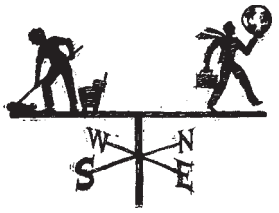

By Robert Pollin

ECONOMIC PROSPECTS

Green Investments and the Path to Prosperity

Can policies designed to fight global warming also be an engine of economic growth and job creation in the United States? Support for this idea has grown exponentially over the past year. For example, a March 26, 2008 *New York Times* feature article reported that, "Presidential candidates talk about the promise of 'green-collar' jobs—an economy with millions of workers installing solar panels, weatherizing homes, brewing biofuels, building hybrid cars, and erecting giant wind turbines."

Amid such high-profile claims, it is easy to forget how completely this position departs from what had been the received wisdom, in the *New York Times* itself and elsewhere, that implementing strong environmental standards necessarily entails serious economic sacrifices. Is there a trade-off between fighting global warming and promoting economic prosperity? Unfortunately, the answer is an unresounding "it depends."

The major cause of global warming is the emission of carbon into the atmosphere that results from energy produced through burning fossil fuels—oil, coal, and natural gas. It is clear that to fight global warming, we have to dramatically reduce our reliance on these three fossil fuels, building support for conservation and renewable energy.

If managed properly, ending dependence on fossil fuels and building a clean energy economy could indeed generate millions of

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good jobs. But a clean energy transformation will require high levels of public investments in both energy conservation measures—including building retrofitting and public transportation—as well as renewable energy sources, such as wind, solar power, and biomass fuels. The federal government will also have to impose some form of tax or absolute limit on the burning of fossil fuels, to place the costs of constantly spewing carbon into our atmosphere on everyone.

About 3.5 million people in the United States today are either employed in the oil/natural gas/coal-production business, or their jobs are linked to the traditional energy producers.

LOWER CARBON EMISSIONS AND HIGHER GAS PRICES

The mechanisms for raising the costs of carbon emissions are straightforward and are gaining support in mainstream political circles. One approach is to impose a "carbon tax" on consumers of oil, natural gas, and coal. A related idea is to establish legal limits for the amount of carbon that can be released into the environment through burning oil, natural gas, and coal.

The U.S. Congress has been considering so-called "cap-and-trade" proposals for a few years now, which would set increasing absolute limits on total carbon emissions. Energy companies would receive permits from the government establishing how much fossil fuel energy they could produce. Firms could exceed their quota defined by their permits, but only by purchasing permits from companies which don't feel compelled to exceed their quota. Businesses could therefore earn profits just by being greener than their competitors.

The most recently debated cap-and-trade proposal, the Lieberman-Warner Climate Security Act, would require a series of mandated reductions of carbon emissions so that by 2050, they would fall to 70 percent below the 2005 level. But thus far this measure, like its predecessors, has not been able to muster a veto-proof level of support in the Senate, despite the enthusiasm of many Republicans and Democrats.

Of course, the multinational energy giants helped to block passage, as did the Bush administration. Yet oil company greed aside, we have to recognize that either the carbon tax or cap-and-trade system will mean higher energy prices for consumers. Such measures are designed to encourage conservation and clean energy alternatives.

But Americans have already been extremely hard hit by the rising fuel and home heating costs over the past decade, especially since 2007. Higher energy prices hurt lower-income households the most, since these households must spend a larger share of their total income on meeting their energy needs.

In addition, about 3.5 million people in the United States today are either employed in the

oil/natural gas/coal-production business, or their jobs are linked to the traditional energy producers. These jobs will begin to dry up as we reduce our fossil fuel dependency. Here is where the idea of environmentalism as sacrifice becomes real, mostly for working-class households.

NUCLEAR, "CLEAN COAL," AND ENERGY REBATES

Higher prices for oil, gas, and coal will make clean energy alternatives increasingly attractive in terms of relative costs. But investments in clean energy are likely to be slow and uneven if, beyond this initial step of raising fossil fuel prices, matters are left to the vagaries of the free market. But one widely supported plan in Washington does not really rely on free markets at all—it calls for the government to provide massive subsidies to revive nuclear power and to produce "clean coal." For all of its formidable downsides—including costs, safety, and the risks of proliferation—nuclear power does indeed generate electricity without releasing carbon into the atmosphere. So-called "clean coal"—that is, the development of technologies for capturing the carbon generated by burning coal, and storing this carbon underground—also has enthusiastic supporters, certainly among energy companies, but also among coal miners and the communities in which they live.

