



# Putting China in Control of Its Carbon Emissions

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## The ICF Solution

ICF was appointed to lead the international technical assistance team (ITAT) of the EU-funded project 'Supporting the Design and Implementation of Emissions Trading Systems in China.' We developed a cost-effective program of ETS capacity and community-building activities, taking into account the current state of development of China's ETS, the identified challenges, the best ways to adapt lessons learned elsewhere in the world, and the need for inherent flexibility to respond to the government's way of working.

## The design and implementation of the first emissions trading systems for the world's largest CO2 emitter

### Summary

China required support to design and implement seven regional emissions trading system (ETS) pilots. ICF was tasked with leading the technical assistance project—the world's largest dedicated to emission trading. When priorities changed as the project progressed and the pilots needed to evolve and become the foundation of a unified national system, ICF expanded and adapted the approach. By advising decision makers on pivotal issues and introducing novel knowledge-sharing activities into our capacity building program, we helped establish standardized ETS building blocks transferable to the national scheme.

### The Challenge

Emissions trading is seen as the single most important policy tool in China to enable the fulfillment of its Paris Agreement pledges while maintaining growth and allowing the country to go through necessary industrial and economic reform. With the peaking of its of greenhouse gas (GHG) emissions by 2030 at the top of its climate change agenda, the government sought expert support for three years (2014-2017) to carry out pilot emissions trading programs in seven provinces and cities.

In developing our approach and technical proposal, we recognized that—among the many challenges of such a complex regional project in such a vast country—building trust at both local and central government levels was one of the most important.

Although very well-networked in China, our team had not worked closely with the decision- and policy-makers involved. We saw building trust as vital if China was to be persuaded to avoid the pitfalls of other systems and draw upon the most up-to-date lessons on ETS design.



We also needed to gain an in-depth understanding of the regions' different ways of working, priorities, and social-economic and industrial landscapes to ensure local ETS relevance and ownership.

Just as work on the regional project began, the Chinese government shared its intent to establish a national ETS based on the experience of the initial pilots. In one fell swoop, existing plans became outdated—and challenges mushroomed. ICF took decisive action, adapting plans to involve and mobilize the whole country rather than only the seven discrete pilot areas and addressing risks that the new national dimension introduced. We had to ensure that the various ETS models developed in the different pilot regions would not result in a lack of coordinated and transparent direction towards a unified national system. To prevent this, we advised the government to consider two critical elements: roadmaps and action plans.

A second risk involved another critical enabling factor for effective ETS: a sound monitoring, reporting, and verification (MRV) system. Any kind of ETS is, of course, only workable and credible when there is consistent data collection, quality assurance, and transparency across all participants. It is a particularly challenging task to develop a robust and appropriate MRV system that can work across a nation of China's size—containing the largest population and highest industrial output on earth.

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### Establishing the delivery model and trust

When the project's focus broadened to lay the foundations of the national ETS, we swiftly switched our strategy. We decided to use the seven pilot regions—which were more advanced in their knowledge and practices—not as detached entities, but as anchors around which to cluster neighboring areas to enable a learning effect. As part of this strategy to create a level playing field across China, we also evolved plans for regional training into centralized 'train the trainer' sessions in Beijing and Shanghai for stakeholders selected at the local level from every corner of the country.



Through these collaborative events, ICF and the Chinese government developed the requisite rapport to create critical roadmaps and action plans for streamlining the transition from regional pilots to a national ETS. As a result, the original plans evolved to accommodate this approach.

Our decision to appoint a liaison officer—employed at our own cost and nominated by the Chinese government—turned out to be one of the most important factors in allowing the relationship to flourish at the operational level. As an essential bridge between the two parties, the officer kept communication fluid and effective. The liaison officer played a significant role in encouraging the government to see ICF as an extension of its own team.

### Building capacity and connections

Our program of technical workshops and training materials, train-the-trainer sessions, peer-to-peer exchanges, and study visits involved national and local level authorities, research institutes, companies, and sectoral associations in China as well as a team of experts selected from eight European nations. The two primary objectives were: 1) to share European policy know-how and modeling practices and 2) to solve specific challenges related to ETS design in China. We recognized the need for a third objective: building strong, trusting bonds between participants that would outlast the project and create a community of international professionals willing to continue to share insights and ideas during the national phase.

This ambition meant that study visits designed to provide learning from European ETS best practices became something more. Over three weeks in Europe, participants traveled, worked, and socialized together without the distractions of their day jobs. We also introduced roundtables as a way of ensuring the project benefited from an open, sharing culture. Unusual in China, these senior-level discussions on everything from allowance allocation to market liquidity led to the development of impactful joint research papers, as well as fellowship.

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Similarly, the call for greater emphasis on the establishment of monitoring plans was heard and acknowledged. We devised an original training methodology based on storytelling, in which EU experts told of their own journeys from resistance to such plans to compliance, extrapolating lessons for their audience.

To underpin our consensus-building work, we instigated a comprehensive communications program leveraging social media, from WeChat to



LinkedIn. This served an invaluable purpose, providing a popular, informal means of sustaining the networks established in the project's first, regional phase.

