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My Markey-Waxman query repeated: what are the climate benefits of the bill?

Barkley Rosser, who is not held in the thrall of the Cato Institute, posts in the comments:

> Sorry, you are going to be disappointed. So, I just googled "Markey-Waxman bill benefits" and, big surprise, got a big fat zero. I do not think anybody has made any estimate of benefits, high, low, or medium. If they have, they are buried pretty deeply somewhere, not easily accessible. And, I do not have the time to go cook up some numbers myself (don't even try to ask). So, anyone out there who wants to either cook up some numbers themselves or go digging more deeply, good luck. But, I doubt that the question will be satisfactorily answered...Oh, I should not say I got a "big fat zero." I got lots of hits saying lots of things. But none with any estimated benefits numbers that I could see, even half-baked ones.

Maybe it's still early but this apparent gap in the literature is not encouraging. I'll repeat my query. What would be the climate benefits of this bill? If you want to cite an estimate involving strategic interdependencies with China and India, fine. But please cite something that puts forward and defends a particular estimate.

Is there a better case for this bill than: "it will raise government revenue, which I favor anyway, and raise the costs of unsavory corporations, which doesn't strike me as so terribly unjust anyway, and on the estimate of climate benefits I will just fudge it and hope for the best and claim we must do something?" David Frum comments.

Matt Yglesias has a different argument: better to start now than never. I would phrase a related point more technically: acting now may be keeping open a valuable option on doing more later. Still, I wish to know what that option is worth, noting that if major action is impossible today it may be impossible tomorrow as well.

In the comments section of this post I'm not interested in being lectured about CO2 in the time of the trilobites, corrupt scientific groupthink, hearing that geo-engineering would be cheaper, or reading that various wimps won't face up to the need for nuclear power. I'm also not interested in hearing whether the costs of shifting to greener energy are high or low, at least not today. I just want to see the *benefit* estimates on this particular policy and if you put any serious estimate forward in due time I will assess it and report back to you.

Yes it is hard to model international interdependencies and option value -- two of the major potential benefits -- but we try to model such complexities for other policies all the time. Surely it's worth some group doing a 50-100 page study of what we can hope to achieve. Then we could see how plausible is the case for the bill.

If there is such a study, I promise I won't complain about the discount rate, I won't pretend that uncertainty militates in favor of inaction, and I won't dismiss it by saying a carbon tax would be better and then refusing to judge cap and trade vs. nothing. I want to see whether you need crazy or sensible judgments to get large aggregate benefits from proceeding.

Comments, of course, are open but subject to the above caveats. No trilobites!

Posted by Tyler Cowen on May 17, 2009 at 07:23 AM in Data Source | Permalink

Comments

I agree that some numbers would be

interesting, but I also think that economics might be demanding more than is appropriate in this situation. I could make the semi-Taleb-ian argument that GHG mitigation is about reducing uncertainty ... and that people who demand the uncertainty be quantified might not be getting it.

Posted by: odograph at May 17, 2009 7:32:57 AM

Don't underestimate the importance of getting the direction right in climate policy. The international community has been trying to do that for two decades already, and hasn't managed the feat.

Beyond that, numerous sources estimate a social cost of carbon. Presumably, the benefits of the legislation would be roughly equal to the social costs of whatever carbon emissions are averted, no?

Posted by: Dan Cole at May 17, 2009 7:37:52 AM

Matt Yglesias has a different argument: better to start now than never. I would phrase a related point more technically: acting now may be keeping open a valuable option on doing more later.

Seems like the problem with this argument is that a bad initial bill may be worse than nothing in terms of enabling future action. Have the ill-advised subsidy programs to the corn-ethanol industry been a good first step? Or, once started, have these environmentally useless but politically valuable programs proved hard to eliminate? If your answer is 'B', you win.

