

COMMUNITY INVESTMENTS

www.frbsf.org/community

VOLUME TWENTY NUMBER 2

THE GREEN ISSUE

SUMMER 2008



It's Getting Easier to be Green

Industrial Decline and the Opportunities and Challenges of Brownfield Redevelopment

Re-Building It Green

Triple-Bottom Line Investing: Balancing Financial, Social and Environmental Returns

COMMUNITY INVESTMENTS

This publication is produced by the Community Development Department of the Federal Reserve Bank of San Francisco. The magazine serves as a forum to discuss issues relevant to community development in the Federal Reserve's 12th District, and to highlight innovative programs and ideas that have the potential to improve the communities in which we work.

Community Development Department

Federal Reserve Bank of San Francisco
101 Market Street, Mail Stop 640
San Francisco, CA 94105
www.frbsf.org
(415) 974-2765 / fax: (415)393-1920

Joy Hoffmann

Group Vice President
Public Information and Community Development
joy.k.hoffmann@sf.frb.org

Scott Turner

Director, Community Development
scott.turner@sf.frb.org

Lauren Mercado-Briosos

Administrative Analyst
lauren.mercado-briosos@sf.frb.org

RESEARCH STAFF

David Erickson

Manager, Center for Community
Development Investments
david.erickson@sf.frb.org

Carolina Reid

Manager, Research Group
carolina.reid@sf.frb.org

Naomi Cytron

Senior Research Associate
naomi.cytron@sf.frb.org

Ian Galloway

Investment Associate
ian.galloway@sf.frb.org

Vivian Pacheco

Research Associate
vivian.pacheco@sf.frb.org

FIELD STAFF

John Olson

District Manager
john.olson@sf.frb.org

Jan Bontrager

Regional Manager
Arizona, Nevada, Utah
jan.bontrager@sf.frb.org

Melody Winter Nava

Regional Manager
Southern California
melody.nava@sf.frb.org

Craig Nolte

Regional Manager
Alaska, Hawaii, Idaho, Oregon, Washington
craig.nolte@sf.frb.org

Lena Robinson

Regional Manager
Northern California
lena.robinson@sf.frb.org

GRAPHIC DESIGN

Steve Baxter

Communicating Arts
steve.baxter@sf.frb.org

CI Notebook

by Naomi Cytron
Senior Research Associate

An article published in the *New York Times* earlier this summer examined what you may be feeling as you pick up this issue of *Community Investments*: the dread of yet another message about the size of your carbon footprint. The article posited that the growing din of environmental warnings and sustainable product marketing is creating “green noise” —leading the public to feel confused, overwhelmed, or worse, fed up by the messaging before any meaningful change is accomplished.¹

Has “green fatigue” already set in? We don’t think so. Indeed, in this issue we highlight efforts that demonstrate a growing commitment by the community development field to taking environmental concerns into account. The articles in this issue illustrate how developers, investors, and grassroots organizations are finding creative and effective ways to bundle environmentally responsible outcomes with community development ends.

But there is a lot more room to assess and implement changes to our lines of business that are environmentally sustainable—new choices and practices that can help reduce our collective environmental footprint and ensure that low-income communities benefit from the rising green tide. We hope that the articles in this issue spark some ideas for greener approaches to community and economic development in the areas you serve.

Naomi Cytron

Inside this Issue

It's Getting Easier to be Green	3
Industrial Decline and the Opportunities and Challenges of Brownfield Redevelopment	8
Case Study: Transforming a Brownfield in Baltimore	12
Re-Building It Green	14
Environmental Justice	16
Triple-Bottom Line Investing: Balancing Financial, Social and Environmental Returns	17

On the Cover:

The community gardens at Seattle, Washington's High Point. Part of the U.S. Department of Housing and Urban Development's HOPE VI program, High Point may be the largest environmentally responsible housing project ever built. For additional information, see Box 1.1 on page 4.

It's Getting Easier to be Green

Cultivating the intersections between community development and environmental sustainability

By Naomi Cytron

Introduction

It seems like everywhere you turn these days, something is 'going green'— be it a lightbulb, a shopping bag, or an A-list Hollywood celebrity. The community development field is not immune to this shift in hue; the green revolution is prompting community and economic developers to seek ways to dismantle the boundaries between environmental sustainability and community development. And promising intersections between these realms are emerging. In this issue of *Community Investments*, we explore several of these areas of overlap, including brownfields redevelopment, triple bottom line investing, and retrofitting existing affordable housing developments with green operating systems. In this introductory article, we examine the intersections between traditional community development activities and what it means to go green — from transforming the built environment to reduce environmental hazards and improve health in low-income areas, to reorienting job training and economic development efforts to contribute to both sustainability and wealth creation.

Greening the Built Environment

The construction and operation of the buildings where we live and conduct business consume over 60 percent of the electricity used in the U.S. and account for one-third of total greenhouse gas emissions.¹ Inefficient heating and cooling systems, lighting, and appliances contribute to the carbon footprint of the built environment; an old or poorly maintained refrigerator, for instance, can emit over 1,500 pounds of CO₂ annually—the equivalent of about 75 gallons of gasoline.² Building construction, renovations and operations also consume vast amounts of raw materials and generate heaps of waste; while some building materials are recycled, millions of tons of wood, concrete, drywall, and asphalt shingles end up in landfills.³ Conventional building practices may also have negative impacts on our health; materials and finishes are thought to contribute to poor indoor air quality and resulting respiratory illnesses such as asthma. The negative impacts of conventional building practices on human and environmental health require that we rethink where and how to design, construct, operate, and maintain both residential and commercial buildings in more sustainable ways.

Moreover, it is critical that we recognize the natural intersections between the benefits of greener building practices and the needs and interests of low-income communities. Measures to increase energy efficiency can lower utility costs for residential and commercial properties, and smart growth and transit-oriented development can yield improved health outcomes and access to transportation and jobs. While certainly beneficial to everyone, these kinds of outcomes can have particular significance for lower-income households, who often struggle to stretch earnings to cover basic costs like utilities, health care, and transportation.

But What Does it Mean to Go Green?

Green building is intended to yield a variety of environmental, economic, and health benefits, from conserving natural resources, to improving durability and reducing operating costs, to enhancing quality of life and comfort for building occupants. But for many developers—nonprofit and for-profit alike—greening is a new concept, and assistance is needed in determining which types of designs, materials, and technologies truly contribute to the kinds of outcomes noted above. Is it enough to offer recycling bins? Or to use non-toxic paints? Several guides and rating systems and have been created to help developers, architects, and engineers make greener choices throughout the development process. The federal ENERGY STAR labeling program, for instance, identifies energy efficient products across a range of categories, including major appliances, lighting, and office equipment. By providing consumers the opportunity to evaluate the energy efficiency of their appliances and make better choices, in 2007 alone the program reduced greenhouse gas emissions by 40 million metric tons and saved more than \$16 billion on utility bills in the US.⁴

Leadership in Energy and Environmental Design (LEED), a green certification program developed by the U.S. Green Building Council, has gained national prominence as a benchmarking tool for green design, construction and operation. LEED rating systems apply to particular types of construction, such as schools, retail sites, and new homes. While there are a number of levels of certification, overall, LEED certified buildings must demonstrate that they are high performing across a number of variables: sustainable

site development, water savings, energy efficiency, materials selection and indoor environmental quality. A new LEED rating system—currently in pilot phase—goes even further by rating overall neighborhood design, and examines measures to curb sprawl, reduce automobile dependency, and encourage mixed-use development.

In an effort to encourage the greening of affordable housing and to make the elements involved more understandable, Enterprise Community Partners, through its Green Communities Initiative, has crafted a set of greening criteria that applies specifically for affordable housing development. Developers who meet Green Communities Criteria for affordable housing—using designs and materials that promote health, conserve energy and natural resources, and provide easy access to jobs, schools, and services—are eligible for grants, financing, tax-credit equity and technical assistance through Enterprise.

Local green affordable housing standards have been established by a number of cities and regions as well—the City of Seattle, for example, was an early adopter of environmental standards for greening affordable housing, and since 2002 has encouraged the use of green strategies outlined in its “SeaGreen—Greening Seattle’s Affordable Housing” guide (see box 1.1). Local standards can address conditions specific to a given area, including climate issues and sourcing of green materials.

While these types of standards and guidelines are helpful in understanding what going green entails, it can be particularly challenging for nonprofit housing developers to incorporate sustainability measures into their projects, especially given financing constraints and the approvals and restrictions that are often associated with affordable housing construction. While some green elements are low or no-cost, others are more difficult and costly. Low-hanging fruit include paying greater attention to building orientation and landscaping choices, and using recycled materials or installing energy efficient appliances. Those that require more planning include solar panel installation or onsite systems to clean and reuse wastewater. Determining how to finance solar panels that would generate energy for individual housing units can be particularly complicated, as costs may be paid by a developer but savings would flow to tenants.

