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Learning from global experience: Creating carbon markets for India

Synopsis
Carbon markets are increasingly the instrument of choice when it comes to market-based solutions for reducing emissions.

As of April this year, there are 68 carbon pricing instruments (CPIs) operating in the world. These include 37 carbon taxes and 34 emissions trading systems (ETS) covering about 23% of global GHG emissions. Three more are scheduled for implementation. Global carbon pricing revenues increased by almost 60% in 2021, to around $84 billion. EU carbon permits are trading at Euro 85/ton CO2e as of 5 August 2022. China has the largest ETS in the world – three times the size of the EU carbon market, and traded carbon at $ 9.29/ton CO2e in April 2022.

Carbon markets are increasingly the instrument of choice when it comes to market-based solutions for reducing emissions. In this context, the government's proposed amendment to the Energy Conservation Act, the Bill was introduced in the Lok Sabha this week, to recognize greenhouse gas emissions is a welcome move. It opens the door for India to create a market to trade in greenhouse gas reductions.

But the 68 CPIs didn't come about overnight and without learnings. Here are five things we should keep in mind as a nation and learn from others:

One, countries first started trading in emission reductions in 2005; firms much earlier. The EU worked for two years to discuss, negotiate, and decide on initial carbon caps with almost 11,500 firms in EU in 2003 and then launched first phase of EU-ETS during 2005-2007. The Chinese ETS took 7 years to launch as a full-fledged national carbon market. It took 7 regional Chinese markets to demonstrate their ability to trade before the country integrated one year ago. In India, we could leverage our own Perform Achieve and Trade (PAT) system to do it more quickly, but there are differences. PAT is for fixing specific energy consumption targets for individual firms. Carbon ETS would require converting these into GHG emissions of scope 1 and scope 2. Second, PAT later cycles do not give specific SEC targets to many of those included in PAT-1 and PAT-2. Carbon ETS cannot leave any entity uncovered across any ETS cycle.

Two, understanding scope and coverage. There are other requirements such as defining carbon commodity to be traded very clearly in their scope (gases) and coverage (sectors and entities). We also need to discuss and decide whether India would like to provide absolute emission caps to entities or GHG intensity of their annual revenue. These must be aligned with India's nationally determined contributions (NDCs) on GHG/GDP as approved by the Union Cabinet this week. We also need to decide whether we would allocate any free allowances or entities must buy every emission entitlement they need through an auction. EU had started with allocating free allowances and then gradually moving to auctioning. The auction proceeds are used by EU for promoting green transitions.

Three, India has to think who would be allowed to trade. There could be individual emitters, business agglomerates, an industry association. The carbon market cannot be allowed to become an entry barrier for new firms. Trading principle have to be discussed with industry and decided before implementation, such as floor and ceiling carbon prices (Germany has put a floor price of Euro 60/ton recently), limits on trading volumes in real time, controlling carbon price volatility, retiring carbon against NDC commitments, banking of carbon across trading cycles, and how to handle carbon leakages (e.g., outsourcing activities that could transfer carbon from an entity). The 34 ETS across the world may be made fungible so that carbon credits could flow across them. This will provide larger market for Indian emission mitigation credits to flow across the world; global economic efficiency and a global carbon price could emerge.

Four, one of the important differences between PAT and carbon ETS would be the need for setting up a carbon registry for ETS in India. This is like a bank account where in all carbon mitigation would flow in or traded out. No carbon ETS is possible without creating a domestic carbon registry system. Any carbon earned must be linked with a robust monitoring, reporting and verification (MRV) system to authenticate every unit of carbon saved. India has to create a MRV system for carbon. We also have to establish an institutional structure, decide on compliance mechanism and penalty if any for non-compliance by entities. We need to discuss these on open platforms, learn from EU, China and others across the world who have established a carbon ETS.

A phased implementation would be reasonable – rather than a regional focus to start an ETS, Indian should take organizational focus. Some of the 15 Maharatna organizations could be requested to start an internal ETS amongst their plants. For instance, 23 coal based power plants of NTPC NSE 2.44 % could start a cap-and-trade system internally. NTPC decides on the targets for each through an internal transparent and consistent process, and creates systems for monitoring compliance. Similarly, the 8 plants of Steel Authority of India NSE 0.71 %, the 9 refineries of Indian Oil Corporation Limited, and all the zones and production units of Indian Railways could start their own internal carbon ETS. There could be just one carbon registry created for the entire country, to be used by each of the organizations. Trading would be done through this carbon registry platform internally within each organization. Once these organizational ETS systems are tested for some time, organizational boundaries could be diminished and consistent carbon caps be given by a national regulator across sectors and units. A carbon price will be discovered in each organization independently, which should be decent enough to attract building carbon mitigation options by individual plants. Funding for new projects could also be linked with their performance on carbon.

Five, we need to calculate carbon baseline emissions for each entity. This would require human resources that are able to do carbon accounting following accepted international practices, and third parties to audit these. It is high time that India creates a National GHG Inventory Management System (NIMS) that should be linked with all national GHG reporting requirements to UNFCCC, carbon registry, and all policies and measures to implement our NDCs. This would digitize our national carbon automatically in a bottom-up manner. Paris Agreement's Article 6.2 could also be easily linked with our NIMS.

India seems to be operating more through command and control route for environmental goals, while markets could also do a decent enough job if not better. In markets as well, the regulator decides the individual caps, so keeping market control with it. But the individual entities subsequently decide after their cap fixation whether to build or buy carbon

mitigation credits. This makes ETS more efficient. India should think of creating multiple environmental markets. ESCerts and REC NSE -0.04 % already exist, but a robust price discovery has not happened maybe due to their loose targets or weak compliance. It does not help anyone, neither the regulator nor those being regulated. The carbon and sulphur (FGD notifications exist anyway) markets could also be created simultaneously to provide more value to the entities. These markets should all exist together and independently to begin with. For instance, if ESCert prices are running very low now, converting this to carbon provides no certainty that its price would become high. Therefore, better to have fungibility at this stage through multiple markets coexisting. We could take a call after first round of testing.

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