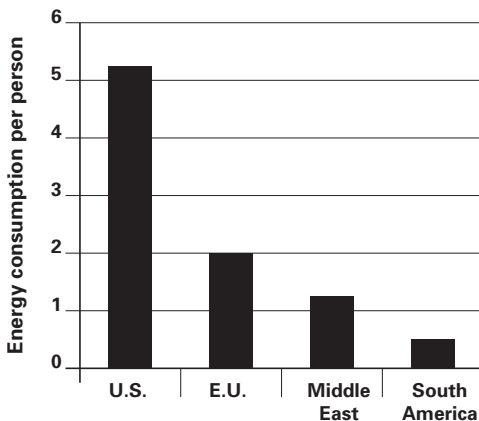


# The Carbon Reduction Project



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

Science provides clear evidence that the earth's climate is now warming, and that this warming is associated with rising levels of "greenhouse gases" in the atmosphere. A growing body of evidence also suggests that this trend may have serious impacts on natural processes on which our lives and lifestyles depend. While the precise contributions of human activities are not yet completely established, there is strong scientific consensus that society should act now to slow emissions of greenhouse gases (GHG). Many of the actions to reduce these emissions would also benefit other goals, such as reducing urban air pollution and making more efficient use of increasingly costly fossil fuels. Voices arguing that such linkages are not sufficiently proven to warrant changes in national policy are increasingly at the fringes of science or burdened with evident self-interest. The question is no longer whether the issue is to be taken seriously, and policies developed, but rather the kinds of action to be taken and how these are to be carried out.



U.S. policies to date do not yet send strong or consistent signals promoting greenhouse gas reduction. The National Energy Policy Report ([www.whitehouse.gov/energy](http://www.whitehouse.gov/energy)) identified a growing gap between energy demand and supply, but then focused almost entirely on increasing supply, particularly of traditional fossil fuels, rather than moderating demand or encouraging a transition to alternative energy sources. In contrast to many other major nations, U.S. national climate

change policy is focused almost entirely on research and development subsidies, in the hope that new coal and nuclear technologies will solve the problem some time in the future.

There can be no sharper contrast between the U.S. policy and a recent British policy proposal ([www.dti.gov.uk/energy/whitepaper/index.shtml](http://www.dti.gov.uk/energy/whitepaper/index.shtml)) calling for a 60% reduction in carbon dioxide emissions by the year 2050. This proposal represents a serious and purposeful transition in energy use

from activities that have sent carbon dioxide soaring in the past 100 years to a more sustainable balance combining energy supplies, economic growth and daily lifestyles.



local action for a global challenge

## CRed and Local Action

To back up this bold policy, the British government helped create the Carbon Reduction Project (CRed). Housed at the University of East Anglia, the CRed program searches for practical ways to help industry, developers, municipal planners and citizens reduce their contributions to national emissions ([www.cred-uk.org](http://www.cred-uk.org)). Its goal is to reduce British carbon emissions by 60 percent.

This past summer, UNC-Chapel Hill undergraduates teamed with University of Cambridge undergraduates to design a CRed program for the City of Cambridge. They asked the city to become a CRed demonstration site, and the City Council accepted the challenge. A second team of Carolina students asked the Town of Chapel Hill to become the first U.S. CRed site, and Chapel Hill Mayor Kevin Foy also accepted the challenge.

If such initiatives seem farfetched for the United States, the surprise is that, almost unnoticed by the press, significant carbon-reduction initiatives also are well underway in a number of U.S. states. In an excellent new book ("Statehouse and Greenhouse"), University of Michigan professor Barry Rabe documents some of the best of these programs. New Jersey, for instance, committed to reduce its greenhouse gas emissions to 3.5 percent below its 1990 emission levels by 2005 and 7 percent below them by 2012, and is reportedly on track to achieve those goals. Texas, Oregon, Wisconsin, New Hampshire, Massachusetts, Georgia, and other states also have taken the lead in varied ways.

