When Politics Constraints Carbon Pricing, Part 2: 6 Tips for Improving Climate Change Policy

Posted July 24, 2014 4 comments

Keywords: Cap-and-Trade, Carbon and De-carbonization, Climate, Environmental Policy, Environment, Energy, Energy and Economy, Energy Collective Exclusive, Politics & Legislation, cap and trade, carbon tax, climate policy, Full Spectrum

Posted by:

Jesse Jenkins

Posts Profile
Comments Follow

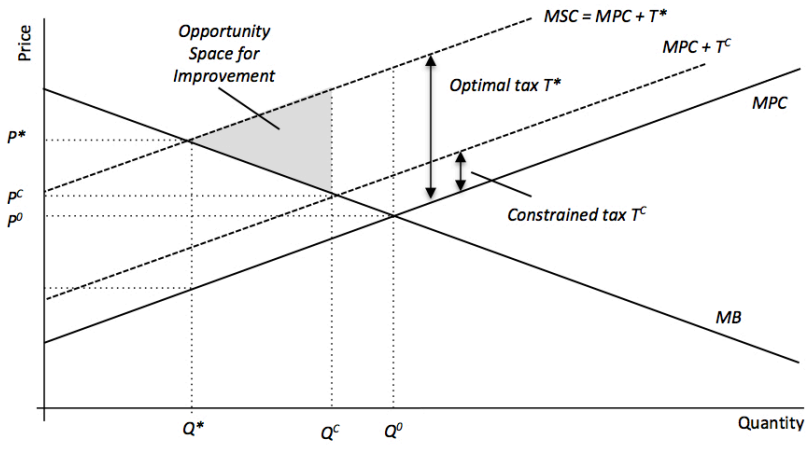
Summary:

- **Economists widely consider putting a price on carbon to be the ideal, "economically optimal" climate change policy. Unfortunately, real-world political constraints mean carbon pricing rarely lives up to this ideal.**
- **Careful attention to several political economy constraints on carbon pricing can yield improved policy designs and better environmental and economic outcomes.**

The repeal of Australia's carbon tax last week put the political obstacles to establishing a substantial price on carbon in stark relief. Yet the news from Canberra is just the most dramatic manifestation of a set of powerful political economy forces that can fundamentally constrain efforts to put a price on carbon, as I explained in Part 1 of this series (and detailed in a new paper published in the peer-reviewed journal *Energy Policy* here; email me for a copy).

Economists typically envision tackling climate change by putting a price on carbon equal to the cost of climate-related damages caused by CO2 emissions — also known as the "social cost of carbon." That's the "optimal tax" T^* in Fig. 4, from my paper, below. Typical estimates of the social cost of carbon range from roughly $15 to $150 per ton of CO_2 in 2012 dollars, with economists envisioning prices rising steadily each year.

Figure 4. Politically constrained carbon price and the opportunity space for improvement.



Source: Jenkins (2014). Click image to enlarge.

While pricing carbon sounds simple in theory, in the real world, several political economy constraints can prevent policy makers from enacting such a price, including: opposition of industrial sectors with a concentration of assets that would lose considerable value under such policies; the collective action nature of climate mitigation efforts; principal agent failures; and a low willingness-to-pay for climate mitigation by citizens (see Part 1).

Evidence on public support for climate policy in the United States indicates that political constraints might limit any carbon price to the range of just $2 to $8 per ton of CO_2. That's anywhere from 60 percent to two orders of magnitude below the full social cost of carbon!

In general then, efforts to price carbon will result in a politically constrained tax T^C well below T^*. This constrained carbon price can only reduce emissions to Q^C in the figure above. This constrained carbon price thus fails achieve the optimal equilibrium emissions level, Q^*, leading to excess CO2 emissions and remaining external damages that exceed the marginal social benefits (the shaded area in Fig. 4, equal to $Q^* - Q^C$).

In short, these political economy constraints mean that carbon pricing proposals don't work as planned and can't deliver either the economic efficiency or environmental efficacy envisioned by economists.

Fortunately, that's not the end of the story!