We can expect a lot of path-dependency -- the initial version of cap-and-trade will have a formative and lasting influence. As of last reports, 85% of permits will be given away rather than sold, and the program includes more billions for the auto industry. If you look at the list of beneficiaries, it's quite a dog's breakfast (and almost certain to get uglier over the years as lobbyists and their friends in congress work their magic).

It seems to me that there's clear danger of this thing producing disillusionment among American voters in a few years (I'm not sure if that's a bug or feature) and little traction in negotiations with China, India, et al (they may justly point out that the U.S.'s 'bold action' is mostly a massive giveaway to special interests and produces little or no environmental benefit).

And no, I can't point to any numerical estimates of the climate benefits from this bill, and I really doubt anyone else will be able to either. That's not the way this game in Washington is being played. But I think Tyler already knows that...

Posted by: Slocum at May 17, 2009 8:05:02 AM

Slocum nails it, there is a list of beneficiaries not benefits.

As a consultant I have done numerous cost/benefit analyses for state & local governments where the ROI for a project was negative. We'd go ahead and publish that in the report, negative cash flow graph and all, and then stress the constituent benefits in the executive summary. That's what the county commission or state legislature or whatever would vote on.

We tried more than once to get departmental management to assign numeric values to "soft" benefits. They shied away from that... valuation of citizen health improvements, time savings, accident avoidance, life quality, etc. is just too controversial.

I know that's not what economists want to hear, but that's the reality of government decision making, at any level.

Posted by: Bob Knaus at May 17, 2009 8:28:30 AM

oh slocum. Come on. Ethanol isn't driven by greenhouse politics, or even energy security. Right now, it is driven by the need for oxygenated gasoline additives for Clean Air requirements. Maybe it is a mistake, but

clean air isn't a bad thing. And the alternative to ethanol was even worse (MTBE)

I think we should ALL be very worried that Waxman and Markey are the named sponsors: two of the dumbest, most publicity friendly congressman out there -- and that is saying a A LOT.

Posted by: charlie at May 17, 2009 8:51:35 AM

LOL "corrupt scientific groupthink" How do you quantify uncertainty without corrupt scientific groupthink?

Posted by: qwerty at May 17, 2009 9:19:15 AM

What are the benefits to taxing work and investment, as we currently do, instead of CO2?

Posted by: a student of economics at May 17, 2009 9:30:21 AM

Since with cap and trade you are directly controlling Q (and P tends to be sticky), there is a risk that this scheme may produce acute energy shortages.

Posted by: Richard A. at May 17, 2009 9:56:38 AM

There is every reason to believe that the markey waxman bill will increase greenhouse gas emissions and environmental destruction.

For example look at the carbon credits for chinese hydroelectric projects

China's 'green' hydro-electic dams reveal flaws in lucrative 'carbon credit' climate-change weapon

> XIAOXI, China -- The hydroelectric dam, a low wall of concrete slicing across an old farming valley, is supposed to help a power company in distant Germany contribute to saving the climate -- while putting lucrative "carbon credits" into the pockets of Chinese

> developers.
>
> But in the end the new Xiaoxi dam may do nothing to lower global-warming emissions as advertised. And many of the 7,500 people displaced by the project still seethe over losing their homes and farmland.
>
> Such projects "may allow covered entities" -- such as RWE -- **"to increase their emissions without a corresponding reduction in a developing country,"** the U.S. Government Accountability Office (GAO) said in its December review.

Posted by: Duracomm at May 17, 2009 10:12:33 AM

It gets worse.

Turns out hydroelectric dams are a significant source of greenhouse gas emissions. So carbon credit trading is likely to subsidize the production of more greenhouse gases.

World's dams are 'contributing to global warming'

> **THE world's dams are contributing millions of tonnes of harmful greenhouse gases and spurring on global warming, according to a US environmental agency.**
>
> "Often it's accepted that hydropower is a climate friendly technology but in fact probably all reservoirs around the world emit greenhouse gases and some of them, especially some of the ones in the tropics, **emit very high quantities of**

greenhouse gases even comparable to, in some cases even much worse than, fossil fuels like coal and gas," Mr McCully said.

