One of five banners entitled *The Worker in the New World Order*, painted for the founding convention of ICEM (International Confederation of Chemical, Energy, Mine & General Workers’ Unions—now merged into INDUSTRIALL). Dedicated to then-imprisoned Nigerian oil workers. Copyright (c) 1995.
We are on a climate change path that, unless radically altered, will lead to an unsustainable global warming of seven degrees Fahrenheit or greater. We also face the most serious employment crisis since the Great Depression, with wages that have stagnated for four decades and economic inequality now at levels not seen since the 1920s.

Many leaders and activists at different levels of the labor movement recognize the challenges we face in creating a more just and sustainable economy. A few unions have supported strong climate protection policies and have actively participated in the climate protection movement; many have stood aloof; a minority have feared their members’ jobs are threatened by some climate protection measures.

Organized labor’s approach to climate change has been primarily employment-based. Unions like green jobs, but they fear the potential job losses from phasing out carbon-fueled industries. This should not be surprising because unions are organized primarily to look after the specific employment interests of workers. Even the most far-sighted trade union leaders have a very difficult job: They must represent the immediate interests of existing members, some of whom may face job losses in the transition to a low carbon economy, while keeping in mind the longer term social and ecological concerns.

The AFL-CIO and most unions have failed to endorse the basic targets and timetables that climate scientists have defined as necessary to prevent devastating global warming. They have promoted an “all of the above” energy policy that supports growth rather than reduction in the fossil fuels that are responsible for global warming. Although they have supported some climate legislation, they have opposed most policies that would actually begin cutting back on fossil fuel emissions. And they have fought climate action designed to block major carbon threats like coal-fired power plants and the Keystone XL pipeline.

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Those in organized labor who are skeptical about climate protection efforts identify genuine
problems in the policies proposed by environmentalists. They point out that the closing of coal-fired power plants, for example, will lead miners, truck drivers, and utility workers to lose their jobs—in many cases, the only well-paid union jobs in their localities. They argue that projects like the Keystone XL pipeline will provide jobs for workers who suffer from historic rates of unemployment. They maintain that a prosperous economy depends on cheap and abundant energy—so restrictions on fossil fuel energy could well lead to economic catastrophe. And they point out that restrictions on fossil fuel energy are likely to lead to rising prices for the energy to heat our houses, run our appliances, and drive our cars—price increases that will most hurt workers and the poor and further increase our society’s unjust economic inequality.

Much in this critique is valid. But criticizing the weaknesses in mainstream climate policy proposals is not a strategy for combating climate change. Labor needs to propose a climate protection strategy of its own—one that realistically protects the livelihood and well-being of working people and helps reverse America’s trend toward greater inequality while reducing greenhouse gas (GHG) emissions at the speed scientists say is necessary to reduce climate catastrophe. A strategy designed to provide full employment and rising living standards by putting millions of people to work on the transition to a climate-safe economy could transform the politics of climate by shattering the “jobs versus the environment” frame. And it could provide a common platform around which climate protection advocates at every level of the labor movement could rally.

There is precedent in labor’s response to the threat of World War II. As Nazi armies spread devastation across Europe in 1940, United Automobile Workers (UAW) Union president Walter Reuther proposed a startling plan: Retool the Depression-ravaged auto industry to build five hundred warplanes a year. The auto magnates scoffed, but soon a massive mobilization put tens of millions of unemployed and underemployed workers to work producing what the war effort required, while shutting down wasteful and unnecessary production that would impede it. With Katrina, Sandy, and the still more extreme weather of the future spreading devastation around the globe, we need an equivalent strategy to combat climate change.

Many mainstream climate protection programs—whether proposed for congressional legislation or for international agreements—embody or at least take for granted neoliberal austerity policies that will gouge workers, increase insecurity, aggravate inequality, and enrich speculators, while leaving our climate-destroying fossil fuel economy largely intact. A labor plan for climate protection should, in contrast, reverse austerity policies, establish full employment, increase job security, raise wages, and shut down the global casino—while rapidly reducing the GHG emissions that are destroying our climate to the 350 parts per million that leading climate scientists like NASA’s James Hansen say is the prerequisite for climate safety.

Labor should propose a government-led plan to put our people to work converting to a climate-safe economy.

