This is the third in a series of posts. The first post is <u>here</u>. The second post is <u>here</u>.

How might sequencing work in climate policy? And why is it important? I'll explore these questions by walking through the most important stage of climate policy – initiating action on climate change.

The initial steps of climate policy are in some ways the hardest – there are no strong interest groups to support climate policy, but climate policy does pose a potential threat to entrenched and powerful incumbent interest groups. Given this dynamic, initial climate policy should generally emphasize political economy – building up new interest groups, and converting existing interest groups, to provide support for future policy gains down the road. Prioritizing the goal of building political support for climate change is essential because, without political support, there is no chance of enacting climate policy.

How might we go about building up new interest groups in climate policy? The key here is to drive long-term investments in clean energy technology. Actors who make those kinds of investments will want to protect them, and increase their value, by supporting climate policy.

How do we drive those investments? One of the best approaches will be through subsidies targeted to specific economic sectors. Encouraging large-scale investments can require significant public funds. Spreading those funds widely is unlikely to drive the kinds of major investments needed to shift interest group perspectives – thus subsidies targeted to specific sectors are essential. Sectoral policies can also allow tailoring to the specific needs of particular industries and technologies. And the policy tools will necessarily have to be non-market ones. It is simply not politically feasible to impose the level of carbon prices, especially economy-wide ones, required to drive these kinds of investments.

Subsidy-driven investments have another benefit, besides growing interest group support – they also can advance innovation and deployment of clean energy technologies, which in turn can drive down the cost of those technologies, which in turn makes it much more politically feasible to push for greater reductions in carbon emissions. Indeed, we have seen enormous drops in the costs of <u>solar, wind</u>, and <u>battery</u> technologies because of subsidies and regulatory efforts to drive investment in these fields.

The result of this political-economy focused approach on driving investments and innovation can be a "green spiral" (a term coined by <u>political scientist Nina Kelsey</u>) in which the growth of clean energy industry provides more political support for more ambitious climate policy which in turn grows the clean energy industry further.

There are limits to this initial step of sequencing, and understanding those limits helps emphasize the importance of sequencing to climate policy. Subsidies are costly, especially as interest groups grow and clean energy technology deployment increases. Those costs may become increasingly difficult to bear - emphasizing how subsidies are generally not an economically efficient tool, at least in the short-term. And those costs may have political consequences, particularly because those costs may produce inequitable economic impacts. For instance, subsidies that grow the electric vehicle market are advancing political economy goals as well as technological innovation. But because, in the early stages of developing electric vehicles, the costs of those vehicles arebe high, the subsidies will generally redound to the benefit of higher income purchasers, even as the taxes that support those subsidies come from taxpayers as a whole. Subsidies may thus have significant regressive income impacts - and as subsidies scale up, the equity impacts of subsidies may become less politically feasible (as well as become more problematic on their own merits). Eventually, policymakers will need to switch to a different policy mix perhaps imposing income constraints on the subsidies, which reduce the political economy and technological innovation benefits of subsidies but making them more equitable, or perhaps by switching to more market-based approaches. The specifics of sequencing will vary by context, but the need for sequencing remains.