

Labor's Stake in Decentralized Energy

A Strategic Perspective

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This paper sketches some of the implications of the world's economic and climate crisis for the future of the international labor movement.

It contends that resolving this crisis requires a transition from the globalized capitalist economy based on fossil energy to local sustainable economic development made possible by decentralized renewable energy systems.

Furthermore, it posits that the labor movement, as the most organized expression of the working class around the world, can play a crucial role in this transition. Labor's challenge is to represent the interests of the world's working people in averting the economic and ecological collapse now underway and in developing the new economic models needed for our survival.

This is a new role for organized labor. It means breaking with old patterns. It means looking beyond labor's traditional job-protection focus to join with other sectors within the 99% majority to actively participate in the creation of economic development models—based on decentralized renewable energy systems—that can help assure our survival.

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Table of Contents

Introduction	3
The Main Battle Lines	3
Two Strategic Alternatives	4
Forerunners of An Alternative Practice.....	5
Collaborative Energy Initiatives in California	5
Los Angeles Green Retrofit and Workforce Development Program.....	5
The California Green Coast Jobs and Innovation Accelerator	6
Community Choice Energy Programs	6
Emerald Cities Collaboratives	6
Green Energy Act, Ontario, Canada	7
The Decentralized Renewable Energy Model.....	8
Comparing the Centralized and Decentralized Energy Models.....	9
Political Economy of the Centralized Renewable Energy Model.....	9
Political Economy of the Decentralized Renewable Energy Model.....	11
Can the Two Renewable Energy Models Co-exist?	11
Unions Have Been Slow to Recognize the Value of Decentralized Energy Systems.....	13
Strategic Implications of Decentralized Energy	13
A New Role for Labor	14
What's At Stake for Labor?	16

Introduction

The current globalized economic system is built on the back of fossil energy. In fact, the global economy is so tied to fossil fuels that the global economic crisis and the global climate crisis cannot be separated. They represent different aspects of an all-encompassing breakdown of the global system.

The exponentially expanding material consumption that has fueled the accumulation of capital over the last century and a half is colliding with the material limits of the planet's ecological resources: water, land, and fossil fuel energy. Not only has the global economic system already reached peak production of these resources, driving their prices upwards, but the environmental destruction involved in continued industrial exploitation of these resources is putting life on the planet in jeopardy. Hence the climate crisis we face today owing to the exploitation of fossil fuels is but one symptom of an economic system that has run its course.

“In the standard view, the financial crisis besets an economy that consists solely of humans acting within formalized systems of their own creation—systems that have no connection to a larger world. That's why the standard views won't fix the problem...[It's]what happens when an infinite growth economy runs into the limits of a finite world. The financial crisis *is* the environmental crisis...we can't solve the former until we start solving the latter.”¹

In addition, the scale and frequency of extreme weather conditions, is accentuating the economic aspects of the global crisis. Not only has the extraction and concentration of wealth thrown billions of people into subsistence existence, but the increasing damage of extreme floods, extreme heat, and extreme wind has already forced the relocation of hundreds of millions of people and increased the cost of food and other necessities. That's without even considering the impact of ocean acidification and sea level rise that is yet to come.

Meanwhile the global crisis is being used to drive back the living conditions of working people in an assault on wages and workers' organizations, and the imposition of austerity programs to save the failing financial system. The impacts of the integrated economic and climate crisis are disproportionately borne by the most vulnerable populations²—now constituting a sizeable proportion of the world's people.

What Naomi Klein calls “disaster capitalism” has met extreme energy to pose a deeply existential threat.

The Main Battle Lines

In the face of this threat to survival, the battle lines have been clearly drawn between fossil-fuel capitalism (the fossil-fuel industry, its Wall Street backers, and its military enforcers) and everyone else.

“We need to view the fossil-fuel industry in a new light,” says Bill McKibben. “It has become a rogue industry, reckless like no other force on Earth. It is Public Enemy Number One to the survival of our planetary civilization.”³

Many different class forces are opposing the hell-bent effort of the now dominant fossil-fuel capitalists to continue their program of globalization, extreme energy, and international military hegemony, at everyone else's (and the Earth's) expense. This opposition includes the struggles against the further development of extreme energy (opposing the Keystone pipeline, deep ocean drilling, Arctic drilling, tar sands exploitation, hydrofracking, and so forth), opposition to fossil-fuel subsidies, opposition to oil wars, regulation of carbon emissions,

¹ Economist Eric Zencey, Empire State College, NY, quoted in *The Capitalism Papers: Fatal Flaws of an Obsolete System*, by Jerry Mander, Counterpoint, 2012, page7.

² *The Climate Gap: Executive Summary –Inequalities in How Climate Change Hurts Americans & How to Close the Gap*, Rachel Morello-Frosch, Manuel Pastor, James Sadd, and Seth B. Shonkoff (2010).

³ *Global Warming's Terrifying New Math*, Bill McKibben, July 19, 2012, (<http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>)

imposition of carbon taxes, shutting down coal-fired power plants and other areas of struggle that unite broad class forces in opposition to the “rogue” fossil-fuel capitalists.

While this opposition needs to be deepened and strengthened, there remains an important question: what is the alternative to the fossil energy-based global economic system? What is the way out of the global economic and climate crisis?

Two Strategic Alternatives

This paper contends there are two basic strategies for addressing the global economic and climate crisis.

