brownfields cleanup is sufficient. Although progress is being made in the cleanup of an estimated 450,000 to 1 million brownfields sites, the pace is very slow and will take a long time before the number of brownfields sites can substantially be reduced. In addition, new brownfields sites are created every time a manufacturing plant or gas station closes. Given these two factors, it is difficult to estimate whether actual progress is being made in reducing the number of brownfields sites nationally.

Communities receiving EPA funding for cleanup are able to leverage additional private funding for actual redevelopment and construction work once cleanup is completed. When examining national statistics available, it seems that every \$1 of public investment is able to leverage approximately \$8-\$9 in private investment. The data shows that approximately 45% of the brownfields sites are redeveloped privately with no incentives. Therefore, in order to make progress on the cleanup of the national inventory, more public funding is needed to be made available to communities.



I. Brownfields Inventories

Judy McKinney-Cherry, Director, Delaware Economic Development Office

Inventories of brownfield properties are sometimes a controversial subject. While some communities have actively inventoried contaminated properties in order to bring them back to productive use, others have avoided doing so for legal, public relations or cost considerations.

Important factors to note when developing brownfield inventories:

- It is important to involve the property owners in the process early on.
- A predictable and reliable system for moving brownfields properties through the cleanup process is essential to alleviate property owners' fears about brownfields redevelopment.
- For properties with suspected (or confirmed) contamination, the economic development department should approach the property owner and discuss opportunities for redevelopment (the Department of Natural Resources should not approach the property owner).
- Keeping these inventories updated is critical for the success of such a program. A mechanism to update the inventory must be built into the process.

Liability Protection

Property owners are usually apprehensive about redeveloping contaminated properties because of potential liability issues. Factors like liability have proved to be a major hurdle for developing brownfield inventories, the usage of which promotes economic development. Communities now offer liability protection for property owners through various programs at the federal and state levels. Some programs offer liability protection for contiguous property owners as well.

Classification System for Brownfield Inventories

Ease of redeveloping brownfield sites is determined by a number of factors, beyond the extent and type of contamination, which include: location, access to infrastructure, access to labor pools, or if it will be used for economic development purposes. Classifying brownfields to reflect such differences could be a way to prioritize redevelopment of sites with the highest potential and efficiency.

Delaware

There is a new approach under consideration by the Delaware Economic Development Department (DEDO). The idea is to classify brownfields for economic development purposes and prioritize those sites that might be easier to redevelop (in terms of remediation work) by having basic infrastructure already available. Prioritizing sites for economic development purposes would ensure that scarce resources are efficiently spent, while cleaned-up sites are put back to productive use, and also allow for better economic development planning and execution. Delaware is



in the process of assembling such a classification system for its brownfield inventory that is being updated by the Delaware Department of Natural Resources and Environmental Control (DNREC) to broaden its scope to the entire state.

Predictability and Reliability of the System

A number of property owners have not actively engaged with the redevelopment of their properties because the time and cost of remediation work is relatively unknown. Establishing clear guidelines and procedures for brownfield redevelopment would encourage property owners to undertake cleanup and redevelopment.

Delaware

Delaware established a Brownfields Working Group comprised of several stakeholders such as businesses, politicians, bureaucrats, engineers, developers and community members. It is a strong collaboration focusing to create a streamlined system that is reliable and predictable to bring unused and underutilized properties back into productive state. The vision is that such a system would facilitate the development of an effective and efficient inventory system in the long run.

Stakeholders still face challenges such as the stigma associated with brownfields sites and perceived liability in developing such sites. The group recently undertook a value stream mapping exercise to help streamline the certification process, which can often be time consuming, unpredictable and expensive.

The idea is to allow prospective buyers to estimate the level of effort and resources needed when purchasing such properties. For example, if the amount of remediation work is known, then the buyer can buy proper insurance. The inventory can be used as a way to create value for the property owner.

Phase I Survey to Maintain Information for Economic Development Purposes

Economic developers often keep inventories of buildings and sites handy for potential development projects. An inventory of brownfield properties can similarly be maintained to help clients that are looking to expand or move into the area. One participant felt that such a list could be proprietary and could not be used publicly. This becomes even more important for land-locked communities and those that cannot expand their urban boundaries.