With all the new choices that need to be weighed, going green can certainly seem daunting. Two approaches, though, can help guide the planning process. The first involves a costing process that takes into account not only the upfront expense of green construction, but also the operating, maintenance, and replacement costs over the life of the building. Called “Life Cycle Cost Analysis,” this approach evaluates whether an increased initial investment will generate long term savings for developers by looking at pay-back time of additional investments and savings per year.

Seeing Green: Spotlight on Seattle

Box 1.1

With numerous awards already under its belt, Seattle’s High Point neighborhood may be one you’ve already heard about. Once the site of over 700 dilapidated public housing units, when complete the neighborhood will be built out to accommodate 1,600 mixed-income housing units in a “New Urbanist” setting that includes a library, a health clinic, and commercial offerings. Even more impressive is that High Point is designed to be a sustainable community, incorporating a host of elements to protect both the environment and the health of community residents. The site design includes a natural drainage system and homes are built to be energy efficient; some units have been designated as “Breathe Easy” homes and include features that reduce or remove allergens. It is estimated that the energy efficiency measures will reduce energy costs by 20 percent annually. And the health benefits are already evident; residents are reporting fewer days with allergy symptoms and an improved quality of life in their new homes as compared to when they lived in their previous residences.

High Point is but one example of the commitment Seattle has made to integrating sustainable practices into its development patterns. Back in 2000, Seattle became the first city in the nation to adopt a Sustainable Building Policy. Two years later, the City’s Office of Housing developed a green building guide targeted toward nonprofit housing developers entitled “SeaGreen—Green Seattle’s Affordable Housing.” The City notes that SeaGreen is “designed to manage the built environment in a socially equitable way so those who can least afford it will benefit from healthy, high quality affordable housing.”

Since then, a number of innovative green affordable housing projects have been developed. Traugott Terrace, which opened in 2003 and provides 50 units of housing for extremely low-income recovering addicts and alcoholics, is the first LEED certified affordable housing project of its kind in the nation. In 2007, Broadway Crossing opened—this mixed-use development includes a Walgreens store on the ground level and 44 units of extremely-low and low-income housing on the four stories above. Not only does the project employ smart growth principles by increasing vertical density and employing below-grade parking rather than a surface lot, the units were designed to incorporate green features like ENERGY STAR appliances, low-flow water fixtures, and non-toxic paints and sealants.

This process can be used to determine which combination of green features might generate efficiencies and savings for a project, and ultimately can guide financial decisions about incorporating sustainable elements into a project.

In addition, an “Integrated Design Process” is held up by advocates as a best practice in helping to manage expectations and costs in greening. This multidisciplinary approach brings together architects, builders, engineers, finance partners and other agents to incorporate sustainable design and green elements into a project from its inception. Through this pre-development process—which often takes shape as a green design brainstorming session, also known as a ‘charette’—all involved parties can carefully consider how greener building systems can efficiently operate in conjunction with one another over the life of the building. This process stands in contrast to adding-on green elements after design is complete, which can miss key synergies across the use, construction, operation, and maintenance of a building and thereby reduce efficiencies and savings.

Remaining Challenges

While green affordable projects have started to spring up in larger cities around the country, the green revolution has not yet reached all corners. “In more sophisticated markets, the momentum will carry green building forward and it will become the standard,” said Rose Cade, Senior Program Director at Enterprise Community Partners. “But in smaller markets, nonprofit developers are often inexperienced and have limited capacity to integrate green practices. It’s a real challenge to figure out how to deliver the right resources, training, and funding to these places.” Access to environmental consultants, or even to green materials, might be limited, and additional work is needed in determining how to expand the capacity for green building in rural areas and smaller cities.

Another limiting factor rests with the financing of green development. Walker Wells, Director of Urban Greening at Global Green—the American arm of Green Cross International that seeks to stem global climate change by working to green the built environment—noted that most large-scale



Solara, a 56-unit affordable housing project in San Diego County, is one of the rare projects that is using PV panels to power all residential and common areas, including a computer learning center. Developed by CommunityHousingWorks and opened in 2007, Solara financed the panels using federal investment tax credits and received a rebate on the cost of the panels from the California Energy Commission.

financial institutions have been slow to adjust underwriting standards in ways that might boost the industry. “At the moment of underwriting, lenders are still wondering how green elements influence financial performance and risk exposure,” said Wells. In part, this is because there is limited data regarding the savings from energy and related efficiencies—data that can be translated into an argument for a larger loan amount to cover the upfront costs of greening. Lenders also might have concerns simply about the abilities of a developer to succeed in stepping outside of conventional building practices. Increased data about performance and savings of green projects that is collected and reported in a way relevant to lenders would be a significant boost to the industry, noted Wells. Enterprise Community Partners has begun to collect such data on the projects financed through the Green Communities Initiative, but more widespread monitoring of projects will strengthen the case for financing

Green Premiums?

Box 1.2

The growing volume of green affordable housing developments offers the opportunity for advocates to capture and disseminate both quantitative data and anecdotal evidence to help make the case that affordable green building is not a contradiction in terms. New Ecology, Inc., a nonprofit organization founded in 1999 to spur sustainable development in distressed urban communities in New England, recently released a study, “The Costs and Benefits of Green Affordable Housing,” examining whether or not green affordable housing is financially viable. The authors found that among 16 green affordable housing developments, there was on average a green “premium” of just 2.42 percent of total development costs. The study uncovered substantial benefits, such as decreased operating expenses and reduced replacement costs, as well as other benefits that are harder to capture quantitatively, including improved health and comfort of residents. While the study examined only a small number of projects, the analysis represents a good starting point for understanding the costs and benefits of green affordable housing.

structures geared particularly to green projects. For this to happen, more resources must be devoted to the equipment and staffing necessary to track and analyze the performance of green developments.

“At the moment of underwriting, lenders are still wondering how green elements influence financial performance and risk exposure”

Growing Incentives for Going Green

While the mainstream finance industry has shown limited support for greening through mechanisms like favorable terms and flexible underwriting standards, key shifts have taken place in how states are incentivizing and rewarding affordable projects that put green building ideas into practice. Of significance is the increasing advantage gained by green properties in the competition for Low Income Housing Tax Credits (LIHTC). “More and more states are including green standards in their LIHTC Qualified Allocation Plans (QAPs), and they are becoming much more comprehensive in their criteria for greening,” said Wells, who recently completed an analysis of 2007 state tax credit allocation plans. “The progress is pretty amazing.” He noted that states are not just rewarding energy efficiency, but also are considering factors like neighborhood connectivity, materials, air quality, and water conservation. This kind of shift is critical, he noted; if allocation mechanisms reward comprehensive approaches to greening, then it creates a powerful lever to generate responsiveness in the industry. There is still considerable variation across geographies in the comprehensiveness of green building requirements, though, and Wells noted that there is great potential for making green building requirements in state QAPs more robust.

Community development intermediaries, along with private foundations, are also working to fill the current financing gaps. Enterprise Community Partners is one of the largest national players in supporting affordable green building, and through its Green Communities Initiative, it has invested more than \$570 million in loans, grants, and investments in an effort to mainstream environmentally responsible affordable housing development. This includes loans and grants to nonprofits for critical pre-development design activities. The Green Communities Initiative has succeeded in spurring the development of more than 250 green projects in 28 states—25 percent of these projects are in California.

In addition to Enterprise Community Partners, a number of other community development intermediaries and lend-

ers—including the Local Initiatives Support Corporation (LISC), the Rural Community Assistance Corporation, and NeighborWorks America—have launched green initiatives to provide financial and technical support for community groups looking to green their programs and projects. LISC has directed specific attention to promoting and supporting green practices in rehabbing the existing affordable housing stock of the nation (See article: “Re-build it Green”). The Home Depot Foundation, established in 2002, has also been a significant supporter of green affordable housing and had provided grants for green design and rehab to national organizations including LISC, the National Housing Trust and Habitat for Humanity.

Green Economic Development

The green revolution is starting to generate ripple effects in the economy at large, creating new industries and expanding or retooling others. Alternative energies—such as wind, solar, biofuel, and fuel cells—for instance, showed significant growth in 2007, and are projected to expand rapidly in the coming years.⁵ There are wide-ranging estimates of how many jobs will be created as these and other green sectors expand; some research points to the creation of 5 million jobs in the next 20 years, while more aggressive estimates indicate that the renewable energy and energy efficiency sectors may generate as many as 40 million jobs in the U.S. by 2030.⁶ Advocates point out that these “green collar jobs”—including those in the research and development, manufacturing and construction, and maintenance and operations of green systems and products—can be more than just new jobs; rather, they have the potential to offer a career ladder for the working poor.