One strategy, which will be referred to as the economic and climate justice strategy, seeks to create new economic and ecologically-sound relationships that serve the needs of the world's peoples. The other strategy, which will be referred to as the decarbonized growth strategy, seeks to decarbonize the current economic system (that is, replace fossil fuels with renewable energy) in order to continue and accelerate capital accumulation.

These strategies reflect different socio-economic interests and represent roads that run in opposite directions. The two strategies are based on different analytical and political frameworks as illustrated by the following table.

Table 1: Two Strategic Frameworks for Addressing the World's Economic and Climate Crisis

Category	Economic and Climate Justice Strategy	Decarbonized Growth Strategy
Analysis of the Crisis	The economic and climate crises are inextricably linked—an integrated crisis reflecting the collision of globalized capitalism with the Earth's ecological limits.	The climate crisis is separate from the economic crisis. This implies that the climate crisis can be resolved without addressing the economic crisis, and <i>vice versa</i> .
Solution to the Crisis	Replace the globalized capitalist system and its inherent growth dynamic with sustainable economic development based on the needs of human beings, rather than the needs of capital accumulation.	The solution to the <i>climate</i> crisis is to replace fossil fuel energy with renewable energy in order to transition to a de-carbonized capitalism. The solution to the <i>economic</i> crisis is the imposition of austerity on the world's working people.
Method	Create an alternative, equitable, social and economic order based on democratic principles.	Reduce greenhouse gas emissions—by any means necessary, leaving the structure of economic and political power intact.
Role of Energy	Energy is a basic enabler of economic life—a force to be democratized and harnessed to transition the world to an ecologically sustainable economic future.	Energy is the basic enabler of capital accumulation—a force to be harnessed to strengthen and reinforce the existing economic and political system.
Role of Organized Labor	The international labor movement is a potential ally in transitioning to a new economically and ecologically secure future, participating in the struggle of working people to take control of the world's resources (including energy) to implement that transition.	The international labor movement is a conservative force wedded to the current economic system, within which it strives to guarantee jobs and privileges that have accrued to union members (but not to the vast majority of unorganized workers).

In the context of these two strategies and their opposite destinations, all renewable energy is not the same. A simplified, undifferentiated notion of *renewable* energy is not sufficient to inform energy policy or strategy. Rather, it is necessary to look at different renewable energy models and their political economies: who is developing the energy on whose behalf for what purpose and who will benefit.⁴

In this regard there are two very different models for renewable electrical energy generation and use. One is the centralized renewable energy model—the legacy model of fossil-fuel electrical energy production—which is the model of choice for the decarbonized growth strategy and its drive for continued capital accumulation. The other is the decentralized renewable energy model, which can enable the economic and climate justice strategy and its drive for the new economic and ecologically-sound relationships needed to address the current world crisis.

For those in labor who oppose fossil-fuel capitalism, there is a challenge to decide between the two different strategies for addressing the global economic and climate crisis: whether to support the decarbonized growth strategy (and its centralized renewable energy model) or to support the economic and climate justice strategy (and its decentralized renewable energy model).

These ideas will be explored at greater length in this paper.

Forerunners of An Alternative Practice

Before diving in to the strategic question posed above, let's look at a few examples in which unions are taking on a new role with respect to energy and economic development. In these examples, unions, whether consciously or not, are pursuing an economic and climate justice strategy and are adopting the decentralized energy model as an important economic and environmental development platform for local communities.

These unions are working with community organizations, government agencies, local businesses, and other sectors to promote local renewable energy development as a way not only of reducing greenhouse gas reductions, but as a way of advancing sustainable, equitable, economic development.

Rather than advocating simply for the most immediate needs of their current members, these unions are working to create new economic opportunities and new economic relationships, based on the potential afforded by decentralized renewable energy development.

Taken to scale, these examples could transform our energy system (there is an abundance of local renewable energy resources), drive down greenhouse gas emissions, and create the foundation for sustainable economic development.

Collaborative Energy Initiatives in California

A number of communities are attempting to democratize energy decisions by assuming control of energy development in their local communities. These developments include both energy demand reduction through energy efficiency programs as well as new local renewable energy generation. These initiatives are marked by strong labor union involvement in promoting good jobs with prevailing wages through workforce development and training that includes disadvantaged communities. These collaborations promote programs and policies that foster local energy development as an economic platform for new job creation.

Los Angeles Green Retrofit and Workforce Development Program

Approved by the Los Angeles City Council in 2009, this first-in-the-nation program will create jobs, improve public health, and revitalize the city by upgrading city-owned buildings to be more energy and water efficient. The program seeks to create a pathway to good, green, and safe jobs for workers in low-income communities. Libraries, recreation centers, police and fire stations will receive upgrades through the city-run program.

