



Growing a Green Economy for All

From Green Jobs
to Green Ownership

Deborah B. Warren and Steve Dubb

The Democracy Collaborative at the University of Maryland
June 2010



About the Authors

DEBORAH B. WARREN has spent much of the past three decades working to promote social and economic justice in the American South. She was the first Executive Director of both the Southern Rural Development Initiative (SRDI) and the Community Reinvestment Association of North Carolina (CRA-NC). Since 2007, Warren has consulted for a variety of local, state and national non-profit organizations.

STEVE DUBB is the Research Director of The Democracy Collaborative. Dubb is the principal author of *Linking Colleges to Communities: Engaging the University for Community Development* (2007) and *Building Wealth: The New Asset-Based Approach to Solving Social and Economic Problems* (2005).

Growing a Green Economy for All

**From Green Jobs
to Green Ownership**

Deborah B. Warren and Steve Dubb

The Democracy Collaborative
1140-F Tydings Hall
University of Maryland
College Park, MD 20742

Copyright © 2010 by The Democracy Collaborative

This work is licensed under the Creative Commons Attribution License:

http://creativecommons.org/licenses/by-nc/3.0/deed.en_US



Contents

List of Figures	v
Dedication: John Logue, Ohio Employee Ownership Center	vi
Acknowledgments	vii
Preface	ix
Executive Summary	1
Introduction	5
The Promise of Community Wealth Building	7
Mapping the Green Economy	13
Potential for Community Wealth Building	16
Community Wealth Building in the Green Economy Today	19
Case Studies: Innovation in Green Community Wealth Building	39
Austin Energy (Austin, Texas)	39
Washington Electric Co-op (East Montpelier, Vermont)	42
Coastal Community Action and the Graylands Wind Energy Project (Washington state)	43
Windshare—and the Toronto Renewable Energy Co-operative (Toronto, Ontario)	45
PV Squared (New England)	46
Green Worker Cooperatives (Bronx, New York)	48
Excellence by Owners: The EBO Group Goes Green (Sharon Heights, Ohio)	49
The ReUse Center (Minneapolis, Minnesota)	50
WAGES (Oakland, California)	52
The Evergreen Cooperative Business Network of Cleveland, Ohio	54

Meeting the Challenges	59
The Role of Intermediaries	69
The Role of Philanthropy	73
The Role of Policy	77
Recommendations	83
Conclusion	97
Appendix A: Interview Subjects and Contributors	99
Appendix B: Selected Resources	101
End Notes	112

List of Figures

Figure 1: Green Community Wealth Building Model.	8
Figure 2: Growth of Community Wealth Building.	10
Figure 3: Green Economy—Six Leading Sectors	13
Figure 4: Community Wealth in the Green Economy	20
Figure 5: Case Study Overview	40
Figure 6: Facing the Challenges	60
Figure 7: Intermediaries and Their Actions in the Green Economy	70
Figure 8: Philanthropic Approaches to Building Community Wealth in the Green Economy	74
Figure 9: Policy to Build Community Wealth in the Green Economy.	78
Figure 10: Outline of Recommendations—Building Community Wealth in the Green Economy	84

In memory of John Logue (1947–2009)

For more than two decades, John Logue was a national leader in employee ownership, a primary mechanism for building wealth among working Americans by broadening the ownership of capital. Due to his efforts and those of his colleagues at the Ohio Employee Ownership Center, Ohio has more employee-owned companies and more employee owners per capita than any other state. John was also a leader of the Evergreen Cooperative Initiative in Cleveland, which is profiled in this report. We dedicate this report to John's memory.

Acknowledgments

All reports build on a body of work that precedes them and this work is no exception. Much has been written on green jobs in the last few years, but a few works deserve special mention. One is Raquel Pinderhughes' book, *Alternative Urban Futures: Planning for Sustainable Development in Cities*, which outlines the concept of "green collar jobs" and helped frame The Democracy Collaborative's initial work in this field. Another is Van Jones' book, *The Green Collar Economy: How One Solution Can Fix Our Two Biggest Problems*, which made a huge contribution in popularizing the concept of green collar jobs among policymakers. A third key work is a paper by Phil Mattera of Good Jobs First, titled *High Road or Low Road? Job Quality in the New Green Economy*, which acted as the framing paper for a February 2009 "Good Jobs, Green Jobs" conference jointly convened by the United Steelworkers of America and the Sierra Club.

This work aims to build on those works and others by introducing the concept of *ownership* into the debate. Ted Howard, Executive Director of The Democracy Collaborative, played a key role in framing this project and the Kendeda Fund provided essential support that made this project possible.

In researching and writing this report, we relied on the good will and contributions of several dozen individuals. These practitioners, experts, and scholars participated in interviews, suggested additional key people to interview, and helped us track down important articles and information. A full list of interview subjects and their affiliations is included in an appendix.

We also gratefully acknowledge the help of the following individuals who read and commented on the entire draft or segments of this report: Dave Heidenreich, Mark Kapner, Avram Patt, and Bill Stillinger reviewed the case studies on their businesses, providing valuable feedback and fact checking. Hilary Abell, Martin Bourque, Anne Claire Broughton, Courtney DeOreo, Carla Dickstein, John Farrell, Ted Howard, Marjorie Kelly, Heather McCullough, Raquel Pinderhughes, Corey Rosen, Bill Schweke, Dan Swinney, and Stockton Williams read and commented on larger sections or entire drafts of the report. While it is not possible to fully incorporate all of the valuable feedback we received, the final product is immeasurably improved due to their contributions. All responsibility for errors and omissions remains, of course, our own.

A few individuals deserve special mention for their contributions. Bob Schall, Rob Sanders, and Mark Fick shared their institutions' efforts as CDFIs engaging in

green lending. John Farrell contributed greatly to the development of the policy sections of the report in particular and thoroughly reviewed the report's policy section. Stockton Williams also provided valuable feedback on the policy section that resulted in substantial changes. The late John Logue steered us to a set of Ohio ESOPs that are working in the green economy. Corey Rosen called attention to the important efforts of Namasté Solar in Colorado. Jennifer Grove identified powerful examples of community ownership in the Northwest. Raquel Pinderhughes persuasively urged us to look at businesses focusing on local markets and hiring the most disenfranchised. Carla Dickstein, in addition to sharing what Coastal Enterprises has learned about the green economy, gave us her valuable insights about potential ownership structures for new green enterprises. Marjorie Kelly provided substantive comments that greatly improve the readability of the report. Bill Schweke and Dan Swinney called our attention to the need to highlight the role of manufacturing in the green economy and to more clearly define community wealth building. Courtney DeOreo and Heather McCullogh gave valuable suggestions regarding ways to improve the overall presentation of the work.

Thanks are also due to Hilary Abell, Martin Bourque, Jennifer Cimperman, Sonia Picardo, Mick Pulsifer, and Bill Stillinger, who provided photos of their work on the ground and to Tom Croft who shared an advance copy of his new book, *Up from Wall Street: The Responsible Investment Alternative*, which assisted us greatly in our discussion of green investing.

Lastly, we would like to thank our partners who watched us work on the report from beginning to end. Debby Warren would like to acknowledge the patience and support of Gregg Warren. Steve Dubb would like to acknowledge the love, friendship, and support of Barbara Berglund.

Preface

By Gar Alperovitz and Ted Howard

Over the past several years, the vision of a new and transformative green American economy—one capable of employing millions of workers in renewable energy, green construction, clean transportation, recycling, and more—has exploded across the nation. Unions, business groups, and activists are all strong advocates of public investment in this green new world. The Obama Administration and Congress herald its virtues to the point where “green jobs” has become a central theme of federal policy. The American Recovery and Reinvestment Act or “stimulus bill” passed by Congress in March 2009, marked our nation’s largest investment in green jobs development.

To date, green jobs have been seen primarily as a new employment strategy and workforce development opportunity. The jobs that are envisioned are little different in quality from the economy’s traditional employment opportunities: some of the new jobs will be high wage, but most will not; some will be unionized, but most will not; virtually all of the companies in the green sector will either be privately held or owned by outside investors. While many billions of dollars in public monies will be devoted to building the green economy and its jobs, little discussion has been held about who, in the end, will be the beneficiaries of the vast wealth that will be created through this investment. The hope has been for jobs, pure and simple.

We do not disagree with the importance of such an approach in appropriate settings. The purpose of this report, however, is to put a different, but we believe critically important, proposition on the table for debate and discussion:

Given the central role that taxpayer-financed public investment will play in building the green economy, should we not—as a matter of public policy—attempt whenever possible to ensure that these investments are targeted in such a way as to create wealth and financial security for America’s workers, and economic stability for the communities in which green businesses are located?

In our view, the emerging green economy is an opportunity not only to create a significant number—perhaps millions—of new, green jobs. It also represents an historic moment to organize those jobs so that they significantly broaden ownership over wealth and capital. In short: *green jobs you can own*.

The emerging green economy . . . represents an historic moment to organize those jobs so that they significantly broaden ownership over wealth and capital. In short: green jobs you can own.

By building on numerous practical precedents and expanding our vision beyond green jobs to *green ownership*, we can offer America's workers living wage (or better) employment and the chance to build their wealth and assets through an equity stake in the businesses in which they work. This report argues that joining the vision of the green economy with practical and well-established mechanisms and strategies of community wealth building and broadly shared ownership can also result in new community-stabilizing strategies: innovations that can begin to turn back the tide of disinvestment that has overwhelmed our urban areas in recent decades.

We believe that there has been far too little discussion within policy circles, the labor movement, and among environmentalists about how to join green jobs to ownership opportunities. Without such a strategy, the advent of the green economy may result in business as usual: the use of public funds to subsidize large corporations that invest in green industries and technology. That may help reduce the nation's reliance on fossil fuels. But the promise of a more equitable green economy will have been squandered. At best, activists may be able to ensure that some of these jobs will be "high road" by using union contracts to enforce better wages, benefits, and labor conditions.

While supportive of such strategies, this report argues that there is another approach to creating an equitable green economy, one that can powerfully complement existing high road efforts. The new approach—which we call *community wealth building*—involves empowering workers and communities to become *owners* in the new economy.

The pages that follow contain many examples and case studies of real-life green jobs and ownership strategies now growing around the country. Simply by way of example, they include: an Ohio employee-owned developer of hardware for the solar and wind industries; a network of green housecleaning worker co-ops in the San Francisco Bay Area that pays living wages and ownership dividends to their worker-owners; a rural electric co-op in Vermont that gets 100 percent of its power from renewable sources owned by 10,000 local residents.

Many of these efforts are in an early stage of development and only a few have moved to a significant scale or are in the manufacturing sector, where jobs are typically higher paid and there are true career paths. Nonetheless, building forward on the basis of current experience, we believe there is now a real opportunity to create significant momentum around a genuinely new model of large-scale worker and community-benefiting green enterprises.

In our own community building work in Cleveland, Ohio, The Democracy Collaborative has teamed with The Cleveland Foundation, the Ohio Employee Ownership Center, Shorebank Enterprise Cleveland and many of the city's major "anchor institutions" to create a network of "Evergreen Cooperatives" that are owned by their workers and anchored in the city's low-income neighborhoods. Each business is committed to being the "greenest" in its sector—a commercial-scale, 10-million pound, health care bed linen laundry; a community-based solar energy generating company; the nation's largest urban food production greenhouse. These green jobs/green ownership companies are the first of a projected

The new approach—which we call community wealth building—involves empowering workers and communities to become owners in the new economy.

network of 10 Evergreen cooperatives planned for development and designed to employ 500 over the next five years. A larger goal is to create 5,000 such jobs in Cleveland in the coming years.

"Growing a Green Economy for All" seeks to build on examples such as these and answer the question: How might green jobs be developed to provide "jobs that you can own" in communities across the country? In this report, we examine the present use of community wealth building forms of ownership in the green economy and highlight 10 "case studies" in particular for more in-depth analysis. We then identify some of the critical challenges that these efforts face, along with steps being taken to meet those challenges. Finally, we suggest ways in which policymakers, nonprofit intermediaries, and foundations can assist and lend a critical helping hand in fostering a new green jobs and green ownership framework for the green economy.

Executive Summary

This study examines the potential of the growing green economy to support strategies that build community wealth and thus ensure a more equitable distribution of income and resources in our country. Community wealth building strategies spread the benefits of business ownership widely, thus improving the ability of communities and their residents to own assets, anchor jobs, expand public services and ensure local economic stability. We define community wealth building enterprises as entities in which ownership is broadly shared, locally rooted, and directed toward the common good. Community wealth building ownership forms include cooperatives, employee stock ownership plan (ESOP) companies, municipal enterprises, non-profit social enterprises, community development corporations, and community development financial institutions. For this report we interviewed more than sixty key leaders in the community wealth building, renewable generation and energy efficiency fields.

We define community wealth building enterprises as entities in which ownership is broadly shared, locally rooted, and directed toward the common good.

For this report we interviewed more than sixty key leaders in the community wealth building, renewable generation and energy efficiency fields.

We define the green economy as those industries that contribute toward ecological sustainability, especially through the reduction of carbon emissions, as well as the adoption of broader sustainable resource use practices. In examining the potential of community wealth building forms of business in the green economy, we look at six key sectors: renewable energy, green building, clean transportation, waste management, land use and green financing.

Encouragingly, we find community wealth building enterprises in all six sectors, including electric cooperatives that invest in renewables, municipal utilities that support solar ownership, employee-owned businesses that engage in green manufacturing, worker co-ops that install solar panels, social enterprises that dominate the recycling industry in their communities and non-profit developers that are taking the lead on greening affordable housing. Ten of these examples are profiled in the report's Case Studies section. We also find non-profit intermediaries experimenting with carbon markets, community development lenders re-directing their portfolios to seize new green opportunities, and state pension funds investing in energy efficiency.

In addition to highlighting this activity, this report also identifies significant **challenges** that those who seek to build an equitable green economy face. Among these are the following:

2 Growing a Green Economy for All

- **Access to appropriate financing:** The federal government’s reliance on tax credits places public or nonprofit firms that cannot use the credits at a considerable disadvantage.
- **Regulatory barriers to community innovation:** The process of approving a community-owned wind project, for example, entails thirty-three steps. This can take three to five years of a non-profit or cooperative enterprise’s time.
- **High front-end costs:** Whether it is an affordable housing developer seeking to do its first green building project or a new employee-owned business seeking to raise start-up capital, ventures face substantial front-end legal, design and coordination costs.
- **Unstable markets:** The lack of long-term and predictable policies and programs that foster stable demand for renewable energy has hindered new investment.
- **Insufficient infrastructure.** Intermediaries play a critical role in building organizational capacity. However, they have only begun to catch up with the need to support green economic development in community wealth building sectors.
- **Hesitant philanthropy:** To date, only a handful of foundations are actively assisting community wealth building organizations to grow in the green economy.

The challenges more egalitarian forms of business ownership face in gaining ground in renewable energy and other sectors of the growing green economy are real. At the same time, there is also a real and historic opening at this time to expand economic opportunity and reduce wealth and income disparities, while advancing environmental sustainability. Among these **opportunities** are:

there is also a real and historic opening at this time to expand economic opportunity and reduce wealth and income disparities, while advancing environmental sustainability.

- **Community ownership of wind production:** In Denmark today, roughly five percent of the population (which would be the equivalent of 15 million people in the United States) owns a stake in a windmill guild or cooperative. This ownership pattern requires a “feed-in-tariff” system that provides guaranteed prices for renewable energy. Such a policy regime can be duplicated in the United States. Indeed, in 2009, Gainesville, Florida and the state of Vermont both passed laws establishing feed-in-tariff policies.
- **Public and co-op power company procurement of renewable energy:** Today, more than a quarter of all U.S. electricity is distributed via cooperative or public power companies. These entities can use their market power to promote

sustainability, with the profits generated supporting their members. In Austin, Texas, for instance, Austin Energy has shifted 12 percent of its energy purchasing to renewables. In other cases, co-ops and municipal energy companies have become direct renewable energy producers.

Solar energy is a growing field in which community-oriented forms of business have excelled.

- **Employee ownership in solar energy and recycling:** Solar energy is a growing field in which community-oriented forms of business have excelled.

For instance, Boulder-based Namasté Solar is a 100-percent, employee-owned (ESOP) company that has gained an estimated 20-percent share of the Colorado solar installation market. Recycling also has strong employee-owned examples. Employee-owned Recology, based in San Francisco, is a recycling industry leader that serves more than 50 communities in California.

- **Leveraging existing employee-owned company assets:** Employee stock ownership plan (ESOP) companies today employ 13.7 million Americans or roughly nine percent of the total labor force. They represent a much higher concentration of workers engaged in manufacturing. These businesses have over \$900 billion in assets which can be reinvested in growing “green” sectors of the economy, capturing the economic benefits for their employee owners. For example, in Sharon Heights, Ohio, the EBO Group, whose business once focused almost entirely on providing drive systems for the coal industry, now does nearly half of its business in the clean transportation, solar, recycling and medical equipment sectors.
- **Developing cooperative networks:** Network building is a proven strategy for supporting community enterprise. In the San Francisco Bay area, Women’s Action for Gains in Economic Security (WAGES) has developed a network of five worker co-ops that provide housecleaning services that avoid petrochemical cleaning agents, while providing living wages and ownership dividends to their immigrant women owners.
- **Leveraging the economic power of local anchor institutions:** In Ohio, the Cleveland Foundation has helped catalyze a network of green worker cooperative businesses that aim to generate wealth for workers while promoting area-wide sustainability goals. Each of these “Evergreen” cooperatives is closely linked to the procurement needs of the city’s major educational and health sector institutions.

The report concludes with a series of recommendations aimed at intermediaries, policymakers, foundations, and practitioners to realize the promise of expanding wealth-generating opportunities for working Americans. Among the recommendations:

4 Growing a Green Economy for All

- **Intermediaries** (trade associations, regional organizations, and advocacy and research institutes) can play an important role by gathering data, fostering learning communities (i.e., peer-to-peer networks and information exchange), supporting research and development, engaging in advocacy, and facilitating the building of new partnerships. Intermediaries can also work across industry lines at the national and state levels to forge advocacy coalitions for their members that underscore the importance of community wealth building and equity in federal, state and local green economy initiatives.
- **Policymakers** can help redress the unequal playing field—in part, a result of the nation’s current system of public subsidies that uses tax credits that only for-profit entities can employ. An obvious step to take would be to creatively target some of President Obama’s proposed \$150 billion federal investment in renewable energy and energy efficiency to adequately fund the Clean Renewable Energy Bond (CREB) program. Policymakers could also help finance public and nonprofit investment, ensure equitable access to the grid, create stable markets, and mandate set-asides for community groups in government-funded projects. Local and state governments can also use existing financing tools, such as creatively leveraging their pension funds and employing bonding and taxing authority for similar purposes.
- **Foundations** can productively use their positioning and financial capital to support place-based community wealth building initiatives, promote policy change, build capacity through intermediaries and use their mission-related investment tools to bring in private and public funders. Foundations can advance community wealth building in the green economy by seeding demonstrations, prodding and supporting intermediaries, sponsoring research, convening partners to build cross-sector alliances, supporting advocacy, and helping leverage public and private financing.
- **Practitioners** are the leaders of the thousands of enterprises that together form the nation’s growing network of non-profit, public, cooperative, and employee-owned businesses. To prevail in the green economy, practitioners will need to act in an entrepreneurial fashion to seize the available opportunities. At an external level, this requires advocating for general policies that support green job training or create opportunities for green business. It also means engaging in organizing, education, and advocacy with trade associations, foundations, and policymakers regarding the essential role that community wealth building forms of ownership can play in ensuring that the wealth and income resulting from public investments in green economic sectors are widely shared. At an internal level, this requires making the essential investments in research and development; training of boards, managers and staff; and business planning to identify viable market niches.

Introduction

*My vision now is a green—completely green South Bronx, with businesses throughout the area that are owned and run by people who are living in the area together, where the workers are actually the owners of a business together. And that’s something that we can spread throughout.*¹

—Omar Freilla, Founder, Green Worker Cooperatives (Bronx, NY)

We are looking at a new paradigm for creating wealth in the Cleveland community. We will create a network of for-profit businesses that will hire from the neighborhoods and the employees will own the businesses that are created.

—India Pierce Lee, Program Director, The Cleveland Foundation²

Efforts to build a “green economy” are at the center of a growing movement to both curb global warming and create good jobs and healthy communities.

Efforts to build a “green economy” are at the center of a growing movement to both curb global warming and create good jobs and healthy communities. President Obama has called for a \$150 billion investment in renewable energy and energy efficiency over the next decade. The Apollo Alliance, a coalition of labor, environmental, business and community leaders, argues for spending \$500 billion in this same period and claims such an investment would create more than five million high quality green-collar jobs.³

The green economy is growing in the United States despite a lack of consistent policy focus and investment. A 2009 study by the Pew Charitable Trust attributes more than 770,000 jobs generated by nearly 70,000 businesses to this sector. A study written three years earlier for the U.S. Conference of Mayors arrived at a similar estimate and projects that, by 2038, an estimated 4.2 million jobs can be created, representing 10 percent of new job growth. Although green jobs represent only half of one percent of all jobs today, their growth outpaces overall job growth; according to Pew, between 1998 and 2007, green jobs grew at an annual rate of 9.1 percent versus overall growth of 3.7 percent.⁴

The Intergovernmental Panel on Climate Change, which shared the Nobel Peace Prize with former Vice President Al Gore in 2007, has estimated that the United States and other developed countries will need to cut carbon emissions by at least 80 percent by 2050 in order to limit climate change to minimally acceptable levels.⁵ Such a transformation will be an enormous challenge. At the same time, it is also a tremendous opportunity to both reconfigure existing industries and create entirely new ones.

Although green jobs represent only half of one percent of all jobs today, their growth outpaces overall job growth.

It is well known that the United States economy, although highly productive, has been markedly unequal in the distribution of the benefits of that productivity. Even today, poverty rates in the United States remain twice as high as those of most comparable nations. While economic inequality decreased in the decades between the Great Depression and President Johnson's Great Society, these numbers began to take a dramatic turn for the worse by the late 1970s. For three decades, wages have stagnated while wealth accumulated increasingly at the top. Today, income and wealth inequality in the United States have approached levels not seen in America since the years immediately preceding the Great Depression.⁶

It is in this political and economic context that current policy efforts to create green jobs must be scrutinized. Our nation stands at an inflection point. The economic "reset" that the nation sorely needs opens the possibility for designing a new economy in which wealth, income, and economic opportunity are more broadly shared.

The economic "reset" that the nation sorely needs opens the possibility for designing a new economy in which wealth, income, and economic opportunity are more broadly shared.

As noted above, the Obama administration has proposed to spend \$150 billion to promote green economic development over the next ten years.⁷ If it chooses, the nation can continue on its present path of subsidizing multinational corporations to invest in green industries. But in that case, even if the use of fossil fuels is reduced, the likely effects on reducing wealth and income disparities will be, at best, meager, as the profits earned through these enterprises will accumulate at the top—and the promise of a more equitable green economy, as touted by Freilla and others, will have been squandered.

The Promise of Community Wealth Building

The need to ensure equity in the emerging green economy has attracted considerable attention. The most common approach advocated to address this issue involves the use of government-enforced project labor standards, job training programs, and unionization to create “high road” jobs. Phil Mattera of Good Jobs First, for example, writes that:

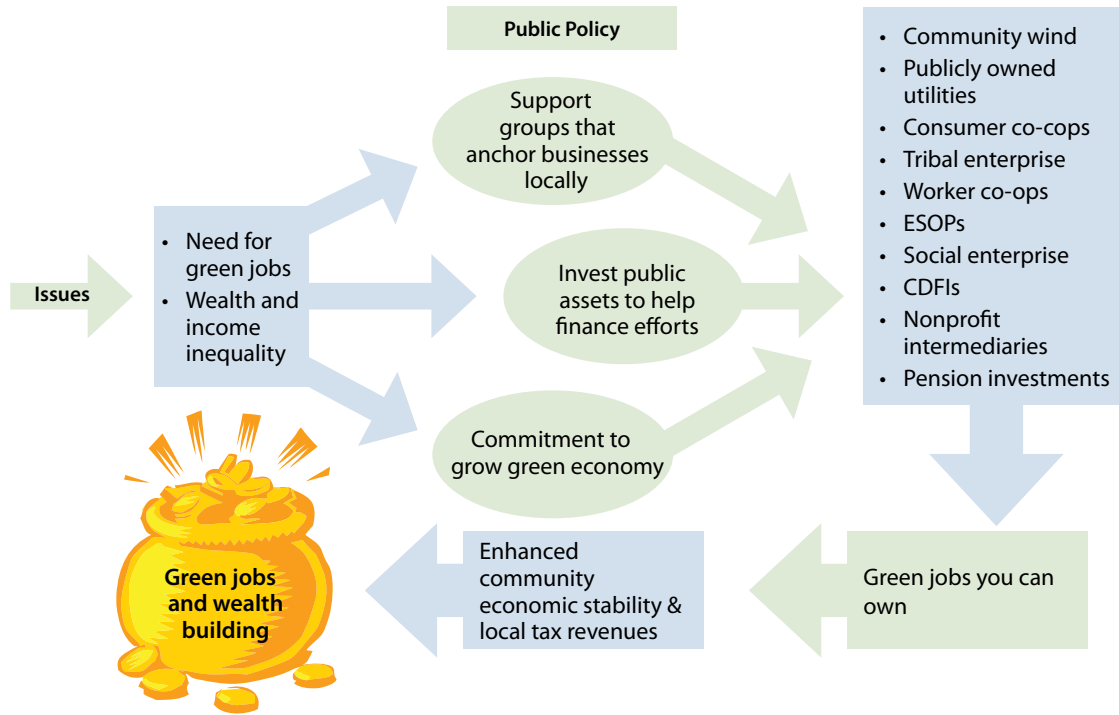
A prosperous green future is possible only if public officials make wider and more aggressive use of the tools at their disposal—including labor standards for subsidy recipients, living wage rules for government contractors, prevailing wage requirements, best value contracting, and project labor agreements—to hold employers accountable for creating good jobs. Finally, government must protect the right to organize—a right that, for many workers, provides their best hope of a fair wage and a voice on the job.⁸

Historically, unions and labor standards have played an important role in equalizing power at the workplace and reducing income disparities. However, the rate of unionization in the private sector in the United States has declined over the past several decades from 35.5 percent in 1945 to 7.2 percent in 2009. While this decline may be bottoming out (before the Great Recession reversed recent gains, private sector unionization had climbed slightly in 2007 and 2008), the prospects for a labor strategy by itself to achieve equity in the green economy are limited. Indeed, Mattera notes that many green sector jobs, such as the manufacture of wind blade components, can be shifted offshore, making union strategies vulnerable to the same management outsourcing strategies that have weakened labor generally.⁹

This report argues that there is another approach to creating an equitable green economy, one that can powerfully complement existing “high road” efforts. This approach, which we call *community wealth building*, involves empowering workers and communities to become *owners* in the new economy—tangibly embedding capital in community. In short: *green jobs you can own*.¹⁰

Community wealth building businesses take two primary forms. First: local “publics” can employ a variety of for-profit and non-profit institutional structure to build assets in neighborhoods, workplaces, and communities. Second: government can act in an entrepreneurial fashion to help create “anchored” jobs (that don’t get up and leave to pursue profit maximization) and spur locally based capital formation. In both approaches, individuals and various public groups gain direct or indirect benefits by building community wealth through direct business ownership.

Figure 1: Green Community Wealth Building Model



Although largely unnoticed, over the past few decades, there has been a steady build-up of a wide range of new institutional models, forms of community-supportive economic enterprises that anchor jobs in communities and, by broadly distributing resources generated by these businesses, ensure that wealth is more equitably shared throughout the communities in which these businesses operate. The growth of community wealth building in recent decades, discussed below, is impressive, particularly when juxtaposed against the declining numbers for unionization cited above.

Forty years ago, there were fewer than 200 employee-owned companies in the United States with less than 250,000 members. The community development financial institution (CDFI) industry had not been launched. Few community devel-

opment corporations (CDCs) existed. State public pension funds did not yet utilize economically targeted investments.

Today, the National Center for Employee Ownership reports that 13.7 million Americans work at roughly 11,400 businesses where they own all or part of the company through employee stock ownership plans. The value of these accounts was \$922.5 billion as of the end of 2006, or an average of \$67,500 per worker. There

The growth of community wealth building in recent decades is impressive, particularly when juxtaposed against the declining numbers for unionization

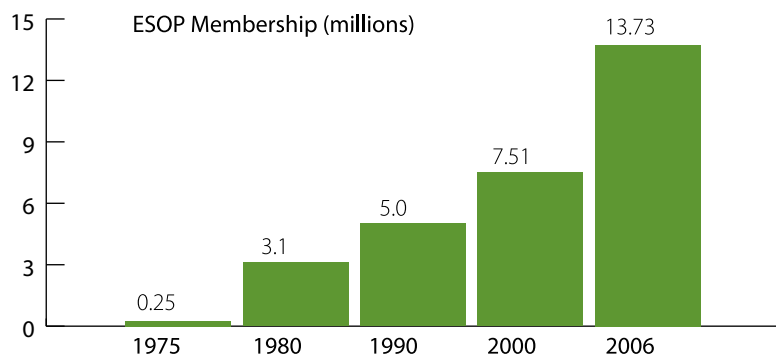
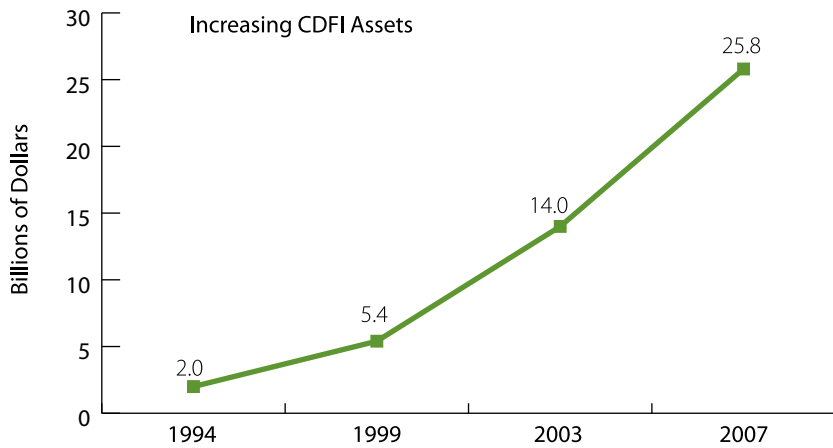
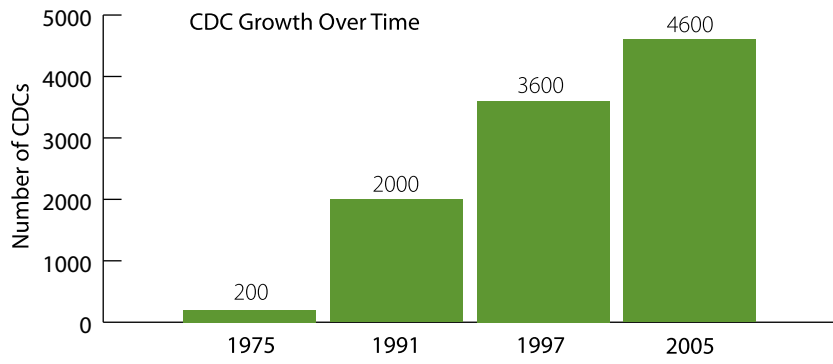
are now over 4,600 CDCs nationwide that develop on average 86,000 units of affordable housing and 8.75 million square feet of commercial real estate a year. Between 1998 and 2005, CDC business development efforts helped create an estimated 527,000 jobs. Community development financial institutions manage assets of over \$25 billion. In 2006, these groups financed affordable housing for 69,000 housing units and helped create or maintain 35,000 jobs. More than half of the states now allocate a portion of their pension funds to economically targeted investments, which now total ten of billions of dollars. Also, older forms of community ownership continue to thrive—everything from the 2,000-plus publicly owned utility companies spanning the nation to a cooperative movement in which 130 million Americans participate, which has \$3 trillion in assets, generates \$650 billion in annual revenue, and employs over 850,000.¹¹

Community wealth building can take many forms: *Non-profit “social enterprises”* are non-profit organizations that develop businesses both to make money and to further their mission; social enterprise has often been pursued by non-profit organizations as a strategy to develop environmentally beneficial businesses. *Community development corporations (CDCs)* originated in the 1960s as a revitalization strategy that would employ non-profit, community-based firms to develop locally controlled assets; an increasing number of CDCs, led in part by the action of CDC intermediary organizations such as Enterprise Community Partners, have been active supporters of green building in affordable housing and transit oriented development.

Community development financial institutions (CDFIs) have developed more recently than CDCs. CDFI is a general term that refers to a range of community-based financial institutions including community development banks, credit unions, loan funds, venture capital funds, and microenterprise loan funds. CDFIs aim to fill capital needs that are not served by conventional sources of finance, a problem that historically has been particularly severe in minority communities where bank “redlining” has made raising local capital difficult. Today, an increasing number of CDFIs are providing financing for the development of new green sector businesses.

10 Growing a Green Economy for All

Figure 2: Growth of Community Wealth Building



Employee ownership has different roots than some of the other community wealth building approaches. Unlike the approaches named above, which are largely dominated by nonprofit firms, employee ownership is a for-profit form of business that provides an important tool for building local community wealth. In these enterprises workers own either all or part of the company. The most common involves financing by workers' pension contributions in the form of an *employee stock ownership plan (ESOP)*.

The ESOP is owned in whole or part by its employees through an employee pension plan. An ESOP is a tax instrument created by a 1974 federal law that enables employees to acquire shares of their company over time as part of their retirement benefits. For employees to acquire shares, they do not need to purchase stock. Rather, the company funds the stock ownership plan by making tax-deductible contributions out of future profits. Often ESOPs are formed when a family business owner wishes to retire, as the ESOP provides a tax-advantaged way to exit while preserving the company in the hands of the family business owner's former employees. Federal tax law provides incentives for owners of closely held companies to sell to an ESOP, as well as to the companies maintaining them. A 100-percent ESOP-owned company, for instance, can elect to be an S corporation and not pay any income tax. As a business, the ESOP's primary responsibility is to earn a profit. Yet the ownership structure of the ESOP itself promotes critical social purposes. In particular, the ESOP mechanism has enabled thousands of family business owners to sell their companies to their employees, thereby both expanding employee assets and helping preserve the long-term economic (and tax) base of their communities.¹²

Not all community wealth-building strategies have emerged in recent decades. The first modern *cooperative* was founded in Rochdale, England (near Manchester)

Combined, cooperatives and public power companies currently control one quarter of the U.S. electricity market.

in 1844. Cooperatives, which have existed in the United States for over a century, have begun to show renewed vitality in recent years. Based on the principle of "one member, one vote," co-ops can be structured in many different ways, including worker co-ops (where workers own the business), consumer co-ops (for instance, most grocery co-ops follow this form), producer co-ops (most common in agriculture), or purchasing co-ops (typically used to pool the purchasing power of small businesses, such as hardware stores). In recent years, growth among purchasing co-ops has been particularly strong, with the number of purchasing co-ops increasing more than five-fold over the past 15 years.¹³

Another older form of community wealth building that has been active in the green economy is the *municipally owned enterprise*. Combined, cooperatives and

public power companies currently control one quarter of the U.S. electricity market, making them well positioned to lead the transition to renewable sources of energy, with profits accruing to the benefit of their member- or citizen-owners.

