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What is the role of COP21 on carbon pricing?

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In recent weeks, many actors have called for 'carbon pricing' to be a key part of the global response to climate change. These calls range from those who call for carbon pricing to be generally recognised as a key policy tool to reduce emissions in each country's domestic policy mix, to those who call for a uniform global carbon pricing mechanism. This raises the question: what is the role of COP21 on carbon pricing?

Should we price carbon?

Carbon pricing is a necessary policy tool to tackle climate change. To keep global temperatures from rising above the 2°C limit, producers and consumers in the global economy will need to collectively shift from more emitting to less

emitting options. In developing and developed countries alike, relative prices are a key determinant of the CO₂-intensity of the economic choices of consumers, investors and technology developers alike. A strong carbon price can help by changing the balance of incentives towards less emitting alternatives for the price-sensitive decisions that these actors make.

A carbon price is also necessary because we cannot subsidise or directly regulate every single climate-relevant choice that millions of economic actors make every day. Direct regulation and subsidies can be very effective in certain cases. But many of our climate-relevant choices cannot easily be directly regulated without creating unwanted perverse incentives; while political economy considerations suggest that permanent subsidies cannot be a solution to supporting low-carbon alternatives.

Do we need a *uniform global carbon price*?

Whether carbon pricing is an important policy tool is one question. But a further question is: should we seek to implement a *uniform carbon price*, indeed a *uniform global carbon price*, as some have advocated? The answer to this question is clearly 'no' for both economic and political reasons.

A uniform carbon price within a single economy

Theoretically, a single carbon price within a single economy, across all emitting sectors, would allow emissions to be reduced where they are cheapest, entailing a 'cost-effective' approach. However, the reality is much more complex. There are numerous other 'market failures', which mean that some sectors are not responsive to carbon pricing. In those which are, notably industry and power production, the carbon price can serve to improve the risk/reward ratio of low-carbon investments, and send a strategic signal to business actors. In other sectors, a carbon price can help to improve the economics of the other policy instruments (regulatory standards, information for consumers, research and development in innovation) that are required to unlock reductions in these sectors. Here carbon pricing can reinforce, but not substitute for, complementary policy instruments. There is thus a wide and well established economic literature which strongly suggests that even within the framework of a single economy a uniform, economy-wide carbon price is not sufficient. A mix of policy instruments is required.

The economics of a uniform global carbon price

The theory holds for the global level as for the national level: a global carbon price would reduce emissions where it is cheapest. However, the section above suggests that the claims for the economic cost-effectiveness of a global carbon price are wildly exaggerated by this highly stylised vision of how climate change mitigation actually works. Firstly, some high-emitting activities are not as responsive to prices as they could be because other barriers stand in the way. For example, large potentials for energy efficiency by energy consumers in their homes are by themselves proof that prices are not enough to optimise energy consumption. Other 'non-price' barriers, like human laziness, lack of information, the force of habit, split incentives between landlords and tenants, lack of access to credit, matter and are often better addressed by regulation or other kinds of incentives. Similarly, a key issue for capital intensive investments in low-carbon technologies (such as wind, solar PV, CCS, nuclear, etc.) is not just the level of the carbon price but also the riskiness of that price. Thus complementary risk-mitigation policies, such as feed-in-tariffs, long-term contracting or contracts for difference may be necessary in addition to carbon pricing, depending on the design of the market in question.

But perhaps most importantly, the uniform global price argument tends to paint a static picture of cost effectiveness. In particular, it implicitly assumes that the costs of individual emissions reduction decisions are independent of each other. This is a crucial but flawed assumption in virtually all major emitting sectors. Perhaps the most significant single example of this is the mass roll-out of new infrastructure in the developing world. These infrastructure

choices—which are often taken by governments rather than markets—will fundamentally shape the energy consumption choices that people in these countries have for decades to come. Will the development of roads and urban planning mean that people are locked-in to using oil-burning cars to travel everywhere? Or will people travel less, use a higher share of public transport, and start to develop electric car usage where cars are necessary? Will they have well-insulated homes and live in near-zero-net-energy buildings? Or will they be incentivised to consume large amounts of energy for home energy needs?

The implication of this is that a stronger effort today to avoid the lock-in of high carbon infrastructure is critical to making possible the rapid decarbonisation of our economies tomorrow that the science says is required. This would imply that making potentially more costly abatement choices today than would seem reasonable—based on prevailing carbon prices—can actually be very cost-effective in the longer term.