⁴ See <http://communitypowerbook.com/2012/02/the-meaning-of-green-energy/>

In the pilot phase, 40 Los Angeles workers underwent an intensive training program and are currently retrofitting more than 20 city-owned buildings. This program connects workers to new career pathways in green construction and maintenance, while making city buildings more efficient and saving taxpayer dollars.⁵

The program was developed through the Los Angeles Apollo Alliance, a groundbreaking coalition of 25 labor, environmental, and community organizations working to develop an equitable green economy in Los Angeles.⁶

The California Green Coast Jobs and Innovation Accelerator

The Green Coast Jobs & Innovation Accelerator combines the collective resources of the five-county Green Coast region of California, including Santa Cruz, San Benito, Monterey, San Luis Obispo and Santa Barbara Counties. It is attempting to provide support to and integrate the efforts of municipal and county agencies, labor unions, educational institutions, contractor associations, private businesses, and other necessary allies. The program is designed to ensure collective action to create jobs, develop thriving local economies, and support innovative solutions to energy, environmental, community and economic challenges.⁷

Community Choice Energy Programs

Community Choice energy, provided for by AB 117 (2002), enables cities and other jurisdictions to choose where the electricity provided to their residents and businesses will come from. This means that local communities can decide to procure their electricity from renewable energy sources: either by purchasing renewable electricity on the market, or more importantly, by developing local renewable energy resources in the community. Under a Community Choice energy program, the incumbent utility company (PG&E) continues to deliver electricity and service customers.

Community Choice energy is a way to reduce greenhouse gas emissions and address the impact of climate change by cutting energy consumption, switching to renewable energy sources, and building local renewable electricity generation. By developing local clean energy resources, Community Choice programs can spur local economic development in the community, provide good local clean energy jobs, offer price stability and competitive electric utility bills, reduce pollution, and provide other community benefits.

Community Choice is being actively pursued or considered in over a dozen communities in California. In some of those communities, labor unions are playing a decisive role in shaping the Community Choice program to ensure the creation of good clean energy jobs through union workforce development programs and labor agreements that benefit local communities.

Emerald Cities Collaboratives

Emerald Cities is a national program with collaboratives in the California cities of San Francisco, Oakland, and Los Angeles. The collaboratives consist of diverse organizations—businesses, unions, community organizations, social justice advocates, development intermediaries, research and technical assistance providers—united around the goal of greening metropolitan areas in “high-road” ways that advance equity, opportunity, shared wealth and democracy.

For example, Emerald Cities San Francisco has commenced work on a pilot energy efficiency project in which four multi-family affordable housing properties are being retrofitted. The project represents a unique collaboration: the Mission Housing Development Corporation, the Building Trades Council, and community groups are working together, under the Emerald Cities banner.

⁵ For more information on this program, see <http://constructionacademy.org/featured-case-study/>

⁶ *Beyond Green Jobs: Building Lasting Opportunities in Energy Efficiency*, by Daniel Villao, Uyen Lee, Hugo Sarmiento, and Stephanie Ritoper, UCLA Center for Labor Research and Education, 2012, page 94. (<http://constructionacademy.org/beyond-green-jobs/>)

⁷ For more information on this program, see <http://www.localcleanenergy.org/files/GreenCoast%20JobsAccelerator.pdf>

As a part of the project, Emerald Cities crafted a Community Workforce Agreement that ensures union jobs for all the work, and community benefits to promote the participation of disadvantaged San Francisco residents in union apprenticeship programs. This was accomplished by convening negotiations between all the parties involved.⁸

Green Energy Act, Ontario, Canada

Ontario's Green Energy Act⁹ was created to expand renewable energy generation, encourage energy conservation and promote the creation of clean energy jobs.

The legislation is sparking growth in renewable energy sources such as wind, solar, hydroelectricity and bioenergy. For example, a Feed-in Tariff program¹⁰, administered by the Ontario Power Authority, is the first comprehensive feed-in tariff program in North America. It allows homeowners, business owners and private developers to generate renewable energy and sell it to the province at a guaranteed price for a fixed contract term.

In addition, the Green Energy Act promotes Ontario's energy conservation programs by:

- Making energy efficiency a key element of Ontario's building code
- Creating new energy efficiency standards for household appliances
- Working with local utilities to reach assigned conservation targets
- Protecting low-income Ontarians through targeted conservation programs

Japan and the European Union have attacked the Ontario Green Energy Act as violating international trade accords. Canadian labor unions have fought back, submitting an amicus curiae brief to the World Trade Organization (WTO).¹¹

"These are the first international trade disputes which create the potential for conflict between a nation's commitments under the WTO and its obligations under the Framework Convention on Climate Change and the Kyoto Protocol. It raises fundamental questions about whether the goals of trade liberalization can be reconciled with ecological imperatives to reduce greenhouse gas emissions, and if not, which are to prevail," says the joint amicus curiae submission from Blue Green Canada, the Canadian Auto Workers, the Canadian Federation of Students, the Canadian Union of Public Employees, Communications, Energy and Paperworkers union of Canada, the Council of Canadians and the Ontario Public Service Employees Union.

The Canadian non-governmental organizations and labor unions involved in the amicus curiae submission have a strong presence and hundreds of thousands of members in Ontario, including those in the green energy sector. They support the phase-out of coal-fired electrical power generation and the development of renewable energy infrastructure and power generation to replace it.

"In simple terms, Ontario's Feed-in Tariff program for renewable power is a perfect expression of the principles of sustainable development in which environmental and economic goals are married to address the imperatives of climate change," says their submission to the WTO.

