

COMMENTS ON GUANGDONG AND SHANGHAI DRAFT EMISSIONS TRADING REGULATIONS

September 2013

Shanghai and Guangdong both recently released draft regulations regarding their emissions trading pilots.¹ We congratulate the Shanghai and Guangdong authorities for moving ahead with emissions trading. The following comments on the draft regulations are based on the international experience with emissions trading and our understanding of the situation in China.²

1. Coverage of emissions

We recommend that the size threshold for covered enterprises³ should be based on a value that does not change easily (e.g., capacity or maximum potential emissions) and not total emissions (e.g., in the US RGGI case, the threshold is specified according to the capacity of power plants. Specifically, only power plants with capacity greater than 25MW are covered under the RGGI scheme.). The main issue is that an enterprise's emissions can change from year to year, possibly creating a situation in which an enterprise is above the emission threshold one year and below the threshold the next year. If total emissions of an enterprise are used to create the threshold, the regulation should describe what happens to covered enterprises if they go below the threshold. For example, the regulations might specify that an enterprise will continue to be a covered enterprise unless its emissions remain below the threshold for a specified number of years. This is the approach in the California ETS: a covered enterprise remains so unless its emissions drop below the threshold for an entire three-year compliance period.

Coverage of emissions associated with electricity raises a particular set of issues. There are many possible approaches, although it probably makes most sense to place the obligation to surrender allowances on the end-user of electricity. This will involve estimating emissions associated with a unit (kwh) of electricity.

2. Cap setting

Neither the Shanghai nor the Guangdong documents specify:

- a. how the emission cap is determined,
- b. when the emission cap will be determined, and

¹ Shanghai: <http://sh.eastday.com/m/20130712/u1a7516883.html>; Guangdong: <http://www.fzb.gd.gov.cn/publicfiles/business/htmlfiles/gdsfzb/lfyjzi/201307/9846.html>.

² This paper is a compilation of comments from the Bureau of Environment of the Tokyo Metropolitan Government (Yuko Nishida), the Regulatory Assistance Project (Max Dupuy and Chris James), the US Environmental Protection Agency (Jeremy Schreifels), and the World Resources Institute (Kevin Kennedy and Song Ranping). Max Dupuy integrated and edited the comments and takes responsibility for the final draft, including any errors or omissions. Thanks to David Crossley and Liu Shuang for reviewing the first draft.

³ In this paper, we follow the conventional translation and use the word "enterprise" to refer to an individual source of emissions that will be required to report emissions and surrender allowances under the scheme. Note that Guangdong uses the word 企业 while Shanghai uses 单位 to express this concept.



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- c. how many years in advance the emission cap is set (e.g. is the 2020 cap set in 2017, 2018, or 2019?).

These important issues should be clearly addressed before the schemes get underway. It is important to set clear caps (排放总量) for the *overall level* of aggregate emissions allowed from enterprises covered by the cap – and the path of these overall caps should be set out for as many years into the future as possible, along with specification of periodic reviews and scope for revision of the cap (particularly as new data on emissions and the results of various emissions-reduction policies becomes available). Signals of where the program is going over time will be important for firms covered by the program and for other market participants.

This overall cap for the ETS will be different from any provincial/municipal overall emissions goals/targets, to the extent that the ETS mechanism does not cover all sectors of the provincial/municipal economy. But it is still important that the ETS itself have clear overall caps, and that the allocation should proceed from the cap – and not the other way around. In other words, it is important that allocation decisions should be constrained by a firm limit on the amount of allowances available; the total amount of allowances in existence should *not* be determined from the bottom up by allocation decisions. A related point is that it is best to set caps in “levels” terms (total tons of emissions allowed in a given year) rather than in intensity terms (tons of emissions allowed per unit of GDP).