But developing either nuclear power or clean coal would be hugely expensive undertakings premised on uncertain technologies. They would devour both the public subsidies and private financing needed to advance conservation and renewable energy. They would also be highly capital intensive undertakings, generating fewer jobs per dollar of spending than oil.

Another approach is to send the government revenues generated by a carbon tax or the auctioning of cap-and-trade permits back to all energy consumers in equal amounts. Especially for working-class households and the poor, this could provide adequate compensation to offset their increased energy costs. But it would also mean that the government would not have these funds to support public investments for conservation and renewable energy. It would also not be any more effective than the Bush administration's economic stimulus program as a source of new job creation.

THE PROMISE OF CONSERVATION AND RENEWABLE ENERGY

The most effective approach—both in terms of the environment and as a jobs program—would be to combine government-mandated increases in oil, gas, and coal prices with aggressive public support for renewable energy and conservation. Renewable technolo-

Developing either nuclear power or clean coal would be … highly capital intensive undertakings, generating fewer jobs per dollar of spending than oil.

gies could advance rapidly toward cost competitiveness with a fraction of the largesse the government now showers on fossil fuels. Public support for mass transit is already growing due to rising fuel prices, and it would increase more through investments to improve these systems.

The single most promising area for accelerated investment is also the least technically challenging. This would be to dramatically improve the energy efficiency of the country's stock of buildings through retrofitting. A program for weatherizing the existing stock of 110 million homes through installing attic insulation, caulking, weather stripping, and similar measures, at an average of about $2,500 per house, can reduce home energy consumption by an average of 30 percent. A program such as this has been highly successful in Germany. In the U.S., both the federal government and several states already have building retrofitting incentive programs in place, including small-scale loans for individual homeowners. But thus far, these measures have been too modest to create widespread interest.

Through public investments in conservation and renewable energy, we can overturn the logic that makes a green economy and economic growth mutually exclusive.

What could such investments in conservation and renewable energy mean for job creation? Consider the case that, over a 20-year period, spending on fossil fuels falls by 50 percent over current levels, and that the money saved—which would be about $300 billion per year in today's economy—were transferred dollar-for-dollar into conservation and renewable energy efforts. Again assuming the current size of the economy, this would produce a net increase in employment of about 5 million jobs. These investments can also be made on an equitable basis in all communities throughout the country, spreading the employment benefits as widely as possible.

The relative amount of money spent on labor is much larger in conservation and renewables—about four times higher with conservation and three times higher with renewables. Moreover, the domestic content of production is also higher, especially with conservation, than an equivalent investment in oil, gas, and coal. For example, the domestic content of oil production is about 80 percent. But it is 95 percent or more with building retrofitting and mass transit. Wind, solar, and biomass power fall somewhere in between.

Building retrofits and mass transit increase domestic sourcing because they are both activities that are carried out, by necessity, at specific locations. Retrofitting a home in Maryland can only be done in Maryland. The abysmal public transportation system in Los Angeles can be upgraded only in Los Angeles. At the same time, we must recognize that not all conservation measures will produce any increase in employment, either domestic or foreign. Raising auto efficiency standards is a ne-

cessity, but it doesn't require more workers to build Toyota Priuses as opposed to SUVs.

Focusing on building retrofitting and mass transit will therefore also be most effective as a second-round, short-term stimulus program to counteract the effects of the housing bubble collapse and financial crisis. Moreover, the construction industry is almost certain to remain in its current slump long past the time taxpayers have spent their $600 first-round government stimulus checks.

Thus, through public investments in conservation and renewable energy, we can indeed overturn the logic that makes a green economy and economic growth mutually exclusive. In fact, not only can we have both, but green public investments to fight global warming should be seen as a crucial pathway toward both environmental sustainability and economic justice. ■