⁸ For more information on this program, see <http://www.emeraldcities.org/sanfrancisco>

⁹ <http://www.energy.gov.on.ca/en/green-energy-act/>

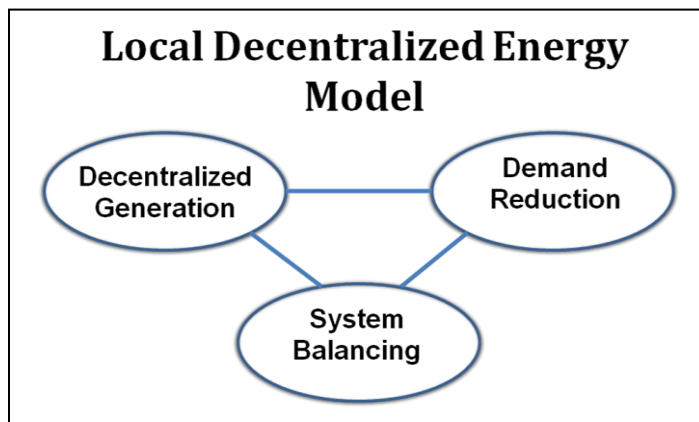
¹⁰ Feed-in tariff programs provide standard offer contracts for renewable energy generators, offering a fixed long-term payment for energy produced. For Ontario's program, see <http://www.energy.gov.on.ca/en/fit-and-microfit-program>

¹¹ <http://canadians.org/trade/issues/WTO/WTO-Challenge-GEA.html>

The Decentralized Renewable Energy Model

Underlying the initiatives cited above is the promotion of a new approach to electrical power generation and use—the decentralized renewable energy model.¹² This model represents a global energy revolution that is already well underway,¹³ though powerful forces are working overtime to maintain and breathe new life into the legacy centralized energy model.

The decentralized renewable energy model is based on sustainability principles applied to a geographical area or community. Physically speaking, it consists of three components: decentralized electricity generation, demand reduction, and system balancing, as shown in the following illustration:



- Decentralized Generation:** This refers to renewable electricity generation, usually with a rated capacity of 20MW or less, located on existing structures or vacant land close to the point of electricity consumption, so that delivery over high-voltage transmission lines is not required. The renewable energy source can be whatever is naturally available in the geographical region, for example, solar, wind, geothermal, small hydro, combined heat and power, or biomass/biogas.

In the case of solar photovoltaic generation, for example, it can consist of installations on rooftops, carports, brown-fields, rail or highway right-of-ways, and so forth. It might be as small as a few kW system on a residential building, a 1 MW system on a large commercial building (like a large box store), or a ground-mounted 5 MW system using degraded industrial land.

- Demand Reduction:** This refers to many technologies for reducing the consumption of electricity. It might include, for example, conservation (turn off the lights), energy efficiency (more efficient light bulbs), substitution (use natural light when possible), demand response (not everyone turns on the lights at the same time), and simply eliminating built-in obsolescence or other forms of waste that consume electricity (one good light emitter that lasts as long as ten poor ones).

Demand reduction is perhaps the most important component of a decentralized energy system. The cheapest electricity is the electricity that is never produced. The cost of retrofitting buildings, for example, to conserve energy is typically one quarter to one half the cost of generating the equivalent amount of electricity.

Reducing electricity consumption is also the surest way to phase out fossil-fuel electricity.

¹² A ten-minute video describing decentralized energy systems and their community benefits can be found at: <http://www.youtube.com/watch?v=HvuXxyKSh3A>

¹³ U.S. Federal Energy Regulatory Commission Chairman John Wellinghoff says that the nations' electrical future may well belong to distributed generation such as rooftop solar, rather than central power stations and generators far from demand. "It's going to be a race between the two types of renewable resources," said Wellinof. "Right now, I'd put my money on distributed resources." Quoted by Chris Clarke, September 6, 2012 (<http://www.kcet.org/news/rewire/the-grid/federal-energy-expert-backing-distributed-generation.html>)

- **System Balancing:** This refers to coordination between supply and demand. Because renewable generation is often intermittent and electricity consumption follows patterns of peaks and lows throughout the day or throughout the year, it is necessary to balance the generation and consumption of electricity to optimize energy resources.

The balancing involves a number of strategies and technologies. Increasingly competitive battery storage is a key element in filling the voids between intermittent energy generation and variable demand. However demand response technology—by which consumption is altered according to the availability of supply—provides a huge opportunity to better utilize generating capacity and reduce costs. Many communication and grid stabilization technologies—called “smart grid” technologies—are under development. These will allow utilities to upgrade the electrical distribution system to support demand response strategies and provide the bi-directional flow of electricity and information needed for balancing a decentralized energy system.

Decentralized energy systems are designed to utilize local energy resources, both demand reduction and new generation, along with smart system balancing, to meet the electricity needs of their host communities.¹⁴ While this approach can require a great deal of new investment to achieve net-zero energy targets (that is, the community generates what it consumes), the investment is readily paid off through electricity revenues and utility bill savings.

Comparing the Centralized and Decentralized Energy Models

While the above description of the decentralized renewable energy model focuses on its physical characteristics, there are many other aspects of the model that distinguish it from the centralized renewable energy model. These characteristics, which reflect the different political economies of the two models, are presented in Table 2.

What distinguishes between the two models is not any single characteristic, but the combination of characteristics shown in Table 2. For example, a large publicly-owned generating facility located on a brown-field site in an urban setting could be part of a decentralized electric energy system despite its large size.

The two energy models presented in Table 2 represent different overall economic development pathways that reflect different social-economic (class) interests.