While simply trying to "put a price on carbon" is likely to fall far short, alternative policies may capture the "opportunity space for improvement" labeled in Fig. 4. That is, any policy that can achieve reductions in CO_2 emissions in the range Q^C to Q^* without imposing social costs in excess of the optimal social cost of carbon (equal to *MSC–MPC*) will be welfare-improving relative to both the absence of policy intervention (*P*, *Q*) and the implementation of a politically constrained carbon price (*PC*, *QC*). (A note to economists: this relates to the "general theory of the second best," as discussed in my paper).

Thus, while a classic "Pigouvian" carbon price may be "economically optimal" in theory, in real-world practice, there is a significant opportunity space to improve upon the constrained implementation of carbon pricing policies.

How to improve on a politically-constrained carbon price?

How are policy makers to capitalize on this opportunity space for improvement and pursue creative climate policy instruments with superior political feasibility, economic efficiency, and environmental efficacy relative to the constrained implementation of carbon pricing policies? My *Energy Policy* paper outlines several key implications for climate policy making in the face of political economy constraints…

First, we have to recognize that political economy considerations present an additional key constraint on the design and implementation of climate policies. Recognizing this constraint, policy makers should therefore strive to mitigate climate-related externalities while ensuring (1) that the policy is welfare-improving (i.e., the social costs of mitigating climate-related externalities do not exceed the social benefits) and (2) that the policy does not violate one or more political economy constraints (i.e., the private costs of mitigating climate-related externalities do not exceed the various political economy constraints on policy making). These political economy constraints may take multiple forms, including: limits on welfare losses for industrial constituencies with high asset specificity; limits on initial increases in household costs or in perceived price increases in particularly salient goods or services (e.g., gasoline

prices or heating or cooling bills); and/or limits in net increases in household costs after offsetting tax reforms, rebates or government expenditures. (We'd all benefit from further research exploring the operation of each of these potential constraints and the manner in which they may bind climate policy design as well).

Second, it's time for economists, climate advocates, and policymakers to get more creative. It's ok to compare a climate proposal to a perfect carbon tax in order to evaluate how close to the theoretical economic ideal the policy might get. But it's time to put aside a single-minded focus on carbon pricing as the "optimal" climate policy in the real world. Policies that improve economic welfare beyond the status quo without violating relevant political constraints should not be dismissed simply because they are not "economically optimal." Neither, in point of fact, are the politically constrained carbon pricing instruments most prevalent in the real world! In practice, there might be several policy measures that exhibit superior economic efficiency and environmental efficacy compared to both doing nothing *and* simply trying to implement a carbon price that will inevitably run right into binding political constraints.

Third, there's evidence that the choice of policy measure itself can affect consumer and industry support for climate policy measures. For example, MIT's Valarie Karplus explored how the visibility and distribution of the costs of complying with policy measures impact the way consumers and voters respond to energy policy proposals. For example, consumers pay for gas on a frequent basis and are well attuned to the fluctuations of prices at the pump, while they only infrequently purchase new vehicles and capital costs may be amortized over monthly payments. This difference in visibility helps explain the political durability of U.S. Corporate Average Fuel Economy (CAFE) standards for vehicle fuel efficiency relative to fuel taxes designed to provide market incentives to induce fuel efficiency. So while economists roundly prefer fuel taxes, which are much more economically efficient than fuel economy standards, consumers greatly favor CAFE regulations, even though they impose higher total costs for a given amount of benefit. Paying careful attention to the way voters and other constituents view the the costs of different policy measures is therefore essential. The choice of policy instrument itself may either relax or tighten political economy constraints, impacting the final economic efficiency and environmental performance of any policy proposal.