Related to all of this is a dramatic change in how state and local governments deal with *capital investment* to achieve public goals, and how they steer investment capital to promote local asset building. Municipalities and states are increasingly becoming active community investors through *economically targeted investments*. The California state pension fund CalPERS, for example, through its Green Development Fund, had, by the end of 2008, placed \$725 million in high performance and sustainable office buildings, \$419 million in environmental screened public equity funds and \$1.1 billion in 112 private clean energy companies.¹⁴

Employee-owned firms are deeply tied to the stability of specific localities.

The community wealth building approach offers some critical advantages from a policy perspective. First, it makes sense in a period when government faces growing fiscal constraints. Because community-wealth strategies generate their own income, they are able to make efficient use of limited public resources and, indeed, in the long-term can help generate jobs, wealth, and tax revenue to help finance public services.

A second advantage of this approach is that most of these efforts—employee-owned firms, community development corporations, municipally owned businesses, social enterprise, or co-ops—are deeply tied to the stability of specific localities. Such companies also contribute to the local tax base, thereby helping to provide resources for local services in a time of great fiscal pressure.

Moreover, because the jobs created are literally “owned” by those who do them or by the larger community, there is far greater certainty that the jobs and enterprises created, once generated, will stay in the community, greatly reducing the likelihood of future outsourcing. For similar reasons, these enterprises are very likely to provide living wages and decent working conditions to their employees. Such enterprises, if encouraged and supported by appropriate government policy could play an important, even central, role in building the green economy—and in ensuring that the green economy truly does reclaim our nation’s so-called “throw-away communities.”¹⁵

Mapping the Green Economy

Although definitions of the green economy vary, for the purposes of this study, we define the green economy as the group of sectors that promote overall ecological sustainability, especially through their contribution to reducing carbon emissions, but also more broadly through the incorporation of sustainable resource use business practices.¹⁶ For the purposes of this analysis, we have chosen to employ the typology provided by green industry consultant and writer Karl Buckart and focus on six specific key industries that contribute to this emerging green economy: renewable energy, green building, clean transportation, waste management, land management and green financial markets.¹⁷

The **renewable energy sector** includes industries that produce electricity from natural resources such as solar, wind, hydropower, geothermal and biomass

Figure 3: Green Economy—Six Leading Sectors



and biofuels such as ethanol and biodiesel.¹⁸ In 2009, renewable energy was responsible for nearly ten percent of U.S. energy production with hydropower accounting for about one-third of that amount. Excluding hydropower (the production of which dates back to the Great Depression and is dominated by large federal projects) and ethanol, wood waste accounted for 54.3 percent followed by wind at 19.1 percent, geothermal at 10 percent, solar at 2.5 percent and biodiesel at 1.8 percent, with other renewables making up the remaining 12.3 percent.¹⁹

The built environment has an enormous impact on our energy and raw materials use, waste output, carbon emissions and water consumption.

The **green building sector**: The built environment has an enormous impact on our energy and raw materials use, waste output, carbon emissions and water consumption. Buildings in the United States consume 72 percent of all electricity used, produce 38 percent of all carbon emissions and account for 14 percent of potable water consumption. Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. Green buildings efficiently use energy and water, protect the occupants' health and improve worker productivity and reduce waste, pollution and environmental degradation. The U.S. Green Building Council has developed the most common standards used to assess building resource development through its LEED (Leadership in Energy and Environmental Design) rating system.²⁰ Both retrofitting and weatherization are subsets of the green building industry. Also subsumed under the green building industry category are water management activities ranging from water recycling, low-use fixtures and appliances, gray water recovery, low-water landscaping and irrigation, and stormwater planning.

The clean transportation sector is a critical part of the green economy since transportation contributes approximately one third of all U.S. carbon emissions.

The **clean transportation** sector is a critical part of the green economy since transportation contributes approximately one third of all U.S. carbon emissions. Included in this industry are the research, development and distribution of fuels that are lower in carbon (ethanol and biodiesel, for example) and cleaner and more efficient vehicles (electric and hybrid cars, among other innovations). Increasing transportation choices is another primary component of this industry. This strategy focuses on improving and expanding public transit, encouraging more compact communities with access to transportation alternatives, and the development of ride-share and flex programs.²¹

Waste management is a diverse sector within the green economy including recycling; municipal waste; materials salvage and reuse; deconstruction; toxics

remediation; brownfields clean-up; and related businesses that focus on waste and/or energy use reduction through the use of energy- and resource-efficient production processes. Sustainable packaging is also a major component and is the fastest growing segment of the global packaging industry, expected to corner 32 percent of the total market by 2014.²² Much of the increased activity in green packaging has been driven by Wal-Mart, which unveiled its Packaging Scorecard in November 2006. Implemented in February 2008, this set of metrics is used by the giant retailer to evaluate the packaging used by suppliers, including transportation costs.²³

The **land use sector** of the green economy is focused on three strategies: promoting locally grown food, reducing/eliminating the use of chemicals in growing and harvesting resources from the land and air, and promoting the sequestration of carbon through natural sinks. While organic agriculture has been an increasingly common practice in the United States since the 1970s, the promotion of locally grown food is a far more recent phenomenon, particularly the practices of urban gardening and the extraordinary growth of farmers markets. Financial and technical activities that enable landowners to preserve and restore natural carbon sinks such as forests and soil remain a very recent sectoral strategy.²⁴

Green investment: The lack of consistent policy focus on and investment in the green economy by the federal government has made the development of innovative and flexible financing tools by the private and non-profit sectors difficult. Though venture capital, at least until the current recession, has been very interest-

The lack of consistent policy focus on and investment in the green economy by the federal government has made the development of innovative and flexible financing tools by the private and non-profit sectors difficult.

ed in clean-tech enterprises, philanthropic and pension investments have been quite limited. Activities that have developed in the green financing sector include carbon trading, green banking and green investment services.²⁵ A recent innovation in this area is the introduction of an Energy Efficiency Opportunity Fund, a collaboration of Living Cities and Green For All. Announced in September 2009, the partners aim to raise a \$20 million fund, which they estimate could leverage \$200 million in financing for building energy retrofits.²⁶

An important set of activities that is still too recent to call a sector is the growing educational infrastructure for training workers in the green economy, within community colleges and through job-training apprenticeship programs specifically. A pioneer here is the Oakland Jobs Corps, a project of the Ella Baker Center and the Oakland Apollo Alliance, based on the *Pathways out of Poverty* green collar job training and placement model developed by Raquel Pinderhughes, that graduated its first class of 40 low-income adults from a nine-month training program for jobs in the energy

efficiency, green construction and solar industries in June 2009. Another early adopter of green training, following a similar model, is Cuyahoga Community College in the Cleveland, Ohio area, which in 2008 launched its “Green Academy” program.²⁷

Potential for Community Wealth Building

There is no question that the green economy is markedly growing, although projections widely diverge on the actual number of jobs that will be created—from as low as 4.2 million jobs²⁸ to as high as 37 million jobs over the next thirty years.²⁹ A large percentage of these jobs will be in manufacturing—making components for renewable energy generation; construction and weatherization; waste management; and freight transportation. Wind energy, for instance, currently provides less than two percent of the nation’s electricity, but it is also the nation’s fastest growing renewable energy source. A 2007 study by the U.S. Department of Energy concluded that with appropriate policies and the use of appropriate technologies, the United States could realistically generate 20 percent of the nation’s electricity from this source by 2030.³⁰

Large sums of public funds are slated for investment in clean energy and energy efficiency projects and programs. The 2009 economic stimulus bill provided for \$59 billion in energy spending, including funds for greening federal facilities and weatherizing publicly owned as well as subsidized affordable housing stock. The Weatherization Assistance Program (WAP), which is administered by nearly a thousand non-profit community action agencies across the country, has received a twenty-fold increase in resources.³¹

There is no question that the green economy is markedly growing, although projections widely diverge on the actual number of jobs that will be created.

What are the opportunities for investing these resources into policies, programs and enterprises that can substantially create wealth-building opportunities for a broad spectrum of people and communities? In Denmark, about five percent of the population now owns a stake in a windmill guild or cooperative.³² If we extrapolate those numbers to the United States today, we could expect to see 15 million people owning a piece of the wind generation industry—saving on their energy bills and selling watts back to the grid. These projections are not unfounded—today nearly 25 percent of our nation’s population buys its electricity from publicly and/or cooperatively owned utilities.

Why cannot the community wealth owning sectors—the public, non-profit, ESOP, and cooperative sections of our economy—similarly own 25 percent of other parts of the growing green economy? At the United States' current modest national recycling rate of roughly 30 percent, this sector employs more than one million workers, but ownership is concentrated in the hands of two investor-owned firms, Waste Management and Republic Services, that together handle more than half the solid waste generated in the United States today. Were the national recycling rate to rise to 75 percent, some four million new jobs (direct and indirect) could be created. If current trends persist, most of the wealth generated by these jobs will be transferred to the shareholders of these two corporate giants. However, a number of successful non-profit-owned recyclers have thrived over the past three decades. If these successes could be built on and community-owned enterprise were to capture the same 25 percent of the market that they currently hold in the U.S. power market, then we could see hundreds of thousands of new recycling jobs in the community wealth building sectors. And this represents merely one of a number of key potential growth sectors in the expanding green economy.³³

The potential of community wealth building to make a significant contribution to ensuring an equitable distribution of income and wealth in a green economy in the United States is clear. But it will require the efforts of both practitioners and policymakers to realize that promise. In this report, we outline where some of the opportunities in the emerging green economy lie for practitioners, as well as areas where policymakers and foundations can assist and lend a critical helping hand.

Community Wealth Building in the Green Economy Today

[Community wealth building enterprises] get it from the mission perspective and they are accustomed to being good stewards of . . . environmental resources.

—Dana Bourland, Vice President, Enterprise Community Partners

Beneath the radar screen, community wealth building forms of ownership are gaining ground in the green economy. Community wind has established a strong foothold in Minnesota. Many publicly owned utilities and consumer co-ops, which combined presently control one quarter of the U.S. electricity market, are shifting to renewable energy. Overall, a broad range of community entities are involved, including tribal utilities, worker co-ops, employee stock ownership plan (ESOP) companies, social enterprises, community development corporations (CDCs), community development financial institutions (CDFIs), and public pension funds.

Community wealth building enterprises can be found throughout the growing green economy. As Bourland emphasizes, in some sectors, such as the green building sector where Enterprise Community Partners works, community enterprises play a leading role. Figure 4 highlights some of these efforts.

Community Wind

The concept of “community wind” encompasses locally owned wind projects that sell or offset energy to the electric grid. Community members must have a direct financial stake in the project beyond land leases or local tax revenues. Denmark, the world leader in per capita wind production, generates about 30 percent of

Figure 4: Community Wealth in the Green Economy



its electricity from wind, almost entirely produced by small clusters of mid-sized turbines primarily owned by community residents and collective entities. Consequently, about five percent of the Danish population—well over a quarter of a million people—own a stake in a wind turbine or wind farm. Germany is second to Denmark in per capita wind production, and like Denmark, has encouraged this wind ownership model with the result that about 30 percent of installed turbines are owned by associations of landowners and local residents. Community wind turbines power generation also provides a valuable return to their owners. In

The concept of “community wind” encompasses locally owned wind projects that sell or offset energy to the electric grid.

Denmark, for instance, mandated pricing (feed-in-tariffs) ensures that community owners earn back the value of the wind turbines in eight years and earn a 25-percent return after 10 years.³⁴

In Minnesota, where state policy encourages local ownership, 27 percent of the state’s wind capacity is owned by community-based enterprises, according to Senior Researcher John Farrell of the Institute of Local Self-Reliance. This compares to a national average of just one percent. In Oregon and Iowa, the state governments have targeted incentives to community wind projects.³⁵ Community wind projects come in a number of forms. These include ownership by landowners, school districts, local governments, non-profits, cooperatives and Native American tribes.

The largest community wind project in the United States is located in Washington’s Columbia River Gorge and is a cooperative comprised of publicly owned utilities and non-profit organizations. Costing \$360 million, this wind installation creates enough electricity to power 38,000 homes. More typical is the Minwind Energy Farm in the southwest corner of Minnesota, which is owned by about 300 area farmers and other community members. Consisting of 11 turbines, it produces enough wind power to almost supply all of the power needs of nearby Luverne, Minnesota’s 5,000 residents.³⁶

Community wind is often touted as an effective rural development strategy. A 2004 study by the U.S. General Accounting Office found that local ownership of wind systems generates an average of 2.3 times more jobs and 3.1 times more local dollars compared to absentee ownership. Outside of rural communities, WindShare and the Toronto Renewable Energy Cooperative have created North America’s first urban-based turbine. Generating enough power to meet the needs of 200 homes, the 30-story ExPlace turbine in Ontario’s largest city also serves a critical educational function, visible to hundreds of thousands of downtown commuters every day.³⁷

Publicly Owned Utilities

Although the point is rarely made, more than one-fourth of Americans today own their own electric companies, either as members of one of the nation's 900 electrical cooperatives or as citizens of the 2,100 cities or counties that own their own utility company. On average, public power costs about 10 percent less than electricity provided by private companies. According to an American Public Power Association (APPA) study of 573 public utilities, the median net revenue transfer to municipalities was 5.8 percent of revenues. By contrast, the median tax payment of investor-owned utilities was 18 percent less or 4.9 percent of gross revenues. This means that public power contributes close to \$2.3 billion a year to their public owners or approximately \$350 million a year more than those same localities would likely receive in taxes if they had investor-owned utilities instead.³⁸

Public power companies exist in large cities ranging from Austin, Seattle, Los Angeles and Sacramento; to mid-sized cities, such as Gainesville (Florida); and small towns such as Waverly (Iowa). These publicly owned firms have used a variety of investment and policy tools to participate in renewable energy generation. Some cities have decided to pursue outright ownership of renewable energy generating facilities while others are devising ways for their customers to help finance small scattered or "distributed" generating installations.³⁹

Although the point is rarely made, more than one-fourth of Americans today own their own electric companies.

In Florida, the Gainesville Regional Utility recently partnered with a privately owned company to build, own and operate a biomass plant fueled by forest and urban wood waste. The city will buy and own all of the energy produced from this facility, which is also expected to produce significant tax and job creation benefits. This publicly owned utility openly declares its intention to make Gainesville the nation's leading "Solar City" and recently became the first utility in the nation to offer a feed-in tariff program for solar photovoltaic installations. Gainesville's feed-in tariff—a system now being used in 45 countries across the globe that mandates guaranteed minimum prices for residents providing power to the grid in order to encourage renewable energy production—offers customers a higher price for solar than customers pay for power from the grid. A 20-year contract, and the above-market-rate price for renewable power that the feed-in-tariff policy guarantees, helps homeowners secure financing for the panels, which can cost up to \$40,000. The rest of Gainesville's customers pay a surcharge of 40 cents per month to subsidize those who go solar.⁴⁰

Another innovator has been the small town of Ellisburg, Washington (population 16,000). Here the city has taken the initiative to bring together investment

capital from community members to finance and directly install 200 solar panels that are providing electricity for 20 homes. This pilot project marks the nation's first community solar project. Each citizen-investor gets credit on their electric bill for the solar power produced by their share of the investment. Similarly, Ashland, Oregon recently installed a solar electric system on a public facility. Citizens can purchase a panel or a portion of one, securing the right to purchase its output for 20 years and get a credit on their electric bill.⁴¹

Public utilities can also promote renewable energy use (and position their communities to control renewable energy production) through policies and programs. In Texas, Austin Energy is known for ambitious renewable standards that rely on a comprehensive conservation, energy efficiency and renewable purchasing agenda. In Seattle, Seattle City Light's Green Power Program enables customers to add on \$3 increments to their utility bills to help finance public projects powered by renewable energy.⁴²

In other cases, public utilities directly invest funds to increase production capacity. Waverly Power and Light in Iowa was the first municipal utility to own and operate wind turbines in the Midwest and now has three turbines that can power more than 250 homes. Residents of Columbia, Missouri, voted in 2004 to adopt a local Renewable Portfolio Standard which requires that 15 percent of the municipally owned utility's power come from renewable sources by 2017. Responding to the voters' mandate, the city built a biogas energy plant on its landfill in 2008 and is hoping that this facility will supply two percent of its total power needs in 2009.⁴³

Consumer and Producer Co-ops

There are 882 electric consumer co-ops in 47 states today, covering 75 percent of America's landmass and serving 12 percent of the nation's population.⁴⁴ According to a recent report released by the cooperatives' national trade association, 88 percent of all electric co-ops offer renewable power to their customers. Moreover, 11 percent of the electricity that electric co-ops deliver to their members comes from renewable sources—compared to 8.5 percent for investor-owned utilities. Although two-thirds of the rural electric cooperatives are looking to build their own renewable energy programs or work with their power supplier (since most co-ops are in the energy distribution, not generation, business), today most co-ops direct their greening efforts to energy efficiency and conservation, ranging from education, free energy audits, financial incentives and weatherization services. As Brian Crutchfield,

11 percent of the electricity that electric co-ops deliver to their members comes from renewable sources—compared to 8.5 percent for investor-owned utilities.

renewables manager at Blue Ridge Electric in North Carolina notes, “We focus on the low-hanging fruits of conservation and demand-side management.” Instead of purchasing power from renewable sources to meet North Carolina’s portfolio standards, his co-op sells more efficient light bulbs to their consumer members at a sub-

sidized price as well as water heater jackets and low-flow showerheads. The 10,000-member Washington Electric Cooperative in Vermont provides one powerful example of the potential for co-ops to own their own sources of renewable energy. In the past decade this co-op has moved from purchasing nuclear-generated power to relying entirely on renewable sources.⁴⁵

For rural electric co-ops in the Midwest, Northwest and Texas, wind power is the most popular renewable source, followed by biomass and solar. Almost 150 electric co-ops either own wind facilities or have agreements to purchase power from wind power companies. Western Farmers Electric Cooperative in Oklahoma powers more than 20,000 homes with wind energy harvested from the 45-turbine Blue Canyon Wind Farm, a Limited Liability Company (LLC). The 20-year purchase agreement provides wind power to its 19 distribution co-op members, serving over two-thirds of rural Oklahoma.⁴⁶

Rural electric cooperatives are also in a strong position to explore biomass technologies because they already serve the local farming and forestry sectors. Nationwide, there are 105 co-ops in 22 states that use biomass in their power supply. Wisconsin’s Dairyland Power Cooperative owns three animal waste-to-energy facilities on dairy farms in its service territory. Each anaerobic manure digester facility produces sufficient methane to power at least 600 homes. The East Kentucky Power Cooperative, a wholesale generation and transmission cooperative, owns three landfill gas-to-electric plants, each of which supplies electricity to about 2,000 homes. Fourteen members of this eastern Kentucky wholesale co-op sell the energy produced from the landfill gas plants to retail customers through their EnviroWatts program with customers paying a modest surcharge each month to purchase one or more 100-kilowatt blocks of green power.⁴⁷

Seeking national impact, 24 Generation-and-Transmission and four unaffiliated electric cooperatives in 2008 formed the National Renewables Cooperative Organization. In this first phase, NRCO is serving as a clearinghouse for information, packaging potential renewable projects and aggregating investment requests from members. Executive Director Amadou Fall intends to engage members in two to three renewable projects—most likely involving wind and/or biomass. He anticipates a second phase of development in which NRCO will play a developer and owner role for its members. “The challenge for co-ops,” Fall noted, “is our size.

Only a handful of electric co-ops are sufficiently large to have a voice. NRCO can provide that voice on an aggregate basis."⁴⁸

With a history of activism during the 1990s era of electricity deregulation, the Northeast has spawned several urban consumer electric cooperatives. Massachusetts' Co-op Power is experimenting with a range of community energy projects from sponsoring "barn raising" solar water installations to offering installer sponsored rebates for hydro, solar and wind systems to raising more than \$2 million to build a bio-diesel processing plant.⁴⁹ In the mid-Atlantic region, Philadelphia's Energy Cooperative, originally organized to provide its members with cheaper home heating oil, now sells electricity to its 6,500 members, all from renewable sources. In the West, another consumer co-op is CCEnergy, a 450-member San Rafael (California)-based solar installer that saves its members money by buying solar equipment at volume discounts, connecting them to qualified contractors, and managing more complex installation projects; members are required to purchase three shares at \$100 apiece.

Cooperatives have also played a major role in growing the biofuels sector, especially through farmer-owned ethanol production and sales producer co-ops. Until recently, this industry was locally owned. In 2003, 50 percent of all existing ethanol refineries and nearly 80 percent of all proposed plants were majority owned by farmers, generally structured as hybrid cooperatives and limited liability companies. Since 2005, however, the ownership equation has dramatically changed with 80 percent or more of new ethanol production coming from externally owned plants.⁵⁰

Cooperatives have also played a major role in growing the biofuels sector, especially through farmer-owned ethanol production and sales producer co-ops.

Nonetheless, co-ops maintain a sizeable market share. One co-op survivor of this structural shift is the Chippewa Valley Ethanol Company in Minnesota, a cooperatively owned corn ethanol plant with 975 local owners. Committed to retaining its independence, this cooperative not only used ethanol to produce energy, but has also developed unique products like Shakers Vodka. Chippewa derives their ethanol from wheat and rye grown in fields near the plant itself. Its main use for ethanol is for energy generation. Chippewa produces 48 million gallons of ethanol a year. The company is partnering with technology companies to burn corncob waste to provide thermal energy for its corn ethanol process. When its facility is completed, the company estimates that 90 percent of its natural gas energy inputs will have been replaced by biomass power from corncobs and other agriculture residues, grasses and wood. Chippewa decided to enter the vodka business when a marketer that had launched Pete's Wicked Ale approached them with the idea. Launched in

2003, by 2006 Chippewa was producing approximately 45 million gallons of fuel ethanol and shipped 15,000 cases of Shakers.⁵¹

Another large cooperative effort is Ag Processing, Inc. (AGP), a joint venture between the cooperatives Land O'Lakes, Farmland Industries and Boone Valley Processing Association with over 250,000 farmer-owners in the Midwest. This federation is converting soybean oil into biodiesel and corn into ethanol. In Fiscal-Year 2008, the cooperative produced a record 57 million gallons of soy biodiesel.⁵²

At the other end of the economic spectrum is a growing number of biofuel purchasing cooperatives, similar to the natural food-buying clubs of the 1970s. In Oregon, Bend Biofuels Cooperative has over 200 members and collectively purchases fuel from wholesalers. The Piedmont Biofuels Co-op in central North Carolina sells fuel to its more than 500 members who pay a \$50 membership fee.⁵³

Tribal Enterprise

The nation's Indian tribes alone could produce enough wind power to satisfy about 14 percent of U.S. demand while solar resources on tribal land could generate 4.5 times the energy needed to power the entire United States. But federal policy has largely precluded tribal ownership of these vast resources. Like non-profit and public entities, Indian tribes are not able to take advantage of the federal tax credits essential to develop competitive wind and other renewable energy projects. And

The nation's Indian tribes alone could produce enough wind power to satisfy about 14 percent of U.S. demand while solar resources on tribal land could generate 4.5 times the energy needed to power the entire United States.

unlike landowners in Iowa and Minnesota, the tribes have been reluctant to structure wind ownership and financing deals that flip after ten years from outside investor to member ownership. "It's because of sovereignty issues," explains Lizana Pierce, Project Manger for the Tribal Energy Program at the U.S. Department of Energy. "Tribes are usually hesitant to relinquish that much equity interest to non-Tribal partners. Often tribes resort to negotiating an economically unappealing ground lease and option to purchase the project after the federal tax benefits have expired." Other major barriers, says Pierce, include the additional complexities in an already cumbersome regulatory process created by

federal permitting and Bureau of Indian Affairs requirements, as well as difficulties securing access to the grid. "Transmission access is a major barrier," notes Pierce.⁵⁴

One prominent tribal enterprise success, however, involves a project on the Rosebud Sioux Tribe's reservation in South Dakota. Erected in 2003, the Alex Little Soldier Wind Turbine project took eight years to complete, getting its first major

break in 1999 when the U.S. Department of Energy awarded a \$500,000 grant followed by a loan (the first tribal commercial wind loan made) from the Rural Utilities Service of the U.S. Department of Agriculture. The two million kilowatts of electricity generated cover 80 percent of the power needs of the tribe's casino/motel operation. A key partner was the private Native Energy consulting firm that provided 25 percent of the financing through the sale of these renewable energy credits.⁵⁵

More than 14 percent of Native Americans have no access to electricity. An off-the grid project is under construction on the lands of the Ramona Band of the Cahuilla Indian Tribe near San Diego. The first of its kind, this project will be an eco-tourism resort that uses multiple alternative energy technologies to meet all of its energy needs and recycle much of its waste. Jointly funded by the Ramona Band, the U.S. Department of Energy and the U.S. Department of Agriculture, it has contracted out the job of overseeing multiple renewable energy vendors to a private firm—Catalyx, Inc.—that hopes to replicate this off the grid project in third world countries.⁵⁶

“We see many great projects in the pipelines,” says Pierce of the Tribal Energy Program at the U.S. Department of Energy. The agency awarded 14 grants totaling \$3 million in 2009 to support research and feasibility studies for renewable energy projects on tribal lands. “The tribes are becoming more aware of options, particularly if they don’t have oil and gas. The early projects had many barriers to overcome. They set a precedent.”⁵⁷

Worker Cooperatives

Worker co-ops are a growing and vibrant sector in the economy, particularly in the Northeast and the San Francisco Bay Area. According to Melissa Hoover, Executive Director of the U.S. Federation of Worker Cooperatives, the green economy presents fewer challenges to worker co-ops than traditionally organized businesses. “These firms are used to struggling with multiple bottom lines,” she noted. “We are seeing the growth of co-ops in labor-intensive sectors of the green economy such as green cleaning, deconstruction, solar PV installation, recycling, landscaping and lead abatement where start-up costs are minimal.”⁵⁸ There are emerging examples of worker co-ops in more capital-intensive sectors—e.g., a green commercial laundry and a biodiesel plant—and in these cases, foundations and the public sector helped to capitalize the enterprise.

An example of a worker co-op in a new sector is PV Squared, an employee-owned firm that designs and installs solar systems for homeowners, businesses, churches and other institutions in the western New England area of Connecticut, Massachusetts, and Vermont. Originally intended to manufacture solar panels, the early worker owners recognized that capital entry costs would be too great. Their business substantially benefits from favorable state policies that help homes and businesses subsidize the cost of solar installations in their three target states.⁵⁹

Worker co-ops are a growing and vibrant sector in the economy, particularly in the Northeast and the San Francisco Bay Area.

Another green worker co-op is Toxic Soil Busters in Worcester, Massachusetts. With 17 worker-owners ages 14–18, the co-op cleans up yards long contaminated by lead paint that flaked off the exterior of buildings. Successfully advocating for city funds from HUD's lead abatement programs, this worker co-op is being incubated by a local environmental justice organization.⁶⁰

Five green house-cleaning worker co-ops in the San Francisco Bay Area have been organized over the past decade by the non-profit WAGES (Women's Action to Gain Economic Security). These co-ops use green cleaning supplies, protecting the health of their workers and that of their clients, while reducing the use of petrochemicals. They also use green as a major marketing tool. The community wealth building potential of the cooperatives is significant. In 2007, for instance, Natural Home Cleaning Professionals, one of the five WAGES cooperatives, announced a year-end profit of more than \$90,000. Workers voted to distribute 70 percent of the profit as bonuses (roughly \$4,000 per worker-owner), with the remaining 30 percent reinvested in the business.⁶¹

On the East Coast, another example of a worker co-op in a traditional economic sector—salvage and reuse—is Rebuilders Source. This south Bronx enterprise operates a discount retail store for surplus and used building materials, and brings to the business a passion for worker ownership and the lens of environmental justice.⁶²

In the Midwest, yet another example is provided by Cleveland's Evergreen Cooperatives, a growing network of worker cooperatives that aim to be the greenest in their sectors. To date, two cooperatives have been launched (a green commercial laundry and a solar installation co-op), with more co-operatives, including a 5-acre, 230,000-square-foot urban greenhouse, planned for development.

Employee Stock Ownership Plan (ESOP) Companies

There is no reliable national estimate regarding the participation of ESOPs in the green economy.⁶³ John Logue, late Executive Director of the Ohio Employee Ownership Center at Kent State University, however, pointed to a range of examples in Ohio. One of these, the 100-plus year-old Chilcote Company, employs 450 people in four locations. The company manufactures and distributes a wide range of photo albums, picture frames, and other book and menu packaging. As part of their product mix, this ESOP takes paper trimmings from the landfill and processes this common waste into photographic packaging products.⁶⁴

Another Ohio employee-owned company, The EBO (Excellence By Owners) Group, is creating new lines of green business. Traditionally a manufacturer of drive systems for the coal industry, this ESOP now does nearly half of its business in non-coal dependent sectors, including both medical equipment and recycling. In both Chilcote's and EBO's cases, company-financed research in product design and new business opportunities led them to shift operations toward more sustainable industries.

A third Ohio company that is 30-percent ESOP-owned and fully situated in the green economy is YSI (formerly Yellow Springs Instruments). Clearly committed to environmental sustainability in all aspects of its operations, this company's nearly 300 employees design and manufacture environmental monitoring systems to protect natural resources and aquatic life. This is not just a product line—YSI annually publishes a sustainability report focused on their bottom lines of profit and the environment.

Outside of manufacturing, ESOPs are frequently found in the engineering, design, and construction sectors. One example is Janotta and Herner Inc., a design-build contractor in Monroeville, Ohio with \$50 million in sales and deep experience in LEED construction.⁶⁵

ESOP companies are also active in the green economy outside of Ohio. One leading example is Urban Ore. Urban Ore, which began operations in 1980, recently converted to employee ownership. Based in Berkeley, California, the firm started with three individuals dedicated to reusing materials, but has since grown to 38 employees.⁶⁶

The employee stock ownership plan form of ownership has also been a key player in the solar industry.

The employee stock ownership plan form of ownership has also been a key player in the solar industry. Based in Boulder, Colorado, Namasté Solar is a 100-percent, employee-owned company that has an estimated 20-percent share of the Colorado solar installation market. Founded in 2005, Namasté Solar has grown from three to 55 employee-owners. In 2008, its revenues totaled \$14.5 million and it has become a market leader in

Colorado, with a portfolio of more than 750 projects totaling that generate more than four megawatts of energy. In the four year period of 2005–2008, Namasté Solar was the 56th-fastest growing company in the nation overall, had the 4th-fastest rate of growth of all energy companies and ranked number-one in growth in the solar industry.⁶⁷

Another prominent ESOP firm in the green economy is San Francisco-based Recology, [which] employs 2,200, and serves 570,000 residential and 55,000 commercial customers. To date, \$55.7 million has been paid out to employee owners in ownership benefits.

Another prominent ESOP firm in the green economy is San Francisco-based Recology (formerly Norcal Waste Systems), a leader in recycling since its start as a scavenging operation in the early twentieth century. Converted to an ESOP in 1986 and 100-percent employee-owned for more than two decades, Recology operates over two dozen subsidiaries and handles about two million tons of waste each year—hauling, recycling, reusing and composting for over 50 jurisdictions in California. Today Recology employs 2,200, and serves 570,000 residential and 55,000 commercial customers. To date, \$55.7 million has been paid out to employee-owners in ownership benefits since its. And ownership is clearly dispersed—the largest ESOP account at Recology represents less than one third of one percent of total shares.

Recology is also a unionized company; wages start at \$20 an hour and maintenance workers with ten years experience can expect to earn a base wage of \$29.50 an hour; by contrast, Los Angeles-based Community Recycling and Resource Recovery Inc.—a non-union, non-ESOP firm in the same industry—in 2008 paid its workers \$8.25 an hour. Recology annually generates more than \$500 million in revenues and ranks number seven nationally in its industry in the United States.⁶⁸

Social Enterprises⁶⁹

In addition to cooperatives, ESOPs and local governments, non-profit social enterprises are also prominent in the emerging green economy. As noted above, social enterprises are non-profit organizations that develop businesses both to make money and to further their mission. Increasingly, social enterprise is being used as a strategy to develop environmentally beneficial businesses. Some of the strongest examples come in two related but very different industries—recycling and deconstruction.

