

How New Policies to Reduce Greenhouse Gas Emissions Can Promote Economic Development and Enhance Opportunities for Small Business

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I. Introduction

Setting strict limits on greenhouse gas emissions can have a strong beneficial effect on small business. Indeed, it could be one of the most effective policies that Congress can adopt to promote the growth and profitability of small business.

Surprisingly little research on the effect of environmental protection policies on economic growth has been done, and that is one of the reasons that I wrote the book: *Saving Energy, Growing Jobs* (Bay Tree Publishing, Point Richmond CA, 2007). This book examines the scientific evidence that is available, supplemented with experiential evidence and personal experience, on how environmental protection policy in general, and greenhouse gas emissions limits in particular, can enhance economic growth. This book is intended both to challenge the academic community to develop more solid scientific evidence and to set forth the informal experience that supports this hypothesis.

It finds that the bulk of the studies that have been published support the hypothesis that protecting the environment promotes more growth and more jobs. Many of the studies suggest that environmental protection encourages innovation, while others just find positive correlations between protecting the environment and growth.

Climate change provides an even greater opportunity to enhance economic development in general, and small business growth in particular, because the primary opportunities to reduce greenhouse gas emissions are through end use efficiency, and efficiency has been shown to cut costs, create jobs, and increase innovation and competition.

II. How Environmental Policies Promote Economic Growth

The first key finding in the book is that there are widespread opportunities throughout the economy to cut greenhouse gas emissions in ways that increase profit. But because of formidable and nearly universal failures of the marketplace, and simple human tendencies towards risk aversion and loss aversion, most of these opportunities are not exploited. Pollution

reduction opportunities with rates of return on investment of 30%, 50%, and even over 100% are going around unexploited.

Government policies have a demonstrated track record of having overcome these failures. For example, California has reduced its greenhouse gas emissions per capital by about half compared to the rest of the country through growth-enhancing policies that have been pursued for over 30 years under both Democratic and Republican leadership.

There are many examples of such policies, ranging from performance-based tax incentives for energy efficiency (such as the Snowe-Feinstein EXTEND bill) to reformed regulation for utility companies such that they profit from promoting customer energy efficiency, to codes and standards that set minimum levels of efficiency on a performance basis.

Perhaps the most dramatic success story of such combinations of policies is in refrigerators. Refrigerators have been subject to mandatory standards that were first established effective 1977 and revised with effectiveness dates in 1979, 1987, 1990, 1993, and 2001. At the same time, utilities often have promoted energy efficiency through incentives, and the Energy Star program promotes energy efficiency refrigerators through information. The result of this effort is that refrigerators now consume a fifth of the energy that they did in 1972, despite being bigger, more feature laden, and better performing.

Despite the forecasts that each of these improvements would raise the cost of a refrigerator – an increase that would be paid back rapidly through reduced energy bills, but an increase nonetheless – in fact the cost of the refrigerator declined steadily throughout the last 35 years.

How could this be? Evidently, these environmental policies encouraged manufacturers to innovate, and this innovation induced operational efficiencies in producing refrigerators that made up for the increased cost of the energy efficiency features.

This is a pattern that is seen in other industries as well: increases in cost to cut greenhouse gas emissions through increasing energy efficiency usually don't show up at all, because the need to do something about energy performance provokes the need to recognize other unexploited opportunities to save money in the production process.

Where does small business fit into this? Many of the most important energy efficiency services are provided directly by small business. America has 105 million homes which collectively account for over 20% of American greenhouse gas emissions – more emissions than cars. Increasing efficiency in existing buildings has been identified by numerous studies both domestically and abroad, as the cheapest and fastest source of greenhouse gas emissions reductions.

How can we capture this potential? The European Union already requires that all member states adopt rules by which the entire building stock will be labeled for energy

efficiency. Labels are precursor to doing the work to improve efficiency, since the labeling process also relies on an energy inspection that identifies the opportunities for efficiency upgrades and their cost and benefits.

Who will provide these energy analyses? In the United States, there is an emerging industry of small businesses that train and certify the technical expertise of inspectors who can visit homes and make energy recommendation for modest cost. The European Union estimates that tens of thousands of new jobs will be created by this program.

Once the inspectors make the recommendations, homeowners can be expected to hire contractors to do the work, especially if the construction is incentivized, as is the case in the Snowe-Feinstein EXTEND bill. This is another area where small business benefits directly, since most contractors who work on home remodels and repairs are small businesses.

There are other ways that overcoming failures of the market will promote small business. The fact that unexploited opportunities to earn 30% annual returns on investment are so widespread implies that the economy is failing to allow enough competition in the areas that affect energy use. In many cases, current energy-using equipment is provided by a limited number of large companies sharing the market amongst themselves. If it is possible to produce more or less the same product for many years, these companies can remain as the industry leaders and are not under pressure to find newer and more competitive suppliers of parts and services.

When environmental policies aimed at overcoming market failures take effect, the large companies will look not only internally, but to external suppliers to come up with innovative ways to meet the environmental goal and cut costs. Many of these suppliers will be small businesses because smaller businesses often can respond more nimbly to market opportunities.

III. Caps on Greenhouse Gas Emissions Can Increase GDP

This testimony presents a much more optimistic view of the ability for businesses to innovate their way to climate stabilization than would be derived from studies performed by the Energy Information Administration (EIA). There is an important policy reason for this disagreement.