Posted by: Duracomm at May 17, 2009 10:21:21 AM

I don't see the point in doing this unless you are willing to engage in a major trade war with all of the most desperately poor countries in the world over the issue of *carbon emmissions regulatory arbitrage*.

Which is to say, the costs are so huge that carbon emitters will simply move offshore to countries where there are no such emissions caps or taxes of any sort.

So in the absence of a trade war, there will be zero benefit from carbon restrictions in the US as we simply offshore carbon producing activities, resulting in zero emissions gains. I simply fail to see how the alleged benefits from a slightly less warm Earth (assuming the AGW hypothesis is correct, we won't go there for Tyler's sake) would outweigh the massive pain and suffering that we unleash in China, India, Brazil, Russia, and all sorts of smaller countries that are desperately trying to escape mass poverty.

Posted by: happyjuggler0 at May 17, 2009 10:26:01 AM

My favored solution is to temporize by adopting whatever we can now that is both "clean" and cheap, albeit marginally more expensive than coal and natural gas. Then wait for technological improvements that bring green technology down to affordable levels, and only then adopt them.

Cap and trade seems to be more of a case of putting the cart before the horse on the assumption that this will cause a horse to come along. I think we need to invent the horse first, and make it a cheap horse for it to be worth it. I still remember California's attempt to mandate zero emission vehicles by 2000. Their method? Just declare that

that is the way it had to be, or no one gets to sell cars in CA. That worked well....

Posted by: happyjuggler0 at May 17, 2009 10:34:41 AM

Try these:

http://www.wri.org/stories/2009/04/brief-summary-waxman-markey-discussion-draft

http://www.wri.org/chart/emissions-reductions-under-waxman-markey-discussion-draft-2005-2050

Posted by: Vinnie at May 17, 2009 10:55:35 AM

Yet another example of government policies that were supposed to decrease GHG emissions actually increasing them.

There is likely to be an abundance of similar problems in the cap and trade bill as rent seeking entities go to work getting their provisions in the bill.

Unintended Consequences The Politics of Biofuels

> A study published in the latest issue of Science finds that **corn-based ethanol,... will nearly double the output of greenhouse-gas emissions** instead of reducing them by about one-fifth by some estimates.
>
> "Even if we're dramatically wrong, it's hard to get to a result that says you get a benefit over 50 years," said Timothy Searchinger, a researcher at Princeton University and a co-author of the paper on corn-based ethanol.
>
> In the second study, researchers found that . . . **draining and clearing peatlands in Malaysia and Indonesia to grow palm oil emits so much CO2 that palm biodiesel from**

those fields would have to be burned for more than 420 years to counteract it.

Posted by: Duracomm at May 17, 2009 11:14:26 AM

You think that in principle it is possible to create some value associated with the environmental benefits. I am not sure you are wrong. What I would say is that if we keep putting carbon into the atmosphere forever the consequences will be sufficiently bad that doing detailed analysis of the matter will require more work than any benefits such an analysis could ever conceivably produce. We will start reducing CO2 emmissions either too soon or too late or not at all and I am sufficiently scared of the not at all possibility that I don't worry about whether we do it too soon or too late.

Posted by: Craig at May 17, 2009 11:23:59 AM

With the 100-plus amendments to the bill now being proposed by the GOP, the bill would be all but toothless. Without those, however, there ARE benefits, as described by Climate Progress blogger Joe Romm:

"Pollution cuts in 2020 from House clean energy bill equal to taking 500 million cars off the road — and double that in 2030

The American Clean Energy and Security Act (ACES), authored by House Energy and Commerce Committee Chair Henry Waxman (D-CA) and House Energy and Environment Subcommittee Chair Ed Markey (D-MA) would achieve a significant reduction in the greenhouse gases responsible for global warming. The ACES mandates a 17-percent reduction in greenhouse gases below 2005 levels by 2020. That translates into a cut of 1.2 billion metric tons of carbon dioxide in 2020 compared to inaction, according to a projection based on an analysis by the World Resources Institute. This is comparable to taking 500 million cars off the road, which is twice the number of U.S. cars today, and half the cars expected in the world in 2020.