Recycling was originally the province of community-based non-profit organizations and the public sector. During the past three decades, however, with the introduction of state and local policies that banned certain materials from the landfill,

mandated higher tipping fees and/or required the recovery of certain streams of waste, the recycling industry has increasingly consolidated into for-profit ownership. Two companies—Waste Management, Inc. and Republic Services—dominate many local and regional markets. These “consolidators” maintain market power via vertical integration—controlling collection, waste transfer stations and landfills. Since these companies earn more profits from disposal fees than from recycling, they have little incentive to see recycling grow.⁷⁰

Yet Martin Bourque, Executive Director of Berkeley’s Ecology Center, sees a promising future for non-profit ownership in the sector. He points out that those non-profit firms that have managed to survive and prosper—e.g., in cities like Ann Arbor, Michigan; Berkeley, California; Arcata, California; St. Paul, Minnesota; and Boulder, Colorado—have effectively scaled up by following a similar business model. They supplement their recycling contracts by operating retail reuse outlets, offering buy-back and drop-off services, providing composting services and managing green events. The successful non-profit in this sector, Bourque also emphasizes, must build a strong community base of support. Government relations are critical to keep the consolidators out and secure a long-term contract. Since each market is unique, the non-profit organization must be adaptable and entrepreneurial. The non-profit recycler in St. Paul, for example, has a key contract with the local paper mill that allowed for financing to scale up. The Ecology Center in Berkeley benefits from its proximity to the Port of Oakland.⁷¹

The largest economic pay-off in the recycling industry comes from re-manufacturing. Recycling-based manufacturers employ more people and pay higher wages

than do recycling businesses that just collect and sort. An example of a successful recycling-based manufacturing social enterprise can be found in Eugene, Oregon, where the St. Vincent de Paul Society developed a series of businesses. One of these, Aurora Glass Foundry, uses recycled window and bottle glass to create hand-cast art and interior design products. St. Vincent de Paul also operates a mattress recycling operation that employs 15 people; a chlorofluorocarbon (CFC) gas reclamation facility; a woodshop that creates a full line of affordable furniture, Dogma Dog Beds; and a computer recycling enterprise, which sells repaired computers at the agency’s thrift stores. These businesses help sustain this agency which has more than 300 employees and serves 45,000 at-risk individuals every year.⁷²



The Ecology Center has operated Berkeley, California’s curbside recycling program since 1973. Earnings support the nonprofit’s community education programs. *Photo courtesy of The Ecology Center*

Another green line of business where social enterprises play a significant role is deconstruction. Deconstruction is a business that involves the careful disassembly of building structures to salvage parts (such as lumber) for productive reuse. The practice of deconstruction has been around since the Egyptian pharaohs and the ancient Greeks and was common in the United States before World War I when labor was relatively cheap, wood was relatively expensive and heavy machinery relatively uncommon. After the invention of dynamite by Albert Nobel in 1863, however, demolition became the overwhelmingly preferred process to get rid of unwanted buildings. Now, with the growing interest in sustainability and the growing realization that many older structures have valuable parts (lumber, for example) that can be salvaged and put to productive re-use, the practice of deconstruction is making a comeback. Brad Guy, Executive Director of the National Building Materials Reuse Association, contends that the deconstruction industry has barely begun to realize its potential. Guy estimates that less than two percent of waste is recaptured from the building industry with flooring, framing and other structural elements representing 95 percent of this “waste.”⁷³

There are many social enterprises that operate in the deconstruction sector. The Reuse Center in Minneapolis is a 14 year-old, \$2 million salvaged building materials enterprise that operates a retail facility in a low-income neighborhood but finds its most profitable market to be demand for high-end quality recycled barn timbers. The Reuse People (TRP) in California’s East Bay is also a social enterprise with retail facilities, but local contractors and a furniture remanufacturing company are its key customers. It operates on both a state and national level: statewide through a series of branch stores operated by Habitat for Humanity, and nationally by playing a middleman role between building owners and deconstruction firms across the country.⁷⁴

An example of a non-profit social enterprise that does both deconstruction and sale of used building and remodeling materials as well as re-manufacturing is Our United Villages in Portland, Oregon. Their ReFind Furniture subsidiary designs and hand crafts high-end sustainable and contemporary furnishings for the Portland market.⁷⁵

Community Development Corporations

The green affordable housing industry was birthed in the late 1990s. Factors behind its formation included an increasing awareness that housing was contributing to ill health (especially exposure to lead-based paint, worn carpeting, mold

and moisture), as well as concerns over reducing energy use. In 2004, Enterprise Community Partners, a national intermediary that works with many community development corporations, took the lead in developing a green affordable housing initiative called Green Communities. In so doing, Enterprise has helped community development corporations gain a foothold in the growing green building industry. Enterprise developed a comprehensive set of standards for green affordable housing, set up financing mechanisms to help cover the increased costs, worked to

In 2004, Enterprise Community Partners took the lead in developing a green affordable housing initiative called Green Communities . . . In the first five years of the initiative, Enterprise has invested \$650 million to create more than 14,500 green homes in 350 developments in 30 states.

build the capacity of affordable housing developers and coached policymakers at all levels to create a more favorable financing and regulatory environment. In the first five years of the initiative, Enterprise has invested \$650 million to create more than 14,500 green affordable homes in 350 developments in 30 states. The federal government has also begun to support these efforts, through such programs as the Green Healthy Homes initiative at the U.S. Department of Housing & Urban Development.⁷⁶

Community development corporations clearly dominate Enterprise's green portfolio. A scan of the projects Enterprise has supported reveals that most were developed by non-profits or public agencies, such as public housing authorities. Eleven out of twelve of the projects listed for California, for example, are non-profit sponsored projects. This is a far higher rate than non-profit participation in the national Low Income Housing Tax Credit program. Nationally, non-profit organizations typically do about 25 percent of deals financed through the low-income housing tax credit each year. The IRS requires that each state set aside at least 10 percent of these credits for projects at least partially owned by non-profit organizations, although some states have higher thresholds.⁷⁷

Dana Bourland, Vice President of Green Initiatives for Enterprise, confirms the level of non-profit prominence in this sector. "I would say that the non-profit sector is taking the lead for sure," Bourland attests. "They get it from the mission perspective and they are accustomed to being good stewards of funding and environmental resources. Plus, non-profits are used to cobbling together a wide array of funding sources in this marketplace and are used to operating in a very complex environment."⁷⁸

The 2009 American Recovery and Reinvestment Act—better known as the "stimulus bill"—offers a critical opportunity for community wealth builders to capture a healthy percentage of the green affordable housing market. It authorizes \$5 billion in new weatherization funding flowing through a non-profit delivery system, \$250 million to retrofit 10,000 units of HUD-owned housing, \$1 billion to

retrofit 100,000 public housing units and \$3.2 billion for the new Energy Efficiency and Conservation Block Grant for which energy retrofits of housing is an eligible activity. But ARRA also represents a huge challenge for the non-profit building sector to scale up to meet this new demand.⁷⁹

Community Development Financial Institutions

The connection between green industries and lending has been most clear to those community development financial institutions (CDFIs) that serve rural communities. With Ford Foundation support, the Triple Bottom Line Collaborative's 10-member alliance is testing specific tools to strategically invest debt and equity capital.⁸⁰

Coastal Enterprises (CEI), for example, in Maine is pursuing multiple strategies to invest in the green economy, recognizing as Senior Vice President Carla Dickstein says, "that energy goes across our portfolio."⁸¹ Their efforts range from making loans to loggers to buy equipment conducive to sustainable harvesting practices to exploring how a potato fueled bio-plastics industry could be structured in the state. This leading community development intermediary is currently doing a value-chain analysis of their portfolio companies to discern if there is potential for these commercial borrowers to green their products and services. Two other members of this Collaborative—The Reinvestment Fund and Self Help—have also decided to look internally, scrutinizing their current client base for opportunities.⁸²

In the Northwest, Shorebank Enterprise Pacific is using its capital resources to help small landowners, farmers and fishers generate income using sustainable practices. With funds from the Gates Foundation and the State of Washington, this CDFI capitalized a \$7-million fund to provide flexible, low-interest loans to property owners in a threatened watershed containing endangered shellfish beds. Facing huge development pressures, these landowners can now make improvements to their property to reduce pollutants entering this watershed.⁸³

An urban-oriented CDFI, the Low Income Investment Fund in California, is also focusing on its existing expertise and portfolio, using \$5 million in capital from two private utilities to green childcare centers.⁸⁴ Since its launch in 2005, the California Preschool Energy Efficiency Program has given grants to 640 centers that have helped the centers save 30 percent on their utility bills.⁸⁵ Also in California, LISC (Local Initiatives Support Corporation) and Global Green USA are co-sponsoring a pilot project to increase energy efficiency through the use of weatherization and other green practices in charter schools in low-income Los Angeles communities.⁸⁶

Another urban-based CDFI, the Chicago Community Loan Fund, which serves northeastern Illinois, is using its growing green technical expertise to help community development corporations (CDCs) and others better confront the financial and development barriers they encounter. To this end, the Chicago Community Loan Fund has published a guide for local developers, created a working group of peer CDCs to share best practices, and, in 2009, launched a website to act as a clearinghouse of information for affordable sustainable development (www.greenaffordable.org). The Chicago Community Loan Fund has also promoted green building by adjusting its predevelopment lending practices. The CDFI has found that borrowers who use an integrated development process often face increased costs at the beginning of a project. The higher predevelopment costs are often compensated for by reduced costs in the construction phase, but the early stage financing provided by the CDFI has proved critical in allowing green projects to reach the stage where the offsetting savings can be realized.⁸⁷

Nonprofit Intermediary Financing

Renewable Energy Certificates (better known as “green tags”) are measured in kilowatt-hours, the standard electricity metric. With this tool, the physical attributes of electricity (e.g. electrons sent to the grid) are separated from its environmental attributes (renewable) and sold or traded separately. This enables individuals, organizations and governments to support the generation of renewable energy even though they are not the actual producers or users of this energy. This tool is increasingly being used by utilities to comply with state Renewable Portfolio Standards.⁸⁸

Non-profit organizations have taken the lead in making these tools work for small, distributed renewable energy systems and for individual landowners. The Bonneville Environmental Foundation was the first to use this tool (they called it Green Tags) in 2000, selling investment shares in a solar project sponsored by the city of Ashland, Oregon and other partners.⁸⁹ Bonneville advanced front-end payments for projected Green Tag production, thus helping to defray some of the significant early project costs. The Bonneville Foundation also formed a partnership with the Northwest Solar Co-op to help homeowners afford to invest in photovoltaic by selling Green Tags to the public and then annually reimbursing the homeowners for the solar power they produced. Each homeowner receives about \$200–\$250 per year, helping to defray the significant capital costs for the solar installation. Today, Bonneville generates 39 percent of its \$16 million budget by selling carbon offsets on a national scale and using these funds to put solar panels

on schools, educate children about renewables and restore habitats. Another path-breaking project was a partnership with Our Wind Cooperative, a collective of small rural landowners across the Northwest who each installed a small wind turbine on their own property.⁹⁰

Bonneville generates 39 percent of its \$16 million budget by selling carbon offsets on a national scale and using these funds to put solar panels on schools, educate children about renewables and restore habitats.

Non-profit groups have also taken the lead in using the carbon-offset tool to help preserve natural carbon sinks, such as forests and soil. The Northwest Natural Resources Group has developed a carbon-offset program for small forest owners, selling the calculated sequestration value to independent buyers and brokers. Typically these purchasers are large companies that want the positive public relations that they receive from reducing their carbon footprint. These credits can generate \$1,000–\$4,000 per acre for the landowner.⁹¹ The Nature Conservancy and the California Pacific Forest Trust are also serving as climate exchange brokers for small forest landowners. In Kentucky, MACED (Mountain Association for Community Economic Development), a community development group, has also played a leadership role, pioneering a strategy that aggregates carbon credits for owners of small forest holdings and sells them to the Chicago Carbon Exchange.⁹² This extra income provides an incentive to landowners to use sustainable forestry practices.

Nationally, Enterprise Community Partners has established a Green Communities Offset Fund. Enterprise plans to seek charitable contributions to help develop and retrofit affordable housing to generate lower carbon emissions and use these contributions to purchase carbon offsets from affordable housing sponsors.⁹³

Public Pension Funds

“There are remarkable opportunities in this time of remarkable risk and dangers,” noted Thomas Croft, Executive Director of the Heartland Labor Capital Network at the 2009 national “Good Jobs, Green Jobs” conference. Croft’s 2009 book, *Up From Wall Street: The Responsible Investment Alternative*, surveys six private equity and seven real estate funds. These funds, Croft emphasizes, attract socially responsible capital, primarily from public pension funds (and, to a lesser extent, union co-managed private sector “Taft Hartley” funds) in the United States and Canada. Croft found that many funds meet their environmental and social—as well as financial—goals. Their performance, Croft contends, presents a staggering contrast to the short-term speculative practices that have so recently dominated

the investment scene. Croft concedes that such triple bottom line investment in the United States is more limited than in some European nations and in Australia, where union pension funds own the nation's largest wind company.⁹⁴

Given the scale of the assets controlled by state and local public pension funds in particular, which, even after sharp falls in stock values in 2008 and 2009, still total \$2.35 trillion, the possibility for states to leverage those assets to support the generation of community wealth is tremendous. CalPERS, for example, has historically played a lead national role in investing a portion of its \$176-billion portfolio in projects that create local jobs, support small businesses and finance low income housing—activities typically known as Economically Targeted Investments (ETIs). In the wake of the civil unrest sparked by the Rodney King case, CalPERS initiated direct investments of \$75 million in South Central Los Angeles.⁹⁵ In 2004, under the leadership of former State Treasurer Phil Angelides, CalPERS announced its Green Wave Initiative with the goals of increasing the energy efficiency of its \$12 billion real estate portfolio by 20 percent in five years, investing \$500 million in environmentally responsible public firms and placing \$200 million

In 2004, under the leadership of former State Treasurer Phil Angelides, CalPERS announced its Green Wave Initiative with the goals of increasing the energy efficiency of its \$12 billion real estate portfolio by 20 percent in five years, investing \$500 million in environmentally responsible public firms and placing \$200 million as venture capital in new clean technologies.

as venture capital in new clean technologies. California's public pension fund also announced that it would gather information on corporate production of greenhouse gases and other environmental threats and issue new corporate governance guidelines to back shareholder proposals to report environmental risk, particularly with respect to climate change.⁹⁶

In 2006, CalPERS went further and established a Green Development Fund, which aims to leverage pension dollars to help finance LEED certified, sustainable office buildings. By the end of 2008, CalPERS had placed \$725 million in sustainable office buildings, \$419 million in environmentally screened public equity funds and \$1.1 billion in 112 private clean energy companies. In 2009, CalPERS announced a commitment of \$200 million to the Khosla Ventures Expansion Fund, a Silicon Valley based clean-tech fund that invests in ethanol, bio-refineries, bioplastics, solar, energy efficiency and battery storage. All told, Green Development Fund investments to date total \$2.444 billion or close to 1.4 percent of its roughly \$176 billion in total pension fund assets.⁹⁷

In 2008, Robert P. Casey, Jr., Treasurer of the State of Pennsylvania, announced the Keystone Green Investment Strategy with four components: 1) a new Green Fund with up to \$40 million in Treasury assets to attract and leverage private sector investments in clean technology; 2) a commitment to reallocate up to \$50 million

in assets to investment managers demonstrating a superior rate of return in clean tech stocks; 3) a new set of screens for the state's fund managers and consultants for evaluating a company's potential exposure to environmental liabilities; and 4) membership in the Investor Network for Climate Risk. Established by Ceres, this network is comprised of state treasurers and controllers from fifteen states, a handful of foundations, four unions and other institutional investors that have agreed to consider climate risk and opportunities in their investments.⁹⁸

Another example of the pension sector's engagement in the green economy is the Multi-Employer Property Trust or MEPT Fund, a \$4.6-billion real estate fund whose investor base consists of union and public employee pension funds. A leader in "responsible property investing," through 2008, MEPT had built 3 LEED certified buildings and won awards for its redevelopment of a long abandoned hospital on Roosevelt Island in New York City into a green housing complex.⁹⁹

In Canada, Quebec's Solidarity Fund with \$7 billion in assets clearly articulates its priority to invest in environmental friendly businesses and job creation projects. Targets for its environment portfolio include waste recovery and recycling, water treatment, air treatment and soil decontamination.⁹⁹

Case Studies: Innovation in Green Community Wealth Building

You need to set your course, find the right people, and chase down the opportunities.

—Avram Patt, General Manager, Washington Electric Co-op¹⁰⁰

Across the country, there are many innovative models of how green jobs are being linked to ownership strategies and wealth building. Some of the innovators are in renewable energy (e.g., wind, solar), while some focus in other areas, such as by becoming “greenest in class” in conventional businesses or operating re-use stores. Taken together, the following ten case studies, outlined in Figure 5 and discussed in detail below, illustrate the growing diversity of community wealth building activities in the green economy.

It should also be noted that all of the cases reviewed here are precedent setters in some way—whether it is the first co-op or non-profit to build an urban wind turbine, operate a solar installation business, spawn green housecleaning franchises or go 100-percent-renewable. All are also potentially replicable—indeed, many are already being replicated—provided that the same level of diligence, persistence, risk taking and commitment to mission is present.

Austin Energy (Austin, Texas)

This city-owned utility, although stymied from direct ownership of renewable energy sources due to its inability as a public entity to access federal tax credits, has nonetheless played a leading role as an incubator for green energy technology.

The nation’s ninth largest municipally owned utility, Austin Energy has the country’s most successful utility-sponsored green energy marketing program, backed by the City of Austin, which has one of the most aggressive renewable energy

Figure 5: Case Study Overview

CASE	CAPSULE SUMMARY
Austin Energy (TX)	Public owned utility gets 12% of power from renewable sources
Washington Electric Co-op (VT)	Co-op utility obtains 100% of its power from renewable sources
Coastal Community Action (WA)	Social enterprise: \$14M wind turbine generates \$720,000 for nonprofit in unrestricted income
WindShare (Toronto)	Urban wind co-op powers 250 homes; 3,400-home project planned
PV Squared (MA-CT-VT)	\$4 million a year solar installation co-op, employs 15
Green Worker Cooperatives (NY)	First co-op start-up is a re-use store in the South Bronx
EBO Group (OH)	ESOP with \$24M in sales, shifting business to green economy
ReUse Center (MN)	14 year-old, \$2M a year social enterprise re-use business
WAGES (CA)	Network of five green housecleaning worker co-ops with 80 worker-owners
Evergreen (OH)	Network of green worker co-ops in Cleveland; goal is to achieve average worker equity of \$65,000 in eight years

The nation's ninth largest municipally owned utility, Austin Energy has the country's most successful utility-sponsored green energy marketing program, backed by the City of Austin, which has one of the most aggressive renewable energy goals—30 percent renewable by 2020—in the nation.

goals—30 percent renewable by 2020—in the nation. And in October 2009, the municipally owned utility was pushing to raise that goal to 35 percent. Austin Energy is playing a lead role in a public-private initiative to “design a new, clean energy infrastructure, business model and proving ground for tomorrow’s energy technology.” But unlike Washington Electric, this large public utility does not own its own wind and landfill methane generation sources. “We looked hard at self ownership,” recalls Mark Kapner, Senior Strategy Engineer and formerly the utility’s Manager of Conservation and Renewable Energy, “but we

couldn’t make it work financially. We can’t take advantage of the federal tax benefits. We’d like to own our resources, but it’s less expensive to buy from someone else.”¹⁰¹

Currently, approximately 12 percent of Austin Energy’s power comes from renewable sources, primarily from wind, with landfill methane gas a distant second. The utility has just signed a 20-year agreement to purchase power from a large wood-fired power plant in East Texas. “We don’t generate any income from using renewables,” says Kapner. “We just strive for lower costs for the consumer. But we do generate profits from operating our natural gas powered plants—\$90 million in profit last year—that we reinvest in the city’s General Fund.” Austin Energy owns and operates two natural gas powered plants and is also part owner of two power plants outside Austin, one powered by coal, the other by nuclear fuel. They plan to substantially reduce operation of the coal-fired plan by buying more energy produced from natural gas and renewable sources and from more aggressive conservation and energy efficient practices. Unlike CPS, San Antonio’s municipal energy, Austin Energy decided not to invest in a second nuclear plant—“strictly on financial grounds” says Kapner. Kapner says that this public utility’s rates are well below the average, 40 percent lower than the privately owned utilities operating in Texas.¹⁰²

Kapner attributes the public utility’s aggressive stance on conservation and renewables to its governance. The City Council serves as the governing body of Austin Energy, unlike San Antonio whose public utility has an independent board. “We’re more responsible to the citizens,” asserts Kapner.¹⁰³

Austin Energy’s close relationship with the City Council also helps explain why this city is playing a lead national role as an incubator for green energy technology. “Austin has the opportunity to play the same role in the evolution of America’s energy economy as it did with the semi-conductor boom in the ’80s,” said Mayor Pro Tem Brewster McCracken. McCracken is referring to the Pecan Street Project—a

partnership between the city, the public utility, the University of Texas, the chamber of commerce, nine corporations and the Environmental Defense Fund—that aims to develop a clean energy research and development consortium and create an economically sustainable distributed generation system. “Austin Energy is doing something quite unique: It is trying to reinvent the electric system and to share the lessons it learns with the world. Austin Energy is opening its grid to new clean, cutting-edge resources that will lead to a cleaner Austin and create a model to tackle global climate change,” observed Jim Marston, Texas regional office director of the Environmental Defense Fund.¹⁰⁴

The common leadership of the City and the public utility give Austin a distinct advantage in implementing a green power program, setting aggressive climate protection goals and redesigning its urban energy system. Austin Energy can implement technology changes more quickly, approve needed planning and zoning modifications, and remain accountable to the citizenry. Austin Energy’s leadership in the green economy is part of a broader City economic development strategy to spur new business development and attract jobs to the region.¹⁰⁵

Washington Electric Co-op (East Montpelier, Vermont)

This small Vermont co-op demonstrates that it is possible, with a strong staff and a committed board and membership, for a consumer electric cooperative to make the leap from nuclear and fossil fuel derived electricity to 100 percent renewables.

Washington Electric Co-op is very different from most of its 900 peers across the country. First, it is a hybrid in the power industry, generating and transmitting power as well as directly distributing it to 10,000 retail customers across 41 small towns. Typically, electric co-ops are either small retail distributors of power to a residential and commercial membership base across a rural county or counties or large wholesale suppliers of power to state or multi-state networks of these small distribution co-ops. Washington Electric serves a small rural area but also generates its own power supply. Co-op manager Avram Patt attributes this difference to the fact that there are very few electric co-ops in the northeast and thus no statewide or multi-state generation and transmission cooperatives. Higher rural population densities in this region made it feasible for investor and publicly owned utilities to extend lines to rural places by the 1920s, a full decade before the Rural Electrification Authority extended power lines across rural America. “Our territory

intertwines with the Investor Owned Utilities,” says Patt. “We serve all the hills and they serve the valleys.”¹⁰⁶

For years, Washington Electric Co-op relied on the Vermont Yankee nuclear power plant to supply nearly one-third of its power. In 2002, however, the co-op’s board decided not to renew that contract and to explore alternatives. “This came after years of hotly contested, brutally fought board elections that changed the Board and changed the co-op’s direction,” recalled Patt. “We took this first step, not knowing how much we could accomplish and what it would cost.” They first stumbled on an opportunity to contract with a landfill converting its methane gas to electricity and never looked back, starting their own plant at the state’s largest landfill in Coventry, Vermont in 2005. Now Washington Electric gets about two-third of its supply from a landfill, 20 percent from large hydro plants in Quebec, five percent from its own small hydro station, and up to five percent from a pool of small hydro and wood chip plants in Vermont. Washington Electric will also be purchasing a portion of the output from a wind firm in the northeast part of the state, which is scheduled to go on line in late 2010.¹⁰⁷

The co-op operates in some of the most rural parts of Vermont and consequently has historically had some of the highest electricity rates. On the other hand, “we haven’t seen a rate increase in ten years,” proudly notes Patt. The co-op also generates a significant amount of income—\$2 million out of its annual \$13-million budget—from the sale of Renewable Energy Certificates to a consumer-owned energy retailer in Massachusetts. Vermont does not have a Renewable Portfolio Standard on the books. Concludes Patt, “If you want to do it, go entirely renewable, any electric co-op can do it, although it was easier for us than it will be for some others. You need to set your course, find the right people, and chase down the opportunities.”¹⁰⁸

Coastal Community Action and the Grayland Wind Energy Project (Washington State)

Vision, persistence, political relationships, access to expertise and some wind enabled this social service agency to build and own its own wind turbine social enterprise and generate income to finance critical community services.

Coastal Community Action (CCA), which operates a portfolio of housing, food, health and employment programs for low-income people in two of Washington's coastal counties is typical of community action agencies across the country. But their development and ownership of a \$14-million wind turbine project on 29 acres that will generate up to \$720,000 annually in unrestricted income is clearly not the norm.¹⁰⁹

The Grayland Wind Energy Project is the child of Craig Dublanko, CCA's chief financial officer, who spent nine years moving the project from concept to fruition. "It was a study in perseverance," he noted. "Our learning curve was huge and we had to keep postponing the closing. In the beginning, people laughed. We had no background in the wind industry and no partner. But we worked to surround ourselves with good people and the right counsel. And we own and manage housing."¹¹⁰

"For us," says Dublanko, "this is a social service project first and foremost. Our intent from the start was to generate revenue for our programs. But our original model, taking advantage of the state's new net metering law by building a handful of small turbines on the agency's HUD assisted housing units, wasn't feasible." CCA redesigned a project that would use larger turbines on a single site. The big break came when their state senator sponsored a bill to appropriate \$5 million for the project. Partnering with ShoreBank Enterprise Pacific (a community development financial institution) and Wells Fargo, the project received \$2.7 million in New Markets Tax Credits allocations along with \$3.5 million in renewable energy credits from a specialized renewable energy finance firm.¹¹¹

CCA's ownership of a \$14-million wind turbine project on 29 acres will generate up to \$720,000 annually.

The project was also helped by passage of Washington's Renewable Portfolio Standard. "Before the RPS," recalled Deblanko, our public utility wasn't interested in buying our energy. We would have had to sell it to investors in Seattle. "Now we have a great partnership with the Grays Harbor PUD and they will be buying all of the wind energy we produce from the turbines over their 25-year life."¹¹²

Dublanko firmly believes that this model is replicable with other non-profits across the nation. "A strong and creative non-profit can pull this off. But it doesn't need to be a wind project to generate income for core services. We just happen to have a bit of a wind resource and we hit the green energy bandwagon in the sweet spot. But everyone has a resource they can build on."¹¹³

WindShare—and the Toronto Renewable Energy Co-operative (Toronto, Ontario)

Half owned by members, half owned by the local utility, this cooperative overcame huge regulatory hurdles to become North America's first urban wind turbine.

Exhibition Place with its nearly 200 acres of lakefront parkland is Toronto's trade show venue. More than 4.5 million visitors sample its exhibitions, fairs, car races, parades and boat and craft shows. It is also home to North America's first urban-based wind turbine and first community-owned wind power project in Ontario, Canada. A joint venture between the municipal utility (Toronto Hydro) and the Toronto Renewable Energy Co-operative, this 250-foot structure generates enough electricity to power 250 homes.¹¹⁴

Constructed in 2002, the project faced huge regulatory hurdles. "It's the physics of electricity that is the problem," says Toronto Renewable Energy Co-operative Executive Director Judith Lipp. "Because the turbine's output feeds into the grid, we can't guarantee that the co-op's members are the users. We had long discussions with our regulators. They approved this cooperative project, but only on a case-by-case basis. It is difficult for those wanting to come after and it is 2009 and nothing

A joint venture between the municipal utility (Toronto Hydro) and the Toronto Renewable Energy Co-operative, this 250-foot structure generates enough electricity to power 250 homes.

(cooperatively owned wind) else has been built since." The project also struggled with securing access to the electric grid. "It's a mindset issue where people in the industry are used to large generating plants far from the users, dealing with a few players. Our project was messy. We needed real will."¹¹⁵

"We also had lots of money to raise," continued Lipp with her litany of challenges. "Our turbine cost \$2 million and that was seven years ago." As half-owner, the co-op recruited 500 investors putting up from \$500 to \$5,000. Members were required to buy a minimum of five shares for \$100 each, with a ceiling of 50 shares. They got a forgivable loan from Environment Canada. The project did not want public subsidies, preferring to demonstrate to the bank the feasibility of a renewable energy project. But Lipp and her colleagues have since concluded that the project was too small to be economically feasible. "A crane costs \$10,000 per day to put up a turbine, regardless of the size of the turbine."¹¹⁶

The cooperative's next project is a larger scale wind farm in a rural community on the shores of Lake Huron. It represents a partnership between a new local energy cooperative and WindShare. This project has struggled with access to the grid and other regulations but has signed a long-term land lease for the wind farm

site and completed a two-year wind data study. The project is expected to produce enough wind to power over 3,400 homes.¹¹⁷

PV Squared (New England)

A worker co-op with seasoned management, access to state subsidies, and low entry costs can successfully compete in an increasingly competitive solar installation industry.

PV Squared (shorthand for Pioneer Valley PhotoVoltaics Cooperative, Inc.) is one of the few solar installation businesses in the nation organized as a worker-owned cooperative. It didn't start off in the installation business. "Originally there were two guys who wanted to start a factory to make solar panels and who wanted to treat the workers well," recalled Bill Stillinger, PV Squared's general manager. "But they didn't look at the capital it would take for such a business: \$10–15 million. They never raised the money. But installation was so obvious. So they revised the concept." Stillinger says that PV Squared has never had to raise significant up-front capital, although they did have to put up their homes as collateral to secure lines of credit. One of their sources is the Cooperative Fund of New England that provides financing to co-ops, land trusts and non-profit organizations.

Today, PV Squared works in Connecticut, Massachusetts and Vermont, with a sales volume of about \$4 million per year.

Today, PV Squared works in Connecticut, Massachusetts and Vermont, with a sales volume of about \$4 million per year. Five of its 15 employees are full worker-owners. "The others are on the path," says Stillinger. "It's like building a family. It never happens in less than three years and typically in five years. Worker ownership is serious business." PV Squared had no profits for the first five years and this is the first year that the co-op will declare a patronage dividend for its worker owners—"a modest one" says Stillinger.¹¹⁸

This co-op manager is passionate about worker ownership. "We're mission driven. Our goal is not to make a pile of money and sell out but to stick with our mission and spread renewables as far as we can." Worker co-ops like PV Squared, says Stillinger, tend to create long-term stable jobs, employ sustainable business practices and are strongly connected and accountable to their community. "Most of the pains of running the business," Stillinger notes, "are common small business problems or problems associated with solar technology; they don't stem from being a worker co-op. It's building systems on new homes and dealing with other contractors who try to drill right through the solar collectors. It's observing basic safety measures—we are on people's roofs and solar panels become active electrical

devices as soon as you take them from the box.” The regulatory environment is constantly changing, observes Stillinger, who deals with several state bureaucracies. “Staying on top of that is a lot of work.” And PV Squared is operating in a competitive market. “To many people, we look like a bunch of guys with vans and ladders,” notes Stillinger. “The field is vast, but the future is huge. We regard competition differently than our competitors—we want to partner and collaborate on larger jobs. The big companies could care less.” Stillinger reports that 70 percent of their business comes from networking and reputation. “Other installers low ball the bid and put up cheaper equipment that is unreliable and needs constant attention. But our installations produce more energy on average than our competitors, using larger conductors and better quality components. We can afford to do this because we’re not trying to meet shareholder expectations. We are the owners. We focus on quality.”¹¹⁹

Stillinger also plays a public advocacy role. During the contentious 2009 Connecticut state budget process, Stillinger publicly advocated for the preservation of the Small Business Incubator Program that provided a \$12,000 grant to the worker co-op to pay the tuition and fees for classroom and workplace training for



PV Squared installation at Middletown, CT Public School. *Photo courtesy of PV Squared*

three new employees. He pointed out at a press conference that their sales revenue projections for 2009 are double that of 2008, despite the down economy.¹²⁰

The worker owners as well as the entire co-op both meet monthly. Stillinger worries about what the co-op will look like “when we grow to 25 worker owners and 30 other employees. I guess we’ll need a representative board.”¹²¹

Green Worker Cooperatives (Bronx, New York)

Green Worker Cooperatives, with the motto “Your work shouldn’t kill you, your community or the Earth,” is a non-profit incubator of worker cooperatives that explicitly links environmental justice with the green economy.

Green Worker Cooperatives seeks to be a model for doing things differently in the South Bronx, a part of New York City known for its poverty, dumping and high asthma rates. Founder Omar Freilla has a very tangible vision for his community. “I want to see worker co-ops on every street corner—for co-ops to be the way that business is done here and what people are used to. That way more wealth can stay

Founder Omar Freilla has a very tangible vision for his community. “I want to see worker co-ops on every street corner—for co-ops to be the way that business is done here and what people are used to. That way more wealth can stay in the community and more people can practice democratic decision-making at work.”

in the community and more people can practice democratic decision-making at work,” Freilla says. As for green opportunities, Freilla is expansive: “They’re everywhere. You could make almost any business green. Whatever people are interested in creating, they can do it in greener ways.”¹²²

Founded in 2003, the non-profit Green Worker Cooperatives was launched to incubate worker-owned enterprises that could improve environmental conditions in the South Bronx. Raising nearly \$1 million from philanthropy, Freilla and his staff launched their first green co-op in the spring of 2008. Rebuilders Source is a discount retailer of surplus and used building materials, enabling the community to buy goods more cheaply, reducing the amount of waste headed for the landfills and cutting down the number of waste hauling trucks driving through the neighborhood.¹²³

The first year was a difficult one, recalls Freilla. “The business was pretty close to shutting down and we had to step in and float it ourselves. The original worker-owners had to let themselves go. So Green Worker Cooperatives offered to step in and put its own money into the business to run the store until finances stabilized.”¹²⁴

Freilla doesn’t point to the recession as the cause for Rebuilders Source’s problems. He emphasizes internal issues. “We had major management issues and



Workers in the storeroom of Rebuilders Source, a discount retailer of surplus and used building materials that is Green Worker Cooperatives' first business venture. Photo courtesy of Green Workers Cooperatives

challenges with the capacity of the people who formed the co-op. And none of us were up to speed on how to make a business both open and accountable. There's not a lot of information out there, that's written. We were working with people who hadn't had experience in a cooperative setting or as managers."¹²⁵

The challenges embodied in moving to cooperative ownership, particularly in a workplace, don't faze Freilla. He lists off a set of ideas for the next set of worker co-ops in the South Bronx, from a green residential renovation business to an artisans' co-op that uses recycled materials to a local organic restaurant to a green B&B featuring an urban farm.¹²⁶

In addition to incubating specific green enterprises, Green Worker Cooperatives runs the Co-op Academy, an eight-week long training program for community residents interested in being part of a worker co-op. Freilla also has a broader educational strategy. "Our approach to mass education is by demonstrating the success of each of the co-ops. A strong group in each co-op is the best sales pitch and embodies what co-ops are about."¹²⁷

Excellence by Owners: The EBO Group Goes Green (Sharon Heights, Ohio)

Who says that ESOPs can't be on the cutting edge of green manufacturing? The EBO Group's Dave Heidenreich argues that employee ownership and green startups go hand-in-hand.

Executive, entrepreneur and engineer Dave Heidenreich is an avid proponent of employee ownership in the green economy. The head of an Ohio-based manufacturing business with \$24 million in annual sales, 70 employee-owners, and a 20-percent annual growth rate, Heidenreich believes that ESOPs have the advantages of surplus internal capital and sustained employee motivation to succeed in new ventures in the green economy. "In six years we have gone from a rustbelt company serving declining markets with declining sales and declining stock value to a fast growing company developing products that the world needs for the growing energy and medical markets," proudly recounts Heidenreich. "The employee-owners made it happen. They became venture capitalists, reinvented our company, and positioned the company to be awarded our first government grant."¹²⁸

This is not the typical view of ESOPs, which, although occupying a significant percentage of production and employment in America's manufacturing sector, are

seen by some ESOP experts as hampered in starting new companies; more typically, ESOPs form as existing family businesses convert to employee ownership as the founders retire. But Heidenreich believes that ESOPs are well suited to business start-ups. In particular, he points out that an increasing number of ESOPs are set up as S-corporations, and thus eligible for substantial tax exemptions, which can

“In six years we have gone from a rustbelt company serving declining markets with declining sales and declining stock value to a fast-growing company developing products that the world needs for the growing energy and medical markets. The employee-owners made it happen.”

**—Dave Heidenreich, CEO,
The EBO Group**

be used to invest in new ventures.¹²⁹ EBO Group started as Power Transmission Technology in 1978, a company that designed customized power components for the coal mining, energy and tunneling industries. The company created a profit-sharing plan six years after inception and, in 1990, converted the plan to an ESOP. A decade later, seeing heavy industry enterprises all around them fail, EBO Group looked for other opportunities and focused on recycling equipment. In 2002, the company seized on the medical industry and began making surgical stretcher chairs. “We discovered that our employee-owned culture was an awesome place to start new ventures,” Heidenreich recalled. Recycling and medical products now account for nearly half of the company’s sales.¹³⁰

In 2004, Heidenreich began studying renewable energy to discover how the company could participate in the fastest growing part of the energy market. EBO Group’s newest subsidiary, eZHybrid Drives Inc., is developing oil-cooled electric drive modules for commercial vehicles. With the necessary batteries and controls, they can convert most urban buses and trucks to zero emission, plug-in, hybrid vehicles.