Baltimore

Baltimore has developed a limited inventory of brownfield properties focused on three geographic areas; the list is maintained internally. The geographic areas were chosen based on an older list and linked to a GIS application that one can search by, among other things, acreage and the radius from different transportation points. The vision is to have the list updated over time and to continue to add properties, neighborhoods, and newer areas.



Indianapolis

Indianapolis completed a Phase I Area Survey where they surveyed a prime area for redevelopment in an economically distressed neighborhood and identified 75 brownfield sites covering 540 acres. Funded through an EPA grant, this effort produced a document that lists “Sites of Concern”. Most of these properties are abandoned/closed industrial sites clustered around an old rail corridor.

Portland

Portland recently completed an Industrial Atlas, done by the Bureau of Planning that identifies properties that are underutilized, vacant or considered brownfields. However, it does not provide a lot of detail about the kind of potential contamination on that site.

Delaware

Delaware maintains two versions of their brownfield inventory. The one maintained by the DNREC contains information regarding contamination, while the publicly available list provides fewer details.

[Return on Investment for Property Owners / Incentives for Redevelopment](#)

With high cleanup and redevelopment costs associated with brownfields, communities need to provide incentives to property owners. Funding for brownfield programs through the U.S. EPA and states have provided some level of support; however, given the huge number of brownfield properties in the country, much more funding is needed. Leveraging private investment and educating property owners about the benefits of redevelopment can be part of the solution.

Delaware

Starting in fall 2002, the state developed a list of Certified Brownfield properties which makes them eligible for public assistance for remediation and redevelopment. Incentives are provided by two departments for Certified Brownfields:

1. Delaware Department of Natural Resources and Environmental Control (DNREC) offers \$50,000 in grant funding for investigation and remediation for new development projects on a Certified Brownfield.
2. Delaware Economic Development Office (DEDO) offers matching funds up to a \$100,000 grant or 50% of costs associated with Phase II investigation and/or remediation for owners of sites where a minimum of 5 new jobs will be created. These resources are available through DEDO’s Strategic Fund. It provides an opportunity to put properties back to productive use for economic development purposes beyond cleanup.

Certified brownfields typically have development opportunities identified prior to the certification process. In a number of cases, these sites also provide infrastructure



such as rail and road access close to the site. This information makes the list a resource for economic developers and site selectors.

Delaware tracks the funds that have been disbursed by the state for assessment and remediation to calculate the Return on Investment (ROI) on how much private funding was leveraged through the public funds. The data is then used to determine the impact on the state GDP through remediation and redevelopment. Consequently, there is a strong correlation between the increase of funds for brownfield programs and private investment (tracking public funds will further prove the connection between public and private remediation and redevelopment.)

As another example, the Wilmington riverfront brownfields are going through a renaissance. Private sector money intended for cleanup and redevelopment has been invested in greater proportion than public sector investment.

Federal Incentives

EPA's web site shows all the sites that have received brownfields funding (including superfund sites) and their location through a GIS application. They have also issued guideline changes for the 2009 grants. Smaller communities that have assessment needs can form assessment coalitions and apply for grant funding of up to \$1 million (for FY2009) to conduct regional assessments. The EPA provides incentives for the collection of basic data for potentially contaminated sites. This is an incentive-based approach to collect basic data on potentially contaminated sites. The funding can then be used to develop plans on how to deal with the identified properties. The database can also serve as an inventory that is based on voluntary assessments and can help mitigate the stigma and liability issues related to brownfields.

Other examples

Delaware is trying to connect its brownfield program with workforce development efforts by linking ex-offender programs with consultants and developers that do cleanup and remediation work. The lack of labor is the driving force behind this program.

