

# World Bank Group Submission on Experience and Good practice Relevant to the Framework for Various Approaches (FVA)

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1. The World Bank Group welcomes the opportunity to make a submission to the Subsidiary Body for Scientific and Technological Advice (SBSTA) in response to a call for information and views from Parties and invited observer organizations on the experience and good practice relevant to the design and operation of market based approaches and non-market based approaches, including on approaches developed or being developed by Parties, individually or jointly (FCCC/SBSTA/2014/L.10/Para 6).
2. The submission builds upon and complements the earlier submissions by the World Bank Group and Climate Finance Unit (World Bank Group) made in 2012 and 2013. The World Bank Group is also making a submission to the SBSTA call for inputs on the new market mechanism (NMM) made at its 40<sup>th</sup> session (FCCC/SBSTA/2014/L.10, paragraph 6). This submission on the FVA draws extensively on the experiences and lessons learnt in planning, designing and developing carbon market crediting mechanisms to date by the World Bank Group.
3. This submission includes 5 sections. The first two sections provide key observations and an overview of current domestic carbon market activities. The third section identifies the differences between domestic carbon market mechanisms. The third section clarifies key technical elements common to all carbon market mechanisms – referred to as “building blocks” and discusses emerging common practice in designing them. Finally some concluding comments are made.

## 1. KEY OBSERVATIONS

4. Countries are implementing a broad range of market-based approaches and price based mechanisms<sup>1</sup> to reduce emissions, including emission trading schemes (ETS), scaled-up crediting, offset schemes and carbon taxes.
5. When designing market mechanisms countries generally share similar design objectives since they seek to implement mechanisms that are:
  - a. Credible both domestically and internationally;
  - b. Consistent with domestic legal, economic and institutional circumstances, as well as, international norms and frameworks; and
  - c. Potentially compatible with other mechanisms to minimize costs, support credibility, address competitiveness and retain the option for future linking to maximize economic efficiencies.
6. Even though the market instruments being implemented are varied they have technical similarities. Each country, however, must make design choices that accommodate unique national circumstances. International cooperation can help countries learn from each other’s experiences, minimize duplication of effort and costs, and facilitate trade across borders, but at the same time should provide flexibility for nationally appropriate policy design and implementation. Understanding the technical similarities and how they can be applied in different situations can provide useful insights for international arrangements.

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<sup>1</sup> In addition to “direct” market mechanisms there are also indirect market mechanisms that include Renewable Energy Incentive Schemes and Energy Efficiency Schemes. In a future international carbon market, countries may wish for these indirect market-based instruments to also be recognized perhaps through a system of ‘heterogeneous linkage’ or a ‘credit conversion mechanism’

7. Some countries are at an early phase of designing their market mechanism. It is common that most countries start the development of a market mechanism by focusing on no-lose measures such as readiness, data management and monitoring reporting and verification, to allow countries to be flexible and responsive to any future agreement on carbon markets.

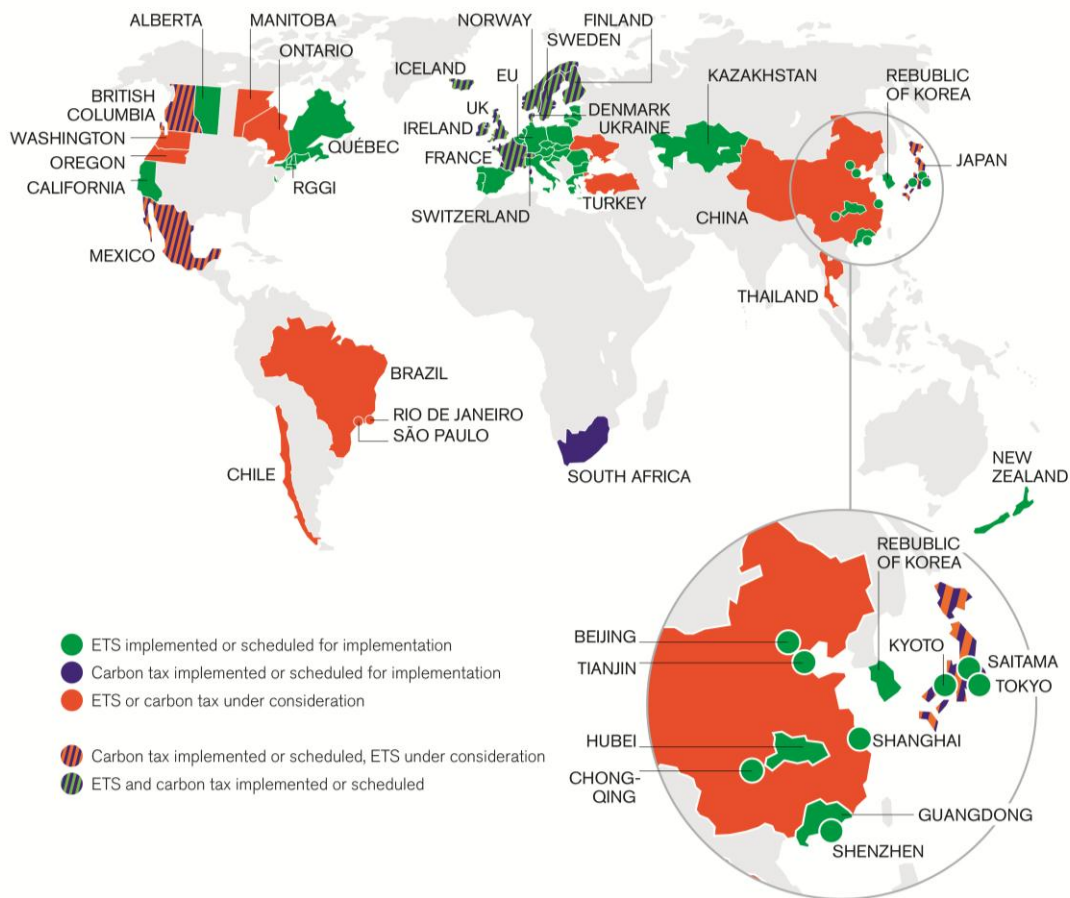
## 2. MARKETS MECHANISMS AROUND THE WORLD