In 2006, the company name was changed to EBO Group Inc. (Excellence by Owners). The name is based on a quarterly continuous improvement process called EBO (Excellence by Objectives), which the company has had in place for 25 years. In 2008, EBO Group became a 100% employee-owned company.¹³¹

The ReUse Center (Minneapolis, Minnesota)

Under the umbrella of a multi-faceted non-profit organization, this social enterprise has learned the hard way to profit from a new green industry—deconstruction.

Operated by the non-profit Green Institute, the ReUse Center is a \$2 million salvaged building enterprise serving the Twin Cities region through two retail outlets and a deconstruction business. 75,000 customers forage the reuse stores for salvaged building items and green building products.¹³²

Mick Pulsifer is the deconstruction and sales manager for this nearly 14-year-old business. “The last six months have been the best we ever had,” he recalled. “People are looking to buy materials cheap.” But he also stressed the “big learning curve” that’s intrinsic to the deconstruction and resale business.” Pulsifer pointed to a large project that the ReUse Center had “lost big on”. . . It was a large advertising company in Minneapolis with lots of beautiful furniture for their computers—maple and cherry, two floors’ worth. Each unit was worth \$3,000. We took them apart, catalogued and photographed them. Despite our marketing, no one wanted them. We had to haul them out and give them away. We probably sold 20 of them. To this date,” Pulsifer concluded, “we’re still not sure why there wasn’t a market for these goods.”¹³³

Two market segments that are working for this non-profit green business are deconstructing high-end homes in the resort communities around Lake Minnetonka and reclaiming the timber from old barns for their valuable hardwood. Pulsifer notes that an 8,000-square-foot home yields about \$70,000 worth of re-usable material. “We get about two projects a year like that. We’re the only game in town. There’s a big rush of people in their sixties, downsizing but wanting to stay on their property around the lake. Or a developer that can make five to six lots out of the property. They get a tax write-off. We get to sell the material on line and in our stores.” Foraging barns for their huge timbers in Minnesota and Wisconsin is also proving fruitful. “If we can do this right,” muses Pulsifer, “we can buy throughout the country. But it’s tricky—some barns are a lot more valuable than others.”¹³⁴

The ReUse Center also has a store in the low-income Phillips community in Minneapolis, which is where the Green Institute began nearly 15 years ago, when its founders led community opposition to the siting of a solid waste transfer station there. When the county dropped its plans for the station, they also made grant funds available for the development of a building materials exchange and re-use facility that would create jobs for local residents. “We do a good job,” noted Pulsifer, “of getting stuff in this store that’s affordable to people in the neighborhood.” Another initiative is the Phillips Eco-Enterprise Center, the first speculatively built green commercial building in the upper Midwest that now houses an incubator, an R&D center and a job-training complex, as well as tenant organizations focused on sustainability. The building was a pilot for the LEED commercial building standards.¹³⁵



Workers for The ReUse Center engage in salvage operation while deconstructing a building. *Photo courtesy of The ReUse Center*

Pulsifer also noted the importance of building strong relationships with a diverse set of players—from trash haulers to demolition companies to local and state regulators to developers. “This is an industry where a non-profit can’t afford to make mistakes and where workers’ comp costs 35 cents of every dollar brought in.”¹³⁶

WAGES (Oakland, California)

As an incubator of green housecleaning worker co-ops in the San Francisco Bay Area, this social enterprise leader is learning how to balance the demands of democratic governance with the need to stay competitive in a labor-intensive sector, moving to hybrid governance forms and franchising strategies to scale up.

WAGES—Women’s Action to Gain Economic Security—has helped build five worker-owned green cleaning businesses in the Bay Area in the past decade and recently launched a networking effort to scale up this model through joint marketing, purchasing and mutual learning. “It’s a good business niche,” noted Executive Director Hilary Abell “with low start-up and entry costs and a growing market in our area.” The co-ops’ prices match those of competitors who are not green because, says Abel, “cleaning products are just a small part of overall costs.” And the green cleaning market is not saturated. (Interestingly, MBA students at nearby Stanford University advised that their future marketing efforts should lead with a social justice message, as compared to their former eco-friendly message.)¹³⁷

Abell proudly points out that all of the co-ops’ 80-plus worker-owners are earning 50-to-100 percent more in hourly wages than they earned before and many are making \$14–15 per hour plus benefits. Comparable wages at cleaning services in their markets are \$8 to \$9.50 per hour.

WAGES began in 1995, with a mission of promoting the social and economic well being of low-income women, but did not inject “green” into their mission until 2007. “Over the years, we had become increasingly focused on creating dignified jobs and sustainable worker-owned businesses,” recalled Abell. “The fact that they were green became central not only to our strategy but to our mission,” Abell added. Each of the five co-ops targets different Bay Area communities. The newest co-op, Home Green Homes, is based in San Francisco and is supported by a partnership between WAGES and Seventh Generation, Inc., a socially responsible Vermont-headquartered company that makes non-toxic household products.¹³⁹

Abell proudly points out that all of the co-ops’ 80-plus worker-owners are earning 50-to-100 percent more in hourly wages than they earned before and many

are making \$14–15 per hour plus benefits. Comparable wages at cleaning services in their markets are \$8 to \$9.50 per hour. In addition, workers are gaining critical skills in governing a cooperative, overseeing a business, marketing and customer service. Abell stresses the critical role of worker education in the co-ops' development. Women joining one of the existing co-ops must engage in an 80-hour curriculum while those joining a start-up are required to take 150 hours of education and peer leadership training. WAGES guides each co-operative to go through a three-to-four year incubation process that includes contracting with WAGES for a professional manager whose salary is subsidized at a decreasing rate throughout the process.¹⁴⁰

A professional manager is one of the two lessons that Abell shared. "Early on," she recalled, "we had an explicit goal of moving workers into management. We learned that it was neither a realistic nor a helpful goal, distracting and confusing the co-op members as well as creating conflict. If the opportunity arises in one of the co-ops for a worker to become a manager, certainly yes," Abell emphasized. "But our goal is to have a strong, effective manager who excels at participatory management."¹⁴¹

Abell's second shared lesson was about the need to streamline governance, deemphasizing the participatory character of worker co-ops. "Taking time out for frequent meetings for collective decision-making really takes its toll on the business." The six-year-old Natural Home Cleaning co-op in the East Bay operates with a hybrid governance model, a smaller board with both worker-owners and outside allies, though the workers have the majority. The older co-ops in Silicon Valley swing back and forth between monthly decision-making meetings with all of the worker-owners and a smaller representative board.¹⁴²

WAGES has an expansion plan and aims to grow to 200 worker-owners in network co-ops. Prior to the recession, WAGES had hoped to reach this milestone by the end of 2010. "Though the economy is putting a wrench in it," remarked Abell, "our co-ops have grown 20 percent in 2009." Now WAGES is also looking at green commercial cleaning targeted to LEED certified buildings and spot cleaning, steam cleaning, landscaping and weatherization as



Worker-owners celebrate the opening of San Francisco-based Home Green Home Natural Cleaning, the fifth in WAGES' growing network of eco-friendly worker cooperatives. *Photo courtesy of The WAGES*

additional avenues for growth. Abell notes that their franchising move means that more decisions are being made outside of the co-op process. “The co-op development process is still too labor intensive,” Abell concludes. “We’ve got to balance not reinventing the wheel versus the natural inclination of owners to want to think independently.”¹⁴³

WAGES is also helping to build worker co-ops focused on green cleaning in other parts of the country. They have advised Home Cleaning Professionals, a new worker co-op in Asheville, North Carolina that has both a growing Latino population and a reputation for environmental consciousness. A partnership between the Center for Participatory Change, Nuestro Centro and Mountain BizWorks provided the co-op with startup funds, a business plan, English classes, a savings fund, financial education and leadership training. The co-op didn’t begin its cleaning service as green, but has been shifting to using eco-friendly cleaning products to suit the eco-conscious customer base.¹⁴⁴

The Evergreen Cooperative Business Network of Cleveland, Ohio

This partnership between a community foundation, the city’s anchor institutions, and City Hall, backed by the technical assistance of an employee-ownership center and a community development financial institution, is developing an innovative model for delivering equity, environmental and economic returns in the green economy.

In October 2009, Evergreen Cooperative Laundry (ECL) opened its doors on 105th Street in Cleveland. The industrial-scale laundry is the product of a unique partnership between The Cleveland Foundation, the City of Cleveland, Cleveland’s University Circle educational and medical institutions, the Ohio Employee Ownership Center, The Democracy Collaborative, and ShoreBank Enterprise Cleveland. ECL is a green worker cooperative that will conserve energy by using energy-efficient washing machines and dryers along with processes to reuse waste heat and water. More broadly, the Evergreen effort aims to demonstrate that “anchor institutions” like the Cleveland Clinic and University Hospitals can provide a long-term market for locally owned businesses, thereby helping reduce local unemployment and poverty and stabilize surrounding neighborhoods. The product of a \$5.7-million investment, at full capacity (expected to be reached with three years), ECL will clean over 10-million pounds of health care linen a year

The wealth building aspect of ECL could be significant: the company's business plan projects that the equity stake in the business for a worker who has remained on the job for eight years could be as high as \$65,000.

and employ 50 resident-owners from the low-income Greater University Circle neighborhoods that surround some of Cleveland's leading non-profit anchor institutions.¹⁴⁵ "The biggest challenge (to assembling nearly \$6 million in upfront capitalization)," says Jim Anderson, ECL's Chief Executive Officer and a Senior Program Coordinator at the Ohio Employee Ownership Center, "was the banks. They won't finance start-ups. The Cleveland Foundation's willingness to guarantee a bank loan was critical."

The workers at the laundry share temporary employment status for the first six months—and then, if they have demonstrated their ability and commitment to the company and their fellow employees, are invited to join the co-op. During the first six months, the base starting wage is \$8 an hour. After six months, workers are invited to join the co-op and wages are increased to \$10.50 an hour. While hardly an enormous salary, even at this level, an ECL employee will be earning significantly more than the industry standard of \$8.25 an hour. And unlike its competition, ECL offers members of the cooperative free health care benefits with no co-pay.



Worker-owners of Cleveland's Evergreen Cooperative Laundry participate in the opening ceremony of their business. When operating at full capacity, ECL will employ 50 local residents. *Photo courtesy of The Cleveland Foundation*



Keith Parkham, technical supervisor, programs the Evergreen Cooperative Laundry's computerized, green equipment. *Photo courtesy of The Cleveland Foundation*

Each new member of the cooperative is expected to purchase an ownership share in the company. Each share will cost \$3,000. Because the typical ECL worker does not have such a sum readily available to invest in the business, the company deducts 50 cents an hour from an employee's salary. Typically, it will take three years to cover the purchase of an employee's share in the business. When employees leave the company, their share is returned to them.

As owners, ECL workers enjoy greater job security than workers at more traditional businesses, because outside investors do not determine the company's policies nor making its financial decisions. The responsibility for that belongs to the worker-owners. The wealth building aspect of ECL could be significant: the company's business plan projects that the equity stake in the business for a worker who has re-

remained on the job for eight years could be as high as \$65,000. Profits will be allocated into member "patronage accounts" on an annual basis. The Ohio Employee Ownership Center provides extensive training for the worker-owners, including helping to build a culture of cooperative ownership and management.¹⁴⁶

The laundry is just the first of what is expected to develop into a growing network of Evergreen Cooperative businesses. Central to that effort is the Evergreen Cooperative Development Fund, established in 2009 as a non-profit revolving loan fund designed to provide seed funding for local cooperative-owned business start-ups. Currently housed at ShoreBank Enterprise Cleveland, a community development financial institution, the Fund uses philanthropic and socially responsible investments (such as foundation grants and program related investments) to leverage additional capital sources (bank loans, state and federal grants and loans, and so on). Loans are made to Evergreen cooperatives on favorable terms, but must be paid back to the Fund and other lenders over time. These repaid loans are then used to help finance the start-up of the next generation of worker cooperatives. Additionally, the businesses receiving start-up investments from the Fund are required to return ten percent of their pre-tax profits to the Fund, providing what organizers anticipate will be a steady stream of revenues to seed additional cooperative businesses.¹⁴⁷ To supplement the revolving loan fund, additional types of financing vehicles that can attract new sources of low-cost capital are also being explored.

A second Evergreen cooperative that also opened in the fall of 2009 is Ohio Cooperative Solar. Ohio Cooperative Solar (OCS) is a community-owned clean energy business that provides weatherization services and owns, installs, and maintains solar panels on the rooftops of Cleveland's large nonprofit anchor institutions. The company establishes Power Purchasing Agreements (PPAs) with roof owners (typically hospitals and universities) to buy the solar energy generated for a fixed rate over a 15-year time period. Selling power under a PPA helps make solar energy affordable to nonprofit anchor institutions, which, like other public and nonprofit entities, are ineligible to directly benefit from tax credits themselves.¹⁴⁸

Like the Evergreen Cooperative Laundry, Ohio Cooperative Solar is an employee-owned co-op that hires and trains under-employed residents from local neighborhoods. With an initial investment of about \$1 million from the Evergreen Cooperative Development Fund and \$1.5 million in a State of Ohio energy stimulus loan, the worker cooperative eventually will leverage an additional \$14 million in federal, state, and philanthropic loans and grants to create about 3.5 megawatts of solar in one square mile, the largest such concentration by far in the state (as of this writing, Ohio has just 2 megawatts of installed solar).



Ohio Cooperative Solar's work crew completes the first 110kW solar installation on the roof of a Cleveland Clinic building. The co-op plans to install 3MW of solar in Cleveland by 2013. *Photo courtesy of The Cleveland Foundation*

Ohio Cooperative Solar is hopeful that the scale of the anchor institution commitments will enable it to negotiate a bulk purchasing deal with a large original equipment manufacturer, thereby further lowering costs and providing the opportunity for further business expansion.¹⁴⁹ Also, under Ohio state law, this business model creates the opportunity for Ohio Cooperative Solar

“Because this is an employee-owned business, it’s all up to us if we want the company to grow and succeed.”
—Keith Parkham, ECL maintenance technician

to sell Renewable Energy Certificates (RECs) to utility companies, since Ohio utility companies have a state mandate to achieve a certain level of production from solar or other renewable energy sources.¹⁵⁰

The company’s first solar installations began in April 2010. Ultimately, the goal is to develop a workforce capacity that will carry out installations throughout the state. The business is projected to grow to employ 75 to 100 worker-owners.

After the laundry and the solar installation enterprises, two additional co-ops slated for launch are a 230,000-square-foot, year-round commercial hydroponic greenhouse business (Green City Growers) and a student co-op community newspaper and media source (Neighborhood Voice) that can serve as a vehicle for engaging residents in the overall community wealth building effort. Even as these two businesses prepare to launch, the leaders of the Evergreen initiative are beginning to vet and conduct feasibility studies on the next generation of cooperative businesses tied to the purchasing needs of Greater University Circle anchor institutions.¹⁵¹

When all is said and done, of course, Evergreen, like the other community wealth and ownership strategies described in this report, will succeed because of the men and women who are the owners of the companies.

“Owning your own job is a beautiful thing.”
—Medrick Addison, ECL supervisor

“Because this is an employee-owned business,” says ECL maintenance technician and former marine Keith Parkham, “it’s all up to us if we want the company to grow and succeed.” Parkham’s colleague, Medrick Addison, ECL’s overall work supervisor and a former Time-Warner Cable employee, adds, “I never thought I could become an owner of a major corporation. Maybe through Evergreen things that I always thought would be out of reach for me might become possible. Owning your own job,” he says, “is a beautiful thing.”¹⁵²

Meeting the Challenges

It isn't easy, but in some ways the green economy presents fewer challenges than the traditional economy. Co-ops [in the green economy] openly struggle with issues of growth, participation in the marketplace, and others contradictions. But in one sense, co-ops have always faced these challenges, because they are operating on principles anyway.

—Melissa Hoover, Executive Director, U.S. Federation of Worker Co-ops¹⁵³

Building equitable ownership in the green economy is not an automatic process and, in many cases, government policy increases these obstacles. Nonetheless, community wealth builders have developed a number of creative ways to overcome these barriers.

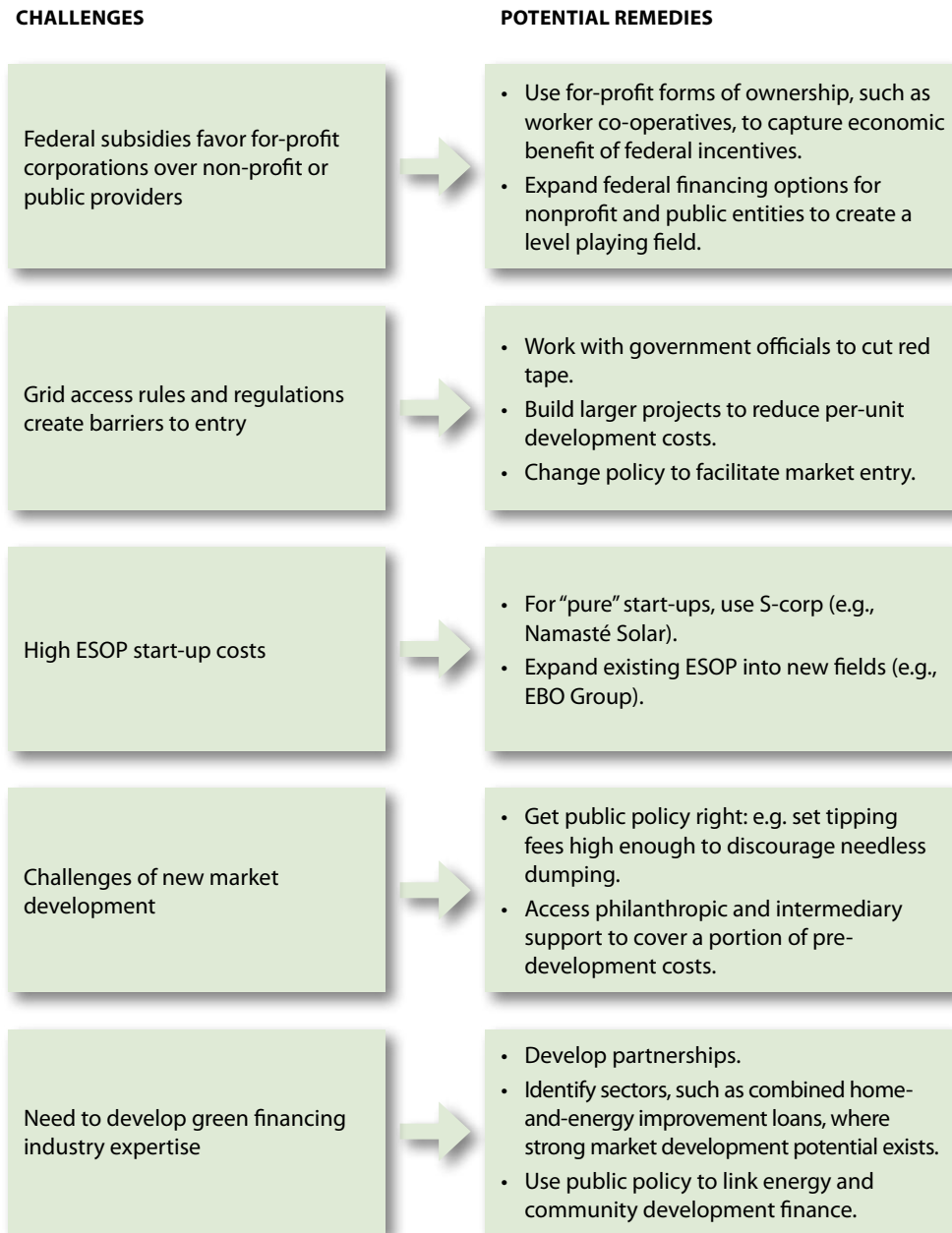
Clearly, there are significant examples of community wealth building in the growing green economy. This section will focus on the specific challenges to scaling up these models. An overview of these challenges appears in Figure 6.

Some challenges can be effectively addressed by creative action by community wealth building enterprises and organizations themselves. Policy—at the federal, state, and local levels—and philanthropic investments also have critical roles to play. But access to appropriate capital, markets and expertise are challenges that practitioners face in nearly all sectors of the green economy.

Federal Financing Barriers to Nonprofit or Public Firms

Federal incentives for generating energy from renewable sources largely come in the form of tax credits—wind-energy developers get a per kilowatt-hour (production) tax credit, biofuels developers are eligible for a per gallon (production) tax credit and solar producers receive an up-front capital (investment) tax credit. Non-profit and public enterprises—including Indian tribes, nonprofit cooperatives, and public power companies—however, do not pay income taxes and thus do not benefit

Figure 6: Facing the Challenges



from tax credit subsidies. In 2005, the Community Renewal Energy Bonds (CREB) program was created to provide a comparable financing tool for cooperative and public entities. But Congress only funded CREB at \$800 million for its first two years, while receiving \$2.5 billion in requests. Allocations ranged from \$23,000 to \$31 million for specific projects. Although helpful, CREB has not been able to support community wealth building at scale, in part, because, as Austin Energy Senior Strategy Engineer Mark Kapner points out, the administrative costs for using the program are too high. As a result, although Austin Energy gets approximately 12 percent of its power from renewable sources, it must contract with out-of-state companies to attain nearly all of that power. Indeed, the profits from the solar power Austin Energy purchases go to a company headquartered in Spain.¹⁵⁴

Community level renewable projects owned by residents, small businesses and/or farmers have also had great difficulty in accessing federal financing subsidies. In order to access the Production Tax Credit commonly used by wind developers,

Although helpful, CREB has not been able to support community wealth building at scale, in part, because, as Austin Energy Senior Strategy Engineer Mark Kapner points out, the administrative costs for using the program are too high.

investors must have “passive income” (income from rents and/or investments) to use these credits. Few potential community investors have sufficient passive income to use this tax credit.¹⁵⁵

John Farrell, Senior Researcher at the Institute for Local Self Reliance, offers this example: “A typical two-megawatt wind turbine provides enough electricity to power 600 average American homes. Under current federal laws, however, it is nearly impossible for these same 600 households to pool their resources and own this wind turbine because they do not qualify for the Production Tax Credit and would face a complicated and expensive securities registration process.” Farrell estimates up-front costs of \$30,000 to \$125,000 and annual compliance expenses ranging from \$10,000 to over \$400,000. Thus, this community of 600 homes would most likely have to partner with a large absentee equity firm and trade ownership interest after ten years.¹⁵⁶

A major obstacle for community ownership of solar generating capacity is its high capital cost, particularly for photovoltaic panels. A typical residential installation costs between \$24,000 and \$40,000. But federal incentives for installing solar generating facilities have been skewed to large commercial owners because they are offered as tax credits or accelerated depreciation schedules. Although the individual homeowner or small business is eligible for an Investment Tax Credit of 30 percent of project value, until 2009 these benefits were capped at \$2,000 for residential systems. No such cap, however, existed for commercial projects. A federal program, the federal Renewable Energy Production Incentive, provides

annual incentive payments to non-profit, cooperative and public entities producing renewably generated electricity that is then sold to another source. Like the CREB tool, however, its funding level, capped to \$800 million a year, is far less than the demand. State, local and utility incentives reduce but do not substantially eliminate the disparity in public subsidies for community versus large commercial users.¹⁵⁷

Consequently the financing models that have evolved to compensate for this skewed system do not support many forms of community ownership. Wind projects in the United States have typically been owned through one of two business models. Through the absentee owner model, a landowner will lease his or her land to a developer, earning about \$2,000 to \$5,000 per turbine annually. The landowner could, however, earn two to three times that amount by owning the turbine directly.¹⁵⁸

The second ownership model, known as the “Minnesota Flip,” similarly involves an outside wind developer who pays for and installs the turbines for free on a landowner’s property and benefits from the tax credits that make the project feasible. However, after a typical term of ten years, the project is turned over to the landowner who then benefits from the revenues derived from the sale of the wind power and is also liable for maintenance and other operating costs. John Farrell characterizes the Minnesota Flip as “a convenient legal arrangement for a Byzantine renewable energy policy,” reserving judgment as to its utility as a community wealth building tool. “Overall, it has some of the highest total potential returns to community members,” notes Farrell, “if the turbine doesn’t have significant maintenance issues in the long term. So far, very few of those projects (if any) have reached the flip stage and so we don’t have a lot of data on how good or bad these arrangements are.”¹⁵⁹

For the individual homeowner, solar is a relatively expensive technology with significant upfront costs (\$15,000-\$20,000 per residence) and a long payback period. Because of these substantial capital costs, several financing options are used that do not involve community ownership. With the first tool, the photovoltaic panels are leased to the customer who then gets the benefits of locally generated power without paying upfront capital costs or maintenance expenses but not receiving the benefits of ownership. Solar City, a California-based company that is working to vertically integrate the industry by offering design, financing, installation and monitoring services, typically offers homeowners a 15-year lease with an option to buy the panels for 10–20 percent of the original cost at the end of the term. (The industry is too new to assess the benefits of that ownership offer.) The second model is the solar power purchase agreement (PPA) where the customer

simply pays for the power generated, signing a 15-to-20-year agreement to buy the solar power at a fixed rate. Although the consumer benefits by access to a renewable source of electricity and predictable power rates, he/she will probably never own the photovoltaic panels nor benefit from any of the government incentives. A rooftop owner with a 50-kilowatt photovoltaic panel can expect to earn about \$2,000 in lease payments over the life of the agreement. Seventy-two percent of photovoltaic installations completed in 2008 used the PPA model, including big box retailers such as Walmart.¹⁶⁰

Critical factors behind the Ohio Cooperative Solar business model are: (1) low cost capital; (2) pre-confirmed multi-year purchasing agreements with the city's large anchor institutions; and (3) the State of Ohio's aggressive requirements for the expansion of solar.

Indian tribes face similar barriers. Few tribes, despite having substantial wind and solar generating capacity, currently own their own facilities because of their ineligibility for renewable energy federal tax benefits. Furthermore, because of sovereignty issues, tribes are often hesitant to relinquish the equity necessary to make the “flip” an attractive strategy. The Department of Energy, as well as the U.S. Department of Agriculture, manage grant and loan programs for renewable energy, some of which are open to tribes but funds are very limited and oversubscribed.¹⁶¹

There have been some recent policy victories for the renewable production sector. The Emergency Economic Stabilization Act (EESA), enacted in late 2008, lifted the cap for residential photovoltaic installations and allowed application of the tax credits against the alternative minimum tax. The American Recovery and Reinvestment Act of 2009 (“stimulus bill”) temporarily amends the rules governing the Production Tax Credit to enable project developers to apply for a grant from the Treasury Department in lieu of the credit, equal to 30 percent of the cost. This amendment was designed to be temporary because tax credits are not feasible given the depressed profit levels during the recession. But local government units, non-profits, co-ops and other partnerships are specifically prohibited from using this cash incentive.¹⁶² Other opportunities provided by the stimulus bill include an additional \$1.6 billion in CREB financing to help public entities and cooperatives finance renewable power projects and \$6 billion for a temporary loan guarantee program for renewable generation and transmission projects.¹⁶³

While obstacles to nonprofit and public ownership are significant, the example of Ohio Cooperative Solar in Cleveland, Ohio—detailed above—illustrates that *for-profit* forms of community ownership do not face the same barriers, which is not to say that developing viable employee-owned solar installation businesses is easy. Critical factors behind the Ohio Cooperative Solar business model are: (1) low cost capital, made possible by the support of The Cleveland Foundation; (2)

pre-confirmed multi-year purchasing agreements with the city's large anchor institutions; and (3) the State of Ohio's aggressive requirements for the expansion of solar and other renewable energy technologies. While these factors do not guarantee success, they provide a significant competitive advantage that bodes well for the profitable development of such enterprises.¹⁶⁴

Grid Access and Regulatory Barriers

Another challenge for community producers of renewable energy is access to the power grid, typically controlled by the large privately owned investors or regional monopolies.¹⁶⁵ Small projects face challenges that include an expensive and lengthy approval process, specific equipment requirements and high standard fees. Although these relationships are subject to regulatory scrutiny, utilities have typically been given substantial discretion in setting the interconnection framework for "distributed" projects. Judy Lipp, Executive Director of the Toronto Renewable Energy Co-operative, recalls the onerous process of negotiating with the utility to secure access to the grid. "It's a mindset issue where people in the industry are used to large generating plants far from users and dealing with a few players. You need real will to get through these barriers."

Community wind producers also face enormous regulatory hurdles in getting a project approved. Jennifer Grove of Northwest SEED, which helped Our Wind Co-op install turbines for ten small projects in the Northwest, notes that, "Wind takes three to five years in lead time, even in a state like Oregon which is the ripest of our states."¹⁶⁶ Lipp recalls a 33-step process for the Toronto community-owned turbine. These financial, legal and tax challenges are major barriers to community owned projects. In the 1920 and 1930s, federal power authorities partnered with consumer owned utilities around hydroelectric generation and transmission. The Last Mile Project is an example of community-sized entities joining together with larger utilities to collectively invest in a large project and thus share the considerable costs of feasibility studies, permitting, site development and turbine procurement, thereby securing lower financing costs per turbine.¹⁶⁷ One advantage that community wind projects

One advantage that community wind projects have over large externally owned projects is that they are far less likely to face the NIMBY (Not In My Back Yard) response that proposed turbines face from neighboring landowners across the country.

have over large externally owned projects is that they are far less likely to face the NIMBY (Not In My Back Yard) response that proposed turbines face from neighboring landowners across the country.¹⁶⁸

Changing the regulations is one obvious remedy, but in the absence of policy change, Lipp's group has addressed the barriers they have faced in two ways: first, by getting a forgivable loan from the Canadian federal government to cover the pre-development costs for its first project; and second, by scaling up its second project to a much larger size that reduces, proportionately, the cost of obtaining the requisite approvals.¹⁶⁹

High ESOP Start-Up Costs

The late John Logue of the Ohio Employee Ownership Center believed that ESOPs were ill-suited to what he called "hard core green" start-ups. With front-end legal costs of at least \$30,000, ESOPs are expensive to set up compared to other corporate forms. They are not attractive to the typical venture capitalist seeking high returns

ESOPs are well suited to high performing manufacturing enterprises which the U.S. needs many more of if we are to lead the world's green economy.

to compensate for the high risk of new enterprises. "But," said Logue, "ESOPs are well suited to high-performing manufacturing enterprises which the U.S. needs many more of if we are to lead the world's green economy." Moreover, as CEO Dave Heidenreich of The EBO Group points out, an increasing number of ESOPs are set up as S-corporations—as the Colorado-based solar installer, Namasté Solar, profiled above, is—and thus eligible for substantial tax exemptions, which can be used to invest in new ventures.

Additionally, many existing co-ops can leverage existing assets to move into new lines of business in the green economy, as indeed Heidenreich's EBO Group has done.¹⁷⁰

Challenges in New Market Development

Many green industries are relatively new. Therefore it is not surprising that community-based firms entering these industries face many of the challenges typical of emerging industries. Deconstruction provides one example of this phenomenon. As Brad Guy, Executive Director of the National Building Materials Reuse Association, acknowledges, deconstruction is in its infancy—with limited scale, low margins unless value is added to the salvaged material (e.g. re-milling lumber for flooring), and is plagued by variability of supply.¹⁷¹

The financial feasibility of deconstruction varies with local and state policies, particularly around landfill tipping fees. Where fees are high, as in California,

Oregon and Washington, deconstruction becomes more attractive to owners and developers and there are many more small-scale operators in the sector. The time constraints of development often make deconstruction difficult. It is labor intensive—advantageous for training workers in construction techniques but potentially expensive with skilled workers. Safety and thus the high costs of workers' compensation and insurance are also challenges for this new industry. Asbestos and lead exposure are common risk factors.¹⁷²

Despite these challenges, the potential for industry growth is high, as tipping fees climb and sustainability becomes a greater public policy priority. Moreover, even with today's low tipping fees, deconstructing high-end properties is clearly lucrative. Although the cost for ecological building deconstruction is generally 50 to 100 percent above conventional demolition and landfill, property owners can earn a substantial tax deduction by donating the materials to a non-profit organization.¹⁷³

Green building is a much more established market than deconstruction, but it still has many of the problems associated with new market development. Enterprise Community Partners' Green Communities initiative, with five years of experience under its belt, has identified a range of challenges that affordable housing developers face in going green. Particularly relevant are the extra costs involved in the pre-development phase. Says Enterprise Vice President Dana Bourland, "It's hard to sell the initial higher costs to funders so green becomes an "unfunded mandate." The construction process also has its challenges. "Developers aren't always thinking as holistically as they need to. The transfer of the green design elements to the construction process and then to operations and maintenance is not always so fluid."¹⁷⁴

The affordable housing finance system also presents challenges for community-based organizations that are seeking to capture market share in green building. Requirements for the lowest per unit cost often discriminate against including green features. Securing appropriate expertise is a challenge. In many localities, green consultants are unavailable or too costly and green expertise in a variety of building services is hard to fund. Doing green building right is highly dependent on local climate conditions but place-specific data is hard to find. Post-construction challenges include the expense of third-party verification (essential to ensuring that "the green details really get incorporated," notes Bourland) and the difficulty of engaging residents and property managers in the green planning process so that they too have a stake in saving energy. Finally, utility allowances for publicly subsidized housing often fail to encourage energy savings.¹⁷⁵

As noted above, in the past five years, Enterprise Community Partners has invested \$650 million to create more than 14,500 green affordable homes in 350 developments in 30 states that meet its “Green Communities” criteria, an impressive achievement—and an investment that has positioned many community development corporations to become leaders in the rapidly growing green building market. Critical to achieving these gains has been the dedicated commitment of intermediaries such as Enterprise to bear the start-up costs faced by community development corporations and other nonprofit housing developers to bridge market gaps and foster the development of in-house expertise.

