

'Business models should factor in the social cost of carbon now – this is the monetary value of damages caused by emitting one ton of CO2'

James H. Stock teaches political economy and is Vice Provost for climate and sustainability at Harvard University. Speaking to **Srijana Mitra Das**, he discusses the emergence of carbon taxes:



Q. What is the core of your research?

A. My work focuses on the energy transition, especially in the US. I've recently looked at the transportation sector

which includes studying biofuels and electric vehicles (EVs). I also work on the social cost of carbon and macro-economic issues associated with the transition to low-carbon fuels.



Q. What are the most important evolutions occurring in US climate policy?

A. For many years, this had three key features — a technology policy aspect which drives new tech, a tax credit or subsidy component and attempts at carbon pricing, which have been at a regional level but are an important feature of American policy. The big evolution happening now is that wind, solar and EVs are becoming a lot less expensive — wind and solar are actually cheaper than natural gas and coal in certain regions while EVs are approaching price parity for internal combustion engines. This means the effectiveness of a carbon pricing policy is less than before. So, what's expected now is a combination of tax credits to keep driving technology policy.

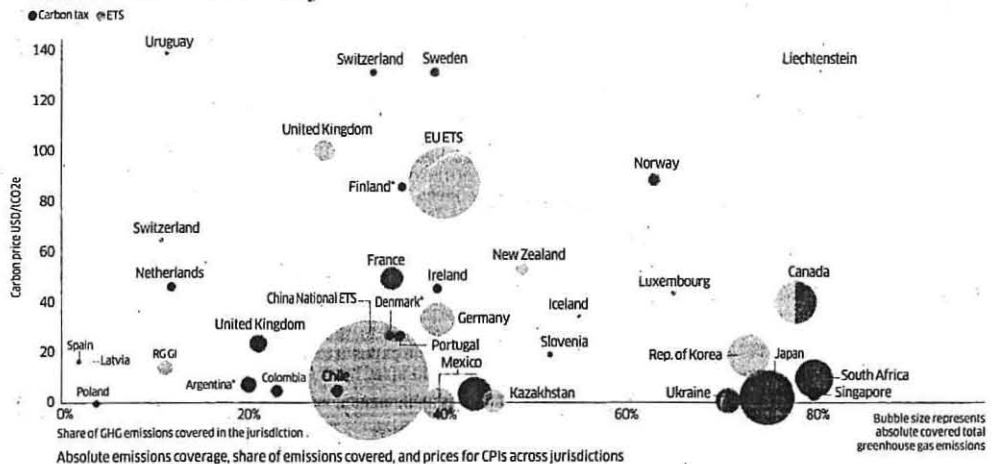
Q. What is meant by 'the social cost of carbon' measurement?

A. This means estimating the monetary value of the damages caused by emitting one ton of carbon. Emitting carbon causes damages both today and in the future. The present-day monetary value of these is the social cost of carbon, measuring how much of a burden you are imposing on current and future generations by emitting one ton of CO2 now.

Q. How can such a measure be factored into business models and policy?

A. There are several ways. In the US, policies need to pass a cost-benefit test.

Where We Are Already



Data Courtesy: The World Bank, 2022. 'State and Trends of Carbon Pricing 2022'. World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1895-0

An increasingly Heavy Price: Several countries around the world are now applying prices on carbon in the form of taxes and/or emissions trading systems (ETS) – these measures are encouraging proactive businesses to begin moving towards environmentally sustainable inputs and operations

Now, the social cost of carbon is measured in dollars per ton of CO2 emitted — currently, the estimate the US government is using is around \$190 per ton of CO2. So, if you have a policy that costs \$60 per ton, it passes such a cost-benefit test because you're paying less than the benefits you get. This idea is built into the US regulatory system, with many directives requiring passing a cost-benefit test. The social cost of carbon can become important here. The second way is that this mechanism allows firms to estimate an internal carbon price and then make decisions with an awareness of the implicit costs of some actions as opposed to others. A third way is by educating the public, business leaders, policy makers and civil society on how big the social costs of carbon really are — monetarily, at \$190 per ton, this is already a large sum to consider paying.

Q. Are there concerns in corporate America about this adversely affecting bottom lines when applied?

A. That varies company to company — some businesses recognise the imperative to achieve an energy transition now. They can also see that society

is actually embarking on this, driven by policy and inexpensive technologies. Those companies are welcoming the energy transition — General Motors (GM) is a wonderful example of a company which has completely changed itself from being focused on traditional internal combustion engines to embracing the EV revolution. I think this is partly because it's the right environmental move and it's also a business opportunity now, with companies realising how policy will reflect these costs.

Q. What are your findings on the macroeconomic impacts of carbon taxes?

A. We've studied countries engaged in the European emissions trading system, with some also applying a carbon tax covering transportation fuels — we've found very little macroeconomic effects on GDP or employment due to these taxes. These had no discernible signature on the macroeconomy at all. Emissions declined because of these taxes but if applied efficiently, they don't cause major job dislocations or economic losses.

We also did a similar study in the US which has a lot of variation on climate policy, some administrations being proactive about this and others not — here, we found reversals and uncertainties around climate policy were a drag on the economy. These cause industry to not make clean investments in time whereas

Our studies show that efficient carbon taxes don't cause economic losses – but uncertainties around climate policy are a drag on the economy

smart and predictable steps have no negative macroeconomic impacts.

Q. The Federal Reserve chair recently said its monetary policy won't take climate costs into account – what is your view on this?

A. The Fed has a dual mandate around inflation and employment and its horizon is a business cycle-comparable term of three to five years. We do see substantial impacts already with extreme weather events. Still, it could be a reasonable simplification to think that in a five-year cycle, these costs are small enough to not have to factor them in an explicit way into monetary policy. However, other induced costs are impacting the Fed's decisions — for example, we're seeing large shifts in the macroeconomy because of Russia's invasion of Ukraine. This is a very important part of the inflation story which the Fed is paying close attention to — in that sense, the Fed is certainly looking at the energy transition.

Views expressed are personal

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