8. Today, nearly 40 countries and over 20 sub-national jurisdictions are putting a price on carbon using different market mechanisms and economic instruments that include emission trading schemes (ETS), carbon taxes, scaled-up crediting and offset mechanisms (see Figure 1).

9. Growing co-operation between regional, national and sub-national stakeholders has supported these market mechanisms. At a time when the international arrangements for market mechanisms are uncertain, the continued progress at regional, national and sub-national levels is where relevant lessons can be gained.

10. Understanding these market mechanisms can inform the international debate, since the technical considerations faced by countries implementing their domestic approaches (e.g. ensuring credibility, consistency, preventing double counting etc) align with discussions at the international level. To this end, this submission presents some observations and lessons learnt from the work undertaken at the World Bank Group, in assisting countries to design and implement market mechanisms.

**Figure 1: Global domestic market mechanism developments (Source: State and Trends of Carbon Pricing: 2014)**



### 3. DIFFERENT MARKET BASED APPROACHES

11. Emissions trading schemes and carbon taxes are among the most common market based and pricing instruments being implemented. A carbon tax guarantees the carbon price in the system, where as an emission trading scheme (ETS) provides certainty about the emissions outcome, through the cap, but the price remains flexible. By putting a price on emissions, both taxes and ETS provide incentives for reduced emissions.
12. The choice of instrument will be governed by a number of national priorities and circumstances. A carbon tax for example might be preferable if the emissions are concentrated from a small number of entities which would not allow for functional trading, as in the case of South Africa; or where there are a large number of entities responsible for small sources of emissions, for example, with emissions from passenger vehicles have been subject to carbon tax placed on fuel. An ETS may offer different advantages, such as enabling flexibility in compliance approaches over time, and having a predetermined environmental outcome. Emission trading schemes can also be designed to link with other similar schemes in other countries. Carbon taxes that allow offsets could potentially also be linked to other schemes by incorporating international offsets generated by those schemes.
13. Offset schemes that credit emissions reductions from a project relative to a baseline are also currently popular with countries considering market mechanism. These offsets schemes are often building on the infrastructure established by offset standards, such as the CDM, but are being revised to accommodate domestic circumstances and/or bilateral agreements. Domestic offset schemes are often deployed to complement an ETS or carbon tax.
14. Some countries are also investigating the potential for scaled-up crediting mechanisms. A scaled-up crediting mechanism refers to the crediting of policies, programs or sector wide reductions against a defined emission baseline. The baseline for crediting is generally set lower than the business-as-usual emissions in the sources covered by the mechanism. The difference in emissions between the business as usual and the baseline is the host country's own contribution to global mitigation.
15. Countries are in different stages of considering, designing and implementing market mechanisms. Many developing countries are engaging in readiness activities and building basics (e.g. data management and monitoring, reporting and verification systems).
16. There is increasing interest from countries to use market-based and price instruments because they have the ability to achieve cost effective mitigation, provide a flexible and transparent basis for financial flows, as well as, building on existing capacity and encouraging local innovation.

### 4. THE BUILDING BLOCKS OF CARBON MARKET MECHANISMS

17. Market mechanisms being implemented are varied, but they all have some common technical elements including the following 'building blocks':
  - a. **Guiding objectives** – defining the objectives of the market mechanism.
  - b. **Definition of Scope** – defining the GHG emissions, sectors, and technologies to be targeted by the market mechanism.
  - c. **Governance** – roles and responsibilities of institutions involved in the market mechanism.