Barriers:

- Stigma – owners don't want it publicized that there is even suspected contamination. There is a need to re-brand brownfields so that it is not negative, but something positive because of the potential benefit the property may bring once redeveloped
- Assessment takes a long time
- High cost of cleanup
- Difficulty in marketing the site
- Brownfield sites are difficult to sell
- Limited to no real private benefit
- Bureaucracy
- Cost increases due in part to changes in regulatory scheme – companies in good faith have brought properties forward and the rules have been changed later



II. Land Revitalization & Local and Regional Economic Development Strategies

Chris Harrell, Brownfields Coordinator, Dept. of Metropolitan Development, Indianapolis

Land revitalization has been incorporated into a larger economic development strategy by many communities. Such approaches provide the opportunity to bring underutilized properties, both brownfields and others that may not have contamination issues, into productive use through economic development incentives and programs. Specifically for brownfields properties, such strategies can also address cleanup and reuse issues.

Preliminary questions:

1. Are there sufficient local and state incentives to prioritize redevelopment of brownfields first?
2. Are the federal agencies sufficiently linked to allow communities to efficiently access and move between different funding sources?
3. Are planning processes being used to identify opportunities and move the project forward?

Indianapolis, IN

Indianapolis uses a community-based approach and encourages nonprofit organizations and Community Development Corporations (CDCs) to encourage redevelopment in their respective areas. There are a total of 14 CDCs and each has a different strategy to address redevelopment and brownfields issues. The Department of Metropolitan Development provides technical assistance in grant writing, deals with consultants, and acts as a conduit between the CDC and the state program.

Indianapolis takes a holistic area-wide approach to redevelopment. The approach was facilitated through a Home Ownership Zone (HOZ) program under the Housing and Urban Development (HUD) department. The program provided \$4.3 million as seed funding to 11 cities to reclaim vacant neighborhoods, increase home ownership and promote economic revitalization. It was also linked to EPA's cleanup funds. The result was large scale development of new homes reclaiming blighted and vacant properties.

Indianapolis has also developed a proactive strategy of targeting economic development incentives and programs to areas that are ripe for redevelopment, but lacking investment. The city acts as a catalyst for the redevelopment. Indianapolis conducts Phase-I assessment of those areas to identify brownfield properties.

Baltimore

Baltimore has a tax credit program that offers lucrative incentives to developers for certain neighborhoods (e.g. waterfront, water view). The creative program has encouraged developers to come forward and do large scale projects on brownfields. The tax credit can



cover up to 70% of the incremental increase in value in 10 years. Incentives are lower for neighborhoods that are further out of the city and that don't have similar levels of development pressure. The market in Baltimore is strong enough that developers come forward to do brownfields projects on a priority basis because of the incentives.

In addition, as part of the BRAC process, the city is specifically targeting residential development on brownfields properties to attract military families moving into the greater Baltimore region. The city also has sufficient infrastructure and infill potential, that the surrounding counties lack, and is capitalizing on this advantage.

[Pennsylvania](#)

Pennsylvania also has a number of tools for brownfields redevelopment, especially when it comes to funding. The industrial reuse program has been in effect since 1995, and targeted specifically at conducting Phase-I and Phase-II activities. There are additional funds available through the state Department of Community and Economic Development that are geared towards redevelopment in general, but if the property is a brownfield, then it has a higher ranking.

As part of Governor Rendell's strategy on growth and reinvestment, redevelopment is a key priority. "Redevelop First" has been adopted as one of the keystone principles within the strategy to target growth in areas that are already developed. This has provided the impetus for several state agencies to take a more holistic approach, resulting in brownfield properties receiving higher ranking in grant applications in a variety of program areas.

[Missouri](#)

"Missouri's Hidden Treasures", available on the Missouri Department of Natural Resources (DNR) website, is a collection of 50 brownfield sites that have been redeveloped. The website provides a history of how they were done through a variety of different funding sources – historic tax credits, private insurance, federal brownfield funding, state and other sources of funding. Other states can do similar things. Such strategies can also help alleviate some fears among communities and developers since they can see that there are a lot of projects and funding sources available for such programs.

[Washington DC](#)

In terms of using planning tools, a good example is the Nationals Stadium in Washington DC. The stadium, which is built on a brownfield site, will have a huge impact on redevelopment efforts in Washington and surrounding region. One of the biggest driving factors in Washington was unavailability of sites large enough for the stadium.