There are three main approaches to GHG reduction. The first, which has dominated climate legislation and treaty negotiation, consists of “putting a price on carbon emissions” to discourage GHGs through taxation, fees, cap-and-trade systems with markets for emission quotas, or similar means. The second, which is widely discussed and frequently implemented on a small scale, consists of local, often community-based initiatives designed to produce renewable energy and reduce energy consumption on a decentralized basis. The third, perhaps less often delineated by proponents than excoriated by opponents, consists of a government-led approach based on economic planning, public investment, resource mobilization, and direct government intervention in economic decisions. Although rapid reduction of GHG emissions will undoubtedly require all three, labor should lead the breakout from neoliberalism and propose a government-led plan—drawing on the example of mobilization during World War II—to put our people to work converting to a climate-safe economy.
The Work to Be Done

To reach 350 ppm by the end of the century, starting from 2012 as a baseline, will require a global reduction of 6 percent per year in fossil fuel emissions, combined with the extraction of 100 gigatons of carbon dioxide from the atmosphere. Global carbon emissions will need to be near zero by around 2050. The fair share of reduction would be substantially higher for wealthy countries like the United States that have contributed large amounts of GHGs in the past.

Studies show such a reduction is technically feasible and suggest various pathways to achieve it. It can be accomplished based on commercially available technologies like wind and solar energy, cogeneration to produce both heat and power, public transit, and electric cars, but rapid expansion of research and markets will likely lead to very rapid improvement in technology along the way. Reduction can be based on renewable energy technologies, reducing the carbon content of production, and conservation. It will not require nuclear energy, large-scale modifications of earth systems through geo-engineering, or carbon capture and storage, each of which is likely to be far slower, more costly, and environmentally dangerous than rapid conversion to renewables, conservation, and reduced carbon intensity. In reaching 350 ppm, there will be only a small need for natural gas as a transitional fuel.

The most important venues for GHG reduction are electricity, transportation, and buildings. Electricity produced by fossil fuels, the largest single producer of GHGs, can be replaced by increasing use of wind, solar, and water energy sources; new transmission lines; and new energy storage technologies and conservation. Petroleum-based private transportation can be replaced with public transport and cars fueled with renewable energy and biofuels. Freight transportation can be converted to rail transport and electric and biofuel vehicles. Virtually all buildings can be made much more efficient through insulation, weatherization, cogeneration, and solar and geothermal heating, cooling, and hot water. Many other strategies, ranging from industrial redesign to integrating urban and transportation planning and from expanding forests to reducing fossil fuel use in farming, will also contribute.

Mobilization—The World War II Model

The government-led approach often uses the economic mobilization for World War II as a touchstone. Two recent articles by Laurence L. Delina and Mark Diesendorf examine the World War II mobilization and suggest what lessons—positive and negative—can be drawn from it for rapid reduction of GHG emissions. They argue climate protection may well require government-led mobilization on the scope and scale of World War II to solve many similar problems, but that the particular form such mobilization takes will need to be different both because of the differences in purpose and because the projects raise different problems.

The scale and scope of U.S. economic mobilization for World War II was truly impressive. U.S. military spending rose from less than $2 billion in 1940 to more than $90 billion in 1944—an increase of more than $1 trillion in 2010 dollars. In the five years of the war, the United States produced three hundred thousand planes, one hundred thousand ships, and twenty million rifles. Investment in research and development produced radically new technologies; the United States spent more than $20 billion in 2008 dollars and directly and indirectly employed more than one hundred thousand people on the Manhattan Project alone—thereby producing the first atomic bomb.

Mobilization for Climate Protection

The scale and scope of change necessary to reach 350 ppm is surely comparable with that of mobilization for World War II. It will involve a great deal of new production, and some current production will need to be halted. But the nature of the task is rather different. The purpose is not just to ramp up the quantity of production, or just to shift it to a new set of products. Although that is necessary, the task goes far beyond that to a qualitative transformation of an economy—and society—based on very different technologies. The task will take far longer, will require longer term planning, and must be accomplished in a way that is permanently sustainable. Like war mobilization, it
will require strategies for finance, labor, and governance.6

Finance

The starting context of climate protection mobilization is the massive failure of private markets to invest in renewable energy, increased energy efficiency, and conservation.7 Such mobilization will also require large-scale, long-term planned development of new infrastructure and other systems far beyond the capacity of private corporations. Over time, the cost of economic transformation will fall, both because renewable energy capacity is expensive to construct but cheap to run and because its costs will inevitably fall due to economies of scale of mass production and improved production technologies. The initial costs of transformation, however, will be high.

Resulting tax revenue should be returned to workers and consumers to compensate for higher gas prices and energy bills.