The EIA models assume structurally that climate emissions limitations are effectuated solely by a carbon tax or a cap-and-trade system. A limited number of greenhouse gas emissions permits are assumed either to be auctioned off or to be allocated based on past emissions and then purchased or traded. While such a system may be an essential part of the climate solution, it is not an effective environmental/economic policy by itself.

If the economy is already ignoring 50% returns on investment in mitigating climate emissions, how would raising the price of emissions, say by 20%, make much of a difference? The clear answer is that it would not. Charging appropriate prices for carbon will cause some

economic decisions to be made on a more rational basis (such as the choice of lower-emitting versus higher-emitting fuels for power plants or vehicles) but will not have much effect on efficiency, which virtually all studies throughout the world have shown to be the largest wedge of climate emissions reductions.

This observation is reflected in the EIA predictions that greenhouse gas emission limits reduce growth. But these predictions are only valid if the underlying assumption is valid: namely that carbon price increases are the only policy instrument available to meet the cap.

But this is not the case. Mandatory carbon caps in practice work most effectively by directing businesses' and policymakers' attention to the overlooked opportunities for emissions savings that are already cost-effective. The limits draw people's attention to the seriousness of the problem. But then, they find that the main efforts towards solution should be directed to the areas where emission limits save money rather than costing money. This is what I have seen in the way California is beginning to implement AB 32 and the way that the European Union's members are beginning to implement their compliance with the Kyoto Protocol.

Studies that look in detail at the opportunities for improving efficiency and substituting renewable fuels for conventional fuels consistently show that most, or all, or even more than all of the savings needed to meet international benchmark such as the Kyoto Protocol can be undertaken in a way that strengthens profitability for business in general, and most likely for small business to an even larger extent. Small business can benefit particularly because they are most in need of technical and financial assistance to undertake energy efficiency projects in their own operations, and most dependent on the efficiency services being available for purchase in the market.

One particularly interesting study found that if emissions credits were sold rather than given away, and the proceeds used to eliminate taxes that are most burdensome to small business – such as Social Security and Medicare – that all of the SIC codes in which small business is significant would come out winners. Indeed, almost all SIC codes in general—businesses accounting for 99% of the economy--would benefit from this combined strategy of policies to promote energy efficiency and tax substitution in which greenhouse emissions taxes replace employment taxes.

In summary, the bulk of the studies that have been done on environmental protection, including environmental regulation and the economy confirm the results I have illustrated in my book from individual experience and case studies: that setting aggressive and mandatory climate mitigation limits helps business by encouraging investment in pollution reduction technologies that are already better investments than what business does otherwise, by breaking down traditional arrangements that limit competition, by encouraging innovation and entrepreneurialism, and in general by establishing the very conditions of working free markets under which small business does best.

IV. Climate Protection Encourages Continuing Innovation

The failure of the market to take advantages of opportunities to reduce emissions with very high return on investment creates an even more powerful barrier to innovation indirectly than it does directly. The problem is this: if existing products or services that could generate a 30% annual return by saving energy don't sell, why would anyone develop an even better technology?

Even if newer technologies that could cut emissions even further were perfected, they still wouldn't sell. So lots of business opportunities for high-technology companies are not exploited. Indeed, it isn't even a good business decision to find out about them.

Policies to reduce emissions establish incentives by which companies that develop better technologies can sell them successfully. This change will encourage small and start-up companies to grow around the opportunity to commercialize improved products at efficiencies even higher than we can predict today.

This is not just speculation—we have seen new technologies develop in products and in buildings and cars wherever policy creates an economic incentive for this to happen.

V. Conclusions

Mandatory limits on greenhouse gas emissions, if done right, can enhance market forces and increase innovation and competition. The effect of enhancements to the market will be to promote economic growth and the creation of new jobs and better paying jobs.

What does it mean to get these policies right? This is a practical question, not a philosophical question. The answer depends on data and observations about what works, rather than theoretical speculation. Some policies produce their intended effects at a profit, while others are costly or ineffective. Some policies have unintended consequences that produce new problems, others have unintended consequences that make them even more effective or beneficial than was anticipated.

What actually works is an issue of fact, not a philosophy or ideology. Therefore, promoting truly market-based solutions to the global climate change problem should be both a conservative issue as well as a moderate and a liberal issue. It should attract enthusiastic support from Republicans and Democrats alike.

Greenhouse gas emissions limitations, done in a market-based fashion that is guided by data, should achieve broad support. This means that mandatory limits on emissions should allow the buying and selling of emissions permits, and complementary energy policies should be adopted to enhance market forces where they are weak and to rely on them more heavily where they are strong. Economic incentives should complement regulations to maximize innovation to

the benefit of both environment and economy. Both emissions limits and policies promoting zero-emissions technologies are essential parts of a pro-growth greenhouse gas limitation policy.

The fact that large, unexploited opportunities for emissions reductions through energy efficiency exist throughout the economy is evidence that current markets for efficiency are not working well. But the success of policies such as performance-based economic incentives and minimum efficiency standards, along with market transformation programs such as Energy Star and utility regulatory reforms to make efficiency profitable, shows that these failures of efficiency markets can be overcome and that markets can be enhanced to allow new and small companies to compete more effectively.