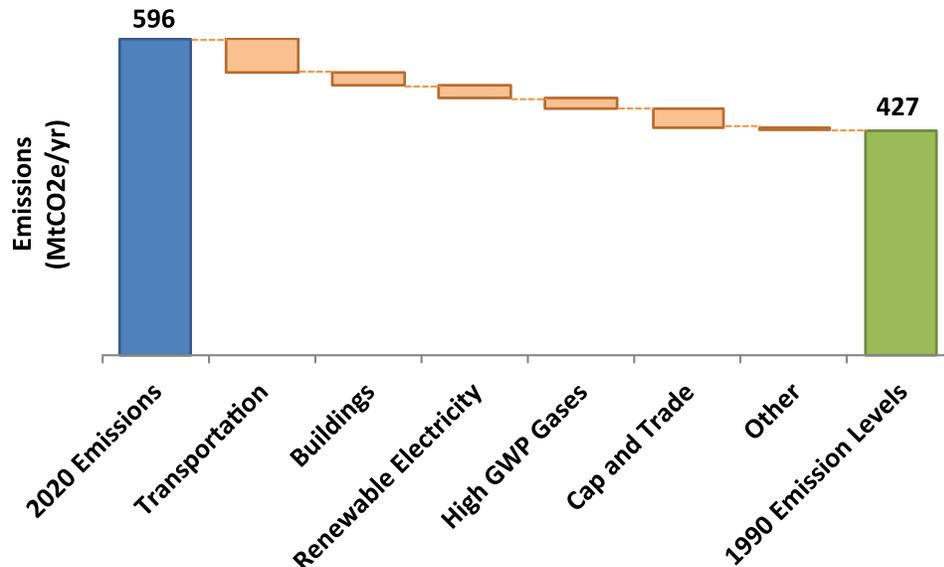
We also recommend setting the ETS cap based on careful consideration of the province or municipality’s *overall* set of emissions-reduction policies (see more on this subject in the following section).

3. ETS in the context of other emissions-reduction policies

An ETS should ideally be designed in the context an overall policy package to achieve emissions reduction goals. Both Shanghai and Guangdong have a number of continuing emissions-reduction policies, including programs to invest in energy efficiency, energy-use codes and standards, and renewable energy programs, etc. The ETS should be designed to work together with these.

As experience with carbon ETS has grown, policymakers and analysts in various parts of the world increasingly recognize ETS as a tool that should be closely coordinated with other policies to achieve emissions-reduction goals. In particular, there is a trend toward design of ETS schemes in the context of an overall policy package. California is an example. The California greenhouse gas cap-and-trade scheme has been designed and presented as part of an overall “stack” of policies, including strengthened codes and standards for transportation and buildings, energy efficiency investment programs run by electric utility companies, expansion of renewable electricity generation, and reduction of coal-fired generation. In fact, the cap-and-trade scheme itself is only intended to achieve about 20% of California’s targeted overall emissions reductions (see figure below). In other words, the ETS component serves as a “backstop” should other policies fall short of expectations, either in implementation or results. Another important aspect of analyzing a stack of policies is that it allows policymakers to assemble a “best” (most cost-effective package) that achieves emission reduction at the lowest cost.

California’s Policy Portfolio



Source: California Air Resources Board, *Scoping Plan*, 2008.

It is good that the Shanghai draft regulation recognizes other emissions reduction policies (Articles 24-26) and includes provisions calling for existing emissions-reduction policies and finance mechanisms to support the ETS.

Policymakers in Shanghai and Guangdong should also consider using revenues from any sales of allowances in order to support emissions reductions policies, such as programs to invest in end-user energy efficiency. In the US, RGGI allocates a majority of auction revenues to administered energy efficiency programs—with significant benefits in terms of lower consumer energy bills and other positive economic effects.⁴ The EU is also increasingly allocating auction revenue toward “complementary” emissions reduction programs.

It is also extremely important to take into account the relationship between the carbon ETS and air-quality management (AQM) policies under development in Shanghai and Guangdong. Given the intense public interest in air quality issues, these AQM plans are shaping up to be very aggressive and will certainly have strong effects on carbon emissions as well, due to the inclusion of coal caps as well as energy efficiency and renewable energy components. If the AQM developments are not considered in the development of the carbon ETS, the carbon ETS may risk becoming an ineffective sideshow.

We also recommend integration of carbon emissions MRV with MRV for other ‘conventional’ pollutants. This will save time and administrative resources and will help promote a more effective regime, across pollutants.