Developing Green Financing Expertise

Even the largest and most sophisticated community development financial institutions (CDFIs) in the nation are struggling with the need to secure the substantial and diverse expertise needed to effectively invest in the green economy. Needless to say, to lend effectively in new industries requires developing industry-specific knowledge in order to appropriately assess business plans and related loan documents. Coastal Enterprises in Maine is struggling with the “huge need for expertise,” says Senior Vice President Carla Dickstein. To meet this need, Coastal has engaged in partnerships with state agencies, non-profits and research institutions. “Sometimes it works, sometimes it doesn’t,” Dickstein notes. “But securing expertise is a cost and how do you cover that extra cost?” Coastal is struggling to find the financial resources to cover the extra development costs associated with building green, particularly LEED-certified buildings, but has not yet succeeded in developing the expertise to effectively do so.¹⁷⁶

Self Help is one of the nation’s largest CDFIs and, according to Bob Schall, President of Self-Help Ventures Fund, a division of Self-Help, the community lender is still searching for a cost-effective market segment, citing the need for specialized expertise that they lack and the need to find bankable green projects. Self-Help co-sponsored a green design competition for an affordable single family home in Durham, North Carolina, but could not find a developer willing to build it at an affordable cost. Self-Help is financing a small low-head hydro plant at a former cotton mill, but Schall believes that electricity prices are too low in the Southeast to make renewable generation feasible. Expertise is an issue as well. “We initially decided to focus on greening charter schools,” recalls Schall “because we have lending expertise in that market. But they have no extra cash flow and we have not been able to find subsidy funds. We thought we would get some good

learning from lending for charter retrofits but we discovered that each project is different—charters are housed in former retail space, warehouses, churches—the list goes on. Expertise is an additional up-front cost for us.” Schall thinks that one promising market segment for CDFIs may be to originate mortgage loans that are coupled with loans for energy improvement—something that conventional banks don’t do.¹⁷⁷

“There is an opportunity to use economic stimulus dollars to connect clean energy funding with community development financing.”—Rob Sanders, Managing Director, TRF

Rob Sanders, Managing Director of the Energy Group at the Philadelphia-based TRF (The Reinvestment Fund), believes that the 2009 stimulus bill presents a real opportunity for CDFIs. “Clean energy projects are having difficulty obtaining financing,” Sanders noted. “Institutional lenders are not lending, or, if they are, they’re charging high risk premiums that have made good projects no longer financially viable.” Sanders added that, “There is an opportunity to use economic stimulus dollars to connect clean energy funding with community development financing.” According to Sanders, this would not only stimulate the rebuilding of low-wealth communities hurt by predatory lending practices and the burst housing bubble, but the resources freed up from utility spending could be used to instead jump-start other regional spending and investment.¹⁷⁸

The Role of Intermediaries

We need to work with you all. We need the technical assistance capacity. . . . We need [intermediaries' support] to democratize energy production in this country.

—Winona LaDuke, Executive Director, Honor the Earth¹⁷⁹

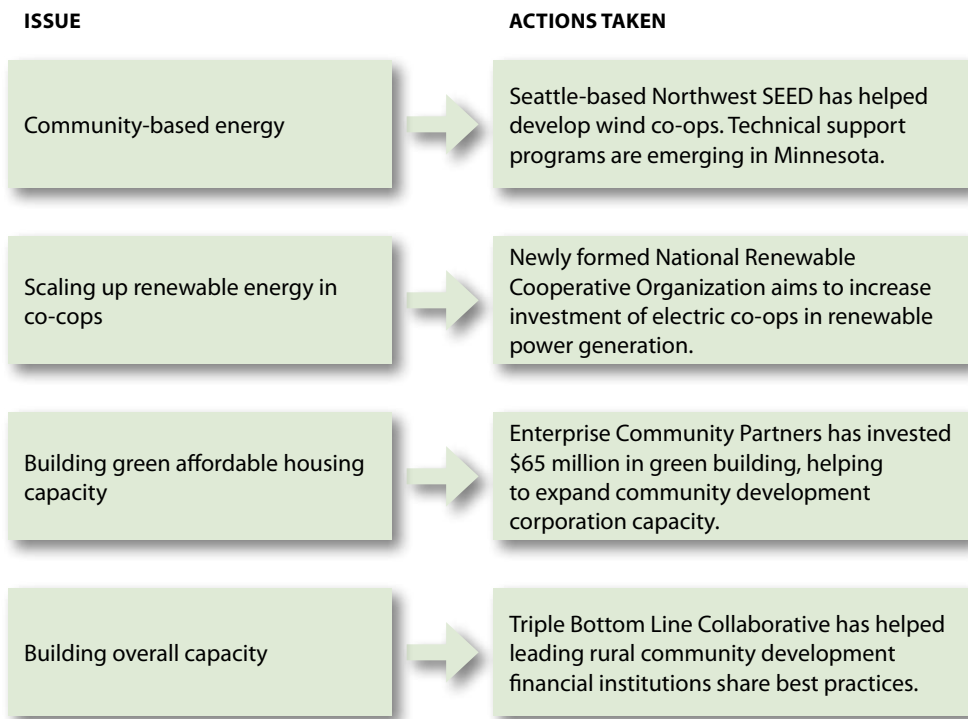
Only a small number of trade associations and technical assistance groups are working to connect community wealth builders to the green economy, but a few have spearheaded important efforts. These include providing technical assistance and support for co-op entry into renewable energy, building capacity among community development corporations in green affordable housing, and helping to develop green industry knowledge among leading community development financial institutions.

Intermediaries—that is, those who provide technical assistance, financing, training, policy advocacy and networking to place-based organizations—are essential to the growth of an industry, whether in the for-profit or non-profit sector. While many intermediaries have yet to seize the opportunity that the growing green economy provides, a handful of state, regional and national organizations are clearly working in the nexus between community wealth building and the green economy, as shown in Figure 7.

Community Based Energy

Seattle-based Northwest SEED (Sustainable Energy for Economic Development) works collaboratively with a range of partners to help communities across the Northwest advance projects to achieve energy independence, economic development and community ownership. This intermediary supported a cooperative of ten landowners dispersed across the states of Washington and Montana to each install a small-scale wind turbine. They helped develop Washington's first

Figure 7: Intermediaries and Their Actions in the Green Economy



community-based wind project, which will contribute its net revenue from power sales to the local low income-energy assistance program. They have assisted Indian tribes in developing plans for greater energy self-sufficiency. Most importantly, Northwest SEED builds its own expertise—regulatory, financial, and technical—in community-scale renewable projects in target states; links communities (both urban and rural) together to share information as well as collaborate for project financing and predevelopment expenses; and shares this new-found expertise through the publication of manuals and project-specific technical assistance.

Another intermediary uniquely focused on the promotion of community wind is Windustry. Based in Minneapolis, this regional player works with land-owners, agricultural organizations, local elected officials, economic development

organizations and rural utilities to provide education, advocacy and expertise on the regulatory, legal, financing and development impacts of specific community wind projects.

A different approach is embodied by CERTs (Clean Energy Resource Teams), which are state supported public-private partnerships operating in each of Minnesota's five regions. CERTs support community-sponsored green projects by linking non-traditional players, leveraging the expertise of the University of Minnesota, engaging regional and state public officials and through small grants. Investments made through this state program have supported feasibility studies for wind, biomass and geothermal projects at local schools, on tribal lands and for public buildings.

Scaling Up Renewable Energy in Co-ops

Most of the nation's 900 electric cooperatives are either too small or do not generate their own electricity to become owners of renewable energy facilities. The recently created National Renewables Cooperative Organization (NRCO) was organized to enable the larger cooperatives¹⁸⁰ to pool their expertise and investments to become significant players in the renewable power sector. NRCO is currently owned by 24 generation-and-transmission co-ops and four unaffiliated electric co-ops from across the country and is building capacity to both screen investment projects for their members and eventually to take ownership of some renewable assets.

NRCO was organized to enable the larger cooperatives to pool their expertise and investments.

Building Green Affordable Housing Capacity

Green Communities is an initiative sponsored by the national affordable housing intermediary, Enterprise Community Partners, which provides funds and expertise to developers to green their building practices and projects. Through sponsoring workshops and web-seminars, developing tools and building local partnerships this intermediary is playing a key role in building the capacity of non-profit housing developers to participate in the green economy. The \$650 million in loans and grants invested to date has helped cover the costs of planning and implementing green components of affordable housing development, as well as finance predevelopment and acquisition expenses.

Building Overall Capacity

Although many trade associations and intermediaries that support community wealth building strategies are interested in how their constituents can grow with the new green economy, few are prioritizing green. The National Center for Employee Ownership does not collect data about ESOPs operating in the green economy, according to Executive Director Corey Rosen.¹⁸¹ “Members aren’t asking about green,” Rosen noted. “It’s a business question rather than an employee ownership question.” Similarly, the late John Logue at the Ohio Employee Ownership Center, although familiar with a number of ESOPs engaged in the green economy, was unable to identify a specific strategy for supporting worker ownership in this new sector.¹⁸²

The Social Venture Network, a peer network that supports entrepreneurs and investors who seek to leverage business for social and sustainable ends, concentrates its green efforts on assisting members to manage their carbon footprint. The US Federation of Democratic Workplaces focuses on growing the worker cooperative movement nationally so that it is accessible and scalable. Executive Director Melissa Hoover notes that, “there are various strands of green in the worker co-op movement,” but their technical assistance and training focuses on generic capacity building. Similarly the Cooperative Development Institute’s Jenn Guttshall can point to a range of worker co-ops in the Northeast that are engaged in sustainable agriculture, energy, solar installation, weatherization, recycling and building but says that her organization also focuses on building the generic skills needed to operate a worker co-op, rather than direct assistance to members seeking to take advantage of opportunities in the green economy.¹⁸³

In the Community Development Finance Institutions arena, none of the primary trade associations (Opportunity Finance Network, the National Federation of Community Development Credit Unions, National Community Development Venture Capital Association, and the Association of Economic Opportunity) are focusing on identifying opportunities for their members in the green economy or in specifically supporting them to engage in green lending. An exception is the Triple Bottom Line Collaborative, which is playing an intermediary role for ten CDFIs seeking to use their lending and investment tools to maximize environmental as well as social and economic equity gains. All of these CDFIs have a significant rural portfolio where the intersection between development and natural resources is most obvious. Supported by the Ford Foundation, this network provides opportunities for peer learning and targeted research.

The Role of Philanthropy

It's an interesting moment. We have had several hundred years of emphasis on specialization, expertise, narrowing. Now we have got to begin to synthesize in a serious way and pull all of these strands together to create something larger than the sum of the parts.

—Peter Teague, Program Director, Nathan Cummings Foundation¹⁸⁴

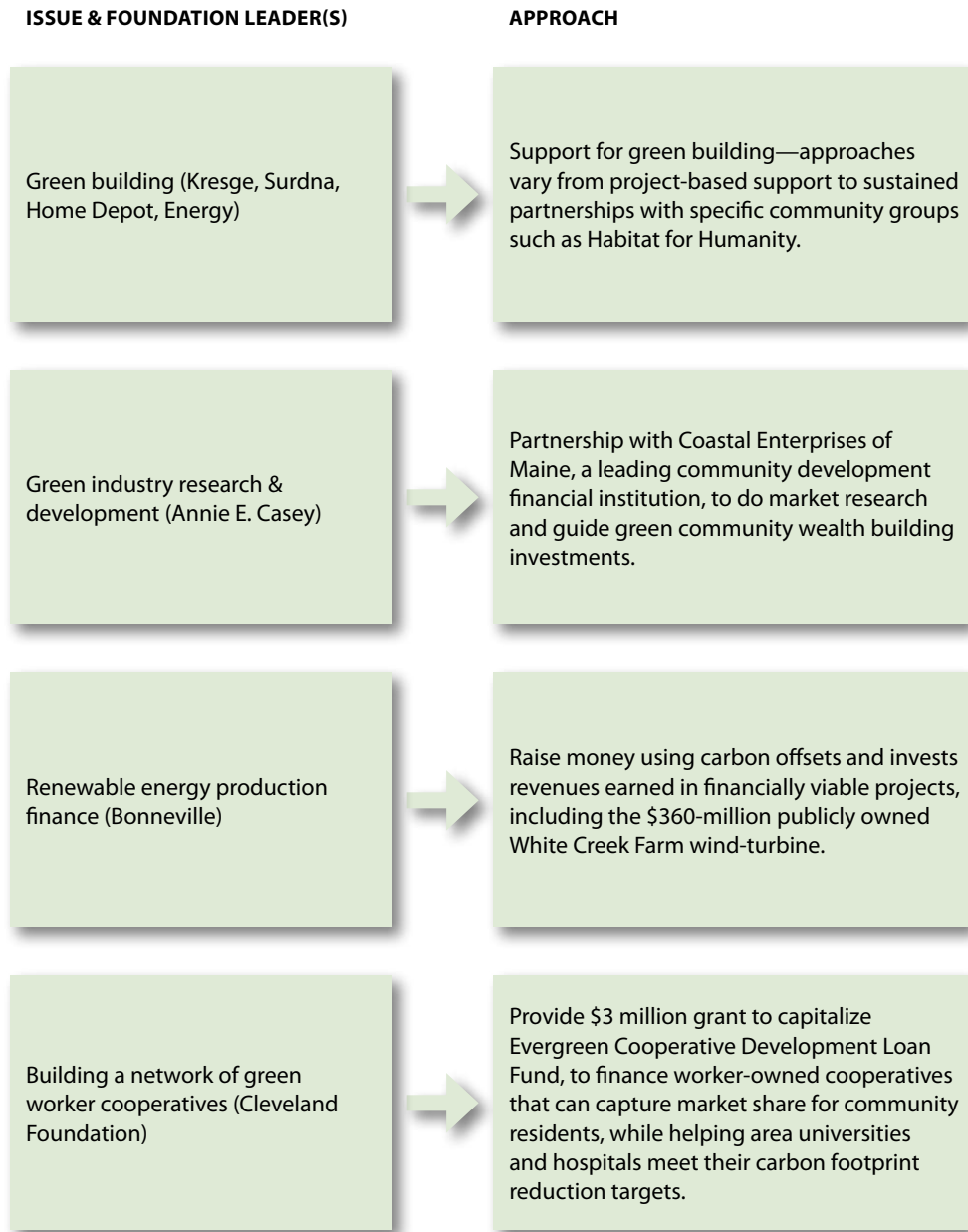
Historically, foundations have tended to treat environmental and poverty reduction grant-making as unrelated endeavors. In a few cases, however, foundations have begun to search for ways to build community wealth within the green economy.

Typically, foundations have seen the environment and poverty through two separate lenses. Only recently have a handful of funders begun to integrate these two approaches. Some funders use a **smart growth** paradigm to think about grants that promote both carbon reduction and community development objectives. Others are using the lens of **equity** to encompass environmental, social and economic justice goals. Still others are applying **triple bottom line** metrics to bridge the environment-economic justice divide. In a few cases, summarized in Figure 8 and discussed below, foundations have begun to support efforts that build community wealth while meeting environmental objectives.

Supporting the Non-Profit Sector's Capacity to Green Affordable Housing

This is the most common area for philanthropic support of community wealth building activities in the green economy, with foundations supporting both intermediaries and specific local development projects. Philanthropic pioneers include the Kresge, Home Depot, Energy, and Surdna foundations. Kresge, for example, ran a “Green Initiative” program from 2003 to 2009 that provided grants of up

Figure 8: Philanthropic Approaches to Building Community Wealth in the Green Economy



to \$100,000 for predevelopment. Home Depot Foundation in 2009 announced a 5-year, \$30-million green building partnership with the nonprofit developer Habitat for Humanity. The Energy Foundation, with the support of a three-year, \$21-million grant from the Doris Duke Charitable Foundation, has provided grants to support the development of energy-efficient building codes, appliance standards, and building technologies. Surdna's "sustainable communities" program takes a broader view and more explicitly focuses on "the interplay between the environment, the economy, and social equity."¹⁸⁵

Enabling CDFIs to Strategically Invest in the Green Economy

There are only a handful of examples of foundations supporting community development entities to build their expertise in green lending and identify strategic niches. The Annie E. Casey Foundation is supporting Coastal Enterprises in Maine to help their business clients assess the feasibility of engaging in the green economy as a way to create or expand job opportunities for low-income workers. For example, if an apparel manufacturer in Maine substituted organics for conventionally produced fabric, what would be the costs and benefits of competing in the fair trade market? "Companies don't understand that there are new markets for different kinds of production with higher standards and none of us understand if we have the flexibility to change production processes or what the costs are," noted Carla Dickstein at Coastal Enterprises. "When is it worth competing in markets that want green goods and how do we help our portfolio companies be nimble?"¹⁸⁶

Coastal Enterprises is also working with a consortium of public and private entities in Maine that aim to produce plastic from potatoes, thereby avoiding the need for petrochemicals while building new markets for Maine farmers and creating manufacturing jobs. As part of this work, Coastal Enterprises intends to produce a study that examines how this industry can be structured to maximize community benefit.¹⁸⁷

Financing Public Wind Energy Production

The Bonneville Environmental Foundation has played a leading role in both making carbon trading tools accessible to small and publicly owned wind producers in the Northwest and in using these new financing tools to generate income for

its own charitable activities. Investing over \$2 million in the \$360 million White Creek Wind Farm, Bonneville helped to create the largest public wind-generating project in the nation. Their style is entrepreneurial—they take the lead in creating and defining product and market standards. They also work on a policy level to educate local and national organizations and work with them to refine and improve industry standards.¹⁸⁸

Financing Green Worker Co-ops to Build Community Wealth

The Cleveland Foundation, the nation's oldest community foundation, has been a vital player in developing start-up green cooperatives as part of the Greater University Circle Initiative. The Foundation's strategy aims to develop a growing network of worker co-ops focused on markets created by the city's large "anchor institutions" (e.g., Case Western University, University Hospital, Cleveland Clinic), located in targeted inner city neighborhoods and owned by local residents. With a \$3 million grant, the foundation helped to capitalize a new cooperative loan fund managed by ShoreBank Enterprise Cleveland. The first two worker co-ops—the Evergreen Cooperative Laundry, the region's largest green, commercial laundry, and Ohio Solar Cooperative, an owner and installer of photovoltaic panels—opened in October 2009. The Foundation's financial role with the co-op laundry involved guaranteeing a \$750,000 loan through a deposit in a local bank and advancing money to renovate the laundry's facility. Equally important, The Cleveland Foundation used its civic capital to convene quarterly roundtables for the CEOs of the anchor institutions to generate strong support for the initiative.¹⁸⁹

This community foundation is also helping to pioneer a strategy for quantifying the benefits of investing in community wealth building projects to local donors. "A grant to the Evergreen Cooperative Development Fund," the Cleveland Foundation's newsletter points out, "can accomplish the following things: \$500 enables an Evergreen employee to attend Cuyahoga Community College's Green Academy and gain training in green job skills. \$1,000 provides an Evergreen employee on-the-job training in worker ownership practices. (And) \$5,000 helps fund feasibility and early business planning for the next generation of Evergreen co-ops."¹⁹⁰ The Foundation is also working with the Case Western Reserve University Weatherhead School of Management to implement a five-year longitudinal study of the impact of the Evergreen cooperatives on the workers, neighborhoods and participating anchor institutions.

The Role of Policy

I certainly think there is the potential inherently and a lot of capacity for small-scale investments in renewables. That could enhance the general aggregation of wealth in this economy. But it won't happen without a lot of attention paid to very specific policy changes.

—Dave Foster, Executive Director, Blue-Green Alliance¹⁹¹

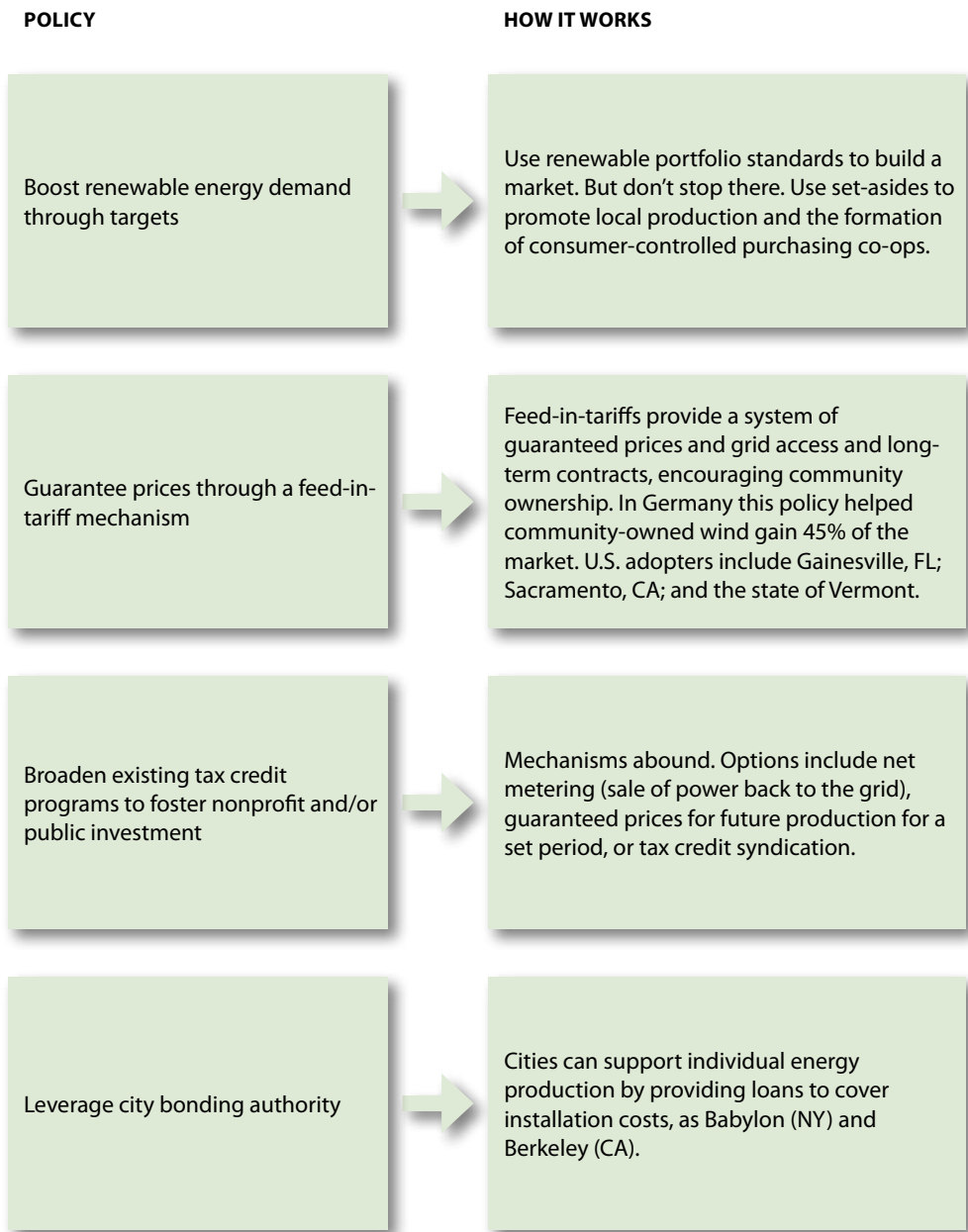
Policy often has been a barrier to community wealth building in the green economy. Policy can be an aid, rather than a hindrance, however, by including community targets in state “renewable portfolio standards,” establishing feed-in-tariffs that provide a guaranteed price to renewable energy producers, broadening funding streams to create equitable financing access, and using local government borrowing to help finance individual household renewable energy production.

Policy decisions greatly shape access to the green economy. Figure 9 highlights some of the ways policy can greatly enhance the ability of non-profit, public, ESOP, and cooperative sectors, as well as individual households, to participate in the green economy.

Boosting Renewable Energy Demand

One theme that repeatedly emerged in our research was the need for consistent demand for a green product or service—from residential recycling to solar panels to renewable electricity production. In California, Assembly Bill 939, a landmark piece of legislation passed in 1989, helped induce demand by requiring that local governments meet aggressive recycling goals by 2015. This law made it possible for non-profit recyclers, like Ecology Inc. in Berkeley, to count on a steady stream of income, although it also required them to innovate and diversify to compete with multi-national consolidators, who also found this publicly created market attractive.

Figure 9: Policy to Build Community Wealth in the Green Economy



The most prevalent policy tool in the United States that influences the demand for renewables is the Renewable Portfolio Standard (RPS). Forty states have now adopted these renewable energy mandates, which require investor-owned utilities and sometimes, publicly and cooperative owned utilities to generate or purchase a certain percentage of their electricity from renewable sources. Typically, these requirements are phased in over a 10-to-20 year period. An RPS can prove helpful to small non-profit organizations seeking to enter the renewable generation field. When Washington voters in 2005 approved this mandate it gave a big boost to Coastal Community Action's planned wind project. "The price of power for a project like ours went up," recalled CCA's Craig Deblanko. "Before the RPS, the utility wasn't interested in buying power from us."

Nearly one million Americans receive energy now from quasi-purchasing co-op buying groups, including 118 cities in northeast Ohio and 36 cities in Rhode Island. Customers enjoy rates that are four to 20 percent lower than investor-owned utilities.

Now the non-profit has a contract with the utility to purchase all of their output.¹⁹²

Some states also have created "carve outs" for community owned renewable projects. Oregon's goals call for eight percent of the state's retail electrical load to come from small-scale renewable projects by 2025. Montana's RPS includes quantified mandates for utilities to purchase electricity from community renewable-energy projects.¹⁹³

Another policy that can help build community wealth in the green economy is Community Choice Aggregation. Massachusetts, Ohio, California, New Jersey and Rhode Island allow cities and counties to aggregate the buying power of consumers to secure renewable energy supply contracts. Nearly one million Americans receive energy now from such quasi-purchasing co-op buying groups, including 118 cities in northeast Ohio and 36 cities in Rhode Island. Customers enjoy rates that are four to 20 percent lower than investor-owned utilities.¹⁹⁴

Providing Stable Pricing: Feed-In Tariffs

While Renewable Portfolio Standards mandate that utilities use a specific quantity of renewable electricity, policies in Europe have focused on price, coupled with rules that require utilities to provide community access to the grid and enter into long-term contracts with community owners. This has proven to be very effective tool for fostering community ownership of renewables. The Feed-in Tariff (FIT) mandates a long-term premium price (often set for 20 years) for renewable energy. The price is set high enough to attract investors but not so high as to generate

windfall profits. Says John Farrell of the Institute for Local Self-Reliance: “It’s cheaper to do renewables with FIT because with guaranteed prices it’s like taking gold to the bank.” Germany’s feed-in tariff has helped that country develop enough wind capacity to power two million households, with 45 percent of turbines being community owned. Because the feed-in-tariff stabilizes projected revenues, it is far easier for community producers to obtain needed financing.¹⁹⁵

In North America, only the province of Ontario and a handful of U.S. jurisdictions have enacted FIT policies. Most notable are the solar photovoltaic FIT passed by the municipal utility in Gainesville, Florida in early 2009, which guarantees a

A Feed-in Tariff (FIT) mandates a long-term premium price (often set for 20 years) for renewable energy. The price is set high enough to attract investors but not so high as to generate windfall profits.

rate of 32 cents per kilowatt-hour for 20 years; in contrast, homeowners in Florida paid an average rate of 12 cents per kilowatt-hour for their electricity. Vermont passed the first statewide feed-in-tariff law in May 2009. Sacramento’s Municipal Utility District, which serves 1.4 million people, approved a feed-in tariff that took effect in January 2010.¹⁹⁶

A related effort, that Minnesota in 2005 implemented, is the Community-Based Energy Development (C-BED) Tariff, which encourages renewable energy by encouraging utilities to contract with community-owned firms (no single owner may own more than 15 percent of the firm and at least 51 percent must be owned by state residents) and pay higher prices for wind energy in the first ten years of the contract (in exchange for lower prices in later years). Although the net present value of the 20-year contracts is unchanged (i.e., the lower prices in the last ten years offset the higher prices of the first ten), the front-loading has encouraged much greater community ownership in wind production. According to John Farrell of the Institute for Local Self Reliance, the CBED tariff is one key reason that 27 percent of wind production in Minnesota is community-owned—compared to one percent nationally.¹⁹⁷

Financing for Community-Generated Power

Closely related to the need for predictable pricing is project financing. As noted above, tax incentives are the primary federal financing tool for renewable energy. Some states have broadened the applicability of their tax credits in ways that enable nonprofit or public entities to access these benefits. In Iowa, for example, a Production Tax Credit can be applied to the state’s personal income tax, business tax, financial institutions tax or sales and use tax, provided that the facility is at

least 51-percent owned by local residents. In Oregon, a wind project owner may sell the tax credit to a third party with a large enough tax liability to benefit from the tax credit.¹⁹⁸

Another common tool designed to encourage local production of renewable energy is net metering, commonly referred to as letting the meter run backwards.

North Carolina provides an example of another approach taken by states to compensate for the limitations of the federal set of tax incentives for renewable energy. This state allows an investor in a non-profit's renewable energy project to claim an extra tax credit. Thus the donor may claim a share of the credit that the non-profit would claim if liable for taxes. Last year, the state extended this mechanism to donations to local government as well as non-profit organizations.¹⁹⁹

Another common tool designed to encourage local production of renewable energy is **net metering**, commonly referred to as letting the meter run backwards. Though available in approximately forty states, net metering has not been widely used because of challenges small producers face in negotiating with utilities. Some states have taken steps to address these obstacles. New Jersey, for example, has adopted a streamlined application process that limits the ability of utilities to delay links to the grid and bans such obstructionist tactics as requiring "unnecessary and expensive additional safety equipment."²⁰⁰

Using Local Government Authority To Foster Direct Resident Ownership

Following the lead of Berkeley, California, several local governments are using their taxing and bonding authority to enable property owners to finance investments in energy efficiency or renewables with no upfront costs. Berkeley FIRST enables

Berkeley FIRST enables property owners to borrow money from the City's Sustainable Energy Financing District to install solar photovoltaic systems and allow the cost to be repaid over 20 years through an annual special tax on their property tax bill.

property owners to borrow money from the City's Sustainable Energy Financing District to install solar photovoltaic systems and allow the cost to be repaid over 20 years through an annual special tax on their property tax bill. This authority was extended to all municipalities in California through the passage in 2008 of AB 811 and the jurisdictions of Palm Desert and Sonoma County recently put "Energy Independence" programs in place. Similarly, Babylon, New York (in Suffolk County) now has a program funded by fees on solid waste collection that provides low interest loans up to \$12,000 for solar and energy efficiency investments.²⁰¹

Recommendations

Clearly, there are many examples of community wealth building in the green economy. As described above, however, significant challenges exist in securing appropriate financing, penetrating reliable markets, realizing competitive prices and accessing timely expertise. The following recommendations directed to intermediaries, policymakers, funders and practitioners—outlined in Figure 10 and discussed in further detail below—would, if implemented, greatly facilitate efforts to scale up and use the green economy to more equitably distribute wealth and economic opportunity.

Intermediaries

Intermediaries can help foster community wealth building in the green economy by supporting member research and education, raising resources for members, and by advocating for the inclusion of community wealth building among policymakers and movement leaders.

Because intermediaries facilitate access to markets and resources, they have great potential to leverage these resources to help build community wealth in the green economy. Some key steps they could take include the following:

Sponsor Research and Education

At present, the National Rural Electrical Cooperative Association is systematically collecting data about its cooperative members' engagement with renewable energy. But many other trade associations have failed to engage in similar work, leaving many data holes that, if filled, could help guide their members, such as: What business opportunities exist for employee-owned companies in green manufacturing? What government policies and regulations help or hinder entry in developing sectors? Trade associations that represent public, nonprofit and employee-owned business can help their members to benefit from the emerging green economy

Figure 10: Outline of Recommendations—Building Community Wealth in the Green Economy

<p>Intermediaries</p> <ul style="list-style-type: none"> • Research and Education: Collect data from members, develop knowledge base through workshops and member technical assistance. • Identify Resources: Help practitioners aggregate resources to enter market, develop financing tools. • Advocacy and Coalition Building: Develop internal advocacy plan and build alliances based on common cross-sector interests. 	<p>Philanthropy</p> <ul style="list-style-type: none"> • Use convening, fundraising, grant-making and leveraging to support coordinated strategies, (e.g., Cleveland Foundation’s “Evergreen” initiative). • Mobilize funder networks to forge coalitions. • Support cross-sector research. • Build infrastructure (e.g., Enterprise’s “Green Communities” initiative). • Support advocacy for community ownership.
<p>Policy</p> <ul style="list-style-type: none"> • Leverage Government Purchasing and Renewable Energy: Prioritize use of community and employee-owned firms in federal green contracting and to meet state renewable production mandates. • Fund Government Technical Assistance: e.g., Minnesota’s “Community Energy Resource Teams.” • Use Bonds to Finance Up-Front Costs: Berkeley, CA-program uses bonds to provide low-interest finance, fostering resident ownership. • Ensure Equitable Financing for Community-Generated Power: Use “feed-in-tariff” pricing and related policies to support community ownership. • Catalyze Comprehensive Projects: Support demonstration projects that integrate community wealth building goals in green development efforts. 	<p>Practitioners</p> <p><i>Internal Actions</i></p> <ul style="list-style-type: none"> • Educate board members, managers, and staff about opportunities in the green economy. • Invest time, money, and resources in R&D. • Identify viable green market segments. • Use flexible business planning to be positioned to take advantage of opportunities as they arise. <p><i>External Actions</i></p> <ul style="list-style-type: none"> • Participate in conferences to increase green industry knowledge. • Advocate within trade associations to develop a sector-appropriate “green wealth” agenda. • Share stories of both successes and policy barriers to facilitate trade associations’ advocacy work.

simply by collecting the data that can help them better assess their industry's role in this new economy.

Intermediaries also typically provide forums for their members to share new ideas, best practices and strategies for financing and fundraising. But while one can certainly find examples of trade association workshops on the green economy, there are few instances where CDFIs, CDCs, cooperatives, employee-owned businesses, or municipal utilities are actively learning from each other about how to best navigate the opportunities and perils of the green economy. Questions to explore could include: How can a community lender effectively identify green value-added opportunities for businesses in its portfolio? How can you most effectively negotiate with a utility for electricity sold back to the grid? What models work best in which regions?

Identify Resources

Intermediaries play an essential role in identifying and securing non-traditional financial resources. The National Housing Trust, for example, has developed a new lending product to help affordable housing developers pay for the additional front-end costs of retrofitting a multi-family rental project. Enterprise Community

Intermediaries play an essential role in identifying and securing non-traditional financial resources.

Partners has created a new philanthropic product, the Enterprise Green Offset Fund, which uses typical tools of fundraising, project outreach, technical assessment, monitoring, and financial management to connect a national base of individual donors with a diverse set of green affordable housing projects. Kentucky-based MACED (Mountain Association for Community Economic Development) and the Northwest Natural Resources Group are

also experimenting with the carbon-offset tool to extend its applicability to small-scale landowners.

Intermediaries also play a critical role in aggregating their constituents' needs for expertise and assets for investing in large projects. Northwest SEED is one of several intermediaries that helped organize six cooperatively and publicly owned utilities into a cooperative that could develop a utility-scale wind turbine in the state of Washington. The National Renewable Cooperative Organization (NRCO) is aggregating the assets of 24 electric co-ops to invest in and develop their own renewable projects. The Public Renewables Partnership is providing publicly owned utilities with information about renewable energy technologies.

Support Coalition Building and Advocacy

Trade associations can help their members to gain access to policymakers, whether at the state or national level. In particular, intermediaries can help their members to obtain public resources, secure green procurement contracts, and modify burdensome regulations. Intermediaries can assist their constituents to build new partnerships crossing industry lines at the state and national levels. For example,

Local governments, electric cooperatives and Indian Tribes are all unable to use current federal financing mechanisms to invest in renewable energy projects.

local governments, electric cooperatives and Indian Tribes are all unable to use current federal financing mechanisms to invest in renewable energy projects. A united front in state and federal policy arenas would be more effective than isolated single-sector efforts. A national association for non-profit recyclers could support local efforts to win public contracts over multi-national consolidators. Trade associations can also promote community wealth building strategies in communication with key players in the labor, environmental and sustainable growth movements.