Fourth, policy makers should pay careful attention to industrial structure and related political economy dynamics. For example, trying to minimize energy cost increases resulting from climate policies, say by subsidizing low-carbon energy adoption rather than penalizing CO2-intensive fuels, could neutralize opposition from energy-intensive manufacturers who do not directly emit CO2 during production. Likewise, opportunities to expand markets for lower-carbon natural gas could win the gas sector to the side of policy action, undermining collective action within the oil and gas industry associations. Providing technology or transition assistance (and thus reducing asset specificity or providing compensation for lost asset value) to specific sectors may also neutralize or weaken industry opposition. Again, there are economic and political feasibility tradeoffs here, as policy makers try to balance the two constraints discussed above. At the same time, the ideal policy is unlikely to be one that ignores the political constraints arising from industry structure, and thus runs into fierce political resistance.

Fifth, policies that deliver near-term co-benefits salient to consumers and citizens could help reduce the temporal and geographic mismatch between climate mitigation costs incurred today and climate damage avoided in the future. For example, policies that can be credibly linked to public health co-benefits (which can be very large), energy security benefits, or economic development and employment benefits for key constituencies could improve public support for such policies.

Sixth, both the economic and political constraints on the optimal climate policy are not static, but rather change over time. That opens up temporal considerations for adaptive policy design. One clear opportunity is to reduce CO2 abatement costs through technological innovation. This can increase the amount of CO2 reductions at any given cost, effectively relaxing both the economic and political constraints. Another option is to try to strengthen industries that stand to benefit from climate policies (low-carbon technology sectors such as renewable or nuclear energy, energy efficient technologies, biofuels, etc.) before directly impacting incumbent industries. For example, clean energy deployment subsidies and innovation policies designed to effectively reduce the costs of low-carbon energy alternatives and build stronger political interests around clean energy sectors can potentially launch a self-reinforcing cycle: stronger industries and lower technology costs yield greater demand for low-carbon policy and lower compliance costs which in turn yields even stronger industries and lower costs, and so forth. At the same time, public campaigning that can raise support for climate policies in key constituencies can relax political constraints, although such campaigning must be pursued in a way that doesn't simultaneously increasing opposition in other constituencies (i.e. doesn't backfire).

Finally, and perhaps most importantly, the use of the *revenues* generated by a carbon price may ultimately be just as important as the level of carbon tax itself (if not more so). How revenues are used can dramatically impact both the political support for the carbon price itself *and* improve the environmental efficacy and economic efficiency of the policy. However, there is much more to say on this front, which I have to save for Part 3, which will conclude this series. Stay tuned on Monday…

» **Login or register now to comment!**

Popular

READ | COMMENTED | AUTHORS

Dismantling the Utility Model is the Fastest Path to a Cleaner Electricity Infrastructure
7/20/2014 by Thomas Conroy

Why Does Politics Keep Getting in the Way of Pricing Carbon? - Part 1
7/21/2014 by Jesse Jenkins

Why we Need CCS - Part 5: Bridge to a Sustainable Energy Future
7/22/2014 by Schalk Cloete

Daniel Yergin: US Oil Output Helping Avert Crisis
7/22/2014 by Edward Dodge

Global Ranking for Energy Efficiency: US Near Bottom, Germany Near Top
7/21/2014 by Katherine Tweed

WHAT'S NEW ON SustainableCitiesCollective

» Adaptive Reuse of Former Breweries Brings Charm Back to Baltimore Neighborhoods
» To Measure Summer Smog, Plant an Ozone Garden
» Michigan Market Serves Neighborhood with Incubator Kitchen, Indoor Market, and Online Food Hub
» A City's Shared Gardens
» How the 'Six Californias' Plan Threatens California's Transportation Future
» Montreal, Quebec Welcomes Its First Parklet

Advisory Panel

About the panel

Scott Edward Anderson is a consultant, blogger, and media commentator who blogs at The Green Skeptic. **More »**

Christine Hertzog is a consultant, author, and a professional explainer focused on Smart Grid. **More »**

Elias Hinckley is a strategic advisor on energy finance and energy policy to investors, energy companies and governments **More »**

Authored by: *Connect:*

Jesse Jenkins

Jesse Jenkins is a PhD student and researcher at the Massachusetts Institute of Technology. At MIT, Jesse works as a researcher with the "Utility of the Future" project and is an MIT Energy Initiative Energy Fellow and a National Science Foundation Graduate Research Fellow. He earned an M.S. in Technology & Policy from MIT in June 2014.

