



POLICY

**GREEN RULE
TO DRIVE
INNOVATION**

PHOTOGRAPH Tom Baril, *Smokestacks, Long Island*, 1994



CHARGING FOR CARBON CAN INSPIRE CONSERVATION, FUEL COMPETITION, AND ENHANCE COMPETITIVENESS

BY DANIEL C. ESTY
AND STEVE CHARNOVITZ

ENVIRONMENTAL POLICIES MUST be carefully structured and predictable if they are to enhance rather than undermine competitiveness. On this score the United States falls woefully short. Its climate policy in particular has been adrift during the nearly two decades since the U.S. ratified the 1992 UN Convention on Climate Change. Without a coherent framework for pricing greenhouse gas emissions, American companies have been unable to make rational decisions about investments that carry significant energy implications, such as spending on factories, equipment, and product design. This uncertainty has cast a pall over the entire U.S. economy. It has dampened innovation and put U.S. companies at a serious disadvantage when competing with businesses in countries where clear policies have sharpened the corporate focus on waste and inefficiency and spurred innovation.

The similarly incoherent U.S. energy policy has also had damaging effects. First, in the absence of a mechanism to make producers and consumers pay for the harm from their pollution—that is, in the absence of a mechanism that “internalizes externalities”—U.S. companies overuse polluting fuels and fail to optimize investments in efficient production and product and service design. Second, because many of the government’s subsidies are haphazard, wasteful, and counterproductive, investments meant to deliver cleaner and cheaper energy underperform. Both factors are diminishing U.S. competitiveness.

To highlight the link between sustainability efforts and competitiveness, we’ve developed 10 prescriptions for energy and environmental policy reforms, two of which we’ll describe below. (For the full list, see the sidebar “Energy and Environmental Policy Proposals.”) These two proposals are aimed specifically at driving innovations to deliver cleaner and cheaper energy—something that will be critical to U.S. corporate and national competitiveness in the years to come.

USE GREEN TO COMPETE

Before delving into our proposals, let’s put to rest the notion that environmental stewardship inevitably burdens economies and companies. It’s increasingly clear, in fact, that investing in sustainability can enhance national competitiveness. Consider that the

10 highest-ranked countries on the 2010 Environmental Performance Index all sit in the top half of the World Economic Forum's 2011 Global Competitiveness Index, and six are in the top quartile. The 10 countries with the lowest environmental scores all rank in the GCI's bottom third. These relationships don't prove causation, but they suggest it, and at the very least they clearly show that robust environmental programs don't inhibit competitiveness.

Companies, perhaps more than governments, have come to appreciate the vital connection between sustainability and competitiveness. Fully 95% of the world's 250 largest firms regularly report on their environmental performance, highlighting their commitment to sustainability as a tool for reducing risk, improving efficiency, driving innovation, and building intangible value. In many companies, sustainability activities have delivered increases in revenue and profits. As Jeff Immelt, the CEO of General Electric, puts it, "Green is green."

All this has important implications for governments as they construct competitiveness policies. Of course, policy makers should bear in mind the distinctions between competitiveness at the firm and at the country level and also the relationships between the two. On the one hand, firms that try to compete by cutting environmental corners may appear to succeed in the short term, but their practices will harm national competitiveness in the long run. On the other hand, poorly designed or executed environmental regulations can diminish the competitiveness of companies and whole industries. Policy makers must conduct careful risk and economic analyses to ensure that the costs of a policy never exceed the benefits.

CHARGE FOR CARBON EMISSIONS

Economists often argue that subsidizing clean energy and other environmental "goods" can be just as effective as penalizing harms. We disagree. Price signals give companies a clear incentive to change their behavior and to invest in new technologies that avoid environmental harm. Therefore, we propose an emissions charge that would directly attack damaging market failures and spur clean-energy innovations. Emissions charges are administratively straightforward and transparent. Subsidies, by contrast, are hard to deploy productively and are often subject to political influence. Moreover, the U.S. government has a poor track record when it comes to picking winners. For these reasons, we would couple

ENERGY AND ENVIRONMENTAL POLICY PROPOSALS

- 1** Broaden America's portfolio of energy sources and set national goals for the ongoing expansion of domestic renewable power.
- 2** Create a better North American energy marketplace by strengthening the North American Free Trade Agreement.
- 3** Support greater use of natural gas—the best existing option for cleaner and cheaper power generation, home heating, and transportation, and the likeliest bridge to a truly sustainable clean-energy future.
- 4** Reform utilities regulation, electricity infrastructure, and access to energy markets to make renewable power more viable.
- 5** Impose a federal charge on carbon emissions from energy producers.
- 6** Discontinue federal subsidies to energy companies and particular technologies and increase federal funding of basic clean-energy research.
- 7** Sunset all agricultural subsidies and other government payments that result in unsustainable production practices and create protectionist trade barriers.
- 8** Shift the Environmental Protection Agency's regulatory model from "command and control" mandates to incentive-based approaches underpinned by greater analytic rigor, including improved science, data, and metrics along with cost/benefit and risk analyses.
- 9** Address industry concerns about other countries' use of environmental standard-setting practices as disguised trade barriers.
- 10** Consummate the World Trade Organization's Doha round of negotiations, which seeks to advance sustainable development and to liberalize trade in environmental goods and services.

an emissions charge with the elimination of most energy and technology subsidies.