⁴ Hibbard, Paul J, et. al. (2011) “The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States,” Analysis Group. See:

http://www.analysisgroup.com/uploadedFiles/Publishing/Articles/Economic_Impact_RGGI_Report.pdf.

4. Allocation of emissions allowances

The draft regulations do not offer much detail regarding the process for allowance allocation. We recommend sale of allowances by auction as the first choice of allocation methods. To the extent that this is not done, we recommend “benchmarking” allocation, so that relatively efficient enterprises are rewarded with relatively large allocations. With this in mind, it is good to see that the Guangdong regulation includes mention of sales (“purchase”) of at least some allowances—although what fraction will be sold and how the price will be set is not clear.⁵ Unfortunately, Guangdong also mentions allocation according to historic emission levels as at least part of the approach. We recommend against allocating according to historic emissions as this can weaken incentives for emissions reduction.

It would be useful to specify in the regulations that the competent department will develop and publish an allocation plan that specifies the maximum number of allowances that each covered enterprise will be allocated each year. For example, the regulations might say, “The competent department will publish an allowance allocation plan that will list the maximum number of allowances that will be allocated to each covered enterprise, including the number of allowances available for free and purchase. The first plan, to be issued on or before 2013 October 31, will list allocations for compliance years 2014 and 2015. On or before June 30 each year thereafter, the plan will list allocations for the compliance period beginning 18 months after the release date of the plan.”

Regarding allowance sales, the Guangdong regulation does not specify the procedures or dates for the paid allowance sales/auctions. If covered enterprises can only purchase a limited number of allowances this should be specified in the regulation. For example, “On or before March 31 of each compliance period, the competent department, or its designee, will conduct a sale of allowances which are valid for the year in which the allowance sale is conducted. The competent department will publish the price of allowances available for sale at least 10 business days prior to the sale. A covered enterprise can purchase allowances equal to or less than the quantity specified by the competent department in the allowance allocation plan.”

When annual allowances are created, each allowance should have a “vintage” year with a limit on the scope for using a specific vintage ahead of time. Under this approach, each emission allowance includes a vintage—which is the first compliance period in which the allowance can be used for compliance. Emission allowances cannot be used to offset emissions during any compliance period before the allowance’s vintage. Any surplus emission allowances not used for compliance can be saved and sold or used for compliance in future years.

5. Banking of allowances

Both Shanghai and Guangdong seem to be allowing for unlimited banking of allowances across time, with no expiry. That is, enterprises can save any amount of allowances that have not been used for use in any future year. Policymakers should be cautious about this. If the ETS cap is initially set loosely—that is, if a large amount of allowances are issued in the early stages of the ETS—then there may be an “overhang” of allowances that firms will save for use later. If the government eventually decides to tighten the cap to achieve more ambitious emissions reduction goals, these “banked” allowances may make the more ambitious goals difficult to achieve. Another possibility is that the government may want to tighten the cap after better data about emissions becomes available. The EU designed its ETS so that

⁵ Although auctioning is the best approach, an administratively set price might be a relatively easy way to start.

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first phase allowances were not allowed for use in the second phase. After the launch of the first phase, it eventually became clear (as data improved) that allowances had been “over-allocated” and, as a result, prices crashed. The restriction on banking protected the second phase of the system.

6. Initial registration of covered enterprises

We recommend that all covered enterprises be required to register with the competent department prior to the start of the program. The registration could work like a “permit” specifying that the enterprise will, a) monitor and report emissions as required by the regulation, b) surrender for every ton of CO₂ emissions (both direct and indirect) one allowance valid for the relevant compliance period, and c) name a specific individual as a “designated representative” that is responsible for the enterprise’s participation in the program. This information would:

- a. Help the competent department identify enterprises that are required to comply with the program.
- b. Provide enterprises with a list of compliance requirements.
- c. Identify a point of contact at the covered enterprise who should have knowledge about the program requirements and information about the enterprise’s participation in the program.

If this kind of registration requirement is added, the regulation could also list the consequences for failing to register.

On a related note, Guangdong’s Article 10 doesn’t spell out that new project enterprises are subject to emission regulation once they acquire allowances. Possible additional language might be as follows: “Once new project enterprises acquire allowances from the competent department, they shall become emission controlled enterprises.” Alternatively, Guangdong might add “new project enterprise” along with emission controlled enterprises in Articles 8, 9, 11, 12, and 19.