Jesse has also been a Digital Strategy Consultant at ...

See complete profile

Would you like to contribute to this site? Get started »

Other Posts by Jesse Jenkins

Why Does Politics Keep Getting in the Way of Pricing Carbon? - Part 1 - July 21, 2014

Who Will Build Tomorrow's Grid? The Energy Collective's Webinar & #EnergyChat - June 23, 2014

The Energy Collective Analyzes EPA's Power Plant Carbon Regulations [VIDEO] - June 6, 2014

Paying Too Much for Demand Response? DC Circuit Court Throws Out FERC Rule - May 29, 2014

IPCC: "Rebound Effects Cannot Be Ignored" - May 21, 2014

Related Posts

Prepare for High Energy Growth, Climate Experts Warn
July 26, 2014 by MichaelShellenberger

More Evidence Global Surface Temperatures Poised To Rise Rapidly
July 26, 2014 by JosephRomm

Change In Antarctic Sea Ice Trend Not So Extreme, Study Finds
July 25, 2014 by JosephRomm

What We Don't Know About Economic Climate Change Impacts
July 24, 2014 by MaxAuffhammer

Building Climate-Resilient Communities with State Revolving Funds
July 24, 2014 by nrdcswitchboard

Login now to comment!» **Already a member?**

Register to comment!» **Not a member?**

July 26, 2014

Like it? 8

Marchant Wentworth says:

Mr. Jenkins: Thank you for your insightful Part II. While there are a number of points to take to heart in the piece, the one that rang my bell was the need to get creative.

It is now clear that there is a complete breakdown in representative government in the House -- whatever the design of a tax or some version thereof there is no willingness on the part of the political leadership to act. The nine year fight to renew the Clean Air Act was finally ended by George the senior to craft a compromise that was expanded by Reps. Dingell, Waxman and Boehlert hammered through the House and Senaite. Similar dynamics do not now exist and may not for some time to support an effort of any kind. Even the most mild of energy efficiency bills was caught in the political crossfire in the Senate. Public opinion is clearly in favor of some kind of action, but because of the relatively abstract and perceived remoteness of the threat, it has not approached the level that might endanger members jobs and the traditional issue-oriented campaigns are not working in this non-representative atmosphere. This is compounded by the difficulty of finding a clear path towards reducing emissions from China and India.

Gary Hunt Gary is an Executive-in-Residence at Deloitte Investments with extensive experience in the energy & utility industries. **More »**

Jesse Jenkins is a graduate student and researcher at MIT with expertise in energy technology, policy, and innovation. **More »**

Kelly Klima is a Research Scientist at the Department of Engineering and Public Policy of Carnegie Mellon University. **More »**

Jim Pierobon helps trade associations/NGOs, government agencies and companies communicate about cleaner energy solutions. **More »**

Geoffrey Styles is Managing Director of GSW Strategy Group, LLC and an award-winning blogger. **More »**

The Energy Collective webcast archive

Who Will Build Tomorrow's Grid? Smart Grid & the Expertise Challenge [Webcast Recording]

Hydro and Ocean Power: Untapped Renewable Resources? [WEBCAST]

Germany's Clean Energy Push: What Can the World Learn? Webcast Recording

Webinar Replay: Gone With The Wind? Understanding Grid Resiliency

Webinar Replay: Can Shale Gas Global?

Webinar Replay: Energy Policy in the 113th Congress - A Look Ahead

Featured Contributors

YOU
Scott Edward Anderson
Barry Brook
Dick DeBlasio
Big Gav
Kirsty Gogan
Lou Grinzo
Christine Hertzog
Gary Hunt
Sonita Lontoh
Jesse Parent
Vicky Portwain
Joseph Romm
Robert Stowe
Alex Trembath
Dan Yurman
Rod Adams
Charles Barton
Steven Cohen
Simon Donner
Michael Giberson
James Greenberger
Tyler Hamilton
David Hone
Jesse Jenkins
Rebecca Lutzy
Jim Pierobon
Tom Raftery
Robert Stavins
Geoffrey Styles
Gernot Wagner

Events

No events listed

Add your own!

