Eric Biber posted last week about the proposal from several heavyweight Republicans for a carbon tax, outlined in a Wall Street Journal op-ed. Much has been said about the merits and problems of a carbon tax, including on this blog, so I will try not to repeat those points here. However, I wanted to expand on Eric's analysis of a couple key points, and add some speculation on the politics surrounding the issue.

At first glance, this proposal should be a source of hope in an otherwise bleak time for the future of climate change mitigation. However, these are not the first (nor surely will they be the last) conservatives to tout the virtues of a carbon tax. In fact, the idea has become somewhat of a refrain for businesses and Republicans who want to seem moderate on climate change as an issue. It allows them to admit climate change is a problem without calling for more of what they loathe: regulation. There seems to also be a bit of bait-and-switch going on. This stance allows them to oppose any climate change policy that isn't a carbon tax, supposedly because that is the most economically efficient solution. At the same time, they don't need to worry about anyone calling their bluff and actually enacting it because they've hitched their horse to a policy antithetical to most Republicans: more taxes. It's disingenuous to claim to recognize the urgency of climate change and simultaneously hold that the only acceptable solution is a carbon tax given that, as Brad Plumer recently noted, every GOP member of the House voted against such a policy only last June. So, the only climate change policy that could ever be acceptable to conservatives is a carbon tax, but all conservatives in office have already rejected the idea. Convenient, no?

My qualms with the proposal come from the policy itself, too, however. As described by Eric, the strategy has four "pillars": a carbon tax, a "carbon dividend," a border adjustment, and a roll back of every other limit on carbon. Shultz and Baker claim that such a policy package could produce "larger reductions in greenhouse-gas emissions than all of President Obama's climate policies." But accurately setting the price of carbon to induce reductions is notoriously difficult, and there is a wide range of estimated societal costs per ton of carbon. Furthermore, apart from economic models, some evidence actually show carbon taxes to be less effective at reducing carbon emissions than traditional regulation. The Canadian province of British Columbia instituted a carbon tax in 2007, which has since increased to $30 per ton (about US$23 per ton). Yet the policy that will result in the highest reduction in carbon emissions by 2020 is actually Ontario's ban on coal-fired power. That policy will reduce annual emissions by about 25 megatons, while the carbon tax will

only reduce annual emissions by about 3-5 megatons. In fact, there are several traditional regulations making a larger dent in Canada's emissions than the carbon tax.

True, the Shultz and Baker proposal calls for a starting tax almost twice as high as the British Columbia tax. But even if that doubles the impact, it's still not enough. Which brings us to the most glaring problem with this proposal, pillar number four: *eliminating all of EPA authority over carbon emissions*. Shultz and Baker claim that the carbon tax would make such regulatory authority irrelevant or redundant. But our previous experiences in stimulating large-scale technological transformations beg to differ.

As my colleague Sean Hecht explained in his post on the subject, we recently filed an amicus brief in the D.C. Circuit documenting the greater efficacy of setting performance standards for industries compared to financial incentives alone when seeking to encourage uptake of new technologies. Here is an excerpt from that post providing the main argument:

> [Our clients'] research demonstrates that regulation that requires plants to meet stringent emission control standards drives much of the technological innovation and use of cutting-edge technology in the pollution control sector. It also demonstrates that as a technology matures and becomes available for implementation, the cost of implementing the technology decreases, and the cost continues to decrease with further commercial application over time.

The dynamics of technological innovation and commercialization counsel in favor of both financial incentives *and* required performance standards. The U.S. tried for over a decade to reduce smog pollution purely through financial mechanisms (tax credits, research funding, etc.), but polluting entities had no incentive to invest in expensive pollution control technology as long as they could still sell their product for a profit without doing so. Yes, fossil fuel producers will pay a tax on their product, but they are then free to pass that cost on to the consumer, who in turn recovers that cost from the dividend. Which party in this equation has an incentive to stop using fossil fuels?

The realities of technological innovation also point to the potentially regressive

nature of a carbon tax, particularly in its application to the transportation sector. British Columbia's carbon tax increased the cost of gas there by the equivalent of about US$0.16 per gallon. Again, even recognizing that the tax proposed by Schultz and Baker would be higher, it would only be about double. To be generous, let's imagine that the carbon tax increased gas prices by $0.50 per gallon. Would this be enough to change consumer's driving habits at all? Definitely. Would this be enough to convince someone to ditch their conventional car for a $40,000 electric car and a $2,000 charging station? I doubt it. At least, not most middle- and working-class Americans. So we find ourselves in somewhat of a catch-22: technologies generally get cheaper as they diffuse through the market, but most Americans can't afford electric cars, and the cars won't get cheaper until more people buy them…. Here is where a regulation would step in. (Case in point: California regulations have succeeded in increasing the production of and thus decreasing the cost of electric cars already.)

Which brings me to Eric's first point, and the possibly grim implications of that fourth pillar: exactly which regulations count as falling under "EPA's authority over carbon emissions"? The answer to that question would determine the extent to which a carbon tax could successfully reduce emissions. The level of taxation that would prompt Americans to voluntarily reduce their fossil fuel consumption by 85% would never gain popular or political support. By pairing a carbon tax with a complete elimination of EPA's authority to prod the economy past the 30-40% reduction mark, this policy would immobilize future policymakers and the nation.

As someone under thirty, the threats of climate change to disrupt daily life and economic stability are extremely real for me. If we are only looking for a way to modestly reduce emissions over the next fifteen years, then yes, the plan outlined by Mr. Shultz and Mr. Baker is a perfectly reasonable alternative to direct regulation. But the world will need to cut its greenhouse gas emissions to almost nothing by 2050 to avoid catastrophic shifts in climate, and that will require attacking the problem from all sides. Taking such a large category of policy options off the table, as Shultz and Baker suggest, is extremely short-sighted.