

Politics and Economics of the Transition

Two questions arise: if efficiency measures and renewable energy can replace fossil fuels at comparable prices, what is stopping us from doing it now, and what needs to change? A full answer would require a book in itself; in fact I've written it - the companion volume to this one *No Hair Shirts: Money and Politics in the Fight against Global Warming*. But it would be unfair to end without at least a hint of economic and political solutions to match the technical ones. For brevities sake, I'm simply going sketch a small part of the economic and political arguments – without proof, and without even much evidence. For such evidence, as well as a lot more detail on the political economy of both the problem and the solution read *No Hair Shirts*.

The conventional wisdom about things like global warming and air pollution is that a good part of it is caused by a lack of full social pricing. That is, coal plants owners hurt people other than the owners; and the owners don't have to pay for any of that damage. After all, if someone else is picking up certain expenses for you, you have no incentive to minimize those expenses, and in fact have every reason to incur more of those expenses if you can trade them for others which you do pay. Like a lot of conventional wisdom, this is quite true.

But a something else must be preventing a lot of the savings in this book from being realized; because a great many of the efficiency measures outline are less expensive than conventional alternatives, right now, and were less expensive even when oil was \$35 per barrel. Lack of full social pricing, is not the reason savings with payback periods as short as two weeks are sometimes omitted.

In economic jargon, we would say that energy demand has low elasticity in response to price signals. Translated into English, this means that when the price of energy rises, demand drops but not by as much as you would reasonably expect.

Most economists who pay attention to energy economics do recognize that energy demand does in fact have low elasticity in response to price increases. And the reason for this in the short run is uncontroversial. While there are immediate things people can do to save a small percent of their consumption in response to price increases, major reductions require either capital investment or major sacrifices. For example, while we can turn down the thermostat up to a point, in sub-freezing weather we can only turn it down so far. If we want to save energy past that point we either make an investment in insulation, or take the risk of freezing to death.

What there is more argument about is why even in the very long elasticity seems too low. Why, when making capital investments, do investors overlook opportunities for incrementally tiny additional expenditures which have very high rates of return?

A number of reasons are suggested; for example there are split incentives – such as insulation in rental units. A renter has strong disincentives to insulate, because she may not be in the same unit to take advantage of the investments, and does not wish to simply make a present of a capital improvement to her landlord. A landlord paying for insulation will be saving the tenant money, not herself.

There is differential access to capital. For example a homeowner borrowing to insulate her attic is drawing down on a much more limited stock of credit than a utility borrowing to build a power plant or gas pipeline.

Most cost accounting systems (even ABC cost accounting systems which are still not the dominant accounting method) don't allocate flow costs such as energy properly – which means the people who actually control the costs won't necessarily get credit for any savings they produce. Essentially, we have split incentives within firms.

In all fairness there is a small minority who insist that there is no problem; they claim that a number of factors justify low investment in energy savings. One is that since energy is a comparatively small percentage of costs for most companies and individuals (even though high in absolute terms), high transaction costs for such savings lower their value. Another is a claim that energy efficiency techniques don't really provide equivalent services – that energy saving bulbs provide worse light, and that in general efficiency techniques make up in lowered quality what they save in energy. Lastly they point out that energy savings often translate into lower dollar savings than you would expect; energy bills include fixed costs that don't drop with energy consumption; so cutting energy use by half lowers energy bills by less than half.

However a large number of companies have instituted energy saving programs that pay back all costs (including additional administrative costs – the “transaction costs”) many times over in a very short time – so for the most part the transaction cost argument does not wash.

Most of the time energy efficiency techniques improves rather than lowers quality. For example, it is true that many people find compact fluorescent bulbs provide worse quality light than incandescent. But the single biggest potential for efficiency in lighting is not in residential, but commercial buildings. And most commercial light already is fluorescent. Savings there are through using better grades of fluorescent bulbs, reflectors, dimmer switches to allow employees to adjust the brightness of ambient lighting to their own taste, the provision of desk lamps or other spot source employees can aim where they want, and the use of day-lighting – letting in natural sunlight. Every one of these steps is pretty universally agreed to improve lighting quality, and the human comfort compared to conventional fluorescents.

Lastly, fixed utility costs are real – but significant efficiency improvements still provide substantial payback, because electricity and fuel use charges are significant over and above fixed costs. Also many energy efficiency techniques provide more non-energy payback than energy payback. For example, better light in commercial buildings provides much more payback in productivity increases and reduced maintenance labor than in lighting energy.