ICF also produced 250 training materials, technical presentations, and papers over the project's three years and helped the regions create their own ETS knowledge management platforms. The idea was to incorporate these into a national platform over time to support institutional capacity and the establishment of China ETS communities of practice and technical working groups.

## Results

Our work on this project helped the world's largest emitter of greenhouse gases set out on the path from regional to nation-wide action—and gain greater control of its carbon emissions. Importantly for China, it is now in a position to develop what will be the world's largest ETS in a way that reflects its own characteristics and circumstances while also encompassing technical building blocks with similarities to the EU ETS design—ensuring it benefits from the latest learnings. Experiences from China will also be informative for other countries, with its national ETS a possible milestone to a global carbon market.

### ICF's contributions to the project helped China:

- **Accelerate the process of designing and implementing ETS** by building institutional capacity at national and provincial levels through activities reaching 2,000 private and public sector stakeholders. The trust between ICF and the government, together with the local networks we developed during the regional pilots, meant everyone could hit the ground running when the national phase of the project kicked off.
- **Launch seven effective regional carbon market pilots** in provinces and cities covering a total of more than 25% of the national GDP, making China the world's second-largest carbon market.
- **Improve the effectiveness of ETS allowance allocation** by presenting alternatives to older approaches that reward companies with high projected emissions based on historical data (which has the opposite effect of driving efficiency improvements). China is now exploring a benchmarking approach, which identifies and incentivizes companies that are succeeding in reducing their emissions and efficiency above a certain threshold and penalizes those below. Research groups are currently defining emission benchmarks for different industries, starting with the power sector.

“One of the big benefits of the project is that it established a way to support and enable open discussions between China and Europe. So that, rather than arriving with a fixed European recipe, we could—working together—adapt different ingredients to make it relevant to the local context.”

Renato Roldao, Consulting Director - Climate Change, ICF

- **Increase the chance of a coordinated, orderly transition to a national ETS** by ensuring the ETS building blocks applied in the regional pilots are compatible and by championing the importance of roadmaps and action plans, facilitating small-scale local action on this front. China has dedicated resources to decide how roadmaps and plans should look at the national level and is in the process of preparing and rolling out implementation plans nationwide.
- **Substantially increase the chances of high participation—and thus effectiveness—of the national ETS** by advocating and instigating the use of standardized IT-based monitoring, reporting, verification, and accreditation (MRVA). Each regional carbon market pilot established its own MRVA system and, while there are differences in rules and standards, they share the same overall structure and many of the same operational procedures. Building on insights gained from their operation, and sectoral guidelines and standards developed in the pilot project, China is in a position to create one unified MRVA system for its national carbon market. The country can thus make monitoring plans mandatory nationally from the outset, a key lesson learned from Europe.

In Europe, we learned that third party verification can play a significant role in establishing transparency and credibility for an MRVA system. Europe discovered the hard way that it is impossible for a regulator to verify the quality and veracity of all reports submitted by companies. China intends to create a large workforce of pre-accredited verifiers to overcome this challenge. To add to the robustness of the entire exercise, it is also considering enforceable penalties for non-compliance with reporting rules.

- **Appreciate the rules-based mechanism it could adopt to guarantee the stability of its ETS.** The salutary tale behind the EU’s ETS market stability reserve (MSR) system has persuaded China to consider an equivalent mechanism for the early stages of its national ETS. Europe did not anticipate the need for such a system on the launch of its ETS in 2005. This meant that, when the volume of allowances initially issued was greater than demand, there was nothing to be done but watch their value decrease at the end of the first phase of the ETS. The 2008 financial crisis then created another negative scenario that impacted the second and third phases of the EU ETS, as industrial output—and emissions—reduced. In response, Europe developed an MSR that launched in early 2019. It established rules to trigger the removal of a certain volume of allowance or the reintroduction of reserved allowances back into the system in situations of scarcity and oversupply.

### About ICF

ICF (NASDAQ:ICFI) is a global consulting services company with over 7,000 full- and part-time employees, but we are not your typical consultants. At ICF, business analysts and policy specialists work together with digital strategists, data scientists and creatives. We combine unmatched industry expertise with cutting-edge engagement capabilities to help organizations solve their most complex challenges. Since 1969, public and private sector clients have worked with ICF to navigate change and shape the future. Learn more at [icf.com](http://icf.com).

## The ICF Advantage

**Local expertise:** ICF's multi-national climate change team in China is well-networked with a deep understanding of the country's industrial and political landscape at national and provincial levels. We are determined to provide strategic technical assistance that ensures emission trading systems embed customized best practice.

**Global knowledge:** We have the largest climate change mitigation and adaptation practice in the world. Our community of ETS experts gain broad international exposure and networks, as well as experience in overcoming diverse challenges and adapting the latest thinking to different countries.

**Responsive approach:** We listen and learn about clients' priorities and challenges. We understand that these may change, remaining open and flexible and applying our know-how in original and creative ways to make sure that we take relevant action throughout and deliver the right results.

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