This pollution reduction estimate is conservative, since it does not include other complementary policies in the bill that would also reduce greenhouse gases. These provisions include renewable electricity and efficiency standards that would give utilities until 2020 to generate 15 percent of their electricity from the wind, sun, and other clean sources. Utilities would also have to reduce electricity demand by 5 percent. These measures would further reduce greenhouse gas pollutions.

The ACES would also slash energy use in new buildings by 50 percent by 2016. Buildings are responsible for nearly half of energy use and greenhouse gas pollution, so this provision would achieve additional reductions beyond the cap."

Posted by: Shirley at May 17, 2009 11:33:10 AM

The collapse of the carbon market in europe shows how this bill is at best do nothing to reduce GHG emissions.

The most likely result is that it will actually increase GHG emissions.

Carbon trading may be the new sub-prime, says energy boss

> However, Bryony Worthington, an expert on climate change and founder of sandbag.org.uk, said:
>
> **"What should have been a way to kick-start investment in much needed low-carbon, efficient technologies is now a cash redistribution exercise."**
>
> A study commissioned by the WWF environmental organisation from Point Carbon, published in March last year, estimated that "windfall profits" of between €23bn and €71bn (£20.9bn-£64.4bn) would be made under the ETS between

> 2008 and 2012, on the basis that the price of carbon would be between €21 and €32.
>
> **Up to €15bn could be made by British companies that were given credits they did not need.**

Posted by: Duracomm at May 17, 2009 11:49:22 AM

> *...and P tends to be sticky...*

Ummm, are we talking about wages, or hedge fund fees?

Last I looked, the cost of carbon commodities went up four-fold and most the way back in a couple of years. That's sticky the way that WD-40 is sticky.

Posted by: Walt French at May 17, 2009 11:52:17 AM

If you search for something subjective like "benefits" you get subjective results. Shocking. If you want estimates of emission reductions, try searching for something like "Markey-Waxman emission reductions" (which brings up the WRI study.)

Maybe I'm missing something what with all the discussion of ethanol and sticky P, but the study Tyler claims he's looking for doesn't seem that hard to find?

Posted by: zota at May 17, 2009 12:32:03 PM

Great narrowed question! Like the other commentors, I have no answer--small or large, positive or negative (note that even opponents of the bill ought to come up with a number for benefits, possibly negative).

One place to look, though, is the EPA proposed Endangerment finding, which is open for public comment now. I haven't read it, but I gather the EPA is supposed tohave presented a reasoned finding on whether carbon dioxide endangers human health and welfare. That requires at least showing that the benefits of reduction are positive, which is unclear (e.g., IF CO2 causes higher

temperatures, the first-order effect on health is that fewer people die in the winter). I don't know whether the benefits for the EPA finding are supposed to be limited to US benefits or not; a law prof I asked yesterday at ALEA didn't know.

Posted by: Eric Rasmusen at May 17, 2009 12:36:05 PM

For a back-of-the-envelope calculation, multiply the projected emissions reductions suggested by Vinnie's source:

http://www.wri.org/chart/emissions-reductions-under-waxman-markey-discussion-draft-2005-2050

By the estimate of the social costs of carbon dioxide (about $14/ton), found here (and referenced in Wikipedia!):

http://ideas.repec.org/p/sgc/wpaper/19.html

Discount appropriately, and voila! -- your very own estimate of the benefits of Waxman-Markey.

Given that it's a Sunday afternoon, and I'm sleepy, I'm going to nap instead of making the calculation. But do we agree it can be done relatively easily?