[Portland, Oregon](#)

The Portland Development Commission (PDC) utilizes tax increment financing (TIF) extensively. Almost \$240 million in TIF bonds are outstanding currently. A project that uses this type of funding is the Pearl District which was redeveloped from abandoned and vacant warehouses to high end condominiums and mixed-use development.



One of the challenges to brownfields redevelopment is reuse of the site for industrial purposes. Portland adopted an Industrial Sanctuary policy in 1970s in order to keep the amount of industrial land available within the city boundaries constant. The policy has had unintended consequences since Portland has regional growth boundaries established by the Regional Council that do not allow it to expand its urban boundaries. The limitations have created additional problems for Portland, because it is very difficult to reclassify industrially zoned property. Therefore, the value of industrial land has decreased, despite the steady growth of jobs in the Portland area. The resources needed for cleanup of brownfields are usually not offset by increased value for properties maintaining industrial use, thereby restricting redevelopment. Therefore, developers have not been interested in cleaning up industrial properties.

A second challenge facing Portland results from incentives targeting only mixed-use residential development and not industrial development. The incentives available to industrial users are specifically targeted for only increasing employment.

[Nassau County, New York](#)

Nassau County has a number of brownfields sites, but most of them are so small and spread out that it is difficult to list them. They have adopted an area-wide brownfield planning approach. The areas that have an abundance of brownfields and blighting influences get support from the county to develop a “Neighborhood Revitalization Plan”. New York State has the “Brownfield Opportunity Area Program”, which ties in funding with a HUD program. The programs are part of a larger effort to put in economic development incentives to uplift those neighborhoods as opposed to individual properties.

III. Mothballing

Tracey Vernon, Director – Brownfields Action Team, Pennsylvania Department of Environmental Protection

A serious obstruction to economic development facing many communities nationwide is mothballing. Mothballed property is when a property owner does not put a brownfield property to productive use, which discourages investment into the surrounding properties, and causes blight in the neighborhood.

According to the U.S. Conference of Mayors, mothballing is one the biggest barriers in brownfields redevelopment for local leaders. A study conducted by the National Center for Neighborhood and Brownfield Redevelopment at the Rutgers University examines the impact of mothballed properties on urban redevelopment. According to the study, 40% of the cities around the country have at least one mothballed property in their community and approximately half of these municipalities consider them to be a serious detriment to urban redevelopment. In addition, the National Brownfield Association notes that property owners need additional assurance and assistance in redeveloping such properties. A partnership



approach between the property owner, community, state and EPA is often needed to deal with mothballed properties.

A variety of strategies exist to prevent and cope with mothball properties. Interestingly, the most impressive techniques are developed by the companies that own these properties. Companies often do not prefer to maintain control of these properties; vacant properties pose liability issues (through GAAP disclosure rules), and are unprofitable. Therefore, many companies are willing to cleanup the property for resale. Economic developers can work with property owners to get a Phase-I assessment completed and use the information to further develop a strategy for property reuse. For example, Baltimore Development Corporation worked with a client to conduct a Phase-I survey. This collaboration developed into Phase-II evaluation and ultimately into a deal for redevelopment. Use and nuisance codes can also be used to encourage cleanup. There are some cases where firms have established subsidiaries that focus on brownfield recycling and reuse through marketing and selling the property or other options (similar to the functions of a limited liability corporation).

EPA currently does not have authority to assist with mothballed properties. EPA acts as an educational agent and has outlined successful approaches to combat mothballing. Its recommendations and benchmarks can be an effective tool for local planners and developers. Experience has shown that once property owners have decided to sell/redevelop a mothballed property, and purchase liability protection through insurance or other means, the community and EPA are able to better work with owners to evaluate and implement redevelopment projects.

Additionally, the EPA is collaborating with states to develop web pages within the EPA website that informs the public of each state's institutional controls (ICs). For example, the State of Wisconsin created a new web-based system for recording ICs and tracking them with funds from the EPA. The web-based system, a pilot program, if successful will be a model for other states to follow. Pennsylvania is using Wisconsin as a model with a similar database funded by the EPA. Their efforts are encouraging other states to fund research and develop similar projects.