Political opposition to a cap-and-trade system has derailed efforts to limit greenhouse gas emissions in the U.S. We believe that a gradually increasing carbon charge offers a simpler, more direct, and more effective approach to pollution in general and climate change in particular. We propose that the charge be levied at the first point of sale of a fossil fuel—that is, coal, oil, and gas companies would pay on the basis of the carbon content of the fuel they deliver. Such a charge would partially internal-

ize environmental costs, drive investment in energy efficiency, and encourage innovation in renewable electric power (from sources including advanced biofuels; hydropower; and wind, solar, and geothermal power) and in carbon capture and storage. More immediately, it would induce companies to reduce waste and inefficiency and create products that do the same.

Specifically, we propose a charge of \$5 per ton of carbon emissions, beginning after the economy has recovered (perhaps in 2013) and rising by \$5 a year to a maximum of \$100 per ton. The European Union's cap-and-trade approach to greenhouse gas emissions translates to a charge of about \$10 per ton (the figure has been as high as \$40 in recent years). Australia recently enacted a charge of \$23 per ton. Even China has announced plans for pricing carbon emissions. A slow but steady escalation from a very low base would minimize the initial economic burden while changing investment behavior immediately. Companies that have made capital decisions on the basis of prior assumptions about energy costs would have time to adjust, and those planning new buildings, factories, and other energy-related investments could optimize their choices.

The logic for a U.S. carbon charge goes beyond pollution control. Even a modest charge would raise substantial revenues—about \$28 billion in the first year, and about \$250 billion a year after a decade—and could help reduce the national debt while avoiding many of the negative economic consequences of taxing individual or corporate incomes. Moreover, a carbon charge would help to wean the country off imported oil and reduce its trade imbalance.

We recognize that a carbon charge would increase energy costs for some companies in the short term, but we're convinced that the benefits over time to the nation's economy and competitiveness would clearly outweigh those costs. To avoid even short-term impacts on competitiveness, we propose holding off on actually imposing a charge until other major economies, including China and India, have enacted broadly comparable policies. We believe that if the U.S. passes carbon-charge legislation, other countries will follow suit, making reduced global emissions a realistic goal in the next round of climate-change negotiations.

CURB CORPORATE SUBSIDIES

Although subsidies can be an appropriate instrument for alleviating market failure, the U.S. government


often grants them for political rather than economic reasons, with consequently poor results. The tens of billions of dollars that have been spent supporting corn-based ethanol—which drives up food costs and produces minimal energy gains—may be the most visible and dramatic example, but many other unwise energy subsidies are in place as well. The U.S. government is a poor venture capitalist; it should end direct supports such as federal grants, loans, and loan guarantees for energy companies and technologies.

At the same time, the government should substantially increase its funding for basic research in clean energy. The United States spends a far smaller fraction of its GDP on energy R&D than competitors such as China, France, Japan, and Korea do. In 2010 it invested less than \$4 billion in energy R&D. We think the amount should be four times that, with the funds directed to universities, national labs, and quasi-independent entities such as the U.S. Department of Energy's Advanced Research Projects Agency-Energy.

Once it's clear that a given technology is commercially viable, limited government funds could be used to leverage private capital and speed up deployment. The state of Connecticut, for example, established a Green Bank to reinforce expanded private capital investment in energy efficiency and renewable power generation. The United Kingdom also launched a Green Bank, and Australia recently created the Clean Energy Finance Corporation to do similar things.

RECOGNIZING THE importance of the policy framework within which market competition occurs, many CEOs and other business leaders support our proposals for a graduated carbon charge and redirected energy subsidies. We urge corporate leaders to engage more fully with customers, employees, partners, and policy makers to advance this agenda, which is essential for strengthening U.S. competitiveness and ensuring long-term sustainability. ▾

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 **Daniel C. Esty** is the commissioner of the Connecticut Department of Energy and Environmental Protection and is on leave from Yale University, where he is the Hillhouse Professor of Environmental Law and Policy. **Steve Charnovitz** is an associate professor at George Washington University Law School and was the policy director of the U.S. Competitiveness Policy Council in the early 1990s. The views expressed in this article belong solely to the authors in their personal capacities.

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