A number of organizations—such as Oakland, California’s Green for All, founded by Van Jones of the Ella Baker Center and Majora Carter of Sustainable South Bronx, and the Apollo Alliance—are calling for increased attention to and investment in “green pathways out of poverty.” These groups are working to capitalize on advances in clean energy and green building to create employment opportunities for those who have been trapped in cycles of unemployment or dead-end, low-wage work. In order for this to gain traction, though, new job training, employment and entrepreneurial opportunities in the emerging green economy need to be targeted at those from disadvantaged communities. Not only that, but the opportunities in the green economy must be structured in a way that offers both entry level jobs for transitioning workers and bridges to higher skill and managerial positions that can provide solid wages for working families.

Several new reports outline current green economic development opportunities and strategies for developing equitable green collar jobs initiatives at the local level.⁷ Key steps to implementing green collar jobs initiatives include crafting policies that create local demand for green collar jobs, working to identify job growth areas and skill

requirements, and building partnerships—among employers, workforce agencies, community organizations, labor unions, and community and technical colleges—that can train and place workers at a variety of rungs on the green career ladder.


Cities around the country are beginning to implement green collar jobs initiatives that are aimed at training and placing low-income workers in green maintenance, installation, and construction jobs. For example, Richmond BUILD, a comprehensive construction skills course for low-income people in Richmond, California, teaches participants how to install solar panels and helps place graduates of the program in jobs. The program is the product of a public/private partnership, and while small in scale, is seeing successes; the program has a 91 percent placement rate, and the average starting salary for graduates is over \$18 per hour.⁸ In Chicago, GreenCorps Chicago participants—primarily ex-offenders—receive training in landscaping and urban gardening, computer refurbishing and recycling, household hazardous waste handling, and home weatherization. Similar programs are taking root in Washington D.C., Los Angeles, and Oakland.

Attention is being generated at the federal level as well. Signed into law at the end of last year, the Energy Independence and Security Act includes the Green Jobs Act of 2007, which authorizes \$125 million in green-collar job training opportunities—enough to train about 30,000 workers a year. A portion of Green Jobs Act funds is earmarked for a Pathways Out of Poverty demonstration program, which will provide targeted green training and career resources

Advocates point out that “green collar jobs” can be more than just new jobs; rather, they have the potential to offer a career ladder for the working poor.

to displaced workers, at-risk youth, and other low-income individuals. However, as of this writing, the Act awaits full funding from Congress.

Conclusion

Rather than muddying the waters, seeking ways to tie together community development ends with environmental outcomes can help streamline the process of addressing not only the health, safety, and financial security issues facing low-income communities, but also looming climate change concerns. It’s certainly not simple, but increasingly, public, private, and non-profit organizations are showing that it can be done. Green for All’s Van Jones summed up the field’s potential in an interview published in the *New York Times*: “The green economy has the power to deliver new sources of work, wealth and health to low-income people – while honoring the Earth. If you can do that, you just wiped out a whole bunch of problems. We can make what is good for poor black kids good for the polar bears and good for the country.”

Greening Small Businesses

Box 1.3

One way to define a green business is that it creates products or offers services that tie directly into energy efficient or otherwise sustainable industries—for instance, building hybrid cars or making parts for wind turbines. But a business can also be green by conserving resources and preventing pollution—e.g. recycling, lowering energy and water use, and using less toxic cleaning products.

These practices can both reduce the fixed costs of operating a business and improve the health of workers. But going green can be hard for small businesses, particularly those owned by first-time entrepreneurs or those located in lower-income areas. Small businesses often operate with tight margins, and owners may be wary of anything that might involve an upfront cost with an uncertain return horizon. As such, it can be difficult for small merchants to think about investing in green infrastructure, like low-flow toilets or more efficient heating and cooling systems. Behavioral changes, like separating recyclables from trash or reducing printing, can also be difficult to achieve in a systematic and sustained way.

However, in a number of California communities, including those in the Bay Area and San Diego, resources are increasingly becoming available to help make greening a less daunting endeavor for small businesses. County level programs have been launched to provide technical assistance and other supports to promote environmental protection. San Francisco’s program, for example, which is part of a nine-county Bay Area Green Business Program, offers checklists in a number of languages to help certain types of businesses understand what elements constitute a greening protocol. In addition, the program provides free products and services to help small businesses reduce water and electricity use. Business owners can achieve green certification through the program, which entitles them to marketing and networking events run by the city. While these types of programs are catching on, more work is needed to overcome the challenges that many small businesses face in implementing a full suite of green practices.



Industrial Decline and the Opportunities and Challenges of Brownfield Redevelopment

by Michael R. Greenberg, Henry Mayer, Karen Lowrie and Judith Shaw of the National Center for Neighborhood and Brownfields Redevelopment, E.J. Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, New Jersey

Introduction

October 2007 marked a milestone in the transformation of the United States economy. The Bureau of Labor Statistics reported that the number of manufacturing jobs fell below 14 million, a loss of 6 million from a high of almost 20 million in 1979. The last time the number was below 14 million was 1950. For context, during the 57 year period, the population of the United States doubled and gross domestic product increased by over 500 percent in real dollars.

The hemorrhaging of manufacturing has been a national reality, especially since the early 1990s. It is not our purpose here to try to explain the deindustrialization of the United States, as the literature about this issue is both rich and controversial. Rather, our intent is to focus on the legacy of hundreds of thousands of abandoned or underutilized factories, marshalling yards, transport, waste management and other orphaned sites from the era when the United States was the world's industrial powerhouse. More specifically, we focus on brownfield sites, defined by the United States Environmental Protection Agency as properties where expansion, redevelopment, or reuse "may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."

Intersections between Brownfield and Community Development Issues

There are good reasons why community developers should focus their attention on brownfields. With regard to local concerns, some brownfields are public health and environmental hazards. Even if they are not direct threats, property values of neighborhoods can be depressed because of the perception of health and environmental threats. These hazardous or perceived hazardous brownfields are disproportionately in areas where the population is relatively poor, African American and/or Latino. Hence, uncontrolled brownfield sites often represent environmental justice concerns. When a brownfield site is controlled and then remediated, health and environmental risks are eliminated or reduced to negligible levels, the stressed local neighborhood can be

reinvigorated with new jobs, housing, community and other desirable land uses and activities, tax payments emanating from redevelopment, and overall quality of life can markedly improve.

At regional and state scales, brownfield redevelopment has the benefit of reducing pressure on undeveloped open space. This means avoiding the need to build new roads, schools, water, sewer, and other infrastructure in greenfield areas. Government and not-for profit organizations can set aside more open space for future generations. City mayors can avoid closing fire and police stations and schools in their jurisdictions because the population has moved to the suburbs. Redeveloping brownfields implies more concentration of activities and hence shorter commutes, less automobile and more mass transit use. Politically, brownfield redevelopment can help suburban mayors who want to preserve their communities, and for urban mayors it can mean gaining federal and state resources, and private investment that can help close the gap between growing affluent suburbs and declining poor cities/older suburbs.

Understanding Brownfield Sites

Inexpensive and accessible land has become a scarce resource in large metropolises in New Jersey, New York, Massachusetts, Florida, California, and some other states. Where will expected population and job growth be accommodated? Where will large-scale projects, such as prisons, oil terminals, bus depots, airports, arenas, schools, and so on be located? Planners and developers in these environs have turned to brownfields and greyfields (See Box 2.1).

Each brownfield site must be judged on its own merits and demerits, but to understand the opportunities and challenges presented by various land parcels, it is useful to categorize sites into three types. The first, which we will call Tier I, are the best sites—they are relatively inexpensive to acquire, have minimal contamination or other physical constraints, already have infrastructure, and are located in desirable areas. These are "low hanging fruit" among the hundreds of thousands of brownfields and can be returned to economic use in a variety of ways. Consider, for example, a developer

Brownfields are to be distinguished from Superfund and Greyfield sites. Superfund sites are defined by federal law (Comprehensive Environmental Response, Compensation, and Liability Act of 1980) as posing sufficient danger to public health and/or the environment to demand in-depth site investigation, remediation, restoration and inclusion in a list of “national priority” sites (NPL). Initially 400 NPL sites were designated. In time, the list reached over 1,200. The aggregate costs of cleanup have been tens of billions of dollars, and some life cycle cost estimates are over \$200 billion. Remediation dollars come from responsible parties and the federal budget. Some Superfund sites are off-limits for redevelopment because the chosen protective remedy would be vulnerable to damage by construction, structures, and even deeply rooted vegetation. At best, the plurality of NPL sites can be used for recreation that does not require digging, blasting, or otherwise disturbing the site. At worst, contamination has spread off-site into surfaces and through aquifers, or gases have spread through the soil, and hence development of the surrounding neighborhood is not permitted and has scared investors. In our experience, the environs of Superfund sites are developed only if their location is extraordinarily valuable, and then only when developers and government work together to fashion land uses that are appropriate for stigmatized sites.¹ In comparison to NPL sites, brownfields are much less encumbered by regulatory, environmental, perceptual, financial and other constraints.