[Buyer – Seller Agreement: Pennsylvania](#)

Pennsylvania's Land Recycling Program aims to accelerate redevelopment of abandoned and condemned properties. The program has developed standard brownfield redevelopment procedures and policies, such as uniform cleanup standards, liability relief assistance, application review and time frames policy, and financial assistance resources (from state and federal sources).

The Department for Community and Economic Development created a technical assistance program specifically for redevelopment planning called the Land Use Planning and Technical Assistance Program (LUPTAP). Funding from LUPTAP and EPA is combined to provide technical assistance for communities creating and implementing comprehensive redevelopment strategies. In addition, the Pennsylvania Department of Environmental



Protection (DEP) matches funds from this program to assess brownfield properties and determine possible site reuse opportunities.

An important component of the program is the Buyer-Seller Agreement. This legally binding agreement substantiated by the DEP and signed by both the buyer and the seller, provides upfront liability protection for the buyer and guarantees remediation. The agreement aids in the identification and quantification of the remediation alternatives and an evaluation of the associated costs for each alternative. DEP's typical approach when implementing a Buyer-Seller Agreement is to put funds required for the cleanup and remediation work in an escrow account.

Insurance

Liability protection for buyers through insurance is becoming a popular tool for redeveloping brownfields properties. Underwriting the transaction for brownfields properties, however, is not easy and insurance providers often need a great deal of information, which can make it costly and time consuming. On the other hand, environmental insurance usually constitutes a very small portion of the overall cost of the transaction, making it an effective tool for redeveloping properties.

The limiting factor when using insurance is the term of coverage (i.e. for how long will the insurance company cover the environmental liability for the property). The maximum term currently offered is 10 years, which is not enough time for most sites. If the seller opts for a transfer policy, the liability shifts to the buyer after that term limit. This discourages buyers, especially business owners that have been operating for a long time and intend to operate the business for a long time in the future. It is further compounded by federal liabilities and other acts that may or may not be covered. In some cases, the insurance companies can extend the term of coverage for 15 or 20 years, but that may not be sufficient.

Federal Assistance

An innovative approach being developed right now (it is a legislative proposal) for insurance coverage is the Recovered Property Assurance Trust (RPAT) Program. RPAT is the equivalent of a federal insurance company with a focus on site remediation. A fee is paid into the trust in exchange for transfer of all historic liability, including third party liability, to the trust. The owner can get a full release of federal and state environmental liability as any claims against the property are handled and paid by the trust.

Institutional Controls

Local governments are strengthening (enhancing and promoting) ICs and long-term stewardship. Stronger institutional controls strengthen faith in the long-term effectiveness of cleanups.



Eminent Domain and Code Enforcement

Eminent Domain is typically not the optimal solution for revitalizing brownfields, but it is an option, especially for mothballed properties. The definition of blight can be used to condemn properties for redevelopment and economic development purposes. This process, however, requires much coordination and planning. Code enforcement can also be used to limit the blighting effect of brownfield properties and reduce mothballing.

There are three legal impediments on using eminent domain for the condemnation of contaminated properties:

- CERCLA liability protections are somewhat unclear in this area. There are two involuntary acquisition sections of CERCLA that offer some protections for public agencies when they acquire property, but it's not clear and interpretations can vary (see Cleveland vs. Region 5 case below).
- Gaining access to the site to perform a site assessment by the public agency is permitted in some states (such as Maryland) that have reframed their eminent domain laws, but not others.
- Another issue involves deducting the remediation costs from the fair market value of the property. The courts have given varied judgments on this – in some cases, they say it needs to be a separate proceeding from the eminent domain proceeding to account for cost recovery lawsuit. In other cases, the states have revised their eminent domain laws to allow cost recovery to be a part of the eminent domain proceedings.

Challenges

1. **Liability:** Liability is a major concern for brownfield property owners as well as public agencies. The Brownfields Revitalization Act of 2002 (Public Law 107-118) addresses some concerns in relation to this and asserts limitations of liability to assuage the concerns for property owners.