For these reasons the majority of economists agree with engineers and energy experts, there are real energy saving opportunities being missed without justification. In the words of Amory Lovins, industry is leaving “\$10,000 bills on the floor”.

So what is the policy answer here? And what are the politics?

Well the usual suggestions are various forms of green taxes - driving energy prices up with carbon taxes, or the failed Kyoto style tradable permits. A price on carbon will have to be part of the solution, but in the face of demand inelasticity it cannot be the main approach. Raising prices and doing nothing else does not prevent leaving \$10,000 bills on the floor; it just increases their number. Serious policy to solve global warming will have to include significant and public works components and regulatory components.

Public works are required because a lot choices required are NOT ones individuals can make. No amount of green taxes or regulation will provide light rail to transport people, or heavy rail to transport freight. A regulatory component is needed because we don't want to simply provide every kind of good and service publicly, but still face the problem of demand inelasticity – which leaves the only choice in such cases regulations that specify ends, while leaving means to individuals. If we seriously want to tackle the problem, significant regulation and public works will have to be part of the solution; paradoxically there the regulatory aspect may often prove the least coercive component.

At any rate regardless of what policy is used, phasing out U.S. fossil fuels will not be free. Oh the net cost will be zero; we will save more than we will spend. But, the expenditures will largely be capital expenditure, while the savings will be operational; we will have to invest money up front in order to gain a continuing flow of savings over many years – a lot of it public money.

How much money will this take? The New Apollo Alliance suggests spending \$30 billion dollars per year the course of ten years on wind generators, solar roofs, and efficiency measures. But their goal is modest – focused mainly on oil. To almost completely phase out fossil fuels in the U.S. would probably cost around \$150 billion dollar - \$300 billion per year – for thirty years not ten. Now that is a lot of money; but aside from the fact that we would get it back, it is also something we can easily afford. For example, it is much less than we spend on the military each year. It is a tiny fraction of the cost of tax cuts we have given to millionaires and billionaires. It is less than a third of 2005 energy expenditures.

Five years into such a program, the annual value of energy saved will exceed annual public investment – though some of the savings will be a result of regulation and incentives rather than only public spending. Fifteen years from the beginning, total value of energy saved by public spending alone will exceed the cost of that public spending. Twenty years on, it will have paid back all costs including interest. And that assumes \$35/barrel oil (which we will never see again) and no increases in other fossil fuel costs.

Now comes the hard part; politically given that conservatives are currently the dominant force in U.S. politics how are we going to win this? \$150 billion dollars a year in domestic public spending is not going to be popular with any conservative movement, nor are energy efficiency regulations.

Authors Michael Shellenberger and Ted Nordhaus, who helped found the Apollo Alliance give a hint as to how to approach this in their famous essay “*The Death of Environmentalism: Global warming politics in a post-environmental world*”³²³

Without agreeing with everything they say, I think they make one key point. The changes needed are too big to deal with as just an environmental view. But a lot of other movements to make this nation better are in a similar situation. Women’s rights, ending racism, saving and expanding union rights, equality for GLBT and for the disabled all require changes that are too big for the individual movements to win by themselves. Further, none of these movements can win in an America moving ever further to the right. Every one of them requires stronger democracy, and strong state intervention on the side of the little guy against large private institutions. Most require significant amounts of public spending.

So this redefines the problem; it is not how the environmental movement gains support for technical and political solutions to global warming, but how some sort of alliance or coalition between labor, feminists, GLBT, anti-racists, the disability rights movement, and environmentalists combine agendas to win on broader progressive issues. In other words we need a progressive movement; a climate coalition will be able to make significant contributions to such a movement and make significant demands on it – but both the contributions and demands will be as one group among many other equal groups, not as a keystone. Climate disruption will not be THE central issue.

In “No Hair Shirts” I argue that the very size of this challenge gives us a shot at winning. People from every movement are realizing the need for some type of coalition. In that book, I compare it to baboon troops moving closer together in the face of predator pressure.

End Notes

³²³ Michael Shellenberger and Ted Nordhaus, "The Death of Environmentalism: Global Warming Politics in a Post-Environmental World," *Grist Magazine* 13/Jan 2005: Main Dish, Grist Magazine - Seattle, 15/Oct/2005 <<http://grist.org/news/maindish/2005/01/13/doe-reprint/>>.