Greyfields are abandoned or underutilized shopping malls and retail hubs. During the 1950s, the first suburban malls began to replace the old downtown and adjacent ribbon shopping areas. Now the super-sized malls are replacing the older post-1950s malls. The vast majority of these obsolete commercial facilities can be reused. But before acquiring a greyfield, one must conduct a due diligence review of contamination, structural, other physical and legal constraints. In the worst cases, a seemingly attractive greyfield site can be a more challenging property than a brownfield site.

who obtained an abandoned multi-purpose manufacturing complex located on the west side of the Hudson River in New Jersey, directly across from the west side of Manhattan with an unobstructed view of the famous skyline. The developer has spent millions to decontaminate the site and has installed an engineered barrier to prevent exposure to residual contaminants. But by selling or renting extremely expensive condominiums and apartments on the site, the developer will earn a high return even after expenditures on the environmental elements of the project.

Tier II sites have many of the same attributes as their Tier I counterparts but may have less intrinsic site location value, and likely there are one or two problems that complicate redevelopment. The constraint could be inadequate infrastructure, limited road access, relatively high remediation costs, and other problems that make the project economically less attractive than a Tier I site. The Tier II sites will wait until economic conditions change, regulations are modified, or intervention by a party with investment capital makes them developable.

Tier III sites sometimes have some spatial attributes and infrastructure. But they are handicapped by real and perceived problems. The most obvious is contamination levels that are high enough to make locations too expensive to redevelop without a large government or private subsidy. Some brownfield properties are so contaminated that their owners will not release them for development because their remediation costs are too high. Accordingly, they keep these properties active with a skeleton workforce. After

negotiations with city officials and developers, clean parts of some sites have been released for redevelopment. However, many obsolescent manufacturing properties have been “mothballed to avoid cleanup costs.”²

High pollution cleanup costs may not be the only constraint. Sometimes a brownfield site is located in a flood hazard area, the site may have insufficient sewage or water capacity, and lack road capacity or even access. When a site has multiple serious constraints, it is hard to envision it as anything other than open space. Surveys show that parks and other forms of open space often are the highest priority of local residents. Yet paying for the remediation of open space is a challenge. Indeed, an even bigger challenge is maintenance of small park space³ and some cities prefer to give the land away to someone who will maintain it.

Overall, without a large influx of capital, Tier III sites are not going to be redeveloped anytime soon. This cohort of Tier III sites creates the greatest opportunity to engage the surrounding community in remediation and redevelopment efforts, and yet these sites are all too often left unattended, exacerbating the neglect and disinvestment associated with brownfield impacted areas.

Challenges

Potential developers face a number of major challenges, including finding sites, assessing contamination and remediation, estimating costs and benefits, and gauging and engaging community groups.

Finding Sites

Finding sites should be easy, but is not. One reason is that the responsibility for finding brownfield locations has fallen to state and local governments. Some have compiled comprehensive and trustworthy inventories. Others have compiled a list of identified “contaminated” sites, which may not be brownfield sites. The most accurate site inventories are prepared by local governments that have received funds from the federal EPA as part of a Brownfield pilot program. Over 400 local governments received funds; many used some of the funds to prepare accurate site inventories. Other local governments in these same states have no data, or data that they have is not reliable. The only foolproof site identification method is to start with whatever list is available and explore every site. There is no shortcut based on GIS tools or other methods, although large sites can be identified from aerial photography. In essence, finding brownfield sites involves detective work.

Assessing Contamination and Remediation

This stage begins with a review of historical maps, title searches, fire insurance records, zoning files, site inspection reports, United States Geological Survey maps and files, topographic maps, and other records, and conversations with knowledgeable people, including retired workers, fire, police and city engineers, and chamber of commerce representatives.⁴ If this first phase suggests contamination, then samples need to be taken at the site to pinpoint areas in need of remediation. Typically, this means samples of building materials, air quality, and core drillings both on the site and off site. Site investigators must look for discoloration of soil, depressions in the ground, evidence of buried materials and groundwater contamination, as well as send soil samples to a lab for analysis.

While contamination is always a primary concern at brownfield sites, investigators must look for other problematic conditions, such as evidence of floods, poor soils, and a host of others that must be explored at any potential development location. In other words, due diligence is essential in order to assure financial institutions and local political officials that the redevelopment plan is worthy of their support.

Estimating Costs and Benefits

Every project faces land purchase, planning, site preparation, construction, marketing, insurance and legal costs. Brownfield sites, like other projects, also may require permits for encroachment on wetlands; developers may incur high costs for demolition, construction of infrastructure and other site-specific shortcomings. In addition to these expenses, brownfields sites face remediation costs. These costs can be minimal, but at worst can be excessive. These costs could include digging out contamination and moving it to a legal dumpsite. If contamination remains, impervious rocks and a plastic liner may be required to prevent migration of the contaminants.

Due diligence is essential in order to assure financial institutions and local political officials that a redevelopment plan is worthy of their support.

Developers and owners of brownfield sites may face additional operation and maintenance costs. If all the waste has been removed, then ongoing stewardship should be no greater than a normal development. But many brownfields leave low levels of contamination in place. Engineered barriers, pump and treatment systems, and other devices will need inspection; and energy and other stewardship costs may be higher to support engineered systems. If the deed comes with institutional constraints—such as restrictions on the use of basements for living space or on the planting of food crops—then these restrictions will need to be enforced. Sometimes third party claims are filed after redevelopment, and new environmental regulations can exert pressure on owners to further remediate sites.

Because of these environmental conditions, brownfield property values may be discounted, so that tax benefits and other inducements are likely to be offered to developers. Will the economic benefits, as well as social and political benefits of brownfield redevelopment exceed the costs? This calculation requires consideration of a litany of conditions, such as stigma, that can lower property value. After redevelopment will the site still be undervalued because of its history? In short, the economics of brownfield reuse require the highest degree of due diligence.

Gauging and Engaging Community Groups

Public participation is a challenge and an opportunity. Often, there is some level of uncertainty regarding the degree to which community members will engage on issues relating to brownfields. In our experience, the majority have little or no interest in a given project and the community. Another group will read materials, possibly attend a meeting, and then disengage. They may re-engage at some later stage.


A third group wants to be engaged as individuals or as part of an organization, but might not know how to deal with brownfield sites. In order to build the capacity of these and other community groups, we at the National Center for Neighborhood Brownfield Redevelopment have formulated a U.S. EPA funded assistance program that teaches groups about all aspects and steps of brownfield redevelopment. First, we begin by introducing the basic elements of city planning, land use mapping and visioning. Our goal is for community groups to recognize the importance of seeing the potential of a redeveloped brownfield site as part of their

surrounding community rather than as eyesore. A second module focuses on how the community can market its neighborhood, including creating an identity and engaging the broader community in revitalization.

Next, we have two modules that focus on site assessment reports and basic brownfield regulatory requirements. In them, we review Phase I site investigations and how residents can help to identify and research background information about sites. Then, we review how to interpret both Phase I and II reports, offering help to community groups on when to hire consultants and the impacts of various past site uses and contaminants on potential reuse decisions. Finally, we offer a module with useful information about how to access financial resources, how to obtain grants and insurance products that are available to protect groups from liability. Additional topics and follow-up with community groups are part of the planned expansion of the program. During these technical assistance sessions, community groups raise many issues and concerns with our expert staff, such as their views of gentrification, open space, reindustrialization, and others. The assistance is customized to respond to their particular local issues and to help them to address specific sites in their neighborhoods.