The Trinity Building case in Cleveland, Ohio, is an example of liability problems. The City of Cleveland wanted to redevelop this abandoned property which was an eye sore in the neighborhood and sat adjacent to several community businesses, including a day care center. The city gained ownership of the property through foreclosure. The city allocated \$2.9 million dollars to demolish the building and remediate the land. However, efforts were halted in 2007 upon discovery of PCB (polychlorinated biphenyl) contamination. Considering the exorbitant clean up costs, the city sought supplemental resources and assistance from EPA to investigate the parties responsible for the contamination.

EPA investigated the case under the CERCLA / Superfund law, including the city in the list of potentially responsible parties (PRPs). EPA held the city responsible for paying for the cleanup cost for the site, even though the city did not cause the contamination. While the site has now been cleared of the Superfund liability after prolonged litigation, such examples can discourage communities to come forward



and take advantage of voluntary cleanup programs. In this case, the city was assumed to be and considered to be a PRP unless proven otherwise.

2. There are also those cases when the property owner will not relinquish control of the property under any circumstances. In these cases, property owners may be concerned about the property changing uses (for instance, an industrial property developed into a day care) and being hit by tort liability.
3. Leasing agreements can be problematic too. Occasionally large corporations unwilling to sell brownfield properties (because of liability issues) lease the properties to developers. Under federal laws, the renters are not protected under bonafide prospective purchase protections. This raises a question on how it plays out with state voluntary cleanup protections. Local economic development officials will need to find a way of dealing with these types of issues.

Conclusion

Mothballing is a huge issue for communities, especially small rural communities. Larger communities often have other alternative sites to offer for business expansion and attraction. However, in small communities, when the biggest employer closes down a facility, it becomes unavailable for job creation, potentially decimating the local economy by removing a prime site from consideration by new and expanding businesses. Several experts fear that military bases may become mothballed properties in the future if the Department of Defense does not clean up them up. It can be a significant challenge in rural areas because these are multiple buildings that can be reused.

IV. Sustainability / Green Building / ROI **Evans Paull, Senior Policy Analyst, Northeast Midwest Institute**

Many experts believe there is a developing correlation between brownfields and green buildings. There appears to be a confluence in the urban marketplace where buyers give preference to green buildings and urban redevelopment projects in the cities. A number of redevelopment projects around major cities are going green. For example, a number of applicants for the LEED ND (Leadership in Energy and Environmental Design – Neighborhood Development) certification, were also seeking credits for brownfields.

According to the U.S. Green Buildings Council, the current investment in green building development is approximately \$12 billion and expected to reach \$60 billion by 2010. Residential green buildings currently account for about 2% of the total residential marketplace and predicated to reach 10% by 2010. While this is huge growth, it is still a very small portion of the commercial marketplace.

For lower LEED certification levels, construction costs are typically 0.6% to 4.0% higher than average. Higher LEED certification levels can range from 2% to 11% higher than the average



construction costs. Recapturing the additional construction costs are the key to large scale adoption of green building technologies in the marketplace:

- Operation cost savings – energy savings can amount to about 20-30% less than typical energy use.
- Recovering costs through higher rents, though there are only isolated anecdotal examples of such an approach and the data at best is inconsistent on this topic.
- Public incentives – The U.S. Green Buildings Council's website provides a list of incentives (i.e. low interest loans, tax credits) available to green developers.

Correlation between Brownfield Redevelopment, Energy Consumption and Sustainability

Buildings, transportation and industry are the three major energy consumption categories, with buildings leading the pack. Sustainable development strategies will possibly be designed at the confluence of these three categories with a brownfield redevelopment component added on top.

Brownfields redevelopment and transportation have an interesting link because brownfields redevelopment leads to compact, in-fill, dense urban development, thereby reducing vehicle Miles Traveled (VMT). For an inner city brownfield being redeveloped into a green building, it will receive LEED certification points under all these categories. VMT is reduced by 20% - 40% in addition to the previously mentioned 25% - 30% energy consumption reduction from the use of green buildings. This approach to redevelopment can be adapted into an energy strategy for communities.