Political Economy of the Centralized Renewable Energy Model

As can be deduced from Table 2, large corporate energy developers favor the centralized energy model. This model lends itself to centralized control, economies of scale, centralized wealth creation, and expanded growth in energy demand.

The centralized renewable energy model is an extension of the legacy model of corporate energy expansion and control. Remote central-station solar power plants in the desert and similar utility-scale wind farms are meant to serve expanding energy consumption. They destroy sensitive ecological habitats and waste energy in long-distance transmission. And they are developed by the same corporate entities—Chevron, BP, Morgan Stanley, and their ilk—for the same purposes as fossil fuel power plants: the accumulation of capital. They are an extension of the centralized control and the globalized economic system that is threatening our survival.

Centralized renewable energy is the energy model of choice for adherents of the decarbonized growth strategy.

This is not to say that there is complete unanimity among decarbonized growth advocates. Amory Lovins, for example, has been a pioneering advocate of decentralized energy systems as a more rational and efficient way, compared to centralized energy systems, to support industrial economic growth. Lovins' decentralized energy

¹⁴ There are many studies that reflect the technical potential of decentralized energy systems. For example, see *U.S. Renewable Energy Technical Potentials*, National Renewable Energy Laboratory, July 2012 (<http://www.nrel.gov/docs/fy12osti/51946.pdf>) and *Bay Area Smart Energy 2020*, March 2012 (<http://pacificenvironment.org/-1-87>)

vision is to expand the U.S. economy roughly 2.5-times by mid-century.¹⁵ The Rocky Mountain Institute, which he founded, has recently launched an Electricity Innovation Lab to help re-architect the electric grid to support his vision of “interactive and dynamic networks that include increasing shares of variable renewable generation, distributed generation, and demand-side resources.”¹⁶

Nevertheless such initiatives pale in comparison to the scale of investments planned for remote central-station solar plantations and wind farms and their associated uni-directional high-voltage transmission infrastructures.

Table 2: Comparison of the Two Renewable Energy Models

Characteristic	Decentralized Energy Model	Centralized Energy Model
Generation Scale	Generally 20 Megawatts or less	Hundreds of megawatts or more
Location of Generation	Close to point of use, within the distribution grid	Remote, usually requires transmission lines
Speed of Deployment	Can be brought on line quickly, on the order of months	Long development cycle; complicated planning, financing, licensing, transmission planning, on the order of 10 years
Environmental Impact	Minimal: installed in the built environment or on degraded land	Generally large: destructive of sensitive ecosystems
Security	Involves no single points of failure	Failure of central facility or transmission line has widespread impact
Demand Reduction	Resource development optimized to local conditions, leveraging demand reduction	Not integrated with demand reduction; in fact, significant transmission losses and energy waste)
Purpose	Replace fossil-fuel sources of power and their greenhouse gas emissions, promote local economic development, promote sustainable, net-zero economies	Promote corporate capital accumulation, service increased electrical loads, and replace fossil-fuel sources only as they are retired
Wealth Creation	Develop local renewable resources as source of revenue and community wealth	Commodify remote renewable resources, extract wealth from local communities, and provide dividends to corporate shareholders
Economic Development	Local economic development and local job creation; basis for sustainable economies	Corporate development, growing capital accumulation for energy corporations and banks
Supply Chain	Encourages local manufacturing and recycling of components	Encourages globalized production and dumping of wastes
Ownership	Usually diversified: mix of community-based private/public/non-profit owners	Large corporate investors (BP, Chevron, Morgan Stanley, etc) or state enterprises
Who Benefits	Economic and social benefits to local communities	Economic benefits to large corporate investors and shareholders
Control	Subject to local democratic control through local policy initiatives	Centralized control with little opportunity for communities to participate in decision-making

¹⁵ *Reinventing Fire: Bold Business Solutions for the New Energy Era*, by Amory Lovins and Rocky Mountain Institute, Chelsea Green Publishing Company, September, 2011.

¹⁶ See <http://www.rmi.org/elab>

Political Economy of the Decentralized Renewable Energy Model

As can be deduced from Table 2, decentralized renewable energy resources, rather than being commodified by large corporate interests and used to extract wealth from a community, can be developed to meet community needs, rather than to meet the imperatives of capital accumulation by distant parties.

The local benefits that can accrue from the development of local renewable energy resources are what make the decentralized energy model the model of choice for local communities. The centralized energy model, developed for fossil-fuel and nuclear energy production, does not strengthen local communities. To the contrary, its focus on the growth of energy demand and consumption stands in marked contrast to the energy efficiency and demand reduction that is a central tenet of decentralized energy systems. The reduction of our energy footprint is an essential characteristic of sustainable energy systems.

Rather than reinforcing the wealth and power of the energy dynasty, the development of local renewable resources is meant to address local needs: local control, price stability, economic development, jobs, and community health. Local economic development can provide stable livelihoods, pathways into good jobs, real net greenhouse gas reductions, and community resiliency.

The economic and climate justice strategy requires a renewable energy model that can allow for sustainable economic development. That means an energy model that has the potential for local energy resource development, local wealth creation, and democratic control. The centralized renewable energy model simply does not allow for those possibilities, while the decentralized energy model has the characteristics upon which economic and climate justice can be built.

Of course, there is no guarantee that implementation of a decentralized energy model in a particular locality will automatically provide the community benefits outlined above. It requires active engagement of social forces within the community to set policies and design programs to ensure these benefits.