Today, as at the outset of World War II, the U.S. economy is mired in the aftermath of a severe economic decline with vast quantities of underutilized resources. By very conservative estimates, the U.S. economy is now operating at only 95 percent of its potential, and the capacity utilization rate for total industry is still under 80 percent.8 Were we at full employment, the economy would produce $800+ billion a year more than it currently is, generating the resources we need to convert to renewable energy and provide a just transition for workers, communities, and carbon-dependent regions. A public investment-led recovery would stimulate private investment by providing a secure market for the products of such investment. Currently, there is more than $1 trillion of cash currently on corporate balance sheets and the $1 trillion in excess bank reserves parked at the Federal Reserve.

Public borrowing through bond sales can provide substantial and inexpensive funds due to currently low borrowing rates for government debt and the ability of the Federal Reserve to buy public infrastructure bonds if need be. Public purpose banks, credit unions, and investment and loan funds can provide more decentralized financial resources, especially for smaller scale and community-based projects. If need be, the Fed could simply buy infrastructure bonds, just as it did with Treasury securities in 1940 to finance the war.

Within a context of growing productive capacity, tax policy can help discourage carbon emissions while reversing our growing income inequality. Taxation of carbon emissions or “cap-and-dividend” programs can provide market incentives for conversion to lower GHG emissions. As a matter of justice—as well as to win the broadest popular political support—most if not all of the resulting tax revenue should be returned to the workers and consumers to compensate for higher gas prices and energy bills, restoring a more just distribution of income. Progressive taxation, particularly on carbon-wasting luxury goods like private jets, can counteract negative effects on income equality. Such devices as energy pricing incentives, user fees, and on-bill financing (which allows energy consumers to pay for energy-saving investments out of the resulting savings on their energy bills) can also play a role.

Labor

Nearly 12 million Americans are officially unemployed today, more than 8 million want full-time work but are only employed part-time, 2.6 million want to work and have sought work within the past year but are not currently looking for work.9 So a labor reserve of more than 20 million workers is available to go to work protecting the climate. However, ways will be needed to redirect workers to the growing employment sectors. During World War II, this was done by the War Labor Board, which actively recruited workers to regions and industries where they were most needed and controlled wages to limit competitive bidding for scarce labor. Government took the leading role in the rapid expansion of education, training, child care, and housing for the new workforce.10 War labor policies were often biased toward business and were frequently challenged by organized labor and wildcat strikes,11 but there is little question that, overall, they provided a
historic improvement in the power and living standards of American workers.

New labor policies will be needed both to compensate workers who lose jobs in fossil fuel-related industries and aid the economic transformation of affected communities and fossil fuel-dependent regions. Workers harmed by climate protection policies should receive full wages and benefits for at least four years; up to four years of education or training, including tuition and living expenses; and decent pensions with health care for those ready to retire. The opportunity for individuals to access higher education and advanced training will also mesh with the need to develop new labor force capabilities for the emerging green economy.

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To be generally accepted as fair, the transition to a climate-safe economy will require an incomes policy, as was provided during World War II by the War Labor Board. A Nordic-style welfare state system, providing a high level of income for the unemployed combined with strong support for retraining and new jobs, will be necessary to answer fears that change will lead to disaster for workers. Public planning, investment, and incentives for new employment opportunities in affected regions, industries, and occupations can play a similar role. As in World War II, the right of workers to organize and bargain collectively with their employers will be essential to ensure popular participation in the mobilization and protect workers from abuse. In World War II, unions gave up the right to strike, but millions of workers struck anyway; this time, unions should demand that the right to strike be ensured. Full employment will bolster workers’ bargaining power, restore the relationship of wage and productivity growth, and reduce the obscene level of income and wealth inequality.

Governance

Government action will be necessary to implement many of these transformations. Delina and Diesendorf list establishing financial incentives and disincentives; raising capital; implementing labor strategies; organizing funding for infrastructure such as transmission lines, railways, and pipelines; funding R&D; setting and monitoring energy efficiency standards for buildings, appliances, and equipment; training and retraining professionals and trades people; and setting industrial location policies. Furthermore, the multifaceted activities of federal agencies, state and municipal governments, corporations, and civil society groups will need coordination to maximize effectiveness and reduce redundancy.

Such coordination, as in World War II, will require a central governmental authority. However, because of the extended period of transition, measures are necessary to prevent such an authority from deviating from its intended purpose either for its own aggrandizement or that of other social forces. We do not need another Pentagon or National Security Agency provided with vast powers and resources but no genuine accountability.