7. Management of allowances in case of enterprise start-up, shutdown, or emigration

The Shanghai regulation mentions the issue of what will happen to current and future allowance allocations when a covered enterprise shuts down, but the Guangdong document does not. Emission trading programs in other countries have used different approaches. Most let the covered enterprise that has shut down keep existing allowances because they are an asset (just like the equipment owned by the enterprise). Some let the covered enterprise continue to receive allowance allocations for a specified number of years (which provides an extra incentive for high-emitting enterprises to close down and stop emitting because they could then sell the allowances). Finally, some ETS schemes stop allowance allocations after the covered enterprise closes.

Shanghai’s Article 19 on this subject should perhaps be clarified. As written, it seems to be saying that the covered enterprise will continue to receive free allocations annually equal to 50% of the amount it received previous to closure.

The regulations should also specify how new enterprises are handled. Given China’s rapid growth, this may be a significant issue.

8. Offsets (CCERs)

Both Guangdong and Shanghai allow for use of offsets in the form of CCERs. It is good to see that both have put limits on offset use. However, it would perhaps be better if the limit is expressed relative to emissions, not relative to the enterprise's allocation. For example, the regulations might say, "A covered enterprise may not use CCERs for more than 10% of its compliance obligation in any compliance period."

In addition, the regulations might also seek to limit the use of forestry CCERs or other CCERs from outside the province/municipality by specifying that these CCERs can be worth less than 1 ton of emissions (e.g., each CCER might be worth 0.9 tons).

The regulations should specify that all transactions of CCERs should be recorded in the competent department's registry (just like the allowances).

The regulations do not specify whether unused CCERs can be saved for use in future compliance periods.

9. Monitoring, reporting, and verification

The draft regulations are not sufficiently specific with regard to MRV. In particular, the regulations do not specify:

1. What procedures and methodologies covered enterprises should use to calculate or measure emissions (e.g., whether continuous emissions monitoring systems are required, and whether indirect emissions are based on a provincial-level emission factor).
2. When (in the case of Guangdong) emission reports are due to the competent department, e.g., within 90 days of the end of the calendar year.
3. What information, except CO₂ emissions, must be included in the report. Other information might include: electricity consumption, fuel consumption, emission factors, production, certification statement from enterprise's designated representative that information is complete and correct, and certification statement from third-party verifier that information is supported by documents reviewed and consistent with measurement requirements. In addition, as mentioned above, we suggest integrating reporting for greenhouse gas emissions with reporting for other air pollutants.
4. What supporting information (i.e., records) the covered enterprise must keep and make available to competent department inspectors during any on-site inspections.
5. What types of expertise, training, or certification the third-party verifiers must have. There are no provisions in the regulation establishing a certification program for third-party auditors. One option is for the competent department to select an independent organization to run a training and certification program.
6. Third-party verifiers must not have conflicts of interest. A study of third-party emission auditors in India found frequent falsification of data until a new approach was implemented to limit conflicts of interest.⁶ Additional language might address this problem, for example, "The qualified third-party shall ensure it and its subcontractors have no real or potential conflict of interest with the emission controlled enterprises of which carbon emissions it verifies. The third-party shall not verify carbon emissions from the emission controlled enterprises while providing

⁶ Duo, Esther, et. al. (2012) "Truth-Telling by Third-Party Auditors: Evidence from a Randomized Field Experiment in India." See http://econ.msu.edu/seminars/docs/duflo_greenstone_pande_ryan_truth_telling_by_auditors_nber.pdf.

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consulting services regarding carbon emissions reporting to the same enterprises.” Third-party verifiers must be closely monitored. This requires a significant amount of government effort. For example, the Tokyo authorities have struggled to maintain the quality of third-party verification and to make the verification system work smoothly.

7. The penalties for third-party verifiers that fail to do a satisfactory review.
8. Rules on verification. A verification section should specify that covered enterprises must give access and provide supporting information to the competent department upon request, including during on-site inspections.

