

There are some obvious advantages to top-down climate policy, whereby a uniform global climate policy is adopted at the global level and then seamlessly implemented by nations, or whereby a similar process takes place at the national level. Of course, this top-down model requires first global agreement on a uniform policy and then effective implementation, both of which are very difficult. Moreover, even if we were in a position to take this route, it has some drawbacks. Global policies may be untested when they are adopted, leaving great uncertainty about their effectiveness. Global (or even national) harmony could be short-lived, leading to policy reversals.

Bottom-up policies lack the coherence and universality of top-down policies. But they may have other benefits. They may allow for a greater degree of policy experimentation and regulatory learning. While offering less coherence and uniformity than global policies, fragmentation of climate governance could also increase policy robustness. The election of Donald Trump in the United States is only one example of how political shifts can lead to sharp changes in direction. Policy fragmentation can limit the impact of these policies and lead to reversals.

### **Policy Experimentation**

Early adopters of climate policies provide tests of policy effectiveness and the opportunity to learn from policy flaws, just as early adopters of new technology allow companies to perfect their products by seeing how they operate in public use. It is tempting to think that policies like emissions trading are well understood and not in need of such experimentation, but experience shows that designing a well-functioning cap-and-trade system is no easy matter.

Different jurisdictions have used different policy tools to address climate change. Some have adopted emissions trading schemes, while others have adopted carbon taxes. Still others use various other policy instruments such as subsidies, tax benefits, or regulations aimed at particular industries. To encourage the use of renewable energy, some jurisdictions use feed-in tariffs, whereby electrical utilities and direct purchasers are required to buy as much renewable energy as is offered at a fixed price. Others use renewable portfolio standards, under which utilities are required to purchase at least a certain percentage of their electricity from renewable sources.

If the United States had gone straight to a national policy, that might have been a huge success. But it might not have worked so well, or it might not have been as effective as alternative policies. Efforts by states to address climate issues provide a testing ground for

different policy approaches, which we would not have had if policy had been top-down from Washington.

### **Decentralization and Policy Robustness**

Early acting jurisdictions can also lower the cost of further reducing emissions by fostering technological innovation, which then decreases mitigation costs for others. Indeed, there may be policy advantages to local over larger-scale adoption of technology policies, in part because localized efforts may be more diverse and may more effectively avoid the risks of picking the wrong technology. Local mitigation efforts may also take advantage of the potential for local geographic clusters to foster innovation;; improved technology can then lower the cost of mitigation in other jurisdictions.

Mitigation can also change the political dynamics facing policymakers. As Eric Biber has pointed out, mitigation policies can create a set of political supporters in the clean energy industry, thereby reducing the likelihood of backsliding. And simply put, if there are more jurisdictions taking action on climate changes, the odds are less that they will all simultaneously backpedal than that a single, larger jurisdiction will do so.

My next post will discuss whether bottom-up efforts further the development of a global climate regime or undermine it. The final post will talk about how to conceptualize the new climate regime.