- d. **Rules and Procedures** – rules and procedures that guide the operation of the carbon market mechanism.
- e. **Monitoring, reporting and verifying** – the procedures for monitoring and reporting emissions and emissions reductions.
- f. **Data management and registry** – Data management and tracking infrastructure.

#### 4.1 Guiding objectives

18. The design and implementation of any market mechanism will be guided by the objectives of the mechanism. Objectives for market mechanisms generally relate to reducing emissions in a cost-effective way and in some cases supporting sustainable development. Some mechanisms also have the objective of raising and delivering finance. Consistent with achieving those objectives, in practice many countries aim to implement mechanisms that are:
- a. Credible both domestically and internationally;
  - b. Consistent with domestic legal and political, economic and institutional circumstances, as well as, international norms and frameworks; and
  - c. Potentially compatible with other mechanisms to minimize costs, support credibility, protect competitiveness and retain the option for future linking to maximize economic efficiencies in the future.

#### 4.2 Definition of scope

19. All market mechanisms specify the GHG emissions, sectors, and technologies to be covered. There is currently a mix of approaches at different stages of design, piloting and implementation. Some market mechanisms cover a wide scope of emissions sources, such as the EU ETS and the South African carbon tax. Others are more targeted such as scaled-up crediting mechanisms that cover a single sector or offset mechanisms that limit eligibility to projects to certain sectors, such as in California where the offset scheme is limited to those sectors not covered by the emissions trading scheme. Some cover multiple GHGs and use global warming potentials to convert to a common metric and others target CO<sub>2</sub> emissions only.
20. The scope of the market mechanism is strongly influenced by national circumstances. Considerations that influence decisions on scope include, among others:
- a. The structure of the economy and drivers of emissions;
  - b. The policy landscape;
  - c. GHG mitigation potential and abatement cost;
  - d. The potential demand for emission reduction credits
  - e. Experience with and level of readiness for market approaches;
  - f. Competitiveness issues;
  - g. Engagement of stakeholders; and
  - h. The timeframe and budget available for the development of market mechanisms.
21. Market mechanisms can have different scopes. Mechanisms do not need to have the same or similar scopes to link. If, however, units from a market mechanism are to be counted toward national mitigation contributions it is important the scope of the market mechanism is well defined to avoid potential double counting.

### 4.3 Governance - institutions

22. The roles and responsibilities of institutions across the different types of mechanisms are different consistent with the different design and function of the mechanisms, but there are some similarities. Generally institutional arrangements include the following:
- a. Executive decision maker
  - b. Expert or advisory body
  - c. Policy designer
  - d. Scheme regulator(s) and administrator(s)
  - e. Accreditation body; and
  - f. Auditors or verifiers.
23. Experience shows that it is important to have clearly defined institutional arrangements with appropriate separation of roles and responsibilities. Legislation will provide the basis and authority to allow institutions to perform their respective functions effectively. Institutions also need to be supported by adequate budget and human resources.

### 4.4 Rules and Procedures

24. Carbon market mechanisms are built upon legal and regulatory frameworks which define the rules and procedures for their operation. Typically market mechanisms are established as part of climate, energy, environmental, or tax law, but they are different to most forms of environmental legislation. This is because market mechanism rules and procedures are designed to provide an incentive for emissions reductions and do not directly mandate how the emissions reductions are to be achieved.
25. Legislation, rules and procedures would cover: who is liable to reduce emissions and in the case of crediting mechanisms who is eligible to generate emissions reductions; how the legal obligations will be enforced; for trading mechanisms who is eligible to hold permits or credits and how they can be traded, bought or sold; whether the mechanism will link to other markets; and how decisions relating to the design and implementation will be made.
26. Rules and procedures governing market mechanisms are captured in:
- a. Primary legislation, typically where the mechanisms is established and the central legal obligations are defined;
  - b. Secondary legislation, where more detailed rules and procedures for the implementation of the mechanisms are defined; and
  - c. Other rules and procedures typically established by the mechanism administrator to operationalize and interpret the legislation.
27. The legislation and other rules and procedures governing the market mechanisms will reflect the specific legal systems of the implementing country.
28. Experience shows that if mechanisms are to link a detailed legal arrangement between the two governing authorities would be required to operationalize the link. To maintain the compatibility and consistency of linked mechanisms over time also requires, inter alia, a process for agreeing on revisions to the legal

agreement, a mechanism to provide assurance of the environmental effectiveness of each of the linked systems, and a procedure for terminating the linking agreement<sup>2</sup>.