Posted by: environmental economist at May 17, 2009 2:11:09 PM

First of all, I am in the thrall of Cato. If I do not do as they say, they are going to impose unwanted liberties on me!

That said, OK, have spent a few minutes on this. Tyler has succeeded in guilt tripping me. Based on some quick googling following some of these submissions, here is an upper estimate for the US of benefits --- an average of about $70 billion per year between now and 2050, with benefits rising over time, so do your own discounting.

I suspect this is a too high number, and the noise here is simply enormous for many reasons, because of the wide variety of possible climate outcomes and relationships, as well as whether China and India will

respond favorably, as well as more mundane problems of estimating those economic benefits.

One likely doubt? I do not think gains from warming are included, and reductions in winter heating would be non-trivial, even if offset somewhat by more AC in summer. I have seen some estimates that for both China and the US it is really a net wash, the gains from stopping global warming, which makes neither all that hot for it (China may be more open given that slowing CO2 can be piggy-backed on stuff they really do want, notably cutting SO2). There are even net gainers from global warming, such as Canada and Russia.

Which reminds us that a very hard part of this is distributional. The clearest and likeliest losers to global warming are much poorer countries. Of larger countries, it has long been accepted that the one facing the largest per capita economic losses from warming is Bangladesh, with the central IPCC forecast rising to an annual loss of 20% of GDP, which is nearly $20 billion per year. But that is money for very poor people compared to the richer people who lose less. How do we weigh such things?

Frankly, in my own view, I would take more seriously this last number than the back-of-envelope number I provided above that comes from assuming $14/ton of benefit and multiplying it by the roughly 5 billion annual average tons of optimistically estimated emissions reductions from M-W (which itself is a moving target, moving in the direction of both reducing its benefits, but also reducing its costs so as to get it passed).

However, Yglesias is right on one score. If we do nothing, nothing will be done, or not much more than has been done so far.

Posted by: Barkley Rosser at May 17, 2009 3:54:52 PM

"oh slocum. Come on. Ethanol isn't driven by greenhouse politics..."

Oh, of course it is -- HT to The Volokh Conspiracy for this item:

> "Today, House Agriculture Committee Chairman Collin Peterson (MN) and Ranking Member Frank Lucas (OK) along with a bipartisan group of 42 Members of Congress introduced a bill to correct flawed provisions in the Renewable Fuel Standard (RFS) that are limiting the potential for clean, homegrown renewable biofuels to meet our nation's energy needs. . .The bill eliminates the requirement that the Environmental Protection Agency consider indirect land use when calculating the greenhouse gas emissions associated with advanced biofuels."

As soon as we legislate away those inconvenient indirect effects, 'reductions' in emissions will be so much easier.

Posted by: Slocum at May 17, 2009 4:46:09 PM

Here's a game theory rationale for a cap&trade scheme:

1. Our biggest economic competitors (Europe and Japan) are investing in "green technologies" with government support.

2. We do not know if "green technologies" will be economically crucial in the future.

3. Changes in the relative strengths of economies are likely to hurt those economies that are currently on top (specifically, the U.S.).

4. To avoid the chance that the US economy might be leapfrogged by foreigners with new green technology, the US government should even the playing field by matching foreign governments' investments in green technoilogies. Conversely, governments of

poor countries who would be helped by churn in relative strengths of economies should take the opposite approach and divert investment away from green energy and towards less crowded or more proven markets.

Posted by: dolo at May 17, 2009 7:10:25 PM

dolo suggests:
To avoid the chance that the US economy might be leapfrogged by foreigners with new green technology, the US government should even the playing field by matching foreign governments' investments in green technologies.
That might be the correct approach if the goal is to keep the US on top of some economic niche.
But if the goal is to be able to create less-polluting energy sources, or to learn how to manipulate the climate, then the US should see what Europe is doing **and then do something else** thus maximizing the amount of invention and societal good.

Posted by: Robert Ayers at May 17, 2009 8:00:54 PM

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