Where a population does not yet have access to electricity from centralized energy systems, as is the case in many parts of the under-developed world, the decentralized renewable energy model is the obvious choice for electric power development.

But where people are currently served by remote central-station power plants and long transmission lines, the decentralized renewable energy model provides a powerful alternative—one that can be more ecologically sound, more economically beneficial to communities, more effective in creating local employment, more sustainable, and more open to democratic control than the centralized energy model.¹⁷

Can the Two Renewable Energy Models Co-exist?

The discussion above attempts to demonstrate that the centralized and decentralized renewable energy models are defined not simply by technical criteria, but by the web of economic relationships and economic possibilities that they represent.

The centralized renewable energy model is primarily aligned with the decarbonized growth strategy, the adherents of which hope to address the climate crisis by transitioning to renewable energy resources while maintaining all essential aspects of the capitalist system. Hence we see calls to transition to industrial-scale carbon-free energy resources while continuing to increase the growth of energy consumption, material consumption, rates of capital accumulation, and the concentration of wealth and power in the hands of a few.

The decentralized renewable energy model, on the other hand, which admittedly has some decarbonized growth advocates, is primarily aligned with the economic and climate justice strategy, the adherents of which hope to transition to new economic arrangements quite different from current capitalist relations. Hence we see calls not only to transition to carbon-free energy resources, but to sustainable economies which can reduce energy and

¹⁷ For detailed arguments about the benefits of decentralized energy systems, see: *Community Power: Decentralized Renewable Energy in California*, <http://communitypowerbook.com/>

material consumption to within the Earth's ecological limits, which can more equitably distribute wealth and power, which can serve the needs of people, and which are more democratic in nature.

The two renewable energy models are thus associated with different socio-economic (class) interests. The centralized renewable energy model serves those who seek to perpetuate the current economic system. The decentralized renewable energy model serves those whose interests lie in creating an ecologically, economically, and socially sustainable future.¹⁸

In this strategic sense, these two energy models would take us in very different mutually exclusive directions. However, in very practical ways, as well, the two renewable energy models have an antagonistic relationship: the development of one serves to curtail the development of the other.

For example, on the physical level, the expansion of the present one-way electrical transmission infrastructure to support centralized renewable energy does not support a decentralized energy model and its need for bi-directional energy and information flow. Centralized grid architecture is actually a fetter on the development of decentralized energy systems. "When we make additional investments in the electricity grid, we should no longer be spending money on the 20th century grid system," says John Farrell of the Institute for Local Self Reliance, "The centralized model no longer fits the inherently decentralized nature of renewable energy supply."¹⁹

Similarly, on the financial level, the large investment in centralized renewable energy development in the United States has squeezed out decentralized resource development. Relative to decentralized energy, centralized renewable generation development gets a huge amount of material support not only from Wall Street, Chevron, BP, and investor-owned utilities (as distinct from municipal utilities), but also from state and federal government bodies. These government bodies respond to powerful energy interests, and these interests are opposed to the decentralized energy model.²⁰

Dr. Norbert Rottgen, German Federal Minister for the Environment, expresses the financial realities of this relationship as follows:

"It is economically nonsensical to pursue two strategies at the same time, for both a centralized and a decentralized energy supply system, since both strategies would involve enormous investment requirements. I am convinced that the investment in renewable energies is the economically more promising project. But we will have to make up our minds. We can't go down both paths at the same time."²¹

Those who say that we need to support *both* renewable energy models—that they can co-exist—are not accounting for the strategic and practical realities involved with energy policy. Each of these energy models is identified with a matrix of strategic, political, financial, and class relationships that put them in strong contention.

¹⁸ Advocates of the decarbonized growth strategy generally include major institutions of the global north: liberal and social democratic parties and their governments, large renewable energy developers, mainstream environmental organizations and non-governmental organizations, and some national unions (such as those in the U.S. Blue-Green alliance). Advocates of the economic and climate justice strategy generally include institutions of the global south and supporters in the north: the World Social Forum, social justice and environmental justice organizations, sustainable economy and community power advocates, the Occupy movement, and some local unions.

¹⁹ *Democratizing the Electricity System: A Vision for the 21st Century Grid*, John Farrell, June, 2011, page 27 (<http://www.ilsr.org/democratizing-electricity-system-vision-21st-century-grid/>)

²⁰ The most recent California legislative session is an example: A feed-in tariff bill (AB 1990) was defeated, a virtual net metering, solar shares bill (SB 843) was defeated, and a bill undermining Community Choice energy programs (AB 976) was passed. In all these cases the political power of the state's investor-owned utilities was decisive.

²¹ Quoted by John Farrell, *op. cit.*, page 27.

Unions Have Been Slow to Recognize the Value of Decentralized Energy Systems

Despite the examples cited earlier in this paper of unions working to create new economic opportunities based on the potential of decentralized renewable energy development, union advocacy for decentralized energy is not the rule. In fact, such advocacy is rather rare, as many unions have been slow to see the value of this kind of energy resource development.

While each union (and even locals within a union) seems to have a somewhat different take on decentralized renewable energy, there are a number of contradictions that have manifested themselves repeatedly and which need to be resolved for the decentralized energy model to gain acceptance in the labor movement.