All of this tends to lead me towards the need for new creative solutions for this unique, but maybe longlasting political girdlock. Lacking federal legislation, the states can and have taken action. Regulatory approaches in the Administration's carbon rules could yield some reductions. But this dire situation calls for innovation and change of a magnitude that is hard to grapple with. Mr. Jenkins call for creative solutions is a mighty understatement.

Share this comment:

» **Login or register now to comment!**

July 24, 2014

Like it? 17

Joris van Dorp says:

Thanks for this Jesse, I'm looking forward to part 3.

You've clearly defined several strategies/tactics which can already be seen in the way climate policies are being designed and deployed, at least in my country and others. For example, the practice of designing subsidy regimes in such a way that individual households (= voters) become owners of RE systems (rooftop solar in particular) is believed by some to increase the likelyhood that these subsidy regimes will survive political opposition going forward. In essence, rooftop solar owning voters are 'trapped' in a situation where it becomes their own best interest to support continued subsidies even when the cost of the subsidies is becoming a serious economic headwind for their country.

Personally, I don't believe such strategies are going to work in the long term. Germany is the test case. While hundreds of billions of subsidy are committed to rooftop solar, only a small fraction of the German population is benefitting from that. This fraction of the population is too little to credibly keep sustaining the subsidy system politically. Indeed, it is clear that the subsidies will be reduced or eliminated well before PV deployments targets are met. Already, investment in solar PV in Germany has taken a nosedive due to the reduced subsidies.

The German strategy included another interesting tactic that can be used to influence the public in doing things that harm them financially. Officially, the tens of billions of euro's pumped into subsidising PV each year ***are not called a subsidy!*** In a brilliant application of Orwellian double-speak, the German PV subsidies are officially called a 'surcharge and compensation' scheme. Because the billions needed to pay for solar PV deployment is not taken from public funds, but are removed directly from the purse of German citizens through their electric bills, technically this cannot be called a subsidy. I noticed a few months ago that even the (rather respectable) Fraunhofer Institute has embraced this Orwellian wordgame in order to proclaim that solar PV in German ***does not*** recieve subsidies, while fossil and nuclear power ***do recieve*** subsidy. You can find Fraunhofer explaining the details of this propaganda move here:

http://www.ise.fraunhofer.de/en/publications/veroeffentlichungen-pdf-dateien-en/studien-und-konzeptpapiere/recent-facts-about-photovoltaics-in-germany.pdf

(Page 22 onwards)

In my opinion, these are all brilliant tactics which have certainly helped fool millions of Germans into thinking that PV can compete without subsidies. Due to their misunderstanding, solar power deployment policy has probably been far more effective than political economists might have expected from mere political economy constraint considerations. The key ingredient at work here is the fostering of illusion in order to manipulate people into harming themselves financially, even while thinking they are helping themselves. What I wonder is how long this illusion will be believed. Not very long I think, because German people are not particularly stupid or gullible generally.

Share this comment:

» **Login or register now to comment!**

July 25, 2014

Like it? 13

Nathan Wilson says:

There is one other risky strategy that Germany is using to help sell their renewable program: the nuclear phaseout. People love blaming a scapegoat for their problems, and nuclear's low operating cost means it has few works/voters who depend on it for a living. It is unfortunate that they choose to phase-out nuclear before phasing-out fossil fuels, because this strategy makes it very difficult to actually lower CO2 emissions, in spite of large deployments of renewables.

Share this comment:

» **Login** or **register** now to comment!

July 24, 2014

Like it? 14

Jesse Jenkins says:

Thanks for following the series Joris.

Share this comment:

» **Login** or **register** now to comment!

Please note: Your first comment as a registered user will be held for moderation up to 24 hours (usually less). For more information about comments on our site, please read our **FAQ** and **terms of use**.

Climate Change
Energy Innovation
Energy Storage
Renewable Energy
Energy Efficiency
Energy Risk
Smart Grid
Cleantech
Social Media & Energy
Nuclear Energy
Fukushima