Conclusion

Brownfield redevelopment may parallel greenfield and greyfield development in terms of process, but it clearly presents additional challenges. The major differences are the increased need for due diligence about pre-existing site conditions, and the impact of these on cost, regulatory constraints, stigma and potential marketing. At worst, a brownfield site may have a chilling effect on the surrounding area; we know of some where the tax assessor indicated that negative economic impacts reached a mile or more from brownfield sites. The combination of actual contamination and media hype about brownfields is another challenge. Yet many reputable sources—including the National Governor’s Association⁵, the U.S. Conferences of Mayors⁶, the Urban Land Institute⁷ and other independent sources⁸—have noted that while there are limitations, the benefits of revitalizing brownfields can be well worth the challenges. For those wishing to invest in these projects, careful analysis is critical, as is the development of both financial and social coalitions supporting the chosen remediation and redevelopment product.

The Northeast-Midwest Institute (www.nemw.org) and the U.S. EPA (www.epa.gov) are the best sources for keeping track of brownfield redevelopment in the United States. 



The physical legacies of its industrial past loom over Allegheny West, a neighborhood in North Philadelphia.

Case Study

Transforming a Brownfield in Baltimore

By Greg Lewis, Northeast-Midwest Institute

Many American cities with a legacy of heavy industry and manufacturing—cities like Cleveland, Baltimore and Detroit—have lost jobs and population over the past half-century for a variety of reasons. As a result, blight and environmental hazards stemming from abandoned industrial areas pockmark the once vibrant landscapes of these great historical communities. Even smaller cities in economically vibrant regions—Richmond, California, for example, which developed primarily as a shipbuilding town during WWII—face challenges in redeveloping shuttered factories and contaminated sites.

In select areas, though, things are changing. Over the past decade, the rise of state brownfield voluntary cleanup programs, brownfield reuse incentives, and historic rehabilitation tax credits have stimulated redevelopment interests in vacant and abandoned sites. Waterfront properties or buildings close to gentrified neighborhoods have been remediated and redeveloped successfully; the resulting mixed-use projects attract stylish restaurants, bars, and high-end condo buyers.

But the differences between reuse projects in an up-market area—where industrial buildings seemingly turn into high-end and high-tech condos overnight—and those in a down-market area are striking. With much of the success of brownfield redevelopment being driven by the real estate mantra “location, location, location,” hundreds of brownfields remain idle, particularly those in low-income and disadvantaged areas. Funding constraints and limited demand for new housing make it difficult to pencil out deals in weak market areas, especially when environmental remediation costs are added in. Even when pioneering developers do choose to take on sites in these communities, redevelopment remains tricky and can have unintended consequences. For example, rather than strengthening an area, even a well-intentioned redevelopment project can sometimes erode the charm and charisma of neighborhood life. A very real threat exists that longtime residents will be “priced out” and no longer be able to afford to live in their own neighborhood.

How, then, can brownfield redevelopment take place in disinvested neighborhoods and actually strengthen the fabric of a community? At the former HF Miller Tin Can and Box Company site in Baltimore, a for-profit developer team took on just this challenge. Donald and Thibault Manekin developed a project designed to transform a decaying 80,000 square foot manufacturing facility adjacent to a disadvantaged neighborhood into a structure that supports nonprofits and provides affordable workforce housing.



The HF Miller Tin Can and Box Company in Baltimore. This site is being transformed into workforce housing and nonprofit incubator space.

The Vision

Built at the turn of the 20th Century, the HF Miller plant had been abandoned for many years, and nearby residents expressed concerns about the unsafe conditions—such as falling glass and metal—caused by the dilapidated building. After discussing these issues with neighborhood leaders and holding a community “open house,” the Manekins developed a plan for the building that would incorporate both social and environmental goals into the redesign. Now in the demolition phase, the redevelopment plan calls for 35,000 square feet of office space to accommodate nonprofit organizations working in the education and human services sector. The remainder will be divided into 40 one-, two-, and three-bedroom apartments for first-time teachers, many of whom are tackling some of our country’s most challenged schools by participating in the federally backed Teach for America Program.

The development scheme grew out of a recognition that educational non-profits often need to work in collaboration with one another, but their offices were spread throughout the city. The rehabilitated HF Miller building will bring the groups under one roof. To help the organizations save limited resources, the Manekins have incorporated a shared kitchen, shared conference areas, and ample common space. Thibault explained that, “The non-profits groups loved the concept. These folks often work within a pretty tight budget. Sometimes if you want to meet with somebody, you have to go to a

coffee shop because they simply didn't have enough space; or, the groups would be putting a lot of their budget into square footage. They would have to be leasing a facility with a kitchen, conference room, etc." In total, 5,000 square feet will be combined commercial area, a design that calls for a costly "dig-out" wherein the garden-level floor is lowered by 18 inches. Non-profit groups not only approve of the concept—they've signed on; after only a few conversations with non-profit groups, 100 percent of the office space is spoken for. The developers hope to open the building to tenants by June of 2009.

Getting a Brownfield Project to Pencil

The Manekin family has long been associated with large-scale development projects in the Baltimore area, but this second- and third-generation duo are just cutting their teeth with some complicated state and federal incentive programs to redevelop the HF Miller site. According to Thibault, without the availability of a laundry list of state and federal incentives "the high price of rehabilitation never would have penciled out."

The overall budget for the site is approximately \$20 million, which includes a significant line item dedicated to environmental remediation. Along with asbestos insulation, leaky electrical transformers, and countless layers of lead paint, the building's courtyard capped two massive—and leaking—underground storage tanks. With help from the Baltimore Development Corporation, the Manekins secured an EPA Brownfield Site Assessment Grant of \$30,000 to help pay for initial environmental assessments. To ensure that the cleanup would be done properly and to dispel threats of future environmental litigation, the developers entered Maryland's Brownfield Voluntary Cleanup Program (VCP). Participation in the VCP gives the site eligibility for state brownfield remediation tax credits—a juicy incentive that drastically offsets the cost of cleanup.

State and federal historic tax credits were also "must have" incentives. The property's designation as a historic site allowed the developers to capitalize on preservation tax benefits of \$2.7 million from Maryland and \$2.8 million from the federal program. The developers leveraged the combined \$5.5 million in historic tax credits with \$6 million in New Market Tax Credit (NMTC) dollars to give the project the equity position the developers needed to transform the site.


Being awarded the NMTC dollars was a major accomplishment. The New Markets Tax Credit program, enacted by Congress in 2000, channels investment dollars into low- and moderate-income census tracts. Areas qualifying for this tax credit must have a poverty rate of greater than 30 percent, income level below 60 percent of area median

income, and an unemployment rate 1.5 times greater than the U.S. average. In addition to these strict eligibility criteria, the NMTC is operationally difficult, since the tax credit does not go to the developer or business owner entering a disadvantaged neighborhood. Instead, the credit actually goes to an investor who gives money to a Community Development Entity (CDE). The CDE can then pass the investment dollars on to businesses or development projects located within "qualified census areas." The CDE can make loans or provide grants—really get as creative as they want—in order to make transactions work. In exchange for the contribution to the CDE, the initial investor gets a hefty 30 percent tax credit.

Obtaining NMTC funding is extremely competitive. Since Congress caps the availability of NMTC funds, only the most downtrodden neighborhoods or the most creative project/business ideas have fared well in obtaining funds. As part of the application process to CDEs with an allocation of credits, the Manekins were asked to "tell a good community story." Evidently, the Manekins' concept scored well with the NMTC process, and two CDEs have come forward to provide a total of \$6 million in equity.

Before rehabilitation can move on to the construction phase, the project must overcome one major hurdle: the fact that traditional lenders are hesitant about the potentially risky deal. So far, the project is self-financed. Thibault Manekin has found that bankers' ideas of a sound project differ greatly from the ideals behind NMTCs. "There is a huge contradiction between the banks and the use of New Markets Tax Credits," he said. "With New Markets you have to be willing to do business in challenging neighborhoods, areas that elicit skepticism from a lot of banks." However, the Manekins are confident that as they wrap up the demolition phase and get an environmental approval from the state, traditional financing will come through. The brownfields remediation tax credits, historic preservation tax credits and NMTCs boost give the project a loan-to-value ratio that should please most loan officers.

Conclusion

Baltimore has one of the highest rates of vacant and abandoned structures in the country, which has contributed to low property values and a diminished tax base. But Donald and Thibault Manekin have aimed to spark investment in the city through the creative reuse of a brownfield in one of the city's neglected communities. They hope that their redevelopment efforts will contribute overall to renewed opportunity and vibrancy in the city. Moreover, they show that environmental remediation and the restoration of brownfields can be accomplished in tandem with social objectives that benefit the local community. 