Foremost among these issues seems to be that construction of utility-scale remote central-station power involves union labor while most community-based local energy projects do not (local contractors argue that a living wage and union labor would make them non-competitive). The result is that many trade unions support the centralized energy model (both fossil fuel and renewable) but do not support policies that promote decentralized energy systems, even though these systems would provide many new jobs.

Even where local energy development projects are of a scale where union labor is employed, like the 5 MW solar PV Sunset Reservoir project in San Francisco, conflicts often emerge about which union labor to employ, and even more importantly, about how such projects can provide a pathway into good jobs for workers from disadvantaged communities. Most of the building trades unions in San Francisco, for example, are opposed to the City's recently passed local hire ordinance and attempt to block City projects because such projects must comply with the ordinance.

To promote local renewable energy resources, we need to foster a different kind of discussion: one that can go beyond a dialogue that says, if you are offering jobs for union members we're all for it, but if you are not, we either couldn't care less or we will fight you on it. That approach will not solve the serious unemployment problems that the union members face and it will not solve the climate and employment problems that communities face.

The discussion needs to take into account the different parties and their needs. Low-income communities with high levels of unemployment, underemployment, or first-time workers need entry-level jobs that can provide a living wage and pathways to advancement. On the other hand, unions with high levels of unemployed skilled workers need union jobs, but they also need to open up their unions to new members as the number of available jobs increases. These different interests are not inherently contradictory, especially in an expanding job market. That is where decentralized energy systems can play a crucial role.

Without large investments in decentralized energy systems, low-income communities and unions will not see their employment needs met. Without low-income communities and unions working to advocate decentralized energy systems, the investments in local renewable energy development will not materialize. These parties can come together to address local hire, prevailing wage, new job classifications by skill, expanding union apprenticeship programs, and other issues through project labor agreements and other programs.

Decentralized energy development programs, for example, can be fashioned around the needs and interests of labor—both union and non-union—to garner the political support that can make them happen. For example, a feed-in tariff program can be designed to specify rates and conditions that guarantee prevailing wage or to incentivize local manufacturing of material components.

Strategic Implications of Decentralized Energy

While the example programs cited earlier in this paper are motivated by local economic development concerns, they are indicative of a more comprehensive strategy, one in which the building of sustainable local economies is based on the development of local renewable energy resources.

While there are many technical benefits to the decentralized energy model, including increased energy independence, avoided regional blackouts, improved grid reliability, stability, resilience, and overall security, and so forth, here we explore the more strategic implications of the decentralized energy model in the transformation of the current economic system.

Most everyone addressing the climate crisis understands the necessity of replacing carbon as an energy source—meaning a transition to 100% renewable energy. Yet renewable energy, by its very nature, provides the potential of doing much more than simply enabling decarbonized growth of the economy. Renewable energy is distributed across the face of the planet. It is available in every community. It can be harnessed locally and can be developed free of centralized corporate control.

As such, decentralized renewable energy generation, when coupled with demand reduction, is the basis for sustainable economic development. To be sure, sustainable development also requires a transformation of the globalized system of production and distribution—the global supply chain—to more localized production and distribution. However, energy plays a special role as the driver of all economic activity. Without energy nothing gets produced or transported or communicated. Sustainable development requires a sustainable energy model, one in which energy resources are under local control.

The decentralized energy model is to sustainable economic development what the centralized energy model is to unsustainable global growth. The decentralized renewable energy model is the material basis for an alternative economic system attuned to the limits of the earth and the needs of our communities. It is the renewable energy model of the economic and climate justice strategy.

A New Role for Labor

Will the labor movement be able to meet the historic challenge of assisting the transition to an economic and ecologically-sound future or will it serve rather as a conservative force holding back that transition?

Recent history does not lead us to be optimistic. Many unions, arguing the need for employment in difficult economic times, have allied themselves with the fossil-fuel industry and with the development of extreme energy resources that will condemn future generations to a hostile, unlivable world. They collaborate with those in power on the basis of narrow self interest. This approach has time and again reduced unions to an impotent shell. Recall the U.S. auto workers a few years ago campaigning against clean air standards that would have benefitted their own children. Taking positions contrary to the interests of the broader working class has only served to undermine the labor movement.

Other unions, aware that continued exploitation of fossil fuels is contrary to the interests of the working class, have contested the extreme energy designs of the fossil-fuel cartel and their Wall Street brethren and called for a new industrialization based on renewable energy. The hope is that this re-industrialization will put union members back to work in the wake of the five-year long economic decline that still shows no signs of improvement for most workers. This “green New Deal” approach implies massive socialized investment in private corporations to stimulate this economic sector. It means huge tax breaks, cash grant, land giveaways, and other government subsidies to the dominant energy corporations to incentivize them to build huge wind farms, industrial solar plantations, and new transmission lines.

This is an easy road for unions to take, because it calls for union people to be put back to work: big projects, union contracts. But it also means the continued transfer of social wealth to private hands that has taken place for the last thirty years. This transfer of wealth has increased the concentration of political power in corporate hands and weakened the labor movement.

Is this the kind of energy policy that's needed to address the climate and economic crisis that is gripping the U.S. and other countries? Far from it.