Why should states and communities take such unilateral initiatives, when they may have only limited impact on a global problem and conventional wisdom claims that they will increase costs and disrupt popular lifestyles? Most see it as in their own economic self-interest: as an opportunity to build

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sectors associated with the emerging energy economy of the future, to diversify energy supplies, and to reduce air pollution and traffic congestion. Some also see benefits from early action, such as protecting oceanfront development and tourism. Many have always experimented with their own policy initiatives: states play a major role in regulation of electrical utilities and other elements of the energy sector, which opens the way for promoting “green energy,” demand management incentives, and other key policies.

### Is CRed Sustainable?

While state- and community-level carbon reduction offers many opportunities for creative initiatives, such initiatives will not by themselves produce changes sufficient to stabilize global warming. Getting towns and institutions to sign up as CRed sites requires nothing more than filling in a pledge with specific targets for carbon dioxide reduction. What happens when this pledge comes into conflict with immediate human needs, wants, and political pressures: economic growth, new housing, locating food? How are we to prevent CRed from becoming nothing more than a moment of passion followed by a lifetime of the same carbon-releasing activities? Ultimately, coordinated and sustained national policy commitments are essential to attain such a truly global result.

State and local initiatives do offer important building blocks toward such commitments, however. They can provide models for workable transitions that can then be adapted elsewhere, and scaled to the national level. They can show where the conventional wisdom is wrong, where business and economic development opportunities may exist, and where states and communities can benefit rather than suffer from such changes. In North Carolina today, “green power” and “green buildings” are just two of many emerging technologies that show promise of reducing emissions while providing many other benefits. To the extent that local action builds support for national policy and/or increases the demand for non-GHG emitting technologies, they can be a step to the solution.

The CRed program has identified a number of challenges that face any movement to rapid reduction of carbon dioxide emissions:

1. The energy industry has invested heavily in generation and distribution systems to provide for our energy needs. An effective policy would be one in which the investment in new green, technologies would be phased in smoothly but consistently as these existing facilities near the end of their useful economic lives.

2. Net metering is an emerging innovation in electricity pricing which would increase incentives for introducing small-scale, renewable energy sources. In net metering, an individual or organization with a “greener” technology—for example, solar panels—buys electricity when needed and sells it back when their energy use is less than the electricity they are generating. The appropriate prices to be charged for these small-scale contributions have yet to be negotiated.

3. Many of our traditional community designs have built in heavy reliance on carbon combustion for transportation. The Triangle area of North Carolina is a prime example: suburban housing requiring long commutes to work, and commerce centralized in isolated shopping malls, all encouraging multiple trips by low-occupancy vehicles. Planners and developers must work together to create better designs, and we as citizens must choose to live in those designs.

4. The technologies may be there, but the financial packages are not in place. Technological innovation is still well in advance of the societal innovations needed to bring these technologies into the marketplace and into our homes. A combination of business investments, incentives from government, and contributions from the academic sector is required. A prime example is Carolina Green Energy ([www.ncgreenpower.org](http://www.ncgreenpower.org)), a group of investors who combine business sense and a passion for environmental change, as well as recognition of the need for education to affect consumer choices.

5. We should all become carbon managers in our daily lives. This idea, championed by Oxford’s Environmental Change Institute, recognizes that solutions to carbon dioxide reduction cannot focus solely, or even primarily, on industry. All of us must be aware that the demand from our consumer choices ultimately drives the energy system.

### North Carolina as a CRed Site

CRed is an ambitious program, but one well worth pursuing. The Town of Chapel Hill is considering taking the first steps, as is the University of North Carolina at Chapel Hill. Secretary Bill Ross of the state Department of Environment and Natural Resources is providing a vision for how North Carolina could develop supportive state initiatives. Moving from a high-carbon economy to a more sustainable one will not be easy, but CRed offers promising opportunities to design creative and cost-effective ways of doing so.

### Credits

This white paper was produced by Doug Crawford-Brown, Mort Webster, Pete Andrews and Al Segars of UNC-Chapel Hill. It is a collaboration between the CEP, the Center for Sustainable Enterprise of the Kenan-Flagler Business School, and the Department of Public Policy.