Re-Building It Green

By Jennifer Somers, Local Initiatives Support Corporation/Bay Area

Unity Homes, a 94-unit limited equity coop located in the Bayview neighborhood of San Francisco, is about to undergo a major systems and amenities upgrade for its residents. But it's no ordinary rehab project. Using guidance from a new publication—entitled *Green Rehabilitation of Multifamily Rental Properties: A Resource Guide* (the Green Guide)—Unity Homes is about to get a “green” facelift.

The 34-year-old Unity Homes was originally financed using a HUD Section 236 insured mortgage and has a fixed operating budget from HUD. But operating costs—notably, utility costs—have been rising dramatically. As such, the rehab scope was designed to include a number of measures to improve energy efficiency. This includes replacing the heating systems with energy efficient forced-air models, and replacing the water heaters with new energy efficient models. All windows, appliances, and kitchen and bath fans will be ENERGY STAR rated.

The energy efficient and green recommendations don't stop there. The complex will be re-sided using durable cement siding that, in tandem with the new energy efficient windows, will improve the sealing of the building to help prevent energy loss. Low-mercury fluorescent bulbs will be used in all new and replacement lighting. The grounds will also receive a green treatment. Increased stormwater retention will be accomplished with retaining walls and hydro-seeding, and landscaping will include native plants and low water use irrigation.

In addition, given the large senior population as well as the large number of residents with children, special attention is being given to improving indoor air quality. All paints, sealants and adhesives will contain low levels or no Volatile Organic Compounds (VOCs)—gases that are known to have both short and long term health impacts. If they can be accommodated within the project budget, green flooring and carpet will also be considered for the rehab.

What's So Hard About Green Rehab?

While the greening of new construction projects has started to take root, greening the vast existing affordable housing stock—estimated at well over 300,000 units in California alone—has proven to be more of a challenge. Rehab projects are already notoriously prone to cost-cutting measures; it's always tempting to think it possible to squeeze a bit more useful life out of existing building systems. In such circumstances, it is difficult to advocate for capital improvements that may represent a higher upfront cost than a non-green alternative. Rehab projects also typically spend less on



Unity Homes in San Francisco's Bayview neighborhood

design consultants who can help evaluate the benefits and risks of newer, green products and technologies. The goal of the Green Guide is to provide compelling information to tip decisions in favor of sound green alternatives where they are indeed feasible. The Unity Homes rehab project is one of the first projects to undergo a green rehab using the newly released Green Guide.

The Green Guide, a joint project of the Bay Area Local Initiatives Support Corporation (LISC) and Build It Green, a California based non-profit organization promoting healthy and energy efficient housing, was developed to help affordable housing owners and their consultants bring green building and energy efficiency into the upgrades of their properties. The guide provides recommendations for green and energy efficient upgrades for every system in a multifamily building, addressing the site conditions, landscaping, building construction, mechanical systems, and interiors of dwelling units. Each measure recommended in the guide has a cost and cost effectiveness key. Though the actual costs may vary considerably among projects and will depend on availability, the cost effectiveness key reflects the anticipated increase in greening costs over conventional practice. Aiming to be a user-friendly tool that developers can use in their decision-making processes, the guide is designed to be used in conjunction with an energy audit or building walkthrough that occurs at the outset of any rehab project.

“The Green Guide will provide invaluable assistance to affordable housing providers as they embark on the green rehab process,” said Madeline Fraser Cook, director of LISC's new Green Development Center, who introduced the new publication in San Francisco at the 2008 National Interagency Community Reinvestment Conference.

Green Connection at LISC

Bay Area LISC first got involved in the green movement six years ago through its Energy Action program, which provided funding, technical assistance, engineering services and energy audits to help hundreds of affordable housing sites become more energy efficient. Since then, the program has expanded into green building as well as energy efficiency and is housed under Bay Area LISC's Green Connection program umbrella.

In addition to the Green Guide, LISC's Green Connection program offers myriad resources to foster the development of green affordable housing. Another guide recently updated by the Green Connection program is the *Green Operations and Maintenance Toolkit and Buyer's Guide* (Green O&M Toolkit). The guide was written specifically for property managers and maintenance staff and looks for simple ways to make a property green, such as unit turnovers. The Green O&M Toolkit provides an overview of green building and the ways green building practices can affect the health and safety of both residents and workers. It gives operations and maintenance staff guidance on using non-toxic cleaning products, paint, flooring and carpet, lighting and paper goods as well as information on where to purchase these products.

Bay Area LISC also operates a Green Loan Fund, which offers a preferred financing package for affordable housing projects that demonstrate the use of a qualified green building metric. GreenPoint Rated, designed by Build It Green, is the verification system used for the Green Loan Fund. This system takes into account energy efficiency, resource conservation, indoor air quality, water conservation, and community-related factors in evaluating a building's "greenness." It is a particularly applicable rating system for green building in California as it takes into account local climate conditions, material costs and availability. In addition, because of the flexibility of the program and its limited number of pre-requisites, it provides an accessible point of entry for greening, which is important for non-profit owners that may not have a lot of experience with green development. GreenPoint Rated requires that projects exceed California's Title-24 energy code by 15 percent and thus sets an appropriate minimum energy efficiency bar.

In addition, to help expand the green capacity of the field, Bay Area LISC offers hands-on technical assistance and peer network meetings, including the Green Affordable Housing Coalition co-facilitated by Build It Green. The peer network meetings aim to provide a forum for information sharing, as peer knowledge-transfer can help overcome some of the barriers to greening. These include viewing green elements as project "add-ons" rather than truly integrating them into a project, a lack of green experience on the part of the project team and perceptions that greening will cost too much.

Institutionalizing Green

Bay Area LISC has been working hard to seek inroads for integrating green building and energy efficiency into HUD financed properties. The Green Guide has been well received


by the US Department of Housing and Urban Development's (HUD) Office of Affordable Housing Preservation and their Mark to Market Green Initiative Pilot Program. This initiative is a trailblazing HUD program that incentivizes owners and purchasers of properties within HUD's Section 8 multifamily property portfolio to "go green" in rehabs and operations. This program incentivizes building owner participation by reducing the standard upfront owner contribution in a rehab project from 20 percent to as low as 3 percent if the project meets select green building criteria.

In addition, earlier this year Congressman Ed Perlmutter of Colorado introduced the Green Resources for Energy Efficient Neighborhoods (G.R.E.E.N.) Act, which provides a number of measures to facilitate green building and energy efficiency strategies. Among other measures, the legislation would require Fannie Mae and Freddie Mac to finance energy efficient mortgages, and would provide extra incentives for buildings that comply with standards such as LEED (Leadership in Energy and Environmental Design) or GreenPoint Rated. It would also create a Residential Energy Efficient Block Grant Program, which, in a manner similar to the Community Development Block Grant program, would provide grants for local communities and states to incorporate energy efficient measures into new and existing single and multifamily housing units. The legislation would also integrate some considerations for energy efficient improvements into the Community Reinvestment Act. The legislation is already seeing some push-back from homebuilders and others, but if passed, it will go far in creating federal incentives for building and rehabbing affordable housing using green principles.

Conclusion

LISC recently launched its Green Development Center (GDC), a national program to support green design, construction and management principles in low and moderate income neighborhoods. Madeline Fraser Cook, a national expert in providing technical assistance to community based organizations on building green sustainable neighborhoods, is the head of the new center and will be providing guidance on greening to all of LISC's twenty-nine local offices. In addition to supporting green building, the GDC will assist in integrating sustainable development principles across the community economic development field. Additional focus areas will include green jobs and retailing, youth development, and joint work with LISC's Smart Growth program.

But for Bay Area LISC, green rehab will continue to be a critical focus area. Stephanie Forbes, Executive Director of Bay Area LISC says, "While we continue to promote and support green in new construction, our priority is to green existing affordable housing as it is a tangible way to help reduce the environmental impact of buildings while simultaneously improving the indoor environment and quality of life for low-income residents."

To access the Green Guide and other resources, please visit www.bayarealisc.org 

In 2006, parents living in the Addams community in Southwest Fresno launched a campaign to protect the health of their children by drawing attention to the links between industrial pollution and the high rates of asthma in their community. A poor, predominately Latino and African American community, the Addams neighborhood has to contend not only with the poor air quality of the Central Valley as a whole, but also with the pollution from the nearby freeway, industrial plants, and military airport. Citing their concerns that additional industrial sites would lead to more pollution and increase the already high childhood asthma rate, Addams residents advocated for a moratorium against additional industrial development in the neighborhood. Although the moratorium ultimately didn't pass, the campaign did help to establish resident leaders who have gone on to advocate for community necessities such as sidewalks, youth centers, parks, clinics, and supermarkets.