Delina and Diesendorf propose two agencies, independent of each other, to lead the transition to a low-GHG economy. The first, following the general model of the War Production Board, would have overall responsibility for carbon mitigation. Such a climate mobilization authority would “conduct technical requirement studies, set and enforce production goals for RETs [renewable energy technologies], institute efficient contracting procedures, cut through inertia and ‘red tape’ inhibiting institutional changes, and serve as the coordinating agency for all transition activities.”

Legislation would also establish a separate institution to play a planning and watchdog role. It would be independent of the executive branch and above the climate mobilization authority; it would report to Congress and the public. While Delina and Diesendorf do not spell out its powers and procedures, they would presumably include defining GHG reduction targets and timetables, laying out a national climate action plan, ensuring transparency in the actions of the climate mobilization authority, identifying problems and failures, and initiating needed course corrections.
Although government will have a leading role, markets will have a crucial role as well. Most economic activities will continue to be coordinated through markets, albeit ones affected by new public policies. Market-based approaches, such as energy price incentives, carbon taxes, fees, and/or quotas, will help redirect production and investment to low-GHG technologies and products in the myriad areas not covered by direct government policies.

**Market-based approaches will help redirect production and investment to low-GHG technologies and products in areas not covered by direct government policies.**

Finally, civil society organization will have at least as critical a role. Today, a large swath of community-based, local, and regional programs initiated from below are already engaged in promoting the transition to a climate-safe economy and society. Even in a government-led transition, they can, on their own initiative, implement community-based renewables like rooftop solar collectors, energy use reduction like residential weatherization, mobilization of funding like revolving loan funds, and new patterns of consumption like shared bicycles. Perhaps most important, they can provide both popular support for transition and a means to hold the institutions of transition accountable.

Organized labor played a significant role in World War II mobilization. Tripartite boards of government, business, and labor representatives gave unions a formal role in decision making, albeit one that often remained subordinate to corporate power. If organized labor stands aloof from the climate protection movement, it is unlikely to have such a role in future government-led climate protection institutions. If labor takes a lead in building public support for a climate protection plan, it is far more likely to have a voice in ensuring that climate policies are worker-friendly.

Right now, much of organized labor is painting a portrait of itself as an obstacle to climate protection. By advancing a plan that protects the environment by reducing GHG emissions while putting Americans back to work, raising wages, and reducing economic inequality, labor can lead the struggle for a more just and sustainable economy and put itself back on the right side of history.

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**Notes**
1. This analysis of labor climate policy is based on forty-two profiles of unions and other labor organizations recently completed by the Labor Network for Sustainability.
5. Unless otherwise noted, this discussion is based on Delina and Diesendorf, “Is Wartime Mobilization,” section 3.
6. This discussion is based on Delina and Diesendorf, “Is Wartime Mobilization,” section 3 and additional sources as noted.
7. Private investment in fossil fuel-reducing activities has not been forthcoming even in many cases where such investments would have paid
for themselves or even made a profit. A 2007 study by the McKinsey consulting firm found that the United States could rapidly cut 28 percent of its greenhouse gases at a fairly modest cost and with only small technological innovations. According to director of the study, Jack Stephenson, “These types of savings have been around for 20 years.” But, according to another research team member, “There is a lot of inertia, and a lot of barriers.” To give but one example, if tenants pay for their heat, landlords have no incentive to buy anything but the cheapest, least energy-efficient furnaces. Matthew L. Wald, “Study Details How U.S. Could Cut 28% of Greenhouse Gases,” The New York Times, November 30, 2007, available at http://www.nytimes.com/2007/11/30/business/30green.html?_r=3&oref=slogin. These findings raise doubts that policies that rely on charges for carbon emissions will in fact promote massive investment in climate-protecting activities.


9. See www.bls.gov/news.release/pdf/empsit.pdf; the labor force participation rate in the United States is below 64 percent, indicating a vast further labor reserve that could be tapped given conditions of continuing full employment.

10. Massive job creation for climate protection need not wait for such retraining, however. An emergency climate protection program will require a wide range of activities drawing on diverse skills from planting trees to developing new energy-conserving software to installing solar panels. Climate protection can learn a lesson from the New Deal’s Works Progress Administration (WPA), which was able to rapidly employ millions and substantially reduced unemployment because of its emphasis on putting people to work doing things that used their existing skills.


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