It is difficult to measure the extent of positive feedback between climate initiatives. But it seems evident that such feedback does exist. A major climate initiative in one jurisdiction seems to encourage climate action elsewhere. This makes climate action a more appealing prospect for any individual jurisdiction, because by acting it can increase climate actions elsewhere. But at some point, it's also going to be important to have a globe-wide effort to coordinate efforts and to put pressure on holdouts. Does bottom-up effort reduce or increase the barriers to a global regime? That's the subject of this post, the third in a series of Monday posts.

If we think about the barriers to creating and implementing a global scheme to reduce carbon sharply, several stand out. There is the temptation to shirk on the effort, promising to do a lot while really doing very little. There is an obvious possibility of free riding, To the extent that reducing emissions is expensive, a country can obtain the benefits of reduced global warming without the costs if it can stand aside while others make cuts. Moreover, it may be difficult to know what effort fan reasonably be expected from a country, on what time table, given differences between countries. Correspondingly, it may be hard to know whether a country is actually pursuing good faith effort or whether it is shirking. Finally, given the risks of free-riding and shirking, there is an obvious problem of trust. Countries may be reluctant to enter into or comply with global emission cuts without some ability to trust other countries to do the same. Bottom-up approaches can help in several ways to ease the way to global action by lowering these barriers, reducing the appeal of free-riding.

First, the risk of free riding goes down as its benefits decline, meaning that decreasing the costs of emission cuts also reduces the incentive to free ride. Bottom-up approaches can reduce the temptation to free ride. As technologies are perfected and brought to scale, the cost of emission cuts should decline. Moreover, if countries take incremental actions forward, the cost of prospective cuts is lower than it would be if they had to make radical cuts in a single leap. By reducing the costs countries incur by making future commitments, these effects make free-riding less likely.

Second, bottom-up action provides evidence about the costs and benefits of very emissions reduction strategies in varying circumstances. This evidence helps limit shirking, because other countries have a better sense of available emission reduction strategies and the reductions that can expected to follow. In addition, experience with monitoring techniques can also grow. Better information translates into less scope for shirking.

Third, bottom-up measures lend themselves to confidence building between jurisdictions. As jurisdictions see each other making and meeting commitments, they can gain assurance that those countries can be trusted to keep further commitments. In turn, this makes them more likely to keep their own commitments, which in turn can make other jurisdictions more likely to keep their own commitments and to enter into new ones.

Feedback mechanisms depend critically on the availability and reliability of information. It's also important not to think in terms of jurisdictions acting on their own. Networks of jurisdictions can play a crucial role in further transparency and information transmission, involving information of all kinds: information regarding a jurisdiction's commitments, its implementation, improvements in regulatory methods and emission reduction technologies, and information about actual emission levels.

Such networks are widespread, sometimes taking advantage of side events at the annual UNFCCC conferences of the parties as opportunities to organize and exchange information. The Paris Agreement is well designed to serve as an information network. It creates transparency about national commitments while imposing monitoring and reporting requirements that make actual performance more transparent. Thus, if it functions effectively, it could both synergize bottom-up efforts and foster the kind of feedback needed to move toward a global climate regime.

In short, although there's no way of being certain, it seems likely that bottom-up action will actually improve the chances of an eventual global climate regime, rather than undermining it.