

Financing Energy Efficiency

By Daniel M. Kammen, policy innovator

Home and business owners could pay for clean energy technology through their property tax bills

THE OBAMA ADMINISTRATION WILL need a truly diverse set of tools to lead the nation to a low-carbon economy. To date, the U.S. effort has focused largely on technology and policy solutions that would reduce energy consumption and increase renewable energy supplies. But very little attention has been given to how to finance these desirable changes. A major monetary (and psychological) barrier for many people is the high up-front cost of new installations. How many of us would have cell phones if we had to pay for 20 years of minutes at the outset?

One energizing solution has emerged from a simple observation: municipalities routinely lend money for residential upgrades that benefit individuals and the community, such as putting power lines below ground. Why not do the same for clean energy? Berkeley, Calif., has pioneered such a program, called the Financing Initiative for Renewable and Solar Technology. It allows residential and commercial property owners to install improvements in their buildings. The city covers the up-front expense through a bond or other financing mechanism, and the individuals pay that back through a special fee on their property tax bills, spread over 20 years. Any payment that remains when a property is sold transfers to the next owner. Boulder, Colo., Babylon, N.Y., and Palm Desert, Calif., are implementing similar programs.

The Berkeley loans, made at low interest rates (4 or 5 percent, depending on how federal lending rates change), will first go to property owners for installing



rooftop solar; trials are under way. The program would then advance to energy-efficiency improvements such as tankless hot-water heaters, energy-saving windows and high-efficiency lighting.

Although municipalities must examine the effects of such a program on the local property tax structure, the results can be striking. At current rates, owner savings on utility bills would offset part of the loan costs, and as energy prices rise—especially as governments implement carbon taxes or cap-and-trade systems—the savings could outweigh the loan payments.

Nationwide, if only 15 percent of residential property owners took advantage of such programs, the emissions reductions would contribute 4 percent of the savings needed for the U.S. to reach 1990 emissions levels by 2020—all at no net cost to local, state or federal governments because owners pay back the loans. Large, additional savings would accrue if

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the program were extended to commercial buildings. My laboratory has developed an interactive Web site for evaluating the energy and carbon benefits: <http://rael.berkeley.edu/berkeleyfirst>

Federal and state involvement could greatly expand the model or eliminate some of the barriers that cities might face in implementing such programs on their own. Federal and state governments could either support city programs or directly finance the upgrades; their bonds would be more efficient because they would cover larger populations.

Programs such as Berkeley's, which I like to call "clean energy municipal financing," open a new door to the future. The approach could expand the pool of money with which to fight climate change from millions or billions of dollars to trillions of dollars in consumer investments in their homes and businesses. •

Berkeley, Calif., has pioneered a residential and commercial finance program. Boulder, Colo., and others are following suit.