Additional unaccounted factors bolster sustainable development as well. For example, high density compact buildings have smaller surface areas, which lead to decreased energy /heat waste. Furthermore, less energy is needed to rehabilitate an existing structure than to construct a new building. It is also less expensive to build infrastructure on a brownfield site than a greenfield site. There is also less line loss in distributing the energy to dense development. There are also a number of downtown areas that are serviced by alternative energy sources, which are perhaps closer in and lead to less energy loss there as well.

Obstacles / Challenges

Many obstacles still remain to a large scale adoption of green building technologies for brownfield redevelopment.

1. Financial – Lenders, underwriters and appraisers fail to analyze all aspects of green projects. Typically capital costs are evaluated while operating cost and benefits are left out of the equation. Insurance companies follow a similar approach; however, recently one insurance company announced a 10% discount for green buildings. It would be beneficial to have such a policy adopted industry wide.
2. City codes – Building codes and storm water regulations sometimes conflict with green building designs. Officials need to include green solutions in planning policies.
3. LEED certification – Brownfield sites get only one point under the LEED certification, whereas the resources (e.g. cost, time, effort and regulatory hurdles) needed for cleanup and redevelopment are much more. Such a disconnect takes away the



incentive from redeveloping a brownfield into green buildings. The LEED certification needs to provide more points for other factors such as location in an inner city, in-fill, distressed communities, transportation access and such.

4. Incentives – Often it is cheaper and more convenient to develop on greenfields as opposed to brownfields. There are not enough incentives for brownfields to be redeveloped into greenfields. However, there are a few examples of economic development incentives being offered in connection to sustainability and brownfields redevelopment. The State of New York State passed a bill that provides extra credits for sustainability when applying for historic tax credits on a case by case basis. Baltimore is also modifying its tax credit program by integrating a green component. The City of Portland, Oregon requires certain standards of LEED certification and green buildings to be met when they give out economic development incentives to developers.

V. Wrap-Up and Next Steps

What should we do next? What issues need to be examined more closely? What research needs to be conducted and disseminated on these issues?

1. EPA Revolving Loan Funds – communities have not been able to use this resource effectively because of stringent program requirements. Work plan approvals required at various stages are not processed quickly (because of lack of enough staff) thereby limiting the number of projects that can utilize the resource (those projects that need to move quickly are often left behind). It is a great resource, but the number of procedural roadblocks makes it very difficult to use it. Communities may benefit from a mentoring program which provides them a blueprint or examples of how other communities have used this resource, and provide realistic estimates of how long it takes, what the procedures are like etc.

EPA encourages the users of the program to share information on how they went about dealing with the program and what other communities can learn from them. The other issue with the program is that it is in effect a grant and not a revolving loan fund. Therefore, if the funds have not been used in a long time, the grant will need to be closed out at some time, unlike a true revolving loan fund.

2. There is also need for coordinating the various resources available for brownfields redevelopment and promoting sustainable development. There is a need for technical assistance for communities that want to do brownfields redevelopment and/or sustainable development. It would be helpful to have a better information sharing mechanism (something like a clearinghouse) on sustainable development, which also provides detailed specific information within the broad term of sustainable development.



3. The private sector is stepping up to the plate and doing green building development even before the incentives kick in. For example, one industrial developer in the country has announced that all of its industrial buildings will meet LEED Silver levels of certification. Economic developers need to quickly figure out strategies to leverage this movement.
4. There are differences within the EPA regional offices and how they interpret and treat each of the topics discussed in this report. These differences can affect the approaches adopted by communities and their success rates.
5. A lot of times, brownfields are not the only problem with a property. Other issues such as transportation or location could be creating the problem. If it was simply a brownfield in a good location, the market would take care of it as long as you got liability protection. However, markets don't always work and the public sector needs to provide incentives for moving certain projects forward.
6. In terms of funding sources, you need to at times tap into as many as 10 different federal, state and local agencies in order to make the project work. This coordination creates complications because different agencies are then funding different pieces of a larger project and you need to get approvals from various agencies in order to move forward. The amount of time the approval process takes with so many funding sources can be a major challenge for the project to be completed. A number of deals don't go through because of such time constraints.