The Addams community's efforts to organize around environmental health concerns is reflective of a broader environmental justice movement. Environmental justice demands that everyone is "entitled to equal protection and equal enforcement of our environmental, health, housing, land use, transportation, energy, and civil rights laws and regulations."¹

Although the principles underlying environmental justice have a much longer history, the impetus for the modern environmental justice movement came in 1987, when the United Church of Christ's (UCC) Commission for Racial Justice published *Toxic Wastes and Race in the United States*. This landmark study highlighted the disproportionate environmental burdens facing people of color and low-income communities, and found that race was the most important variable predicting where hazardous waste facilities were located. Subsequent research has sought to measure the negative effects of environmental pollutants on human health. Although causal relationships between pollution and human health are difficult to prove, researchers have begun to document the extent to which communities of color and low-income people are at increased risk for illnesses such as asthma, cancer, diabetes, and birth defects as the result of exposure to environmental pollutants.² The UCC report and subsequent community organization also spurred significant policy reform, and in 1994, President Clinton signed Executive Order 12898 which requires the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."³

While recognition of the problems of environmental justice have grown over the last twenty years, low-income people and communities of color continue to bear the brunt of environmental pollution, whether due to the siting of hazardous waste facilities in their neighborhoods, the legacy of industrial development and its attendant brownfields and contaminated land, freeway noise and pollution, or lead exposure from paint in older housing stock. For example, a recent study found that California, Nevada, Washington and Arizona all had large racial disparities where hazardous waste sites were located, with the majority of waste facilities located in neighborhoods with people of color representing the majority population.⁴ The same study found that in states including Arizona and Nevada, poverty rates in neighborhoods with hazardous waste facilities were more than two times greater than in neighborhoods without hazardous waste facilities.

Overcoming the disproportionate burden of pollution and environmental hazards in these communities will require the active engagement of the community development field, since decisions regarding land use, housing, economic development, and neighborhood revitalization can all influence the environmental quality within a community. Increasingly, land use planners are encouraging more efficient land development, mixed-use and mixed-income developments, and the reuse of brownfields and former industrial sites. Comprehensive community development initiatives—which often incorporate considerations for open space, habitat preservation, and recreation facilities, as well as for urban agriculture and community food security—can further promote environmental justice. Perhaps most importantly, most planning processes require community outreach and public participation in land use decisions to ensure in principle, if not always in practice, that low-income communities have a voice in the decisions affecting their communities. As in the Addams neighborhood, where residents had the opportunity to become active participants in re-envisioning their neighborhood's future, it is this kind of political empowerment that may have the most lasting impact on low-income communities.

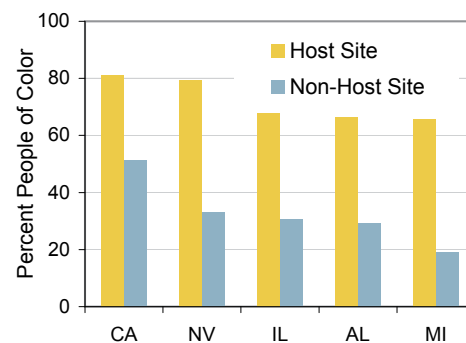


Figure 1. Populations residing in areas within 1.8 miles of hazardous waste treatment, storage and disposal facilities ("Host Sites") in the U.S. are disproportionately composed of people of color. 12th District states California and Nevada are among the states where hazardous waste facilities are most concentrated in minority neighborhoods.⁵

Triple-Bottom Line Investing:

Balancing financial, social and environmental returns¹

By Jed Emerson, Managing Director, Integrated Performance, Uburu Capital, Tim Freundlich, Calvert Social Investment Foundation, Good Capital and xigi.net, and Shari Berenbach, Calvert Social Investment Foundation

As socially conscious investors have become more aware of environmental concerns there has been an increasing demand for “sustainable” investment opportunities. Building on the double-bottom line vernacular, triple-bottom line investment aims to simultaneously yield financial, social, and environmental returns. Despite this seemingly simple objective, defining and quantifying these returns has proven to be a significant challenge. In large part this is due to a dearth of reliable data. The movement to capture environmental and social impact is relatively new and the process of quantifying returns is still being developed. But it’s also worth noting that some confusion stems from the object being measured, namely: “sustainability.” What actually constitutes a sustainable investment?

In an effort to establish a common framework for sustainable global investment, the United Nations launched the Principles for Responsible Investment (the Principles) in 2006. The Principles are broad guidelines that encourage institutional investors to “act in the best long-term interests of [their] beneficiaries” by taking environmental, social, and corporate governance (ESG) issues into account.² While the Principles are not binding, they “provide a menu of possible actions for incorporating ESG issues into mainstream investment decision making and ownership practices.” This attempt to bring sustainability criteria into the mainstream investment process is commendable. Yet, despite such progress, we believe that true sustainability cannot be captured by traditional metrics or explained by clever monikers. Sustainability requires a complete reassessment of value and a reorientation of investment goals. For individual investors, this practice may be thought of as Integrated Wealth Management, while for institutions it is referred to as a Unified Investment Strategy.³

Traditionally, financial investing and the creation of economic value have been viewed as activities separate and distinct from efforts to create social value and positive environmental impacts. Perhaps best promoted by Milton Friedman of the University of Chicago,⁴ the conventional wisdom has been that the social responsibility of companies and investment managers is fulfilled by simply generating the greatest amount of financial return to investors possible—leaving it

The social and environmental impacts of investment decisions have historically been considered ‘externalities,’ superfluous to the investment decision equation.

to each individual investor to then decide how best to “do good” with wealth thereby created. This notion of economic primacy has served to create vast economic wealth over more than two centuries. But, while frameworks separating the practice of doing well from that of doing good have been effective in creating economic value, they have also failed us in substantial ways. The social and environmental impacts of investment decisions have historically been considered ‘externalities,’ superfluous to the investment decision equation. In truth, the goal of creating economic wealth is seldom pursued in the abstract. Rather, it is a means to an end. We seek to be “wealthy” in order to have choices with regard to how we live our lives and pursue our goals. We seek wealth to provide for our immediate families and ourselves. We attempt to build thriving economic systems in order to assure we live in communities and societies that can provide, at a minimum, economic support for all members and, ideally, economic opportunity that will allow each individual to provide for themselves and achieve their greatest potential. And, for some, financial wealth is simply a marker used to measure performance and success in life. In sum, we use economic strategies and financial tools to achieve not simply financial returns and economic vitality, but we use economics and finance as basic means to an end—an end that is fundamentally married to social well being for our community and personal fulfillment for ourselves.

We have, therefore, a significant problem: *Oftentimes our use of an economic tool conflicts with the task and ultimate purpose for which that tool is being put to use.*

In truth, investors do not just generate financial returns. They participate in a complex system of investing and value

creation that generates multiple returns with financial, social and environmental implications. In recognition of this reality, the investor has before them many options. And, indeed, from both a fiduciary and ethical standpoint, increasing numbers of investors are confronting the need to define investment returns as a proposition that blends economic and social value creation. If investors engage in asset management strategies to achieve a variety of outcomes (financial return and maintenance of corpus, social and personal well-being in the future, generation of funds in order to support future “worthy” causes of interest to the investor, and so on), would it not also follow that investors should consider how best to leverage their full assets in pursuit of their ultimate goals?

Many investors have proven that it is, in fact, possible to develop and pursue strategies that balance financial returns with the creation of positive social and environmental value.

Many investors have proven that it is, in fact, possible to develop and pursue strategies that balance financial returns with the creation of positive social and environmental value. Such investors understand that portfolio performance is not simply a function of financial return, but multiple returns generated through the effective management of a variety of investment instruments providing a balanced, integrated return over time. When one considers the investments of grant dollars together with equity or debt instruments, financial returns when viewed in isolation from the rest of the portfolio may well be below ‘market rate’⁵ on a risk-adjusted basis for some portion of their overall portfolio. This is due to the fact that at one end of the continuum we have grant making and, at the other end, investment in pursuit of risk adjusted financial returns. In between is a range of potential investment instruments.

Whether ready to make use of them or not, each and every investor has a large body of financial assets at work in society, with a wide range of potential deployment possibilities. When viewed in aggregate, each instrument of asset management (from equity investments to low-interest loans to grants) generates value in pursuit of investor goals. And each investment should be managed as part of a single, unified whole.