Advocates of uniform global carbon pricing therefore go too far when they suggest that carbon pricing is ‘the’ most cost effective way to reduce emissions by letting markets choose which abatement options are the least cost. Such considerations do not mean that carbon pricing is not important for economic efficiency—it still is, for the reasons outlined above. But we should think of carbon pricing less as a magic bullet and more as one important policy lever in the broader kit of national governments to tackle climate change cost-effectively.

The politics of a uniform global carbon price

But even where a uniform price may bring economic efficiency benefits, we need to confront the fact that it is also politically unrealistic to suppose that in the short to medium term, countries with very different levels of income/capita can agree to accept a common carbon price. Many countries would see this as inconsistent with the relative burden of responsibility for tackling climate change and not well adapted to their economic circumstances and institutional capacities.

Moreover, because countries with different levels of economic development have different levels of carbon intensity, a uniform global carbon price would be a regressive form of taxation. Arguments that revenues could be redistributed overlook the extreme political difficulty of large-scale transfers at the global level; let alone in a reasonably integrated political zone like the Eurozone.

Letting national governments implement their own carbon prices at different levels, and with different sectoral scopes and policy designs, is therefore likely to be a more pragmatic way to advance carbon pricing globally in the short to medium term.

Trade-exposed energy intensive industries: where more global cooperation is needed

However, one key area where a more global approach to carbon pricing would make sense would be in a small number of emissions intensive traded materials sectors like cement, steel, aluminium, refined petroleum products, chemicals, pulp and paper, glass and ceramics. In a small handful of such sectors, potential trade distortions for different carbon prices across regions are a persistent barrier to more ambitious national carbon prices. This could be addressed by increased policy coordination between countries in these sectors to gradually converge effective carbon prices at the border in different countries. This would have the advantage to minimise trade distortions and thus allow different countries the political space to set different carbon prices in line with differentiated responsibilities and economic circumstances.

What role for COP21?

The world operates with different prices for many goods and services—capital, exchange rates, labour, and so on. These prices respond to national economic conditions and also to international demand and supply conditions. The tensions that exist in international policy discussions around national exchange rates and monetary policy should give us pause for thought: coordination is hard, countries rightly want to keep sovereignty over key areas of national policy, but at the same time there are international spill-overs to domestic policy. There is no reason why things should be easier or the tension between sovereignty and coordination any weaker in the case of climate change and carbon pricing. In this context, what is the role of the COP21 with regard to carbon pricing?

It is undesirable and unrealistic for COP21 to establish a 'global carbon price'. This would not reflect the diversity of circumstances between countries, the need for tailored approaches to decarbonisation to reflect these circumstances, and the need for a comprehensive package of policies for decarbonisation. Aside from being substantively misguided, such calls also overestimate the capacity and willingness for such deep international policy coordination today.

COP21 should strengthen the international 'demand' for national carbon pricing. By creating assurances of the strength of the global response to climate change, COP21 can make implementing difficult carbon pricing reforms easier at the national level. The political battles are less if it can be clearly shown that other countries are moving in the same direction, and that there is a clear international call for countries to establish national carbon prices. The Paris Agreement could contain a recognition of the importance of the correct pricing of carbon at the national level, as a policy measure to decarbonize the economy, secure fiscal revenues that can be used for other social purposes, and remove distortions to the use of resources (such as fossil fuel subsidies).

COP21 could also signal the need for further coordination of carbon pricing mechanisms. This coordination can include technical capacity building, policy advice and experience sharing; greater transparency on effective carbon prices in major economies; and a gradual strengthening of coordination to prevent distortions in international markets for energy intensive, traded sectors. International organisations like the World Bank and OECD, and financial sector governance institutions can play a key role here. In this regard, an interesting call was made recently by Mark Carney, Governor of the Bank of England, for "... governments, potentially sparked by COP21, [to] complement [private sector financial carbon risk] disclosure by giving guidance on possible carbon price paths". A key role for COP21 would therefore be to send a signal that multiple institutions need to be involved in the tough work of helping governments establish effective carbon pricing mechanisms at the national level, articulating them intelligently alongside complementary policies, ensuring their transparency, sharing lessons learned and best practices.