

We are pleased to announce the release of a new UCLA Law Emmett Institute of Climate Change & Environment report on [*Emissions Trading in California: Lessons for China*](#). As many of you know, China launched trading for its national greenhouse gas (GHG) emissions trading system (ETS) in 2021. By volume of emissions, the Chinese system is the world's largest ETS. It covers more than 2,000 firms in China's electricity sector, accounting for about 4.5 GT of CO₂ emissions in 2020 or roughly 40% of China's overall emissions. The Energy Foundation China commissioned us to produce a report on California's experience in emissions trading for Chinese regulators and researchers as they consider the next stages of ETS design.

A great deal has been written about emissions trading. What does our report add to the discussion? I would highlight three contributions.

- First, we aim to introduce Chinese actors to global debates over the pros and cons of emissions trading.
- Second, we offer a detailed discussion of design elements and performance assessment of two major emissions trading systems in California: the RECLAIM system for NO_x and SO₂ pollution in the greater Los Angeles region, and California's state-wide GHG emissions trading system.
- Finally, we describe and assess the design of China's national carbon ETS in light of the lessons we draw from the California experience.

In our view, policy discussions about emissions trading have been dominated by two types of voices. On one side are enthusiastic supporters, who focus on the theoretical cost-efficiency advantages of market measures. On the other side are vociferous critics, who see market measures as something to be avoided.

We attempt to walk a delicate line in this report. We speak frankly about the California experience in emissions trading, which means highlighting problems as well as benefits. But our goal is to help strengthen emissions trading to allow it to play a useful role in climate policy as part of a broad portfolio of regulatory measures.

We also aim to make an honest assessment of the design of China's national carbon ETS at this early stage in its development, and to offer some preliminary suggestions for reform. In our experience, many people seem to misunderstand the design of the Chinese system. With our report, we hope to bring some transparency to a very complex regulatory program. It's important to understand that the ETS is currently set up as a tradable performance standard (TPS), which incentivizes greater efficiency but does not cap absolute emissions. We would prefer a cap-and-trade system, but also offer suggestions for strengthening the

existing rate-based TPS design. In particular, we continue to be troubled by the subsidy the ETS currently gives to efficient coal-fired power plants for every unit of power produced. In a period where coal needs to be phased out, such a subsidy is detrimental to long-term climate goals and should be phased out as soon as possible.

We agree with other assessments out there that the current design of the Chinese system will have a limited impact on power sector emissions and create little incentive for fuel switching to renewables. For very good modeling analysis on this, see two reports by the International Energy Agency (IEA) and Tsinghua University ([here](#) and [here](#)). Among their findings is the conclusion that the shift to a cap-and-trade system without auctioning (I would have liked to see a model with auctioning - i.e., fewer free allocations of allowances) would nearly double emissions reductions at no additional cost and incentivize a shift to renewable energy sources.

Note that we released another [report](#) on emissions trading last month in partnership with the California-China Climate Institute (CCCI), Tsinghua University, Wuhan University, and the Berggruen Institute. Tsinghua University and Wuhan University researchers produced a companion [report](#) for that project that provides valuable insight from China's ETS designers on the reasoning behind certain design choices, and their intention to explore a variety of reforms. Many of these possible reforms overlap with our reform suggestions and we fully support China's moving ahead on these improvements to their ETS.

See my previous [post](#) for more discussion of the CCCI, Tsinghua collaboration.

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