Shanghai’s third-party verification rules seem to suggest setting up a single agency to handle all third-party verification, though some language indicates that there may be multiple verifiers. If the latter is the case, it is not clear who tells which verifier which reports to review.

The requirement to submit a report by 15 April may be too restrictive, as enterprises may need more time. In Tokyo, November is the deadline for reporting the previous year’s emissions.

10. Penalties for noncompliance

We recommend that penalties should be large enough to discourage misreporting and discourage failure to surrender adequate allowances. In addition, penalties should be related to the amount of obligations not fulfilled. In particular, penalties for failure to surrender adequate allowances should be assessed per allowance that the enterprise in question has failed to surrender. In addition, penalties should be higher than the cost of allowances.

We also suggest treating inaccurate reporting and failure to surrender ETS allowances as separate violations. The former should have a larger fine or penalty than the latter. Also, third-party verifiers should be held responsible for data they have verified, and be subject to fines or penalties if data are found inaccurate. In the case of California, for both emissions reporting and allowance surrender, each ton discrepancy is considered a separate violation and fines for each ton can be as high as USD 1000. For example, an entity that underreports by 5000 tons could face a fine as high as USD 5 million.

For Guangdong, we suggest adding an additional section regarding reporting untrue emission data. “If carbon emissions data reported to the competent department are found materially inaccurate according to the designated greenhouse gas reporting rules, the responsible enterprise shall be subject to a fine equivalent to ten times the average market price of carbon emission allowances for each ton of discrepancy. The third-party verified relevant data shall be subject to a fine equivalent to three times the average market price of carbon emission allowance for each ton of discrepancy. The responsible individual auditor shall be disqualified to conduct verification for any emission controlled enterprises for three years. If the inaccurate data causes losses to others, the responsible enterprise and third-party verifier shall bear compensation responsibility in accordance with law.”⁷

Regarding Shanghai’s draft regulations, we would like to raise the following additional comments:

- Regarding Article 30: The fine is too low. Accurate data is the foundation of trading and allowance surrender. Without accurate data, the competent department will not be able to judge whether the enterprise surrender properly. Therefore, the punishment for false reporting should be more severe than for not surrendering adequate allowances. Assuming that our fine-

⁷ The suggested fine we included here is an example for illustration.

per-ton suggestion (above) is not followed, we suggest the individual case fine for false reporting be raised to between RMB 100,000 and 200,000.

- Regarding Article 31: The fine here is also too low. We suggest raising it to between RMB 100,000 and 200,000 for “cases of rectification refusal.” For cases of “unreasonable resistance and obstruction of the verification or forgery and distortion of verification reports,” we suggest an increase to at least RMB 200,000 to 300,000. As noted above, we suggest that inaccurate reporting should have stricter penalties than failure to surrender ETS allowances.
- Regarding Article 32: It is not clear whether the meaning is that the ceiling for cost noncompliance is only RMB 100,000 no matter how large the emissions are? If so, we believe this fine is too low. As stated above, the fine is USD 1000 per ton in California’s case.
- Article 33 should perhaps more clearly define what is meant by “serious.”
- In addition, Article 33 says that, “unlawful acts shall be put into state-owned enterprise performance appraisal system and linked up with remuneration of persons in charge.” This use of SOE manager performance appraisal is a good principle.

11. Transparency

It is important to ensure transparency, particularly regarding allowance allocation and emissions levels. While it may not be possible to allow publicly available data at the individual enterprise level, aggregated information on emissions and allowances should be released publicly and in a timely fashion. Also, it is useful to be specific about procedures for release of this information, including release dates. This sort of information can make a lot of difference to market participants, so all market participants need to be given the opportunity to find out the information at the same time. In California, there is a regular schedule for release of various types of information, with specified reporting dates.

We suggest adding the following to Guangdong’s Article 15: “The competent department shall release information on total allowances issued and aggregated annual carbon emissions from emission controlled enterprises. The competent department shall release, in a timely fashion, updated information on total allowances issued and aggregated annual carbon emissions from emission controlled enterprises each time it issues new project allowances (based on Article 10) or adjusts allowance (based to Article 6).”

For Shanghai Article 6, we suggest adding: “The competent department shall release information on the total number of allowances issued.”