It is clear that what makes sense in concept makes sense in practice to an increasing number of asset owners. Indeed, a growing number of investors are executing strategies that intentionally seek financial and social/environmental value:


- The socially responsible investment (SRI) market has grown from \$40 billion in 1984 to over \$2.7 trillion in 2007, reaching more than 10 percent of all professionally managed assets, as pension funds, institutional investors and others have taken a more active stance toward shareholder involvement or introduced one or more social screens into their investment selection process;
- Community development investment has increased to \$20 billion; and
- Private equity “blended funds” seeking social and environmental value is estimated at more than \$2 billion.⁶

While this growth has been impressive, most investors continue to struggle with how best to fulfill responsibilities of financial stewardship while at the same time promoting the social and environmental interests of the investor, whether an individual or institution. To successfully direct a portfolio of investments to achieve its full potential investors must do two things:

First, they and their managers must reconceive overall investment strategy to allow for more than simple financial performance consideration. Second, investors need a more comprehensive understanding of, and access to, the array of investment instruments available to them to construct their portfolios.

To be most effective, an investor’s strategy must be founded upon the knowledge that the best investment strategy is one which seeks to identify an investor’s full array of available assets (both financial and non-financial)⁷ and assertively deploy those assets in support of the individual or institution’s mission. In this way, investors may simultaneously create the blended value of the financial, social and environmental goals they seeks to achieve.

A Unified Investment Strategy requires fund managers to draw upon a variety of instruments in pursuit of building portfolios capable of generating multiple returns. Rather than allowing investors and their managers to invest capital for simple financial returns, the engaged investor in pursuit of multiple returns will need to be directly involved in working with his or her asset managers to ensure funds are structured in a manner that is reflective of their overall, unified strategy and goals. And managers in their turn will increasingly provide leadership to the field in constructing solutions that meet this emerging client appetite.

Will the creation and application of unified investment strategies soon become the mainstream approach used by a majority of investors? Probably not. However, what is clear is that increasing numbers of investors (both individual and institutional) are building viable, high-performing portfolios capable of generating multiple returns across the financial, social and environmental areas. 

CI Notebook

- Alex Williams (2008). "That Buzz in Your Ear May Be Green Noise." *New York Times*, June 15, 2008.

It's Getting Easier to be Green

- Commission for Environmental Cooperation, <http://www.cec.org/greenbuilding/>
- National Geographic CO₂ Calculator, http://www.thegreenguide.com/tips_tools/
- U.S. Environmental Protection Agency, <http://www.epa.gov>
- U.S. Environmental Protection Agency and the U.S. Department of Energy, www.energystar.gov
- Joel Makower, Ron Pernick, and Clint Wilder (2008). "Clean Energy Trends 2008." Clean Edge : <http://www.cleandedge.com/reports/reports-trends2008.php>
- Roger Bezdek (2007). "Renewable Energy and Energy Efficiency: Economic Drivers for the 21st Century." Management Information Services, Inc. for the American Solar Energy Society.
Bryan Walsh (2008). "What Is a Green-Collar Job, Exactly?" *Time Magazine*, May 26, 2008.
- Sarah White & Jason Walsh (2008). "Greener Pathways: Jobs and Workforce Development in the Clean Energy Economy." Center on Wisconsin Strategy, The Workforce Alliance, and The Apollo Alliance; Apollo Alliance and Green For All (2008). "Green collar Jobs in America's Cities"; Robert Pollin & Jeannette Wicks-Lim (2008) "Job Opportunities For The Green Economy: A State-By-State Picture of Occupations That Gain From Green Investments." Political Economy Research Institute, University of Massachusetts, Amherst.
- City of Richmond, <http://www.ci.richmond.ca.us/DocumentView.asp?DID=3060>
- Thomas L. Friedman (2007). "The Green-Collar Solution." *New York Times*, October 17, 2007.

Industrial Decline and the Opportunities and Challenges of Brownfields and Community Redevelopment

- Greenberg M. and J. Hollander, *Neighborhood Stigma Twenty Years Later: Revisiting Superfund Sites in Suburban New Jersey*. Appraisal Journal. Spring 2006, 161-173.
- Greenberg, M., D. Downton, and H. Mayer, "Are mothballed brownfields sites a major problem?" *Public Management*, 85(5), 2003, 12-17.
- Lowrie, K., M. Greenberg, and D. Knee, Turning brownfields into ballfields, *New Jersey Municipalities*, 79 (6), 2002, 608
- Bell, R. Real Estate Damages. Chicago: *Appraisal Institute*, 1999.
- National Governors Association. (2000) "Where Do We Go from Here? New Mission for Brownfields: Attack Sprawl by Revitalizing Older Communities." Washington, DC.
- U.S. Conference of Mayors. (2000) "Recycling America's Land." Washington, DC., and U.S. Conference of Mayors. (2003) "Recycling America's Land, A National Report on Brownfields Redevelopment," vol. IV. Washington, DC. Available at: <http://www.usmayors.org>.
- Simons, R. (1998) *Turning Brownfields into Greenbacks: Developing and Financing Environmentally Contaminated Real Estate*. Washington, DC: Urban Land Institute.

- De Sousa, C. 2002. Measuring the public costs and benefits of brownfield versus greenfield development in the greater Toronto area, *Environment and Planning B*, 29(2), 2002, 251-280. Meyer P., and H. VanLandingham. 2000. *Reclamation and economic regeneration of brownfields*. Louisville, KY: Report for EDA. Powers C, F. Hoffman, D. Brown, and C. Conner. 2000. *Experiment: brownfields pilots catalyze revitalization*. New Brunswick, NJ: Institute for Responsible Management, Inc. Van Horn C., K. Dixon, G. Lawler, and D. Segal. 1999. *Turning brownfields into jobfields*. New Brunswick, NJ: John J. Heldrich Center for Workforce Development.

Environmental Justice

- Robert Bullard, Paul Mohai, Robin Saha, and Beverly Wright (2008). "Toxic Wastes and Race at Twenty: Why Race Still Matters After All of These Years," *Environmental Law* 38(2): 371-411.
- Adrianna Quintero-Somaini, Mayra Quirindongo, et al. *Hidden Danger: Environmental Health Threats in the Latino Community*. National Resources Defense Council. October 2004.
- Since then, criticisms have emerged about the degree to which this Executive Order has been implemented, and in September 2006 the Office of the Inspector General of the Environmental Protection Agency issues a report chastising the agency for failing to meet its mandate of implementing environmental justice reviews. (U.S. Office of the Inspector General (2006). *EPA Needs to Conduct Environmental Justice Reviews of Its Programs, Policies and Activities.*)
- Bullard et al. (2008).
- Ibid.*

Triple Bottom Line Investing

- This article is based upon a larger report titled: *Where Money Meets Mission: Creating a Unified Investment Strategy* published in May 2007 by the same authors. The larger report is available at www.blendedvalue.org.
- United Nations Environmental Programme Finance Initiative. Principles for Responsible Investment (PRI).
- The term "Unified Investment Strategy" was first presented in *A Capital Idea: The Unified Investment Strategy and Total Foundation Asset Management* and explored in related papers the reader may find at www.blendedvalue.org.
- Friedman, M. 1970, "Social Responsibility of Business is to Increase Its Profits." *The New York Times Magazine*.
- 'Market rate' is defined as a return on investment that matches generally accepted principles of risk and return at any given time for an investment in the financial markets. This is representative of Conventional Wisdom, and is not embraced but duly noted by the authors.
- 2005 Report on Socially Responsible Investing Trends in the United States*, Social Investment Forum, January 2006. The private equity figure comes from the RISE Report of 2003.
- For an expanded discussion of the array of assets available to organizations, please see both *The 21st Century Foundation: Building Upon the Past, Creating for the Future* and *An Essay in Two Parts: Total Foundation Asset Management—Exploring Elements of Engagement within Philanthropic Practice*, both of which are available at www.blendedvalue.org. The reader may also find *Blended Value Investing*, which provides case examples of alternative investment approaches and was published by the World Economic Forum, of interest. That paper is also available at the Blended Value web site.



FEDERAL RESERVE BANK OF SAN FRANCISCO
101 Market Street
San Francisco, CA 94105

Address Service Requested
AU 10252

Free subscriptions and additional copies are available upon request from the Community Development Department, Federal Reserve Bank of San Francisco, 101 Market Street, San Francisco, California 94105, or call (415) 974-2765.

Change-of-address and subscription cancellations should be sent directly to the Community Development Department. Please include the current mailing label as well as any new information.

The views expressed are not necessarily those of the Federal Reserve Bank of San Francisco or the Federal Reserve System. Material herein may be reprinted or abstracted as long as *Community Investments* is credited. Please provide Naomi Cytron in the Community Development Department with a copy of any publication in which such material is reprinted.

FIRST CLASS MAIL
U.S. POSTAGE
PAID
PERMIT NO. 752
San Francisco, CA