This might involve inclusion of programs that expand community ownership as well as create green jobs in Community Benefits Agreements with developers. Intermediaries could raise the question of who owns and controls the entities that we support to provide green jobs, goods and services. They could argue that programs that train at-risk youth for green jobs should also provide opportunities for ownership.

Policymakers

Policy can play a major role in supporting community wealth building in the green economy. In particular, as new federal revenue streams that fund energy efficiency, renewable energy, and public transportation come on line, these monies can be leveraged to achieve not only green objectives, but also community wealth building goals.

The federal government is poised to invest billions of dollars in energy efficiency, renewable energy, and public transportation programs. These new resources could support stronger, more equitable communities by catalyzing and scaling up community wealth building activities that produce green products and services. Policy can help assist the nation to realize these gains.

Leverage government green purchasing and mandates to build community wealth

Annually, the U.S. federal government spends over \$300 billion in the purchase of goods and services. In transportation alone, the federal government spends nearly \$75 billion a year. The shift to energy efficiency, naturally, will entail new government purchasing. For example, one might anticipate that federal and state governments might choose to buy new renewable energy generation systems. Just as 15 percent of federal HOME Investment funds are set aside to support community development corporations and other nonprofit affordable housing developers, governments could enact similar requirements on “green” project spending. For example, the federal government could set aside a percentage of contracts or

Annually, the U.S. federal government spends over \$300 billion in the purchase of goods and services. In transportation alone, the federal government spends nearly \$75 billion a year.

otherwise reward communities that employ nonprofit or employee-owned companies that hire low-income residents of distressed neighborhoods. Of course, similar measures would also be possible at the state or local level.²⁰²

Indeed, some states have already employed the “carve out” idea to support the goal of generating community-owned renewable projects to meet their renewable portfolio standard mandates, the most common method states use to influence the demand for renewables. Two states that have used this “carve out” mechanism are Oregon and Montana. Another way to build community wealth in the green economy while meeting renewable energy mandates is Community Choice Aggregation. Today, nearly one million Americans receive renewable energy from these co-op entities, including 118 cities in northeast Ohio and 36 cities in Rhode Island.²⁰³

Provide government technical assistance to build green industry capacity

There are a number of ways in which government can provide technical assistance to develop green capacity in organizations that can leverage green funding to build community wealth. One example of the power of this approach is provided by Minnesota’s Clean Energy Resource Teams (CERTs) initiative, which brings together local governments, academic institutions, and nonprofit organizations. The CERT teams have been effective in connecting people with the technical resources needed to identify and implement community-scale projects and, combined with Minnesota’s C-BED tariff policy, are a key reason why Minnesota has achieved its high level of community wind production.

More broadly, although not done at present, one could imagine broadening existing federal community development technical assistance programs to assist community-based organizations gain the expertise needed to effectively build community wealth in the green economy. For example, the same 2009 economic stimulus bill that provided an estimated \$59 billion in energy-related spending also provided \$100 million for the Treasury Department's CDFI (Community Development Financial Institution) Fund, which enabled the Fund to announce a new Capacity-Building Initiative request-for-proposals in August 2009. Expanding capacity in the green economy was not one of the categories. However, a future CDFI Fund "Green R&D" program could help CDFIs create products and build the expertise they need to more effectively promote community wealth building in the green economy.²⁰⁴

A future CDFI Fund "Green R&D" program could help CDFIs create products and build the expertise they need to more effectively promote community wealth building in the green economy.

Use Municipal Bonding Authority To Foster Direct Resident Ownership

As is demonstrated by the example of Berkeley, California, whose model has spread throughout that state and as far as Babylon, New York, local governments can use their taxing and bonding authority to enable property owners to finance investments in energy efficiency or renewable power generation with no up-front cost. This program can be implemented with little cost to the local government and it enables individual homeowners to become energy producers and owners in the renewable energy market.

Ensure Equitable Financing for Community-Generated Power

As noted throughout, a major obstacle facing non-profit cooperative and public sector companies that want to invest in renewable energy is the federal government's heavy reliance on tax credits, which, because they apply against tax liabilities that nonprofit and publicly owned companies do not have, give private producers privileged access to federal subsidy dollars. There are a number of different ways to remedy this. Some states (such as Iowa) have passed legislation that allows state tax credits to be applied to nonprofit and publicly owned projects. Oregon allows third-party investors to receive tax credits (a mechanism similar to how the Low Income Housing Tax Credit works). Another tack is to fully and consistently fund CREB, the federal Clean Renewable Energy Bond program, which provides an

alternative funding stream for municipal and co-op utilities, compensating, at least somewhat, for their inability to use tax credit finance. The 2009 economic stimulus bill did provide a one-time \$1.6 billion boost to CREB funding, but it remains unclear whether the higher funding level will persist after the stimulus money is spent.

All of these measures—loosening who qualifies for tax credits, allowing for tax credit syndication, and increasing CREB funding—would help, but the most powerful device would be to establish a national system of Feed-in-Tariffs to provide a guaranteed price for renewable energy producers. As described above, the Feed-in Tariff (FIT) is a mandated, long-term premium price for renewable energy paid for by the local electric utility to producers. Germany's feed-in tariff has led to enough

The most powerful device would be to establish a national system of Feed-in-Tariffs to provide a guaranteed price for renewable energy producers.

installed wind capacity to power two million households, with 45 percent of turbines being community owned. In 2009, cities such as Gainesville, Florida and Sacramento, California moved to implement this system, as did the state of Vermont.

Minnesota's C-BED (Community-Based Energy Development) program, while not a feed-in-tariff policy per se—because the higher prices in the first half of the contract are offset by lower prices in the second half of the contract—does provide utilities with incentives to offer energy suppliers a high price for ten years. Combined with its Clean Energy Resource Team technical assistance program, Minnesota's pricing mechanism is a key part of the reason why 27 percent of wind production in Minnesota is community-owned—compared to one percent nationally.

The logic of the feed-in-tariff mechanism is simple. By stabilizing projected revenues, this pricing system makes it far easier for community producers to obtain needed financing. To be sure, the feed-in-tariff doesn't work through pricing alone. Rather, the feed-in-tariff policy package also relies on two other critical elements: long-term contracts (typically, 20 years) and rules that facilitate easy connection to the grid.²⁰⁵ Put simply, by adopting feed-in-tariff pricing mechanisms government could provide a tremendous boost to community-owned renewable power generation and thereby help ensure a more equitable distribution of wealth and ownership in the emerging green economy.

Catalyze comprehensive community wealth building efforts in the green economy

The Kansas City's Green Impact Zone project illustrates the value that concentrated federal green investment can have on a particular low-income neighborhood.

Kansas City intends to use funds from the 2009 federal economic stimulus bill to weatherize homes across a 150-square-block area, install a smart grid, and provide job training and linkage services focused on community residents. What is missing from this initiative so far, however, is a strategic focus on *ownership*. In short, the project creates jobs, but not *jobs that you can own*.

Kansas City's Green Impact Zone project illustrates the value that concentrated federal green investment can have on a particular low-income neighborhood.

The Cleveland Foundation's economic inclusion strategy, profiled above, leverages the city's academic and medical anchor institutions to use their purchasing power to support the development of green worker co-ops owned by neighborhood residents. Given the existence of similar anchor institutions in nearly every American city, there is a real opportunity for the federal government to combine the Green Impact Zone model of Kansas City, add the ownership elements that have been employed in Cleveland, and test the power of a coordinated effort in a number of low-income urban neighborhoods across the country. By partnering with a national philanthropic entity (as the Departments of Housing and Urban Development (HUD) and Health and Human Services (HHS) have done in nearly two dozen cities with the Living Cities initiative), the federal government could take a significant step toward realizing the promise of a more equitable green economy.

Philanthropy

Philanthropic resources can catalyze change. The Cleveland Foundation's economic inclusion strategy provides one relevant example of how a foundation can foster community wealth building while supporting green enterprise. More broadly, philanthropy can help support the development of cross-sector partnerships, sponsor needed research, help build infrastructure, and support advocacy for the inclusion of community wealth building in the green economy.

There are significant opportunities for foundations to use their positioning and financial capital to help scale up community wealth building in the green economy. The Cleveland Foundation, whose economic inclusion strategy, cited above, has played a critical role in enabling the Evergreen Cooperative network to be formed, provides one model for how one philanthropic institution is deploying its multiple assets to both build community wealth and reduce carbon emissions in some of Cleveland's most impoverished inner-city neighborhoods. Using its convening power, the foundation regularly brings together executives from Cleveland's major

university, medical and cultural institutions to harness their purchasing power for goods and services generated by new community-based enterprises. Using its grant-

The Cleveland Foundation provides one model of how philanthropy can deploy multiple assets to build community wealth and reduce carbon emissions.

making capital, the foundation has accessed national expertise to launch a network of worker co-ops providing green goods and services. Using its financial assets, the Foundation guaranteed a loan for the acquisition and renovation of a building for one of the co-ops. Using its fundraising capacity, the foundation marketed this project to new and existing donors in the community.²⁰⁶

This example of one foundation using its convening, fundraising, grant-making and asset-leveraging power to help launch viable community wealth building ventures that take advantage of the growing demand for green goods and services could be replicated in many cities. Foundations also have critical roles to play in engaging their peers, supporting research and advocacy, and in building the capacity of intermediaries to support on-the-ground community wealth building efforts that build on the growing green economy.

Mobilize funder networks

There are nearly 40 funder affinity groups in the United States that provide philanthropic leaders and practitioners with the opportunity to learn from their peers and experts. Several of these—the Environmental Grantmakers Association, the Neighborhood Funders Group, the Asset Funders Network, the Rural Learning

Foundations, with their convening power, can help to build partnerships between the nonprofit, cooperative, employee ownership sectors, “high road” activists, and others.

Network, and the Funders Network for Smart Growth and Livable Communities—are important potential venues for raising the issue of community wealth building in the green economy. Foundations, with their convening power, can help to build the partnerships between the nonprofit, cooperative, employee ownership sectors, “high road” activists, and others that are critical to scaling up this green community wealth building work. The Funders Network for Smart Growth and Livable Communities, for one, acknowledges the importance of this work in its website, noting that failing to “consider the big picture” has helped produce a “range of environmental, social, and economic problems caused by development strategies.”²⁰⁷

Sponsor research

The nexus between community wealth building and the green economy is new territory requiring investments in research and dissemination. Foundations can

help systematically build knowledge and information about the process of creating and sustaining social enterprises, cooperatives, and public initiatives that can both build community wealth and provide environmental benefits. Research can also help capture lessons; develop tools and approaches; and disseminate findings broadly to practitioners and policymakers. Key research questions might include: What approaches have traction and could be scaled up? What are the critical contextual factors? What are the real costs and benefits? Philanthropy can play a critical role in harnessing the expertise of researchers in and out of academia and in organizing the wisdom of practitioners.

Build infrastructure

As detailed above, intermediaries play a crucial role in enabling communities and organizations to secure the technical, financial and relational capital to initiate and sustain new and difficult enterprises. A trade association needs philanthropic capital to build its expertise in energy generation, green building or carbon markets and to effectively build the capacity of its members. A regional intermediary needs philanthropic capital to become proficient in multi-state regulatory contexts, interact with utility or waste management players, and syndicate tax credit financing. For instance, when faced with the need to develop infrastructure among community development corporations in the late 1970s, the Ford Foundation responded by forming Local Initiatives Support Corporation (LISC). With the aid of \$10 million in Ford seed money, LISC is now a leading intermediary of the community development corporation industry.²⁰⁸ Enterprise Community Partners' Green Communities initiative provides a strong example of the potential role that intermediaries, backed with philanthropic capital, might play in expanding the green economy. In the case of the Enterprise initiative, the work centers on building the capacity of housing non-profits to participate in the green building sector through a five-year effort focused on building systems for training, technical support, funding and financing, peer networking, and advocacy. Other community wealth building sectors in the green economy would benefit from a comparable set of supports. Visionary philanthropic leadership can play a critical role in making such innovations happen.

Support advocacy for community wealth building

Community wealth building needs to be represented at many policymaking tables to ensure that appropriate financial, regulatory, research and policy supports

Community wealth building needs to be represented at many policymaking tables to ensure that appropriate financial, regulatory, research and policy supports are in place.

are in place. If alternatives to tax credit financing for renewable energy projects (or syndication mechanisms to make access to tax credits more widely available), feed-in-tariff pricing mechanisms, Renewable Portfolio Standards with community carve-outs and subsidies for pre-development costs for affordable green housing are to be created, advocates need to be supported with funds for staffing, communications and research. If the vast new sums of money appropriated for transportation and energy are going to build community wealth rather than enriching the coffers of a few multi-national corporations, philanthropic resources are needed to put advocates at the right tables.

Practitioners

Ultimately, it is the practitioners who work and lead cooperative, employee-owned, non-profit, and public enterprises that will need to take a leading role if the promise of more equitable ownership in the green economy is to be realized. By ensuring that their businesses invest the time and space for discussion and exploration of the green economy and incorporate green business development in their work, practitioners take some big steps toward achieving this goal.

Practitioners in community wealth building organizations are a diverse lot. In some cases, this work involves constant negotiation with bankers, city officials, community residents and realtors to forge the complex deals that characterize affordable housing development in this country. Others face the daily challenges of running a small business while learning how to operate in an unfamiliar democratic decision-making culture. So it can be challenging to engage practitioners in new realms of practice that require risk taking, new partners, substantial new technical expertise, a long time frame and alternate sources of financing.

Despite these challenges, it is often the practitioners—and not foundations, intermediaries, or policymakers—who take the risks, find the partners, develop the technical expertise, display the long-range vision, and acquire the finance. An example is provided by the nonprofit social enterprise Ecology, Inc. in Berkeley, California, which is not only one of the nation's most successful non-profit recycling enterprises, but also continues to incubate and sometimes spin off green businesses and projects. From Ecology, Inc.'s recycling focus came a successful wine bottle recycling business that is still operating. Other green businesses under

their sponsorship include a biodiesel collective, a national on-line business called Catalog Choice, and a non-profit project that promotes food security and green building projects in native communities. Ecology, for the past thirty years, has been able to stay true to its mission of enabling people to adopt practices that are environmentally and socially responsible because its core businesses generate 75

It is often the practitioners who take the risks, find the partners, develop the technical expertise, display the long-range vision, and acquire the finance.

percent of its operating income. Although these core businesses focus on local markets, this non-profit group incubates enterprises at all levels—from community to national.²⁰⁹ Nor is the example of Ecology, Inc. unique. Indeed, many of the practitioners profiled in the Case Study section of this report have engaged in similar business incubation activity.

In our recommendations for practitioners, we have chosen to focus on the leaders of these organizations, both for the influence they can have outside of their organizations and for the difference that they can make internally. Practitioners seeking to promote their economic, equity, and environmental goals through green sector enterprise can **internally**:

- Educate board members, managers, and staff about the growing green economy and identify specific market segments that make market (and mission) sense, and incorporate these opportunities into organizational strategic planning.
- Invest money, time, and resources in research and development.
- Develop business plans to be appropriately positioned to exploit viable business opportunities in the green economy as they present themselves.

In short, internally, community wealth practitioners in their role as organization and business leaders can play a vital entrepreneurial role in building community wealth from the bottom up. Additionally, community wealth building organization leaders can also play a critical role as **advocates**. Operating **externally** to their own organizations, practitioners:

- Can participate in—and encourage their staff to engage in—state and national conferences that will expand their knowledge of specific green sectors and expose them to experts in these fields.
- Can urge their trade associations to engage in the local, state and federal advocacy needed to level the playing field for cooperative, non-profit, Indian tribe, employee ownership and public engagement in owning assets essential to the green economy.
- Can provide these advocates with the grounding stories and examples that will persuade policymakers of the urgency of their needs and the utility of their proposed solutions.

Most fundamentally, practitioners need to be the lead educators, organizers, and advocates of the movement to ensure equity in the green economy through broad distribution of ownership.

Most fundamentally, practitioners need to be the lead educators, organizers, and advocates of the movement to ensure equity in the green economy through broad distribution of ownership. Practitioners are the ones who can make the case to policymakers, foundations, and allies that the potential of an applicant to produce community wealth benefits (and hence reduce disparities in the distribution of income and wealth) should be a priority in allocating resources—in addition to priorities for local hiring and community training. By pressing trade associations and intermediaries to create the opportunities for local organizations to combine forces to either create facilities (such as the syndication of tax credits) to foster opportunities within existing policy frameworks or engage in direct policy advocacy themselves, practitioners can play a leading role in making community wealth building enterprises key players in the emerging green economy.

Conclusion

In order for us to create a sustainable, green economy, it has to be an integral part of what we do every day. It has to be what we do as a community . . . being green is not just about producing green products. It's about how we run our economy.

—Mayor Frank Jackson, Cleveland, Ohio, August 2009²¹⁰

We do not yet know if the green economy will be, as advertised, the engine that will create millions of jobs, spur national economic recovery and lift millions out of poverty. Nor do we know whether it will lead to the sea change in attitudes and mores that some envision. We do know, however, that the opportunity exists for community wealth builders to begin to make progress on those goals now—if practitioners seize the opportunity and if the right policies and supports are put into place. In short, the chance exists to infuse the green economy with equitable ownership of the businesses it contains. We also know that by building *green jobs that you can own* in this manner, the nation can begin to create a more sustainable environmental and economic path—one that not only meets national energy

In short, the chance exists to infuse the green economy with equitable ownership of the businesses it contains.

efficiency, renewable energy production, and carbon emissions reduction objectives, but that also promotes long-sought goals of equality, justice, and a more equitable distribution of income, ownership, and wealth.

Achieving this new path will not be easy. As outlined above, community wealth building enterprises in the green economy face a set of compelling challenges that must be addressed if the successful examples highlighted in this report are to move from being the exception to the norm. Challenges faced by community wealth building enterprises include lack of equitable access (i.e., on a par with that enjoyed by corporate businesses) to appropriate public financing and subsidy programs; complex and lengthy regulatory processes; unstable markets; insufficient intermediary support for learning, advocacy and partnerships; and finally, sparse philanthropic investment. While it is not hard to identify barriers and obstacles, these challenges can be overcome,

as the wide-ranging examples in this report demonstrate. Washington Electric, for instance, is a Vermont-based cooperative that provides its 10,000 members with electricity entirely from renewable sources. A community action agency in coastal Washington built a wind turbine that will generate more than half a million dollars each year in income that can support its programs for the poor and elderly. The ReUse Center in Minneapolis is a deconstruction company owned by a non-profit organization that both generates income and serves the surrounding low-income community. WAGES is supporting five worker co-ops that provide green housecleaning services in the San Francisco Bay Area and generate living wages and ownership dividends to their immigrant women owners. The EBO Group is an employee-owned developer of hardware for the solar and wind industries, based in Ohio but serving national markets. And these are just a few of the many examples cited in this report.

All of these examples share three elements: ownership is broadly shared, locally rooted, and directed toward the common good.

The benefits of this approach are substantial. Members, workers or community residents share in any wealth generated. Enterprises are anchored to their communities in their mission and markets. And, last but not least, these businesses are generating wealth, income, and jobs *today* in the new green economy.

All of these examples share three elements: ownership is broadly shared, locally rooted, and directed toward the common good.

To appreciate the significance of these developments, it is important to recall the scope of the challenge posed by mounting greenhouse gas emissions. If today's best science is correct, the United States will need to cut carbon emissions by at least 80 percent between now and 2050 to avoid catastrophic climate change. The economic shift required to meet this goal has yet to be fully appreciated. But since energy is part of every form of production, the ramifications could be enormous. One positive facet of this crisis, however, is that the economic "reset" required opens the possibility for designing a new economy in which wealth, income, and economic opportunity are more broadly shared.

In this report, however, we have focused our sights not on meeting distant, carbon-emissions targets, but rather on practical, near-term steps that can be taken by public, non-profit, community and employee-owned enterprises to leverage the public investment of federal dollars that is being made to reduce income and wealth disparities while developing sustainable industries. In so doing, community wealth builders can start to lay the groundwork for further efforts to help the nation meet the many ecological and economic challenges that lie ahead.

Appendix A: Interview Subjects and Contributors

Hilary Abell, Executive Director, Women's Action to Gain Economic Security (WAGES)

Jim Anderson, CEO, Evergreen Cooperative Laundry

Jason Bailey, Research and Policy Director, Mountain Association for Community Economic Development (MACED)

John Berdes, President, ShoreBank Enterprise Pacific

Shari Berenbach, President and CEO, Calvert Foundation

Scott Bernstein, President, Center for Neighborhood Technology

Michael Bodaken, President, National Housing Trust

Dana Bourland, Vice President of Green Initiatives, Evergreen Community Partners

Martin Bourque, Executive Director, Ecology Center

Anne Claire Broughton, Senior Director, SJF Advisory Services

Zoey Burroughs, Development and Communications, Solar Richmond

Chris Cassidy, Acting Branch Chief, Energy Office Rural Development Business Cooperative Programs, U.S. Department of Agriculture

Don Chen, Program Officer, Ford Foundation

Hugh Cowperthwaite, Fisheries Project Coordinator, Coastal Enterprises Inc.

Thomas Croft, Project Director, The Heartland Labor Capital Network

Brian Crutchfield, Director of Sustainable Development, Blue Ridge Electric

Dayna Cunningham, Executive Director, Community Innovators Lab, Massachusetts Institute of Technology

Ray Daffner, Entrepreneurship Initiative Manager, Appalachian Regional Commission

Carla Dickstein, Senior Vice-President for Research and Policy Development, Coastal Enterprises, Inc.

Annie Donovan, Chief Operating Officer, NCB Capital Impact

Craig Dublanko, Chief Financial Officer, Coastal Community Action Program

Julia Eagles, Past Program Manager, Phillips Community Energy Cooperative

Richard Eidlin, Business Outreach Coordinator, Apollo Alliance

Lyle Estill, Vice President of "Stuff", Piedmont Biofuels

Amadou Fall, General Manager and CEO, National Renewables Cooperative Organization

John Farrell, Senior Researcher, Institute for Local Self-Reliance

Matt Feinstein, Coordinator, Wooster Roots Project/Toxic Soil Busters

Mark Fick, Senior Loan/Program Officer, Chicago Community Loan Fund
Anthony Flaccavento, Executive Director, Appalachian Sustainable Development
Dave Foster, Executive Director, Blue Green Alliance
Radhika Fox, Associate Director, PolicyLink
Omar Freilla, Founder and Director, Green Worker Cooperatives
Kate Gordon, Co-Director, Apollo Alliance
Jennifer Grove, Executive Director, Northwest SEED
Jennifer Gutshall, Executive Director, Cooperative Development Institute
Brad Guy, President, Building Materials Reuse Association
Dave Heidenreich, President and Owner, EBO Group
Melissa Hoover, Executive Director, U.S. Federation of Worker Cooperatives
Mark Kapner, Senior Strategy Engineer, Austin Energy
Marjorie Kelly, Senior Associate, Tellus Institute
Jim Kleinschmidt, Director, Rural Communities Program, Institute for Agriculture
and Trade Policy
Rick Larson, Director of Sustainable Ventures, The Conservation Fund
Judy Lipp, Executive Director, Toronto Renewable Energy Cooperative
John Logue, Executive Director, Ohio Employee Ownership Center
Eric Lombardi, Executive Director, Eco-Cycle, Inc
Tara Marchant, Program Manager, Green Assets Program, Greenlining Institute
Leslie Moody, Executive Director, Partnership for Working Families
Mary Nelson, Former President and CEO, Bethel New Life
Bill Patrie, Executive Director, Common Enterprise Development Corporation
Avram Patt, General Manager, Washington Electric Cooperative
Lizana Pierce, Project Manager, Tribal Energy Program at U.S. Department of
Energy
Raquel Rivera Pinderhughes, Professor of Urban Studies, San Francisco State
University
Denise Pranger, Executive Director, Northwest Natural Resource Group
Mick Pulsifer, DeConstruction Services/ReUse Center
Joel Rogers, Director, Center on Wisconsin Strategy (COWS)
Corey Rosen, Executive Director, National Center for Employee Ownership
Rob Sanders, Managing Director, Energy Group, The Reinvestment Fund
Bob Schall, President, Self-Help Ventures Fund
George Sterzinger, Executive Director, Renewable Energy Policy Project
Bill Stillinger, General Manager, PV Squared
Peter Teague, Program Director, Environment/Contemplative Practice, Nathan
Cummings Foundation
Brian Yeoman, Houston Director, Clinton Climate Initiative

Appendix B: Selected Resources

GOVERNMENT RESOURCES

Appalachian Regional Commission

1666 Connecticut Avenue, NW
Suite 700
Washington, DC 20009-1068
T 202 884-7700

www.arc.gov

The Appalachian Regional Commission is a federal-state partnership that works for sustainable community and economic development in Appalachia. In 2007 and 2008, ARC funded 21 renewable energy and energy-efficiency projects totaling nearly \$1.2 million in the areas of renewable-energy production, energy-efficient facilities, green business financing programs, and workforce training and certification programs.

National Renewable Energy Laboratory (NREL)

1617 Cole Boulevard
Golden, CO 80401
T 303-275-3000

www.nrel.gov

The National Renewable Energy Laboratory serves as the principal research laboratory for the Department of Energy's Office of Energy Efficiency and Renewable Energy. Its website is a comprehensive source for information on energy efficiency and various applications of renewable energy.

Office of Energy Efficiency and Renewable Energy, US Department of Energy

Mail Stop EE-1
Department of Energy
Washington, DC 20585
T 877 337-3463

www.eere.energy.gov

EERE leads the Federal government's research, development, and deployment efforts in clean energy technologies and energy efficiency. EERE's role is to invest in high-risk, high-value research

and development that would not be sufficiently conducted by the private sector acting on its own.

Office of Solid Waste and Emergency Response, Environmental Protection Agency

1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
T 800-424-9346

www.epa.gov/oswer

EPA's Office of Solid Waste and Emergency Response (OSWER) is working with private and public partners to foster the use of best management practices for green remediation at contaminated sites throughout the United States.

Tribal Energy Program, US Department of Energy

1000 Independence Avenue SW
Washington, DC 20585
T 202 586-0759

<http://apps1.eere.energy.gov/tribalenergy/contacts.cfm>

The U.S. Department of Energy's Tribal Energy Program provides financial and technical assistance to tribes to evaluate and develop renewable energy resources as well as education and training to help build knowledge and skills.

INTERMEDIARIES

Technical Assistance Providers

Appalachian Sustainable Development

Post Office Box 791
Abingdon, Virginia 24212
T 276 623-1121

www.asdevelop.org

Appalachian Sustainable Development (ASD) is a not-for-profit organization working in the Appalachian region of Virginia and Tennessee to build a strong local food system based on organic and sustainable farming and fostering

forest conservation through value-added techniques.

Biomass Energy Resource Center (BERC)

P.O. Box 1611
Montpelier, VT 05601
T 802 223-7770

www.biomasscenter.org

This organization works on projects around the country to install systems that use biomass fuel to produce heat and/or electricity.

Community Innovators Lab (CoLab)

Massachusetts Institute of Technology
Building/Room 7-307
77 Massachusetts Avenue
Cambridge, MA 02139
T 617 253-3216

<http://web.mit.edu>

CoLab is a center for research and practice within the MIT Department of Urban Studies and Planning and supports the development and use of knowledge from excluded communities to deepen civic engagement, improve community practice, inform policy, mobilize community assets, and generate shared wealth. The [Green Hub @ MIT](#) is a center at CoLab that works in major urban areas to leverage the emerging green economy for poverty reduction and social inclusion.

Cooperative Development Institute

P.O. Box 244
South Deerfield, MA 01373
T 413 665-1271

www.cdi.coop

Serving communities throughout the New York and the New England region, the non-profit Cooperative Development Institute (CDI) provides cooperative business education, training, and technical assistance to all types of cooperative enterprises, from agriculture to credit unions and worker-owned cooperatives.

Enterprise Green Communities

10227 Wincopin Circle, Suite 500
Columbia, MD 21044
T 410 964-1230

www.greencommunitiesonline.org

The first national green building program developed for affordable housing, Enterprise focuses on using environmentally sustainable materials, reducing negative environmental impacts and increasing energy efficiency for the developers, investors, builders and residents of affordable housing.

Entrepreneurs for Sustainability (E4S)

540 E. 105th Street, Suite 213
Cleveland, Ohio 44108
T 216 451-7755

www.e4s.org

E4S is an eight year-old network of more than 5,000 people in northeast Ohio interested in learning about and sharing “green” business practices, coming from business, government, academia and nonprofit organizations.

Farmers Market Coalition

P.O. Box 4089
Martinsburg, WV 25402
T 304 263-6396

<http://www.farmersmarketcoalition.org>

The FMC serves as a central hub for farmers markets and their supporters across the country—locating allies, identifying and sharing best practices, impacting public policy, educating the public and linking farmers markets with each other.

Green America: Green Business Network

1612 K Street NW, Suite 600
Washington DC 20006
T 800 584-7336

www.coopamerica.org

Green America’s Green Business Network, formally established in 1992, has the explicit mission of helping the green business sector—businesses with deep social and environmental commitments—emerge and succeed. The Green Business Network markets small- to medium-sized green businesses through events such as

the Green Festivals and publications such as Green America's National Green Pages.

Mountain Association for Community Economic Development (MACED)

433 Chestnut Street
Berea, KY 40403
T 888 677-2373
www.maced.org

MACED is a non-profit regional intermediary that works to create economic alternatives that make a difference to people and places in eastern Kentucky and Central Appalachia. They do lending and investment, research and advocacy and create new development tools. Their Forest Opportunities Initiative is working to learn and demonstrate how carbon trading and other ecosystem markets can benefit forest landowners and the land for the long-term good of all.

National Housing Trust

1101 30th St. NW, Suite 400
Washington, D.C. 20007
T 202 333-8931
www.nhtinc.org

The National Housing Trust is a national non-profit focused on preserving, renovating and greening federally subsidized but privately owned rental housing for low-income families and seniors.

New Agrarian Center

MPO Box 357
Oberlin, OH 44074
T 440 774-3627
<http://web.me.com/blueheron55/NACI>

The New Agrarian Center is working to build a just and sustainable regional food system in northeast Ohio through a demonstration farm at Oberlin College, neighborhood fresh food centers in inner city Cleveland, urban gardens and youth programming. It also works with partners to develop policies favorable to sustainable urban food system development.

Northwest Natural Resource Group

PO Box 1067
Port Townsend, WA 98368
T 360 379-9421
www.nnrg.org

NNRG promotes the emergence of a sustainable, environmentally sound economy throughout the Pacific Northwest. They developed the Northwest's first forest-based carbon offset program for small landowners. Their new service, NW Neutral™, provides access for small forest landowners in Washington (and soon Oregon) to the emerging market for carbon offsets, also known as carbon sequestration.

Northwest Sustainable Energy for Economic Development (Northwest SEED)

1402 3rd Ave. Suite 901
Seattle, Washington 98101
T 206 328-2441
www.nwseed.org

Founded in early 2001, Northwest Sustainable Energy for Economic Development is a non-profit organization working throughout the Pacific Northwest. They support community-based energy projects through research, demonstration, policy advocacy and education including wind, solar, conservation, efficiency and energy planning.

Ohio Employee Ownership Center

Kent State University
113 McGilvrey Hall
T 330 672 3028
www.oeockent.org

The Ohio Employee Ownership Center is a non-profit organization that provides research and technical assistance to those interested in employee-ownership, as well as ownership training to established employee-owned businesses.

Reconnecting America

436 14th St., Suite 1005
Oakland, CA 94612
T 510 268-8602

www.reconnectingamerica.org

Reconnecting America provides research and analysis on development-oriented transit and transit-oriented development, and seeks to reinvent the planning and delivery system for building regions and communities around transit and walking rather than solely around the automobile. Their [Center for Transit-Oriented Development](#) focuses on using transit investments to spur a new wave of development that improves housing affordability and choice, revitalizes downtowns and urban and suburban neighborhoods, and provides value capture for individuals, communities and transportation agencies.

Windustry

2105 First Avenue South
Minneapolis, MN 55404
T 612 870-3461

www.windustry.com

One of the best and most informative wind power sites that promotes community wind through outreach, education and technical assistance to rural landowners, local communities, utilities and other collaborations.

Trade Associations

American Public Power Association

2301 M Street, NW
Washington, DC 20037
T 202 467-2900

www.appanet.org

The American Public Power Association is the trade association for publicly owned electric utilities, providing publications, networking and information services to its more than 2,000 members.

Building Materials Reuse Association (BMRA)

14525 Millikan Way #24940
Beaverton, OR 97005-2343

www.bmra.org

BMRA is a non-profit membership organization whose mission is to facilitate building deconstruction and the reuse/recycling of recovered building materials. It established a national deconstruction accreditation program focused on developing, managing, monitoring and documenting safe and efficient deconstruction and building materials salvage projects.

National Association for State Community Service Programs (NASCSP)

444 North Capitol St., NW Suite 846
Washington DC 20001
T 202 624-5866

www.nascsp.org

NASCSP is a national support organization for the state-level agencies that administer the Community Services Block Grant and Weatherization programs. Through the Weatherization Assistance Program Technical Assistance Center (WAPTAC), they provide technical assistance and support to state and local weatherization agencies and other stakeholders.

National Brownfield Association

8765 West Higgins Road, Suite 280
Chicago, IL 60631
T 773 714-0407

www.brownfieldassociation.org

The National Brownfield Association, headquartered in Chicago, is a non-profit, member-based organization dedicated to promoting the sustainable development of brownfields. The association encourages the use of green design and construction practices, clean energy and green transportation in brownfield redevelopment projects.

National Center for Employee Ownership

1736 Franklin St., 8th Fl.
Oakland, CA 94612
T 510 208-1300
www.nceo.org

NCEO is a research organization dedicated to advancing worker ownership by providing information, publications, and research on Employee Stock Ownership Plan (ESOP) companies and other forms of employee ownership.

National Community Action Foundation (NCAF)

1 Massachusetts Avenue, Suite 310
Washington, DC 20001
T 202 842-2092
www.ncaf.org

NCAF is the trade association for Community Action Agencies who receive most of the Weatherization Assistance Program (WAP) funds. They provide research, data and training as well as policy, legal and legislative support for their constituents.

National Renewables Cooperative Organization

4140 West 99th Street
Carmel, Indiana 46032-7731
T 317 344-7900
www.renewable.coop/

NRCO is a membership organization of larger electric cooperatives across the country formed to provide these coops with expertise in renewable resource development and management, as well as to aggregate their financial resources to purchase renewable power.

National Rural Electric Cooperatives Association

4301 Wilson Blvd.
Arlington, VA 22203
T 703 907-5500
www.nreca.coop

The National Rural Electric Cooperative Association is a national trade association of 900 member cooperatives that serve 37 million people in 47 states. The association represents members in

regulatory hearings, as well as providing research, training, education, and advocacy services.

U.S. Federation of Worker Cooperatives

PO Box 170701
San Francisco, CA 94117-0701
T 415 379-9201
www.usworkercoop.org

The U.S. Federation of Worker Cooperatives is a national trade association of worker cooperatives and other employee-owned, democratically run workplaces. The federation provides education, training, and technical assistance to its members.