Basically the “green New Deal” is the decarbonized growth strategy—the business-as-usual trickle-down approach that leaves Morgan Stanley, Chevron, Bank of America, the big utility companies, and the big energy developers and financial institutions running the show. It is the centralized energy solution meant to expand energy production and consumption (under the guise of fighting climate change) at the expense of our

environment and our communities. It is basically the same industrial energy model that has poisoned our communities, ruined our ecosystem, concentrated wealth, brought on fiscal crisis, and undermined working-class political power.

Recognizing this contradiction, the 2nd Trade Union Assembly on Labour and Environment, meeting in Rio de Janeiro, Brazil in June 2012, stated that, “our current profit-driven production and consumption model, identified as the source of rising social inequalities and environmental degradation, must be replaced if a truly sustainable development is to be achieved.” The Assembly further went on to commit to “alternative economic development models, which incorporates the necessity of reaching well-being and social equity for all, within planetary boundaries,” and went on to call for governments to “initiate a profound transformation of all economic sectors, in order to secure the sustainability of the planet, its inhabitants and future generations.”²²

This statement represents the economic and climate justice strategy—a transformational economic approach that would imply an energy policy quite different from the business-as-usual centralized “New Deal” energy approach. It would address not just the needs of our unions, narrowly conceived, but the needs of all working people in our communities. It would speak to sustainable, equitable, economic development and job creation in our communities. It would propose policies and programs based on local renewable energy development that could revitalize our communities. It would propose an end to government subsidies to the fossil fuel industry in favor of government investments in local public energy development programs based on prevailing wage, local hire, and expanded apprenticeship programs. It would provide for transitioning workers from the fossil-fuel sector to new employment. It would sponsor research to advance the infrastructure needed to support the decentralized energy model.

Characteristics of a Transformative Energy Policy

- It would include policies and programs that promote sustainable, equitable, economic development and job creation in our communities based on local renewable energy resource development.
- It would end government subsidies to the fossil fuel industry in favor of government investments in local public energy development programs that provide for prevailing wage, local hire, and expanded apprenticeship programs.
- It would transition workers from the fossil-fuel sector to new employment.
- It would fund research to advance the infrastructure needed to support the decentralized energy model.

But for unions to advocate for such an energy policy implies a new role for unions. Unions would have to be advocates, not just for their members, but for the broader community of workers. Unions would have to collaborate with other sectors to design and advocate for programs that would bring new economic development to their communities.

“Achieving triple bottom line goals [economic development and stability, responsible environmental stewardship, and social equity] is not easy. It requires new partnerships and tools that promote collaboration among diverse stakeholders who may not have worked with each other before, or who may have even conflicted with each other in the past. It requires building upon best practices and past lessons, and a willingness to collaboratively innovate.”²³

This kind of union-driven collaboration to create new economic models has begun to take place, as illustrated by the earlier examples in this paper.

²² http://www.ituc-csi.org/IMG/pdf/assemblyresolution_eng_tc_rev.pdf

²³ *Beyond Green Jobs: Building Lasting Opportunities in Energy Efficiency*, by Daniel Villao, Uyen Lee, Hugo Sarmiento, and Stephanie Ritoper, UCLA Center for Labor Research and Education, 2012, page 5. (<http://constructionacademy.org/beyond-green-jobs/>)

Taking on this role, unions have to advocate for a future that all working people can get behind, one that cleans up the workplace, cleans up the environment, and democratizes community development. Decentralized renewable energy can help make all this possible. It is the material basis of sustainable economies. It makes it possible for labor to assume a new role of advocating for the kind of economic development programs upon which our survival depends.

In short, the decentralized energy model is the energy basis for economic and climate justice, for an economic and ecologically-sound future for working people. The labor movement has a choice: it can hasten the transition to this future or it can remain mired in an unsustainable past.

What's At Stake for Labor?

The labor movement has reached a point where its historical relevance has come into question. As union membership has been eroded by the assaults of capital, the labor movement has become increasingly powerless to defend workers. It has also become isolated from the majority of working class people—non-union members, immigrants, part-time and temporary workers, and the unemployed. As such, labor is fighting an uphill battle just to stand its narrow ground.

Yet the labor movement is still the most organized expression of the working class. Is it capable of taking on a new role and speaking to the broader interests of the class: to help organize resistance to the fossil-fuel capitalists who intensify the economic and climate crisis we face and to provide a vision for an ecologically sustainable world:

“Because [unions] are losing power rapidly rather than gaining it, their struggle for organizational survival has taken precedence. We suggest that keeping the higher goals in mind is a prerequisite for winning real power. As long as unions operate solidly within capitalism, accepting its basic rules and premises as permanent, they may be marching to their doom. The current crisis should lead unionists not to narrow our vision but to broaden it.”²⁴

That challenge can be met by mobilizing for a new economic future, standing hand in hand with the many other social movements who see the need for a new economic order based on economic and climate justice and a radically transformed energy system.

As expressed by the 2nd Trade Union Assembly on Labor and the Environment in Rio: “The historical mission of the trade union movement, which is to ensure workers’ dignity, freedom and social equality, requires that we embrace the cause of a socially-just transition towards a sustainable development model.”²⁵

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²⁴ *Solidarity Divided: The Crisis in Organized Labor and a New Path Toward Social Justice* by Bill Fletcher, Jr., and Fernando Gapasin, University of California Press, 2008, page 214.

²⁵ http://www.ituc-csi.org/IMG/pdf/assemblyresolution_eng_tc_rev.pdf