#### 4.5 Monitoring, reporting and verifying emissions and emission reductions

29. Fundamental to market mechanisms is the monitoring and measurement of emissions or in the case of crediting mechanisms, emission reductions. Many countries have or are in the process of designing and implementing systems to monitor, report and verify emissions to underpin market mechanisms. The key components for MRV include: defining 'compliance entity', sources of emissions, monitoring methodology, requirement for data, quality assurance and control procedures and systems, verification of reported data and compliance/enforcement.
30. MRV in practice has shown that many jurisdictions are using common approaches. For example, emission calculation methodologies and accreditation procedures are often based on international standards. However, the specific design of the MRV system will be influenced by local circumstances and result in diverse approaches across systems, even within the same country. For example, a World Bank Group survey of different MRV systems in China highlights some similarities across the 7 ETS pilots but the approaches are not harmonized. For example, most allow for companies to choose to quantify their emission via either calculation-based or measurement-based methods, but this is not the case for some of the pilots. Regarding data requirements for the calculation methods, all pilots provide the option of using measured or default values for emission factors. However, the requirement and frequency for measured values is different from pilot to pilot. The verification processes in the pilots are similar to each other, too, although described in different detail<sup>3</sup>.
31. The MRV system influences the environmental credibility of a market mechanism. However there is a trade-off between the stringency and accuracy and the cost effectiveness of implementation. If the requirements for an MRV are too stringent, then the cost could become a barrier to participation or compliance. If the requirements are too lenient then the accuracy of the results could become questionable and threaten the environmental integrity of the mechanism.

#### 4.6 Data management and registry

32. **Data management systems** are typically used to collect and store information about measured, calculated or estimated emissions or emissions reductions which is then used to determine liability under the carbon tax or ETS or credits under a crediting mechanism. **Registries** are the hardware used to store information and usually fulfill two functions: a) reporting and b) tracking of credits or permits. Registries are often used to define the legal ownership of the units and to minimize double counting.
33. Common practice emerging out of the GHG data management experience to date is summarized as follows:
  - a. It is important that there are consistent and comparable definitions of sectors and emission factors to align datasets.
  - b. At its simplest a management system can use spreadsheets to collect data either sent manually or electronically to regulators to be put into a central database. More complex systems utilize web based portals linked to software to support data inputting and calculations. Transitioning between

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<sup>22</sup> See the PMR technical note 7 February 2014, Lessons Learned from Linking Emissions Trading Systems: General Principles and Applications

<sup>3</sup> See the PMR technical note 8 July 2014, A Survey of the MRV Systems for China's ETS Pilots

management systems has proven to be costly and if possible should be avoided by careful consideration at the design phase.

- c. Building in “checking” of data inputs increases the credibility of claimed emission reductions. Safeguards to ensure data integrity can be done manually by requiring the review of submissions by a second person, or automatically by creating pre-programmed requirements<sup>4</sup>.
34. Common practices emerging on registries include:
- a. Ensuring that the registry is easy to use,
  - b. Security, confidentiality and access controls need to be clearly defined in accordance with the needs of the domestic market mechanism and in consideration of any future linking or trading requirements
  - c. QA/QC measures and verification and consolidation procedures are in accordance with credible standards
  - d. Ensuring sufficient capacity is in place so that all IT users are trained to use the registry and the registry is in line with the countries’ own electronic interfaces
  - e. Developing plans and a budget to build, operate and maintain the system, including consideration of the costs of developing a tailored system compared with using an existing system.
35. To link or trade across borders registries need to be compatible either by directly linking or tracking transfer by removing the permit from the selling country registry and issuance the permit in the buying country registry. Registries under the Kyoto Protocol provide valuable insights for countries developing their own registries for issuing and tracking units.

## 5. CONCLUDING COMMENTS

36. Countries are choosing from a broad range of market approaches and pricing mechanisms to reduce emissions, including emission trading schemes (ETS), scaled-up crediting, offset schemes and carbon taxes for different domestic objectives.
37. Although market mechanisms are diverse, the emerging mechanisms have similar key design elements. As a first step towards developing a market mechanism, many countries start with no-lose measures such as readiness, data management and monitoring reporting and verification, to allow countries to be flexible and responsive to any future agreement on carbon markets.
38. As countries progress with their design, they are faced with similar design choices but the designs are tailored to accommodate unique national circumstances. Understanding the technical similarities and how countries can respond to them in the design of their domestic mechanisms can provide useful insights for international arrangements.
39. Facilitating linkage across these different domestic mechanisms will result in greater liquidity and a more efficient carbon market. Frameworks that facilitate comparison of carbon assets generated from market mechanisms with different design objectives and scope that cater to local circumstances will be key to linking markets.
40. International cooperation will continue to play a critical role in enabling countries to learn from each other’s experiences, minimize duplication of effort and costs, and facilitates trade across borders. Such cooperation could build a foundation for a more integrated global market in the future.

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<sup>4</sup> See PMR technical note 4 May 2013, Supporting GHG Mitigation Actions with Effective Data Management Systems