PHILANTHROPY

Bonneville Environmental Foundation

240 SW 1st Avenue
Portland, OR 97204
T 503 248-1905
www.b-e-f.org

This Portland-based national non-profit financing intermediary pioneered the carbon offset market in 2000 and continues to develop this strategy for raising funds to develop renewable energy sources.

Calvert Foundation

7315 Wisconsin Avenue
Suite 1100W
Bethesda, MD 20814
T 800 248-0337
www.calvertfoundation.org

A pioneer in social investing, this non-profit organization focuses on using investment capital to create a sustainable, scalable model that enables nonprofit organizations and social enterprises to address critical social problems. They support affordable housing, microcredit, small business funding, fair trade, community facilities development, social innovation, Gulf Coast recovery and environmental issues in communities across the globe.

The Cleveland Foundation

1422 Euclid Ave.
Suite 1300
Cleveland, OH 44115
T 216 861-3810

www.clevelandfoundation.org

The Cleveland Foundation is the nation's first community foundation and the nation's third-largest today, with assets of \$1.6 billion and annual grants of \$84 million. As part of its Economic Inclusion focus, the foundation is supporting the development of resident-owned worker cooperatives that take advantage of the purchasing and procurement needs of major academic and medical institutions in the area.

Environmental Grantmakers Association

55 Exchange Place, Suite 405
New York, NY 10005
T 646 747.2655

<http://www.ega.org/>

EGA is a funders' affinity group that seeks to promote ecological integrity, justice, environmental stewardship, inclusivity, transparency, accountability and respect, balancing pragmatism with the long view. They recently launched a Green Co-op to help members and other funders use their spending power in support of a 'greener', more sustainable economy on products ranging from office supplies to gift baskets to rental cars.

Funders Network for Smart Growth and Livable Communities

1500 San Remo Avenue, Suite 249
Coral Gables, Florida 33146
T 305 667-6350

www.fundersnetwork.org

This philanthropic support organization focuses on regional and neighborhood equity, transportation, green buildings and green neighborhoods, healthy people and places.

Health and Environmental Funders Network

4805 St. Elmo Avenue , 2nd Floor
Bethesda, MD 20814
T 301 656-7650

www.hefn.org

A network of funders committed to grantmaking that simultaneously builds healthier people, ecosystems and communities.

Triple Bottom Line Collaborative

PO Box 826
Ilwaco WA 98624
T 360 642-4265 ext. 488
<http://tripleblc.ning.com>

Supported by the Ford Foundation, the TBL Collaborative (TBLC) is a 10-member alliance of community development finance groups that are pursuing the integration of traditional community development concerns—economic development and poverty alleviation—with an added focus on environmental issues.

POLICY AND RESEARCH RESOURCES

Apollo Alliance

330 Townsend Street, Suite 205
San Francisco, CA 94107
T 415 371-1700

www.apolloalliance.org

Founded in 2004, the Apollo Alliance is a coalition of business, labor, environmental, and community leaders working to catalyze a clean energy revolution in America to reduce the country's dependence on oil imports, cut carbon emissions, and expand opportunities for American businesses and workers. Apollo has proposed a \$500-billion, 10-year program of federal tax credits and investments, which the group believes can create over five million new, high-wage jobs in manufacturing, construction, transportation, high tech, and the public sector, while reducing dependence on foreign oil and cleaning the environment.

Blue Green Alliance

2828 University Ave. SE, Suite 200
 Minneapolis, MN 55414
 T 612 466-4479

www.bluegreenalliance.org

Launched in 2006, the Blue Green Alliance is led by the United Steelworkers and Sierra Club along with other “blue” (blue collar/labor) and “green” (environmental) partners. The group aims to heighten public awareness about the job-creating potential of solutions to global warming; use existing economic development tools to expand investment in clean energy and green chemistry; accelerate green building, energy efficient retrofits, and related spin-off industries; create more investments in green jobs, including those related to fuel-efficient vehicles; and reform trade agreements so they include binding labor rights and environmental standards.

Center on Wisconsin Strategies (COWS)

University of Wisconsin
 1180 Observatory Drive
 Madison, WI 53706
 T 608 263-3889

www.cows.org

The Center on Wisconsin Strategy (COWS) has deep roots in the state of Wisconsin, but its work has now grown to address issues, organizations, and leaders across the nation. Describing itself as a think and-do tank, COWS focuses on workforce development, green energy and jobs, transit, and health care. They are currently working with state and local partners toward a pilot of the Milwaukee Energy Efficiency (Me2) program that enables building owners and renters to pay for the cost of energy efficiency improvements through their utility bills.

Green for All

1611 Telegraph Avenue, Suite 600
 Oakland, CA 94612
 T 510 663-6500

www.greenforall.org

Green for All is a national group that aims to build an inclusive green economy in a way that alleviates poverty and

pollution at the same time. Launched at the Clinton Global Initiative in 2007, Green For All grew out of the work of activist Van Jones, who helped create a “Green Job Corps” in Oakland, California as part of a program at the Ella Baker Center for Human Rights.

Heartland Labor Capital Network

c/o Steel Valley Authority
 1112 South Braddock Avenue, Suite 300
 Swissvale, PA 15218
 T 412 342-0534

www.steelvalley.org

Launched in 1995 by the Steel Valley Authority and the United Steelworkers of America, the Heartland Working Group was organized to increase the control of working people over their pension funds. Their most recent publication, *Up From Wall Street: The Responsible Investment Alternative* contains descriptions of investment funds that are, together, managing over \$30 billion in investments that generate positive social, economic and environmental benefits.

Institute for Agriculture and Trade Policy (IATP)

2105 First Avenue South
 Minneapolis MN 55404
 T 612 870-0453

www.iatp.org

IATP is a non-profit research and advocacy organization, developing alternative economic models that include clean sources of energy such as wind power and biofuel to spur rural development including working with landowners to form cooperatives that promote sustainable forest management, advocating for green businesses and farms that reduce toxic runoff into the Great Lakes and Mississippi River.

Institute for Local Self-Reliance (ILSR)

927 15th St. NW, 4th Fl.
Washington, DC 20005
T 202 898-1610

and

1313 5th St. SE
Minneapolis, MN 55414
T 612 379-3815

www.ilsr.org

ILSR's work in renewable energy focuses on scale and ownership issues. Recent studies have focused on whether wind, solar and biomass production are subject to economies of scale; the potential for specific states to be energy independent; the benefits of a Feed-In Tariff, and how renewable energy production could benefit rural communities. Their "Waste to Wealth" program has helped to convert wastes from environmental and economic liabilities into valuable resources that contribute to community development. Their New Rules Project focuses on new policy solutions at the local and state levels, "designing rules as if community matters" and include the Hometown Advantage, Telecommunications as Commons Initiative, Biofuels and Plug-in Hybrid Electric Vehicles, and Climate Neutral Bonding.

PolicyLink

1438 Webster Street, Suite 303
Oakland, CA 94612
T 510 663-2333

www.policylink.org

PolicyLink is a national research and action institute advancing economic and social equity by Lifting Up What Works®. The [PolicyLink Center for Health and Place](#) focuses on improving the built environment, improving access to healthy food, creating Promise Neighborhoods and addressing the needs of young men and boys of color. They closely follow federal policy as it provides opportunities and challenges for building more equitable neighborhoods.

Renewable Energy Policy Project

1612 K Street, NW Suite 202
Washington, DC 20006
T 202 293-2898

www.repp.org

REPP investigates the relationship among policy, markets and public demand in accelerating the deployment of renewable energy providing a platform from which experts in the field can examine issues of medium-to long-term importance to policy makers, green energy entrepreneurs, and environmental advocates.

PRACTITIONERS

Austin Energy

721 Barton Springs Road
Austin, Texas 78704-1194
T 512 482-5300

www.austinenergy.com

The nation's ninth largest municipally owned utility, Austin Energy has the country's most successful utility-sponsored green program, backed by the City of Austin, which has one of the most aggressive renewable portfolio standards—30 percent renewable by 2020—in the nation.

Blue Ridge Electric

PO Box 112
Lenoir, NC 28645
T 828 758-2383

www.blueridgeemc.com/

A member owned electric cooperative, Blue Ridge Electric serves 73,000 residential and commercial customers in seven rural North Carolina counties and has a long history of promoting energy efficiency.

Center for Neighborhood Technology (CNT)

2125 W North Ave, Chicago, IL 60647
T 773 278-4800

www.cnt.org/about

Since 1978, Center for Neighborhood Technology (CNT) has been a leader in promoting urban sustainability, working across disciplines and issues, including transportation and community

development, energy, natural resources, and climate change. They have launched two related non-profits: **CNT Energy**, an organization that develops and implements initiatives to help consumers and communities control energy costs and reduce energy use; and **I-GOSM**, a membership-based car sharing organization that provides hourly rental of a fleet of cars located across Chicago and its surrounding suburbs.

Chicago Community Loan Fund

29 East Madison Street, Suite 1700

Chicago, IL 60602

T 312-252-00440

F 312-252-0419

www.cclfchicago.org

Founded in 1991 to ensure that Chicago community development organizations (including small and emerging groups) would have a lender to turn to for harder-to-underwrite projects and enterprises, Chicago Community Loan Fund (CCLF) has closed \$36 million in community development financing since its inception and has helped leverage an additional \$808 million. In 2009, CCLF launched a new website, <http://greenaffordable.org>, as an information resource for green affordable building developers, with a focus on the Chicago metropolitan area.

Coastal Community Action Program

117 East Third Street

Aberdeen, Washington 98520

T 360 533-5100

www.coastalcap.org

This community action agency in coastal Washington State just completed a \$14-million wind turbine project on 29 acres that will generate up to \$720,000 annually in unrestricted income for this social services organization.

Coastal Enterprises Inc.

PO Box 268

Wiscasset, ME 04578

T 207 882-7552

www.ceimaine.org

Founded in 1977, this non-profit organization provides financing and support

in the development of job-creating small businesses, natural resources industries, community facilities, and affordable housing. CEI's primary market is Maine and has been a leader in pursuing Triple Bottom Line (economy, equity and ecology) criteria in its development and lending work.

EBO (Excellence by Owners) Group

P.O. Box 305

Sharon Center, Ohio 44274

T 330 590-8106

www.ebogroupinc.com

This Ohio-based manufacturing business with \$20 million in annual sales, 62 employee-owners and a 20-percent annual growth rate is a 100 percent-owned ESOP.

Ecology Center

2530 San Pablo Avenue, Suite H

Berkeley, CA 94702

T 510 548-2220

www.ecologycenter.org/

One of the pioneering non-profits that birthed the recycling industry, the Ecology Center has operated Berkeley's Curbside Recycling Program since 1973. Unlike for-profit haulers, their successful recycling program supports community education, maintains high standards in recycling as the industry matures, and keeps resources in the local community. Ecology also runs the **Berkeley Farmers' Markets**, **Farm Fresh Choice** food justice program, **Terrain** magazine, **EcoHouse** demonstration home and garden, the Ecology Center **Store**, and a variety of **Information and Climate Change Action programs**.

Green Worker Cooperatives

461 Timpson Place

The Bronx, NY 10455

T 718 617-7807

<http://greenworker.coop>

This non-profit incubator of worker cooperatives in the South Bronx explicitly links environmental justice with the green economy. Its first green co-op, **Rebuilders Source**, is a discount retailer of surplus and used building materials,

enabling the community to buy goods more cheaply, reducing the amount of waste headed for the landfills and cutting down the number of waste hauling trucks driving through the neighborhood.

National Capital Investment Fund (NCIF)

1098 Turner Road
Shepherdstown, WV 25443
T 304 876-2815
www.ncifund.org

Affiliated with The Conservation Fund, NCIF is a business loan fund that provides debt and equity financing to small businesses located in North Carolina, Northeast Tennessee, Southwest Virginia and West Virginia. This CDFI has a dual mission of land and water conservation and economic development.

Phillips Community Energy Cooperative

2801 21st Ave. South
Minneapolis, MN 55407
T 612 278-7120
www.phillipsenergycoop.com

Serving a multi-cultural low-income community in Minneapolis, this cooperative provides nearly 2000 members with energy efficient products and services. Initially focused on developing a biomass project in partnership with the Green Institute, it is now working on a Neighborhood Energy Plan.

Piedmont Biofuels

P.O. Box 661
Pittsboro, NC 27312
T 919 321-8260
www.biofuels.coop

Based in Pittsboro, North Carolina, Piedmont Biofuels encompasses both a cooperative and a limited liability company that makes, markets and sells biodiesel; consults on setting up biodiesel businesses (plants and stations); provides fuel maker and lab tech training; teaches classes and workshops on biodiesel and straight vegetable oil; lobbies the North Carolina legislature and the state's national representatives on

behalf of biodiesel and renewable energy; and sponsors an [Internship Program](#) that allows people to live on site and learn about all facets of their operations.

PV Squared

324 Wells Street
Greenfield, MA 01301
T 413 772-8788
www.pvsquared.coop

PV Squared (shorthand for Pioneer Valley PhotoVoltaics Cooperative, Inc.) is one of the few solar installation businesses in the nation organized as a worker co-op.

ReUse Center

2801 21st Av S, Suite 110
Minneapolis, MN 55407
T 612 278-7113
www.thereusecenter.com

Operated by the non-profit Green Institute, the ReUse Center is a \$2 million salvaged building enterprise serving the Twin Cities region through two retail outlets and a deconstruction business.

Self-Help

301 West Main Street
Durham, NC 27702-3619
T 800 476-7428
www.self-help.org

Self-Help is one of the largest community financial development institutions (CDFIs) in the United States and since its founding in 1980 has provided \$4.5 billion in financing to 45,000 homeowners small business owners, and other nonprofits, nationwide. Headquartered in Durham, North Carolina, Self-Help provides financing through the Self-Help Credit Union and the Self-Help Ventures Fund and operates a nationwide secondary market program that enables private lenders to make more loans in low-wealth communities.

ShoreBank Enterprise Cascadia

PO Box 826
Ilwaco, WA 98624
T 360 642-4265
www.sbpac.com

With more than \$70 million in capital assets under management, SBEC focuses on Triple Bottom Line investing to entrepreneurs, non-profits and others in urban and rural communities in Oregon and Washington.

Solar Richmond

360 South 27th Street
Richmond, CA, 94804
T 510 621-1719
www.solarrichmond.org

Solar Richmond brings green jobs, clean energy, and economic opportunity to Richmond California, through solar installation training for low-income residents and innovative job creation and placement services to empower emerging leaders of the green economy.

Sustainable Jobs Fund

200 N. Mangum Street
Suite 203
Durham, NC 27701
T 919 530-1177
www.sjfund.com

SJF Ventures provides equity financing and technical assistance to small and medium sized enterprises focused on renewable energy and efficiency, organic and healthy consumer products, digital media and marketing services, electronics recycling, and outsourced business services.

The Reinvestment Fund

718 Arch Street, Suite 300
Philadelphia PA 19106
T 215 574 8000
www.trfund.com

Since 1993, this regional community development loan fund has offered grants, loans and technical services for energy conservation and efficiency and renewable energy use in the broader Philadelphia region.

**Toronto Renewable Energy
Co-operative**

401 Richmond Street, W. Suite 401
Toronto OH, M5V 3A8
Canada
T 416 977-4441
www.ontario-sea.org

Half owned by members, half owned by the local utility, this cooperative overcame huge regulatory hurdles to become North America's first urban wind turbine.

**Toxic Soil Busters/Wooster Roots
Project**

4 King Street
Worcester, MA 01610
T 508 335-7783
<http://worcesterroots.org>

A student run worker cooperative organized to clean up yards contaminated by lead, Toxic Soil Busters is a project of the Worcester Roots Project.

**Women's Action to Gain Economic
Security (WAGES)**

1904 Franklin St., Suite 801
Oakland, CA 94612
T 510 451-3100
<http://wagescooperatives.org>

Women's Action to Gain Economic Security has helped build five worker-owned green cleaning businesses in the Bay Area in the past decade and has recently launched a networking effort to scale up this model through joint marketing, purchasing and mutual learning.

Washington Electric Cooperative

P.O. Box 8, Route 14
East Montpelier, VT 05651
T 802 223-5245
www.washingtonelectric.coop

Serving 41 small towns in Vermont, this electric cooperative entirely secures its power from renewable sources, primarily hydro and landfill gas.

End Notes

1. Omar Freilla, quoted from: Now on PBS, *Transcript: Green Collar Jobs*, Arlington, VA: Public Broadcasting System, November 14, 2008, www.pbs.org/now/shows/445/transcript.html, accessed Nov. 12, 2009.
2. India Pierce Lee, Program Director for Neighborhoods, Housing, and Community Development, Cleveland, OH: The Cleveland Foundation, October 21, 2009.
3. Kate Gordon, Jeremy Hays, Leon Sompolinsky, Elizabeth Tan, and Jackie Tsou, *Community Jobs in the Green Economy*, San Francisco and Oakland, CA: Apollo Alliance and Urban Habitat, 2007.
4. Pew Charitable Trust, *The CleanEnergy Economy: Repowering Jobs, Businesses and Investments Across America*, Philadelphia, PA: Pew, June 2009, www.pewcenteronthestates.org/uploadedFiles/Clean_Economy_Report_Web.pdf, accessed Sept. 12, 2009. Global Insight, *Green Jobs in U.S. Metro Areas*, Lexington, MA: Global Insight, October 2008. Robert Pollin, Jeannete Wicks-Lim and Heidi Garrett-Peltier, *Green Prosperity: How Clean-Energy Policies Can Fight Poverty and Raise Living Standards in the United States*, Amherst, MA: PERI, June 2009.
5. Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report, Summary for Policymakers*, Geneva, Switzerland: IPCC, November 2007, www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf, accessed Sept. 12, 2009.
6. According to University of California, Berkeley economist Emmanuel Saez, economic inequality in the United States in 2007 actually exceeded the prior peak reached in 1928, the year before the Great Depression began. See Emmanuel Saez, *Striking it Richer: The Evolution of Top Incomes in the United States (Update with 2007 estimates)*, Berkeley, CA: University of California, August 5, 2009.
7. Barack Obama and Joe Biden, *New Energy for America*, Washington, DC: Democratic National Committee, August 3, 2008, www.barackobama.org/pdf/factsheet_energy_speech_080308.pdf, accessed Sept. 12, 2009.
8. Philip Mattera, *High Road or Low Road? Job Quality in the New Green Economy*, Washington DC: Good Jobs First, February 2009, page 6.
9. Thomas A. Kochan; Harry C. Katz; Robert B. McKersie, *The Transformation of American Industrial Relations*, 2nd ed., Ithaca, NY: Cornell University Press, 1994, page 31. Bureau of Labor Statistics, *Union Members 2009*, Washington, DC: US Department of Labor, January 22, 2010, www.bls.gov/news.release/union2.nr0.htm, accessed Feb. 24, 2010. David Y. Denholm, "Labor Union Density Shows First Uptick Since 1983," *Budget and Tax News*, June 2008, www.heartland.org/publications/budget_tax/article/23187/Labor_Union_Density_Shows_First_Uptick_Since_1983.html, accessed Oct. 25, 2009. Philip Mattera, *High Road or Low Road? Job Quality in the New Green Economy*, Washington DC: Good Jobs First, February 2009, page 5.
10. The two approaches—unionization and community ownership—can also be combined. For instance, workers at Recology (formerly NorCal Waste Systems, Inc.), the largest employee-owned company in the solid waste industry, which serves 570,000 residential and 55,000 commercial customers, are members of Teamster Local 350. Philip Mattera, *High Road or Low Road? Job Quality in the New Green Economy*, Washington DC: Good Jobs First, February 2009, pp. 27–28.
11. National Center for Employee Ownership, *A Statistical Profile of Employee Ownership*, Oakland, CA: NCEO, updated February 2009, www.nceo.org/library/eo_stat.html, accessed July 9, 2009. National Congress for Community Economic Development, *Reaching New Heights: Trends and Achievements of Community-Based Development Organizations*, 5th National Community Development Census, Washington, DC: NCCED, June 2006, pp. 4–15. CDFI Data Project, *Community Development Financial Institutions: Providing Capital, Building Communities, Creating Impact, FY 2006 Data*, Sixth Edition, Philadelphia, PA: Opportunity Finance Network, June 2008, page 2. Social Investment Forum, *2007 Report on Socially Responsible Investing Trends in the United States: Executive Summary*, Washington, DC: Social Investment Forum, 2007, page iv. The Democracy Collaborative, *Building Wealth: The New Asset-Based Approach to Solving Social and Economic Problems*, Washington, DC: The Aspen Institute, April 2005, pp. 97–103. Steven Deller, Ann Hoyt, Brent Hueth, and Reka Sundaram-Stukel, *Research on the Economic Impact of Cooperatives*, Madison, WI: University of Wisconsin Center for Cooperatives, March 2009, page 11.
12. National Center for Employee Ownership, *A Statistical Profile of Employee Ownership*, Oakland, CA: NCEO, February 2009, www.nceo.org/main/article/php/id/2, accessed Sept. 13, 2009. John Logue, *Business ownership-succession and employee ownership: Why & how*. Ohio Employee Ownership Center, Kent, OH: April 2, 2009, www.oeockent.org/index.php/library/category/46/cooperatives, accessed Sept. 14, 2009.
13. Steven Deller, Ann Hoyt, Brent Hueth, and Reka Sundaram-Stukel, *Research on the Economic Impact of Cooperatives*, Madison, WI: University of Wisconsin Center for Cooperatives, March 2009.
14. The Democracy Collaborative at the University of Maryland, *Building Wealth: The New Asset-Based Approach to Solving Social and Economic Problems*, Washington, DC: The Aspen Institute, April 2005, pp. 75–84. James Brasuell, *California State Treasurer Bill Lockyer Leverages State Investment to Spur Green Economy*, Los Angeles, CA: VerdeXchange News, January 2009, www.verdexchange.org/node/199, accessed Sept. 14, 2009.
15. For one profile of such cities, see Douglas Belkin, "Fastest Dying Cities' Meet for a Lively Talk," *Wall Street Journal*, August 13, 2009.

16. Some groups have chosen to include labor standards in their definition of green sector jobs. See for example, Kate Gordon and Jeremy Hays, with Jason Walsh, Bracken Hendricks, and Sarah White, *Green Collar Jobs in America's Cities: Building Pathways Out of Poverty and Careers in the Clean Energy Economy*, San Francisco and Oakland, CA, Washington, DC; and Madison, WI: Apollo Alliance, Green for All, Center for American Progress and Center on Wisconsin Strategy, 2008, page 3, where the authors write, "Put simply, if a job improves the environment, but doesn't provide a family-supporting wage or a career ladder to move low-income workers into higher-skilled occupations, it is not a green-collar job." Here we have chosen not to do that, not because we think it is unimportant that green jobs provide a living wage and indeed opportunities for community residents, but precisely because without the appropriate policy supports, the green economy is highly likely to develop without achieving these equity goals.

17. Karl Buckart, *How Do You Define the Green Economy?* Mother Nature Network, Atlanta, GA: Mother Nature Network LLC, January 9, 2009, www.mnn.com/technology/research-innovations/blogs/how-do-you-define-the-green-economy, Atlanta, GA: Mother Nature Network LLC, accessed Sept. 12, 2009. Buckart based his typology on that provided by Van Jones in the *Green Collar Economy*, but added the sector of "green investing."

18. Examples of biomass technologies include anaerobic digestion—using bacteria to break down landfill waste to produce methane which then generates electricity; fermenting corn or wood waste to produce ethanol for use as a transportation fuel; and biodiesel—a fuel manufactured from vegetable oils. With many types of biomass and many types of conversion technologies, biomass is a very complex resource.

19. Energy Information Agency, *Table 8. U.S. Renewable Energy Supply and Consumption (Quadrillion Btu)*, Washington, DC: U.S. Department of Energy, May 2010, www.eia.doe.gov/emeu/steo/pub/8tab.pdf, accessed May 30, 2010.

20. U.S. Environmental Protection Agency, *Green Building*, Washington, DC: EPA, April 14, 2009, www.epa.gov/greenbuilding/pubs/about.htm, accessed Sept. 12, 2009. US Green Building Council, *Intro: What LEED is*, Washington, DC: US Green Building Council, 2010, www.usgbc.org/DisplayPage.aspx?CMSPageID=1988, accessed Feb. 28, 2010.

21. Cambridge Systematics, Inc., *Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions*, Washington, D.C.: Urban Land Institute, 2009.

22. Pike Research, *One-Third of All Packaging Materials to be Eco-Friendly by 2014*, Boulder, CO: Pike Research, May 19, 2009, www.pikeresearch.com/newsroom/one-third-of-all-packaging-materials-to-be-eco-friendly-by-2014, accessed Sept. 12, 2009.

23. Wal-Mart, *Wal-Mart Unveils "Packaging Scorecard" to Suppliers*, Bentonville, AR: Wal-Mart, November 1, 2006, <http://walmartstores.com/FactsNews/NewsRoom/6039.aspx>, accessed Sept. 12, 2009.

24. Denise Pranger, Executive Director, Northwest Natural Resources Group, Interview, April 28, 2009.

25. John Berdes, President, Shorebank Cascadia, Interview, March 19, 2009. Anne Claire Broughton, Senior Director, SJF Advisory Services, Interview, March 18, 2009. Carla Dickstein, Senior Vice President for Research and Policy Development, Coastal Enterprises, Inc., Interview, March 16, 2009. Rob Sanders, Managing Director, Energy Group, The Reinvestment Fund, Interview, April 13, 2009.

26. Green for All and Living Cities, *Green for All and Living Cities Announce Creation of "Energy Efficiency Opportunity Fund" during Clinton Global Initiative*, New York, NY: Living Cities, September 25, 2009, www.livingcities.org/press/releases/?id=10, accessed Feb. 28, 2010.

27. USGBC North California, "Green-Collar Jobs: Oakland Green Job Corps Celebrates its Inaugural Graduation," July 15, 2009, www.usgbc-ncc.org/index.php?option=com_content&task=view&id=262&Itemid=210, accessed Sept. 11, 2009. Ted Howard, Executive Director, Democracy Collaborative, Personal Correspondence, September 9, 2009. Raquel Pinderhughes, *Green Collar Jobs: An Analysis of the Capacity of Green Businesses to Provide High Quality Jobs for Men and Women with Barriers to Employment: A Report for the City of Berkeley*, Berkeley, CA: City of Berkeley, 2007.

28. Global Insight, *U.S. Metro Economies: Current and Potential Jobs in the U.S. Economy*, Washington, DC: U.S. Conference of Mayors, October 2008.

29. American Solar Energy Society and Management Information Services, Inc., *Defining, Estimating, and Forecasting the Renewable Energy and Energy Efficiency Industries in the U.S. and in Colorado*, Boulder, CO and Washington, DC: ASES and MIS, December 2008.

30. U.S. Department of Energy, *20% Wind Energy by 2030*, Washington, DC: U.S. Department of Energy, 2007, www.20percent.org, accessed June 17, 2009.

31. Correspondence with Michael Bodaken, President, National Housing Trust, May 20, 2009.

32. Greg Pahl, "Community Supported Wind Power," *Mother Earth News*, June/July 2008, www.motheearthnews.com/Renewable-Energy/2008-06-01/Community-Supported-Wind-Power.aspx, accessed Sept. 12, 2009.

33. Neil Seldman, *Recycling Sector Has 30-Year Record of Impressive Growth*, Washington DC: Institute for Local Self-Reliance, January 11, 2002, www.ilsr.org/recycling/recyclingma.htm, accessed August 28, 2009. See also Cliff Aseltine, Danny McRea, Tejal Modi, Ajay Shukla, and Sean Sullivan, *A Strategic Case Analysis: Waste Management, Inc.*, paper submitted for class titled Seminar in Strategic Management, led by Dr. Jifu Wang Victoria, TX: University of Houston-Victoria, Spring 2006, www.uhv.edu/bus/conference/samples/WM1stplace.pdf, accessed Sept. 12, 2009.

34. Our definition of "community wind" is adapted from: Windustry, *Community Wind*, Minneapolis, MN: Windustry, August 2006, www.windustry.com/community, accessed Sept. 12, 2009. On wind power in

Denmark, see: P Greg Pahl, "Community Supported Wind Power," *Mother Earth News*, June/July 2008, www.motherearthnews.com/Renewable-Energy/2008-06-01/Community-Supported-Wind-Power.aspx, accessed Sept. 12, 2009. Jon Keeney, *The Great Danes*, King of Prussia, PA: Community Energy, October 19, 2009, www.communityenergyinc.com/blog/a/article/the-great-danes, accessed Feb. 28, 2010. Unlike traditional power plants fueled by coal or nuclear sources, wind production facilities can effectively operate at a small scale and thus be amenable to community ownership. For additional background on wind power, see Paul Gipe, "Community Wind: The Third Way," *Wind Power: Renewable Energy for Home, Farm, and Business*, *White River Junction, VT: 2004*, www.wind-works.org/articles/communitywindthethirdway.html, accessed Sept. 12, 2009. As Gipe notes, each wind turbine is a power plant unto itself. A small wind turbine such as a 10-kilowatt turbine can power a typical household; a 250-kilowatt turbine can power an elementary school with capacity to spare. This "modularity," as Gipe calls it, means that the appropriate scale and ownership of our wind and solar resources is not predetermined by technology.

35. John Farrell, *Ownership and Scale of Renewable Energy*, Minneapolis, MN: Institute for Local Self-Reliance, September 14, 2007, updated August 6, 2008, www.newrules.org/de/scaleownershipfarrell.pdf, accessed Nov. 15, 2009. See also: Jessica A. Shoemaker and Christy Anderson Brekken, *Community Wind: A Review of Select State and Federal Policy Incentives*, St. Paul, MN: Farmworker Legal Action Group, Inc., August 2006, <http://flaginc.org/topics/pubs/arts/CommWindAug06.pdf>, accessed Sept. 12, 2009.

36. Julie Buntjer "Capturing wind (giant batteries for giant turbines)," *Wind Watch*, November 19, 2008, www.wind-watch.org/news/2008/11/19/capturing-wind-giant-batteries-for-giant-turbines, accessed Sept. 12, 2009.

37. U.S. Government Accountability Office, *Renewable Energy: Wind Power's Contribution to Electric Power Generation and Impact on Farm and Rural Communities*, Washington, DC: GAO, Sept. 2004. WindShare, "Ex Place turbine has had an enormous impact on Canada's wind industry," Toronto, ON, Canada: WindShare, no date, www.windshare.ca/explace/the_wind_turbine.html, accessed Sept. 12, 2009.

38. If the median and the mean were equal, then the net contribution (5.8 percent of \$39.5 billion) would be just shy of \$2.3 billion. In the survey, APPA asked respondents to identify a sales range; they then derived medians for each sales range. Medians in the high sales categories were a greater percentage of income than for the whole, so \$2.3 billion is likely an underestimate. See APPA, *Payments and Contributions by Public Power Distribution Systems to State and Local Governments, 2002 Data*. Washington, DC: APPA, June 2004. Ron Lunt, APPA, Interview, October 26, 2004. Sales figures are based on EIA (Energy Information Administration) data as reported in APPA, *2004-05 Annual Directory & Statistical Report*, Washington, D.C.: APPA, 2004, pp. 21, 41. APPA, *Shining a Light on Public Service*, Washington, D.C.: APPA, 2004.

39. William Atkinson, *Renewables at a Local Level*, Washington, D.C: American Public Power Association, July-August 2008, www.appanet.org/newsletters/index.cfm?ItemNumber=22327, accessed Sept. 11, 2009.

40. Megan Rolland, "Biomass Plant Approved," *The Gainesville Sun*, May 8, 2009, www.gainesville.com/article/20090508/articles/905089985?Title=Biomass-plant-approved, Asjlynn Loder, "Gainesville Utility Places Premium on Solar Power," *St. Petersburg Times*, January 2, 2009, www.allbusiness.com/energy-utilities/utilities-industry-electric-power-power/11854575-1.html. Websites accessed Sept. 13, 2009.

41. City of Ashland, "Ashland Solar Pioneer II Community Project," *City Source*, Ashland, WA: April 2008, <http://ashland.or.us/files/AshCSApril08.pdf>, accessed Sept. 13, 2009.

42. Mark Kapner, Senior Strategy Engineer, Austin Energy, Interview, May 8, 2009. Seattle City Light, *Green Power program, Frequently Asked Questions*, Seattle, WA: Seattle City Light, no date, www.seattle.gov/light/green/greenpower.faq.asp, accessed Sept. 13, 2009.

43. Waverly Power and Light, *Setting the Standard*, Waverly, IA: Waverly Power & Light, no date, http://wlp.waverlyia.com/next_century.asp, accessed Sept. 13, 2009. North Carolina Solar Center, "Columbia—Renewable Portfolio Standard," *Database of State Incentives for Renewables and Efficiency (DSIRE)*, Raleigh, NC: North Carolina Solar Center, June 17, 2009, www.dsireusa.org/incentives/incentive.cfm?IncentiveCode=MO04R&re=1&ee=1, accessed on Sept. 13, 2009.

44. National Rural Electric Cooperative Association, *Co-ops by the Numbers*, Arlington, VA: NRECA, no date, www.nreca.org/AboutUs/Co-op101/CooperativeFacts.htm, accessed Sept. 13, 2009.

45. National Rural Electric Cooperative Association, *Renewable Energy. A Snapshot*, Arlington, VA: NRECA, no date, www.nreca.org/Documents/PublicPolicy/EEFlyer.pdf, accessed Sept. 13, 2009. Brian Crutchfield, Director of Sustainable Development, Blue Ridge Electric, Interview, March 19, 2009. Avram Patt, General Manager, Washington Electric Cooperative, Interview, May 1, 2009.

46. National Rural Electric Cooperative Association, *Co-ops by the Numbers*, Arlington, VA: NRECA, no date, www.nreca.org/AboutUs/Co-op101/CooperativeFacts.htm and NRECA, *A Snapshot*, Arlington, VA: NRECA, no date, www.nreca.org/Documents/PublicPolicy/EEFlyer.pdf. Websites accessed on Sept. 13, 2009.

47. National Rural Electric Cooperative Association, *Electric Co-ops Squeeze Power from Unlikely Sources for Renewable Energy*, Arlington, VA: NRECA, no date, www.nreca.org/aboutus/cooperativedifference/renewableenergy.htm. East Kentucky Power Cooperative, Enviro Watts, Winchester, KY: EKPC, no date, www.ekpc.coop/envirowatts/EnviroWattsFactSheet.doc. Websites accessed Sept. 13, 2009.