For Shanghai Article 8, we suggest to adding: “The competent department shall release information on aggregated annual carbon emissions from enterprises.”

For Shanghai Article 15, suggest to adding: “The exchange shall release trading price, trading volume, and trading market information in real time and disclose important information which may affect trading activities in a timely fashion.”

12. Price level management and intervention measures

ETS in other countries have rules intended to dampen volatility of allowance prices on the market or guard against market prices becoming “too high” or “too low.” There is much debate over these types of rules. In California, the main guard against low prices is a floor price in the auction system. Allowances that don’t sell at that price get set aside for use in future auctions. To protect against high prices, California sets aside a number of allowances that are available on a regular basis (quarterly sales) at fixed prices. That mechanism works against temporary price spikes, but may not be sufficient against a

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sustained run up in prices. As the California rule is currently written, after all the allowances in the reserve have been sold, there is no further mechanism to dampen prices. Debate continues about the possibility of moving to a more robust system to protect against higher prices.

The Guangdong and Shanghai regulations should be clear about the following questions:

1. Will the competent department buy allowances from the market when the price is deemed too low? If so, at what price and when?
2. Will the competent department reserve some credit for release when the market price is deemed too high? If so, how many allowances are reserved and how will prices for the reserve allowances be set?
3. What are the other means by which the competent department “regulates and supervises” the market prices? Will it prescribe a price ceiling or floor under which trades exceeding the range will be not allowed?

These are important questions for companies to make decision on whether to buy, sell, or hold allowances.

13. Registry

Registry systems are not sufficiently detailed in the draft regulations—particularly in the case of Guangdong, which does not even mention establishment of a registry or specify who will track ownership of the allowances. Information about allowance ownership is very important because it is part of the basis for determining compliance with the program. The competent department (or other authorized organization) should maintain a registry that tracks official ownership of all allowances. For example, the regulations might specify that, “The competent department will establish a registry to track allowance ownership. Allowance transactions must be reported to the registry by an authorized account manager or his/her appointee. Only allowances in a covered entity’s registry account can be used to offset CO₂ emissions for compliance purposes.”

14. Trading oversight

We suggest considering appointment of an independent market monitor, as is the case in RGGI and California.⁸

We also suggest that all market participants be required to register with the competent department before they can initiate any transaction. This registration could be the first step in creating an account within the registry. In particular, the registration could specify that the market participant will a) comply with market rules, and b) name a specific individual as an “authorized account manager” that is responsible for submitting any allowance transactions.

The regulation does not specify how, when, or by whom trading information (trading price, trading volume, and trading market information, etc.) should be reported to the competent department (e.g., how is information transferred to the registry?).

⁸ For more information on market monitoring in California, see the California Air Resources Board: <http://www.arb.ca.gov/cc/capandtrade/marketmonitoring/marketmonitoring.htm>

Appendix

There are several key elements of a successful emission trading program that should be explained within the implementing regulation. This appendix attempts to categorize those elements.

Coverage
<ul style="list-style-type: none"> • Geographic scope of program • Sectors covered by program • Emissions covered by program • Size threshold for coverage • Date of emissions covered by program • Registration process for covered sources • Consequences for failing to register a covered source
Emission limit
<ul style="list-style-type: none"> • Method for setting emission cap
Allowances
<ul style="list-style-type: none"> • Definition/value • Process for tracking ownership • Allocation formulas/procedures • Unused allowances • Allocations to shutdown sources • Retirement after use
Emission measurement
<ul style="list-style-type: none"> • Measurement requirements • Reporting requirements • Period of emissions covered in each emission report • Recordkeeping requirements • Deadlines • Consequences for failing to report • Verification procedures • Third-party verifier competency requirements • Requirements during government inspections
Trading rules
<ul style="list-style-type: none"> • Restrictions • Registration process for transactions
Offset credits
<ul style="list-style-type: none"> • Definition/value • Restrictions • Process for tracking ownership

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<ul style="list-style-type: none">• Unused offset credits
<ul style="list-style-type: none">• Retirement after use
Compliance determination
<ul style="list-style-type: none">• Requirements for compliance
<ul style="list-style-type: none">• Deadlines
<ul style="list-style-type: none">• Penalties for non-compliance