48. Amadou Fall, General Manager, National Renewables Cooperative Association, Interview, March 31, 2009.

49. Lynn Benander, *Northeast Biodiesel*, Greenfield, MA: Co-op Power, June 20, 2009, <http://reference.cooppower.coop/nb>, accessed Sept. 13, 2009. Cooperative Community Energy, *Frequently Asked Questions*, San Rafael, CA: CCE, no date, www.ccenergy.com/t_index.html, accessed Sept. 13, 2009.
50. David Morris, *The New Ethanol Future Demands a New Public Policy*, Minneapolis, MN: Institute for Local Self-Reliance, June 21, 2006, www.ilsr.org/columns/2006/062106.html, accessed Sept. 13, 2009.
51. Tim Post, *Minnesota Wheat Makes a Premium Vodka*, Minneapolis, MN: Minnesota Public Radio, September 19, 2003, http://news.minnesota.publicradio.org/features/2003/09/19_postt_shakersvodka, accessed Sept. 13, 2009; Chris O'Brien, "Beer No. 4, Shaker's Vodka," *Beer Activist Blog*, December 27, 2006, <http://beeractivist.com/2006/12/27/beer-4-shakers-vodka>, accessed Oct. 24, 2009. Chippewa Valley Ethanol Company, *CVEC History*, Benson, MN: CVEC, 2009, <http://cvec.com/main.asp?SectionID=2&TM=41854.2>, accessed Oct. 24, 2009; Chippewa Valley Ethanol Company, *CVEC Announces New GM*, Benson, MN: CVEC, September 18, 2009, <http://cvec.com/main.asp?SectionID=19&TM=65299.31>, accessed Oct. 24, 2009.
52. Great Lakes Hybrid, *AGP to Build New Soy Biodiesel Plant at St. Joseph, Missouri*, Ovid, MI: Great Lakes Hybrid, February 27, 2006, www.greatlakeshybrids.com/2006/02/27/agp-to-build-new-soy-biodiesel-plant-at-st-joseph-missouri, accessed Sept. 13, 2009. Ag Processing Inc., *When Cooperatives Cooperate, Success Follows: Annual Report 2008*, Omaha, NB: AGP, 2009, page 19.
53. Lyle Estill, Co-founder, Piedmont Biofuels, Interview, March 10, 2009.
54. Lizana Pierce, Project Manager, Tribal Energy Program, U.S. Department of Energy, Interview, April 14, 2009.
55. Lizana Pierce, Project Manager, Tribal Energy Program, U.S. Department of Energy, Interview, April 14, 2009. U.S. Department of Energy—Energy Efficiency and Renewable Energy, *Rosebud Sioux Turbine Complete*, Washington, DC: U.S. Dept. of Energy, May 3, 2003, http://apps1.eere.energy.gov/states/state_news_detail.cfm?news_id=8551/state=ND?print, accessed Nov. 13, 2009.
56. United States Department of Energy, *Ramona Band of Cahuilla Goes "Off the Grid"*, Washington, DC: US DOE Region 9: September 10, 2009, www.ramonatribe.com/projects.html, accessed Sept. 13, 2009.
57. Lizana Pierce, Project Manager, Tribal Energy Program, U.S. Department of Energy, Interview, April 14, 2009.
58. Melissa Hoover, Executive Director, U.S. Federation of Worker Cooperatives, Interview, March 25, 2009.
59. Bill Stillinger, General Manager, PV Squared, Interview, April 28, 2009.
60. Melissa Hoover, Executive Director, U.S. Federation of Worker Cooperatives, Interview, March 25, 2009.
61. Layla Aslani, "Create Your Own Workplace," *Yes! Magazine*, fall 2008, www.yesmagazine.org/issues/purple-america/create-your-own-workplace, accessed Sept. 14, 2009.
62. Omar Freilla, Founder, Green Workers Cooperatives, Interview, April 17, 2009.
63. Corey Rosen, Executive Director, National Center for Employee Ownership, Interview, February 19, 2009.
64. John Logue, Director, Ohio Employee Ownership Center, Interview, March 3, 2009.
65. *Ibid.*
66. Lydia Gans, "Shopping Urban Ore: Dedicated to Ending Waste," *Berkeley Daily Planet*, December 11–17, 2008, pp. 17–19. Corey Rosen, Executive Director, National Center for Employee Ownership, Personal Correspondence, October 5, 2009. See also, Urban Ore's website at: <http://urbanore.ypguides.net>, accessed Oct. 24, 2009.
67. Corey Rosen, Executive Director, National Center for Employee Ownership, Personal Correspondence, October 5, 2009. Mark Harden, "14 Colorado companies on 'Inc. 500' fastest-growing list," *Denver Business Journal*, August 12, 2009, <http://denver/stories/2009/08/10/daily53.html>, accessed Oct. 24, 2009. David Brearley, "Blake Jones, Namasté Solar: Rocky Mountain Integrator Shines on National Stage," *SolarPro*, October–November 2009, pp. 82–89. A related form of employee ownership involves the use of community development venture capital, in which the community-oriented venture investor leverages its ownership stake to ensure a sharing of the wealth with employees, most typically done through the distribution of stock options to all regular full-time employees. For example, Durham, North Carolina-based SJF Ventures has invested in groSolar, a Vermont-based company that, as a result of SJF's investment, agreed to adopt a broad-based stock option plan for its employees. The company distributed and installed 11.5 megawatts of solar electric and solar thermal systems in 2008, more than double the year before. Founded in 1998, groSolar is the largest 100-percent U.S.-owned distribution company in the solar industry. (Anne Claire Broughton, Senior Director, SJF Advisory Services, Personal Correspondence, October 2, 2009; GroSolar, *Company Fact Sheet*, White Junction, VT: GroSolar, 2009; SJF Advisory Services, *Positive Impacts Report 2009*, Durham, NC: SJF Advisory Services, 2009, page 5.
68. Recology, *Meet our Recologists*, San Francisco, CA: Recology, no date, <http://recology.com/profile/index.htm>, accessed Nov. 16, 2009. Michael Sangiacomo, *Introducing Recology*, Ashland, OR: Recology/Ashland Sanitary Service, October 6, 2009, www.ashland.or.us/.../2009-1006%20Document%20Submitted%20at%20Mtg.pdf, accessed Nov. 16, 2009. Philip Mattera, *High Road or Low Road? Job Quality in the New Green Economy*, Washington DC: Good Jobs First, February 2009, pp. 27–28.
69. We are using the definition of social enterprise found in: Dorothy A. Johnson Center for Philanthropy & Nonprofit Leadership, *The Nonprofit Good Practice Guide*, Grand Rapids, MI: Grand Valley State University, 2002, 2007 (revised), www.npgoodpractice.org/Glossary/Default.aspx?index=S, which defines a social enterprise as:

“A nonprofit venture that combines the passion of a social mission with the discipline, innovation and determination commonly associated with for-profit businesses.”

70. Martin Bourque, Executive Director, Ecology Center, Inc., Interview, May 5, 2009.

71. *Ibid.*

72. Martin Bourque, Executive Director, Ecology Center, Inc., Interview, May 5, 2009. St. Vincent de Paul Society of Lane Co, *Aurora Glass Foundry—Old glass becomes new*, Eugene, OR: St. Vincent de Paul Society, no date, www.svdpc.us/aurora-glass-foundry.php, accessed Sept. 14, 2009.

73. Mary Bells, “History of Dynamite,” *About.com: Inventors*, New York, NY: New York Times Company, 2009, http://inventors.about.com/od/dstartinventions/a/Alfred_Nobel.htm, accessed Sept. 12, 2009. Brad Guy, Executive Director, Interview, March 3, 2009.

74. Mick Pulsifer, Manager, DeConstruction Services, Interview, April 17, 2009. The ReUse People, *Retail Sales*, TRP, San Diego, CA: no date, <http://thereusepeople.org/RetailSales>, accessed Sept. 14, 2009.

75. Our United Villages, *The Components of Our United Villages*, Portland, OR: OUV, no date, [www.ourunitedvillages.org/5comp.html](http://ourunitedvillages.org/5comp.html), accessed Sept. 14, 2009.

76. Dana Bourland, Vice President of Green Initiatives, Enterprise Community Partners, Interview, June 19, 2009. U.S. Department of Housing & Urban Development (HUD), *FY09 Notice of Funding Availability: Green and Healthy Homes Technical Studies Program*, Washington, DC: HUD, September 19, 2009, www.hud.gov/offices/lead/09NOFA/ghhts.cfm, accessed Feb. 28, 2010.

77. Michael Bodacken, President, National Housing Trust, Interview, April 30, 2009.

78. Dana Bourland, Vice President of Green Initiatives, Enterprise Community Partners, Interview, June 19, 2009.

79. Michael Bodacken, President, National Housing Trust, Conversation, April 19, 2009.

80. Triple Bottom Line Collaborative, *TBLC Overview*, TBLC, Ilwaco, WA: October 2, 2008, <http://tripleblc.ning.com>, accessed Sept. 14, 2009.

81. Carla Dickstein, Senior Vice-President, Coastal Enterprises, Interview, March 16, 2009.

82. Bob Schall, President, Self Help Ventures Fund, Interview, March 3, 2009.

83. John Berdes, President, ShoreBank Enterprise Pacific, Interview, March 19, 2009.

84. Low Income Investment Fund, *LIIF to Use \$5 Million to Green Preschools*, LIIF, San Francisco, CA: Spring 2009, www.liifund.org/MEDIACENTER-NEW/LIIF%20publications/E-Newsletters/LIIF%20Update%20Spring%202009.htm#CPEEP, accessed Sept. 14, 2009.

85. *Ibid.*

86. “The entry of credit unions into the green economy has been very limited,” says Cliff Rosenthal, Executive Director of the National Federation of Community Development Credit Unions. Rosenthal adds, however, that he does “see pieces on credit unions having green offices or having loan products for hybrid cars.” New Mexico has a small credit union entirely focused on sustainable communities. The Permaculture Credit Union—with \$3.2 million in assets and 1,000 members—provides financing incentives to borrowers buying green products or services. They offers their members discounts on large purchases like fuel efficient cars as well as on second mortgage loans for solar heating or water systems, weatherization, rainwater collection, conservation and organic farming and gardening. Unlike most lenders, they will finance off-grid property if the member has equity in the land. See: Permaculture Credit Union, *Frequently Asked Questions*, PCU, Santa Fe, NM: May 7, 2007, www.pcuonline.org/forms/FAQBrochure-05.07.07.pdf, Sept. 14, 2009.

87. Mark Fick, Senior Loan/Program Officer, Chicago Community Loan Fund, Personal Correspondence, December 17, 2009.

88. Carolyn Fischer, *Using RECs for Carbon Offsets: What are the Economic Issues?* Resources for the Future, Washington, DC: Federal Trade Commission, January 8, 2008, www.ftc.gov/bcp/workshops/carbonoffsets/presentations/cfischer.pdf, accessed Sept. 14, 2009.

89. Bonneville Environmental Foundation, *Our History*, Portland, OR: BEF, no date, www.b-e-f.org/meet, accessed Sept. 14, 2009.

90. Bonneville Environmental Foundation, *2009 BEF Annual Report*, Portland, OR: BEF, no date, www.b-e-f.org/lib/pdf/BEF_AnnualReport_09.pdf, accessed Sept. 14, 2009.

91. Denise Pranger, Executive Director, Northwest Native Resource Group, Interview, April 28, 2009.

92. Jason Bailey, Research and Policy Director, Mountain Association for Community Economic Development (MACED), Conversation, February 5, 2009.

93. Enterprise Green Communities, *Green Communities Offset Fund™*, Enterprise, Columbia, MD, 2009, www.greencommunitiesonline.org/green/offset, accessed Sept. 14, 2009.

94. Thomas Croft, *Up From Wall Street: The Responsible Investment Alternative*, Pittsburgh, PA: The Heartland Network, 2009. Thomas Croft, “Putting Public and Labor Pension Capital into Clean Energy and Good Jobs,” Workshop 32, *Good Jobs, Green Jobs conference*, Washington, DC: Blue-Green Alliance, February 6, 2009.

95. Thad Williamson, David Imbroscio and Gar Alperovitz, *Making a Place for Community*. New York, NY: Routledge, 2003.

96. Estimate of \$2.35 trillion in assets comes from the Pew Center for the States, *The Trillion Dollar Gap*, Philadelphia, PA: The Pew Charitable Trusts, February 2010, page 1. California State Treasurer, *California State*

- Treasurer Phil Angelides' Green Wave Initiative*, Treasurer, Sacramento, CA: December 7, 2005, www.treasurer.ca.gov/greenwave/update.pdf, accessed Sept. 14, 2009.
97. James Brasuell, *California State Treasurer Bill Lockyer Leverages State Investment to Spur Green Economy*, Los Angeles, CA: VerdeXchange News, January 2009, www.verdexchange.org/node/199, accessed Sept. 14, 2009.
98. Investors Network on Climate Risk, *About INCR*, New York, NY: INCR, no date, www.icnr.com/Page.aspx?pid=261, accessed Sept. 14, 2009.
99. Multi-Employer Property Trust, *MEPT Commits Over \$137 Million to N.Y. Project*, Washington, DC: MEPT, no date, www.mept.com/pdf/MEPT_4Q04InDepth.pdf, accessed Sept. 14, 2009.
100. Solidarity Fund QFL, *Spheres of Activity—Environment*, Montreal and Quebec City, Quebec, Canada: Solidarity Fund, no date, www.fondsftq.com/internetfonds.nsf/vWebTAN/PmeSec?opendocument§eur=ENV#creneaux, accessed Sept. 14, 2009.
101. Avram Patt, General Manager, Washington Electric Co-op, Interview, May 1, 2009.
102. Mark Kapner, Senior Strategy Engineer, Austin Energy, Interview, May 8, 2009.
103. *Ibid.*
104. *Ibid.*
105. Environmental Defense Fund, *Landmark "Pecan Street Project" Brings Together City of Austin, Austin Energy, University of Texas, Austin Chamber and Environmental Defense Fund To Design Energy System of the Future*, Washington DC: EDF, December 3, 2008, www.edf.org/pressrelease.cfm?contentID=8900, accessed Sept. 14, 2009.
106. Pecan Street Project, *What is the Project?* Austin, TX: Pecan Street Project, 2009, www.pecanstreetproject.org/what-is-the-project, accessed Sept. 14, 2009.
107. Avram Patt, General Manager, Washington Electric Co-op, Interview, May 1, 2009.
108. *Ibid.*
109. *Ibid.*
110. Craig Dublanko, Chief Financial Officer, Coastal Community Action, Interview, May 12, 2009.
111. *Ibid.*
112. *Ibid.*
113. *Ibid.*
114. *Ibid.*
115. Toronto Renewable Energy Co-operative, *WindShare*, Toronto, ON, Canada: TREC, no date, <http://trec.on.ca/projects/windshare.html>, accessed Sept. 14, 2009.
116. Judith Lipp, Executive Director, Toronto Renewable Energy Cooperative, Interview, March 16, 2009.
117. *Ibid.* Note all figures in this paragraph are in Canadian currency.
118. *Ibid.*
119. Bill Stillinger, General Manager, PV Squared, Interview, April 28, 2009.
120. *Ibid.*
121. *Ibid.*
122. *Ibid.*
123. Omar Freilla, Founder, Green Worker Cooperatives, Interview, April 17, 2009.
124. *Ibid.*
125. *Ibid.*
126. *Ibid.*
127. *Ibid.*
128. *Ibid.*
129. Dave Heidenreich, "Why Would You Want to Turn Your Employee Owners Into Venture Capitalists?" *Owners at Work*, Volume XX No. 1, Summer 2008, www.oeockent.org/index/php/library/category57/owners-at-work, accessed Sept. 14, 2009..
130. ESOPs that are set up as S corporations do not have to pay federal (and usually state) income tax on the percentage of their profits attributable to the ESOP S corporations typically require a limited number of owners; however, with a S-corporation, the ESOP, even if it represents hundreds of employee-owners, counts as "one" owner. The result has been a rapid growth in S corporation ESOPs, often from ESOPs that have bought shares from an exiting owner converting to S status after buying out all remaining shares. See: National Center for Employee Ownership, *ESOPs in S Corporations*, Oakland, CA: NCEO, 2009, www.nceo.org/main/article.php?id/33, accessed Sept. 6, 2009.
131. Dave Heidenreich, President, EBO Group, Interview, April 15, 2009. Corey Rosen, NCEO, Interview, February 19, 2009.
132. Dave Heidenreich, President, EBO Group, Interview, April 15, 2009.
133. The Green Institute, *Reuse and Deconstruction*, Minneapolis, MN: Green Institute, no date, www.greeninstitute.org/programs/reuse-deconstruction.htm, accessed Sept. 14, 2009.
134. Mick Pulsifer, Manager, DeConstruction Services, Interview, April 17, 2009.
135. *Ibid.*

136. *Ibid.*
137. *Ibid.*
138. Hilary Abell, Executive Director, WAGES, Interview, April 16, 2009.
139. *Ibid.*
140. *Ibid.*
141. *Ibid.*
142. *Ibid.*
143. *Ibid.*
144. *Ibid.*
145. Jim Anderson, CEO, Evergreen Cooperatives, Interview May 15, 2009.
146. *Ibid.* See also: Ted Howard, Steve Dubb, and Gar Alperovitz, "Help Wanted: Green Businesses Seek Worker-Owners. Walk to Work. Good Benefits," *Yes!*, Summer 2009, pp. 44–45.
147. Jacquelyn Yates, "The Evergreen Cooperative Initiative: Can 'Anchor Institutions' Help Revitalize Declining Neighborhoods by Buying from Local Cooperatives?" 23rd Annual Ohio Employee Ownership Conference, Kent, Ohio: Ohio Employee Ownership Center, Kent State University, 2009, pp. 44–47. Ted Howard, Executive Director, Democracy Collaborative, Personal Correspondence, September 9, 2009.
148. Jim Anderson, CEO, Evergreen Cooperatives, Interview, May 15, 2009.
149. Ted Howard, Executive Director, Democracy Collaborative, Personal Correspondence, September 9, 2009.
150. Ted Howard, Executive Director, Democracy Collaborative, Personal Correspondence, September 9, 2009.
151. *Ibid.* Ted Howard, Executive Director, Democracy Collaborative, Personal Correspondence, September 9, 2009.
152. Ted Howard, Interviews of Evergreen workers, Fall 2009.
153. Melissa Hoover, Executive Director, U.S. Federation of Worker Cooperatives, Interview, March 25, 2009.
154. Mark Kapner, Senior Strategy Engineer, Austin Energy, Interview, May 8, 2009.
155. John Farrell, Senior Researcher, Interview, Institute for Local Self-Reliance, April 15, 2009.
156. *Ibid.*
157. Mark Kapner, Senior Strategy Engineer, Austin Energy, Interview, May 8, 2009. Mark Crisson, *Letter to The Honorable Max Baucus*, Washington, DC: American Public Power Association, August 19, 2009, <http://appanet.org/files/PDFs/LetterFinanceCommitteeAPPATaxIssues81909.pdf>, accessed Sept. 14, 2009. California Energy Commission, "Go Solar California!" Sacramento, CA: State of California, 2008, www.gosolarcalifornia.org/csi/tax_credit.html, accessed Oct. 24, 2009. John Farrell, Senior Researcher, Institute for Local Self-Reliance, Personal Correspondence, October 2, 2009.
158. Matthew D. Ritsema, Mark A. Edelman & Daniel M. Otto, *Rewearable Power and Energy Efficiency: Policies in Iowa and Other States*, Mount Vernon, Iowa: Iowa Policy Project, April 2003.
159. John Farrell, Senior Researcher, Institute for Local Self-Reliance, Interview, April 15, 2009.
160. Paul Detering, *Emerging Solar Technologies Flex Their Market Strength*, no city specified, Triplepundit, March 31, 2009, www.triplepundit.com/2009/03/emerging-solar-technologies-flex-their-market-strength, accessed Sept. 14, 2009.
161. Interview, Chris Cassidy, Chief, Specialty Lenders Division, Energy Branch, U.S. Department of Agriculture, April 7, 2009.
162. U.S. Treasury Department, *Payments for Specified Energy Property in Lieu of Tax Credits under the American Recovery and Reinvestment Act of 2009*, Washington, DC: U.S. Treasury Department, Office of the Fiscal Assistant Secretary, July 2009, www.treas.gov/recovery/docs/guidance.pdf, accessed August 27, 2009.
163. Aaron Ball, "Energy Provisions of the American Recovery and Reinvestment Act of 2009", *The Energy Law Advisor*, Plano, TX: Institute for Energy Law, March 3, 2009, www.cailaw.org/iel_advisor/industry_news/energyprovisions_arra.html, accessed Sept. 14, 2009.
164. Ted Howard, Personal Correspondence, September 9, 2009.
165. R. Brent Alderfer, M. Monika Eldridge and Thomas J. Starrs, *Making Connections: Case Studies of Interconnection Barriers and their Impacts on Distributed Power Projects*, Golden, CO: National Renewable Energy Laboratory, July 2000, www.nrel.gov/docs/fy00osti/28053.pdf, accessed Sept. 14, 2009.
166. Jennifer Grove, Executive Director, Northwest SEEDS, Interview, March 20, 2009.
167. *Ibid.*
168. Windustry, *Community Wind Toolbox Chapter 1: Introduction to Community Wind Development*, Minneapolis: Windustry, no date, , www.windustry.org/your-wind-project/community-wind/community-wind-toolbox/chapter-1-introduction/community-wind-toolbox, accessed Sept. 14, 2009.
169. Judith Lipp, Executive Director, Toronto Renewable Energy Co-operative, Interview, March 16, 2009.
170. John Logue, Executive Director, Ohio Employee Ownership Center, Interview, March 3, 2009.
171. Brad Guy, Executive Director, Building Materials Reuse Association, Interview, March 3, 2009.
172. Mick Pulsifer, Manager, DeConstruction Services, Interview, April 17, 2009.

173. *Ibid.*
174. Dana Bourland, Vice President, Enterprise Community Partners, Interview, June 19, 2009.
175. *Ibid.*
176. Carla Dickstein, Senior Vice-President, Coastal Enterprises, Interview, March 16, 2009.
177. Bob Schall, President, Self Help Ventures Fund, Interview, March 3, 2009.
178. Rob Sanders, *Clean Energy Loan Funds: TRF Sustainable Development Fund*, Montpelier, VT: Clean Energy States Alliance, May 8, 2009, www.cleanenergystates.org/presentations.html, accessed Sept. 14, 2009.
179. Winona LaDuke, address at plenary session on "Green For All—Building a Strong and Inclusive Green Economy," *Good Jobs, Green Jobs* conference, Washington, DC: Blue-Green Alliance, February 6, 2009.
180. Many rural electric co-ops are only in the electricity distribution business, purchasing wholesale power from state or regional level Generation and Transmission co-ops. This multi-tiered structure enables individual co-ops to secure priority and better prices from power producers.
181. Corey Rosen, Executive Director, National Center for Employee Ownership, Interview, February 19, 2009.
182. John Logue, Director, Ohio Employee Ownership Center, Interview, March 3, 2009.
183. Melissa Hoover, Executive Director, U.S. Federation of Worker Cooperatives, Interview, March 25, 2009. Interview. Jennifer Gutshall, Executive Director, Cooperative Development Institute, DATE.
184. Peter Teague, Program Director, Environment/Contemplative Practice, Nathan Cummings Foundation, Interview, March 25, 2009.
185. Mark Valentine, *Green Design and Practice in the Development of Buildings and Neighborhoods: An Overview for Funders*, Coral Gables: Funders Network for Smart Growth and Livable Communities, 2005, www.fundersnetwork.org/info-url_nocat2778/info-url_nocat_show.htm?doc_id=327337, accessed Sept. 14, 2009. Kresge Foundation, Kresge's Green Building Initiative Meets its Goals; Will Be Retired in May 2009, Troy, MI: Kresge Foundation, February 27, 2009, www.kresge.org/index.php/program_updates/article/kresge_is_retiring_its_green_building_initiative_in_may_2009, accessed Nov. 14, 2009. Richard Defendorf, *Home Depot Foundation, Habitat for Humanity Expand Green Program*, Newtown, CT: Green Building Advisor, August 4, 2009, www.greenbuildingadvisor.com/blogs/dept/green-building-news/home-depot-foundation-habitat-humanity-expand-green-program, accessed Nov. 14, 2009. Doris Duke Charitable Foundation, "Doris Duke Charitable Foundation Awards \$21 Million to Energy Foundation," *Philanthropy News Digest*, August 16, 2007, <http://foundationcenter.org/pnd/news/story.jhtml?id=186800004>, accessed Nov. 14, 2009. Surdna Foundation, *Sustainable Communities*, New York, NY: Surdna, 2009, www.surdna.org/what-we-fund/sustainable-environments.html, accessed Nov. 14, 2009.
186. Carla Dickstein, Senior Vice-President, Coastal Enterprises, Interview, March 16, 2009.
187. *Ibid.*
188. Bonneville Environmental Foundation, *About BEF*, Bellingham, WA: BEF, no date, www.b-e-f.org/meet, accessed Sept. 14, 2009.
189. Grantmakers in the Arts, "The Cleveland Foundation," *Grantmakers in the Arts Newsletter*, vol-ume 10, no. 2, autumn 1999, Seattle, WA: Grantmakers in the Arts, www.giarts.org/library_additional/library_additional_show.htm?doc_id=5029371999, accessed Sept. 12, 2009. Jim Anderson, CEO, Evergreen Cooperatives, Interview, May 15, 2009.
190. Cleveland Foundation, "Transforming lives, transforming communities," *Donor Connections*, Cleveland: Cleveland Foundation, Spring 2009, www.clevelandfoundation.org/uploadedFiles/Donor%20Connections%20-%20Spring%202009.pdf, accessed Sept. 14, 2009.
191. Dave Foster, Executive Director, Blue Green Alliance, Interview, April 29, 2009.
192. Craig Dublanko, CFO, Coastal Community Action Agency, Interview, May 12, 2009.
193. Bill Drumheller, *Summary of Oregon's Renewable Portfolio Standard*, Salem, OR: Oregon Department of Energy, October, 2007, www.oregon-rps.org/ENERGY/RENEW/docs/Oregon_RPS_Summary_Oct2007.pdf, accessed Sept. 14, 2009. Database of State Incentives for Renewables and Efficiency (DSIRE), *Montana*, Raleigh, NC: North Carolina Solar Center, May 18, 2009, www.dsireusa.org/incentives/index.cfm, accessed Sept. 14, 2009.
194. Local Government Commission, *Community Choice Aggregation*, Sacramento, CA: LGC, no date, www.lgc.org/cca/docs/cca_energy_factsheet.pdf, accessed Sept. 14, 2009.
195. John Farrell, Senior Researcher, Institute for Local Self Reliance, Interview, April 15, 2009. Introduced in the spring of 2009, the Wind Energy Promotion Act in Minnesota would amend the tax code to allow up to \$40,000 of the Production Tax Credit for wind to be used against ordinary income, mirroring passive loss exemptions in oil and gas and real estate development. Re Sacramento, see: Kevin Porter, *Feed-In Tariffs*, Sacramento, CA: California Energy Commission, August 22, 2006, www.energy.ca.gov/2007_energypolicy/documents/2006-08-22_workshop/presentations/4-FEED-IN_TARIFFS-K-PORTER.PDF, accessed Sept. 14, 2009.
196. Energy Information Administration, Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, Washington, DC: EIA, September 11, 2009, www.eia.doe.gov/cneaf/electricity/epm/tables5_6_a.html, accessed Sept. 14, 2009. Paul Gipe, *SMUD Announces "Feed-in Tariffs"—But Can Program Deliver as Promised?* Peterborough NH: RenewableEnergyWorld.com, August, 2009, www.renewableenergyworld.com/rea/news/article/2009/08/smud-announces-feed-in-tariffs-but-can-program-deliver-as-promised, accessed Sept. 14, 2009. John Farrell, Senior Researcher, Institute for Local Self-Reliance, October 2, 2009. Paul Gipe, "The

Mouse That Roared: Vermont Feed-In-Tariffs Become Law," *Grist*, May 29, 2009, www.grist.org/article/2009-05-29-vermont-feed-in-tariffs, accessed Oct. 24, 2009.

197. In 2007, the legislature amended the program to require that 51 percent of net income generated by the wind project—in addition to the ownership—to flow to in-state owners. New Rules Project, *Community Based Energy Development (C-BED) Tariffs—Minnesota*, Minneapolis, MN: Institute for Local Self-Reliance, no date, www.newrules.org/energy/rules/communitybased-energy-development-cbed/community-based-energy-development-cbed-tariffs-minnesota, accessed Nov. 14, 2009. Nebraska has a similar, but much weaker law on its books: see John K. Hansen, *Harvesting Nebraska's Wind Energy*, Lincoln, NE: Nebraska Wind Working Group, Nebraska Farmers Union, February, 2008, www.neo.ne.gov/renew/wind-working-group/harvesting_wind-hansen.ppt, accessed Sept. 14, 2009. Clean Energy Resource Teams, *Community-Based Energy Development*, St. Paul, MN: CERT, August 7, 2007, www.cleanenergyresourceteams.org/files/C-BED_Overview_Web.pdf, accessed Nov. 15, 2009.

198. Jessica A. Shoemaker and Christy Anderson Brekken, *Community Wind: A Review of Select State and Federal Policy Incentives*. St. Paul, MN: Farmers' Legal Action Group, Inc., August 2006, www.flaginc.org/topics/pubs/arts/CommWindAug06.pdf, accessed Sept. 14, 2009.

199. General Assembly of North Carolina 2007 Session, *North Carolina's Renewable and Energy Efficiency Portfolio Standard*, Raleigh, NC: General Assembly, August 2007, www.greenenergycafe.com/images/PDFs/S3v6.pdf, accessed Sept. 14, 2009.

200. Database of State Incentives for Renewable Energy and Efficiency (DSIRE), *New Jersey Interconnection Standards*, Raleigh, NC: North Carolina Solar Center, December 19, 2008, www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NJ11R&re=1&ee=1, accessed Sept. 14, 2009.

201. Institute for Local Self-Reliance, *Comparing Local Financing Programs*, Minneapolis, MN: New Rules Project, July 17, 2009, www.newrules.org/sites/newrules.org/files/u1/munifinancetablelarge.jpg, accessed August 4, 2009.

202. Small Business and Technology Development Center, *Selling to the Federal Government*, Raleigh, NC: SBTDC, North Carolina State University, 2009, www.sbtcdc.org/services/sell_fedgov.asp, Christopher Conkey, "House Democrats Craft Transportation Bill," *Wall Street Journal*, June 16, 2009, <http://online.wsj.com/article/SB124519971897621217.html>. U.S. Department of Housing & Urban Development, *CHDO Set Aside*, Washington, DC: HUD, no date, www.disasterhousing.gov/offices/cpd/affordablehousing/training/web/checkup/performance/chdosetaside.cfm. Web sites accessed Nov. 14, 2009.

203. John Farrell, *Ownership and Scale of Renewable Energy*, Minneapolis, MN: Institute for Local Self-Reliance, September 14, 2007, updated August 6, 2008, www.newrules.org/de/scaleownershipfarrell.pdf; Local Government Commission, *Community Choice Aggregation*, Sacramento, CA: LGC, April 30, 2009, www.lgc.org/cga/docs/cga_energy_factsheet.pdf. Websites accessed Nov. 15, 2009.

204. CDFI Fund, *CDFI Fund Launches New Capacity-Building Initiative*, Washington, DC: CDFI Fund, August 21, 2009, www.cdfifund.gov/news_events/CDFI-2009-43-Fund-Launches-New-Capacity-Building-Initiative.asp, accessed Nov. 15, 2009.

205. P. Greg Pahl, "Community Supported Wind Power," *Mother Earth News*, June/July 2008, www.motherearthnews.com/Renewable-Energy/2008-06-01/Community-Supported-Wind-Power.aspx, accessed Sept. 12, 2009. John Farrell, Personal Correspondence, November 20, 2009.

206. Ted Howard, Personal Correspondence, September 9, 2009.

207. Funders' Network for Smart Growth and Livable Communities, *About the Smart Growth Network*, Coral Gables, FL: Funders' Network, 2007, www.fundersnetwork.org/info-url_nocat2777/info-url_nocat.htm, accessed Nov. 14, 2009.

208. Local Initiatives Support Corporation, *Our History*, New York, NY: LISC, 2009, www.lisc.org/section/aboutus/history, accessed Sept. 1, 2009.

209. Martin Bourque, Executive Director, Ecology Center, Inc., Interview, May 5, 2009.

210. John Funk, "Sustainability is the future of Cleveland, Mayor Frank Jackson says," *Cleveland Plain Dealer*, August 12, 2009.

The Democracy Collaborative at the University of Maryland was established in 2000 to advance a new understanding of democracy for the 21st century and to promote new strategies and innovations in community development that enhance democratic life.

The Collaborative is a national leader in the field of community development through our Community Wealth Building Initiative. The Initiative sustains a wide range of projects involving research, training, policy development, and community-focused work designed to promote an asset-based paradigm and increase support for the field across-the-board.

Our research, strategy and policy website— [www.democracycollaborative.org](#) —is updated quarterly and is a comprehensive source for information about the community wealth building movement nationwide.

A current flagship project of The Democracy Collaborative is the Evergreen Cooperative Initiative in Cleveland, Ohio. In partnership with The Cleveland Foundation, the Ohio Employee Ownership Center at Kent State University, and many of Cleveland's major health and educational "anchor institutions," the Collaborative has designed and is helping to implement a comprehensive wealth building effort in six low-income neighborhoods. The Initiative is building community-based businesses that will employ hundreds of local residents. Each new start-up company is organized as a green worker cooperative. For more about the Initiative, visit [www.evergreencooperatives.org](#).

Growing a Green Economy for All offers a stunning breakthrough in how we should think and act about jobs at a point at which our country should be creating 500,000 new ones each month. By fusing concerns about jobs, community revitalization, social justice and environment, the report provides a uniquely valuable path forward. It should also help get the various progressive communities out of their issue-bound silos.

— James Gustave Speth, former Administrator of the United Nations Development Programme, Yale University Professor in the Practice of Environmental Policy and author, *The Bridge at the Edge of the World*

The idea of moving from green jobs to green ownership is one of the most powerful concepts to come down the road in many, many years. This report outlines a path toward a genuinely new kind of economy, a path toward building a green economy while spreading the benefits of business ownership at the same time. I am tremendously excited by this report and will be sharing it widely.

— Marjorie Kelly, Senior Associate, Tellus Institute, Boston, and author, *The Divine Right of Capital*

Seeking courage and leadership, we find little. Looking for viable new ideas, we find few. But that's because we haven't looked in Cleveland, home to the Evergreen Cooperatives. The idea that local citizens can use the power of business to cooperatively reclaim their shared economic and environmental destinies is a powerful one. This is one important new development you don't want to miss!

— Jeffrey Hollender, Co-Founder and Executive Chairman, Seventh Generation Inc., and author, *The Responsibility Revolution*

If you have ever thought that democracy ought to live outside of the voting booths and in our economy, but didn't say it out loud for fear of people thinking of you as crazy, then read this report now! In a world where normal is self-destructive, survival demands we get crazy. And, after reading this report, you'll feel a little more comfortable in your insanity knowing that your fellow crazies are organized, networked, growing in number, and oh so cool.

— Omar Freilla, Team Coordinator, Green Worker Cooperatives, South Bronx

The Democracy Collaborative
1140-F Tydings Hall
University of Maryland
College Park, MD 20742

Tel: 301-405-9834
info@community-wealth.org
www.Community-Wealth.org