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# ETS Development: Rationale, Challenges and Key Elements

Exploring Market-Based Approaches to Low Carbon Development  
in the State of Rio de Janeiro

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## Overview

- ▶ Rationale of Carbon Pricing
- ▶ Approaches to Carbon Pricing
- ▶ The Case for Emissions Trading
- ▶ Specific Challenges of Emissions Trading
- ▶ Key Elements of an Emissions Trading System



## Rationale for Carbon Pricing

- ▶ Climate change forms part of a **new generation** of environmental challenges that require innovative solutions
- ▶ It is the “**greatest market failure** ever seen” (Stern, 2006)
- ▶ Carbon pricing addresses this market failure by internalizing the **external cost** – the polluter, not society, is made to pay
- ▶ Carbon pricing offers **flexibility** for abatement to occur where it is cheapest and can generate public **revenue**
- ▶ An “**essential foundation** for climate-change policy”



# Approaches to Carbon Pricing

- ▶ Generally two methods to create an **explicit** carbon price:
  - ▶ **Taxes, fees and charges:** payment obligations based on carbon emissions or a proxy, such as energy content
    - *Price signal is determined by government*
  - ▶ **Emissions trading:** a system of emission allowances allocated or auctioned to emitters and tradable in a market
    - *Price signal is revealed by the market*
- ▶ Traditional **regulation** creates an implicit carbon price, but does not offer the same efficiency gains or potential revenue



# The Case for Emissions Trading

- ▶ Certainty of outcome with **consistently lower prices** than forecast
- ▶ Costly and difficult process of deciding **where and how to mitigate** is left to the market, rather than to regulators with imperfect information
- ▶ Emissions trading has proven **politically more feasible**:
  - New supportive stakeholders (market facilitators, net “winners”)
  - Harnesses creative, proactive engagement by compliance entities
  - Discussion of cap less controversial than price: justified by science
  - Resistance can be softened by allowance distribution decisions
- ▶ Emissions trading offers the opportunity to **link** to other trading systems, with multiple **benefits** such as increased liquidity and flexibility, foreign revenue, and cooperation



# Challenges of Emissions Trading

- ▶ **Uncertainty** about market fundamentals and allowance price
  - Initial uncertainty about **past** and **current** emissions
  - Uncertainty about **future** emissions (economic cycles, innovation and abatement rates, policy developments)
- ▶ Distribution of substantial wealth creates **political pressure**
  - multiple entry points for organized **rent-seeking**
- ▶ Like other markets, it is subject to its own **dynamics** and **governance** challenges, such as **volatility** and **fraud**  
→ *Substantial capacity requirements!*



## Key Elements of an Emissions Trading System

- ▶ Definition of overall emissions target
- ▶ Definition of scope and point of regulation
- ▶ Collection and management of emissions data
- ▶ Distribution of emission allowances
- ▶ Establishment of a market infrastructure
- ▶ Adoption of rules on compliance, flexibility and market



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# Thank You!

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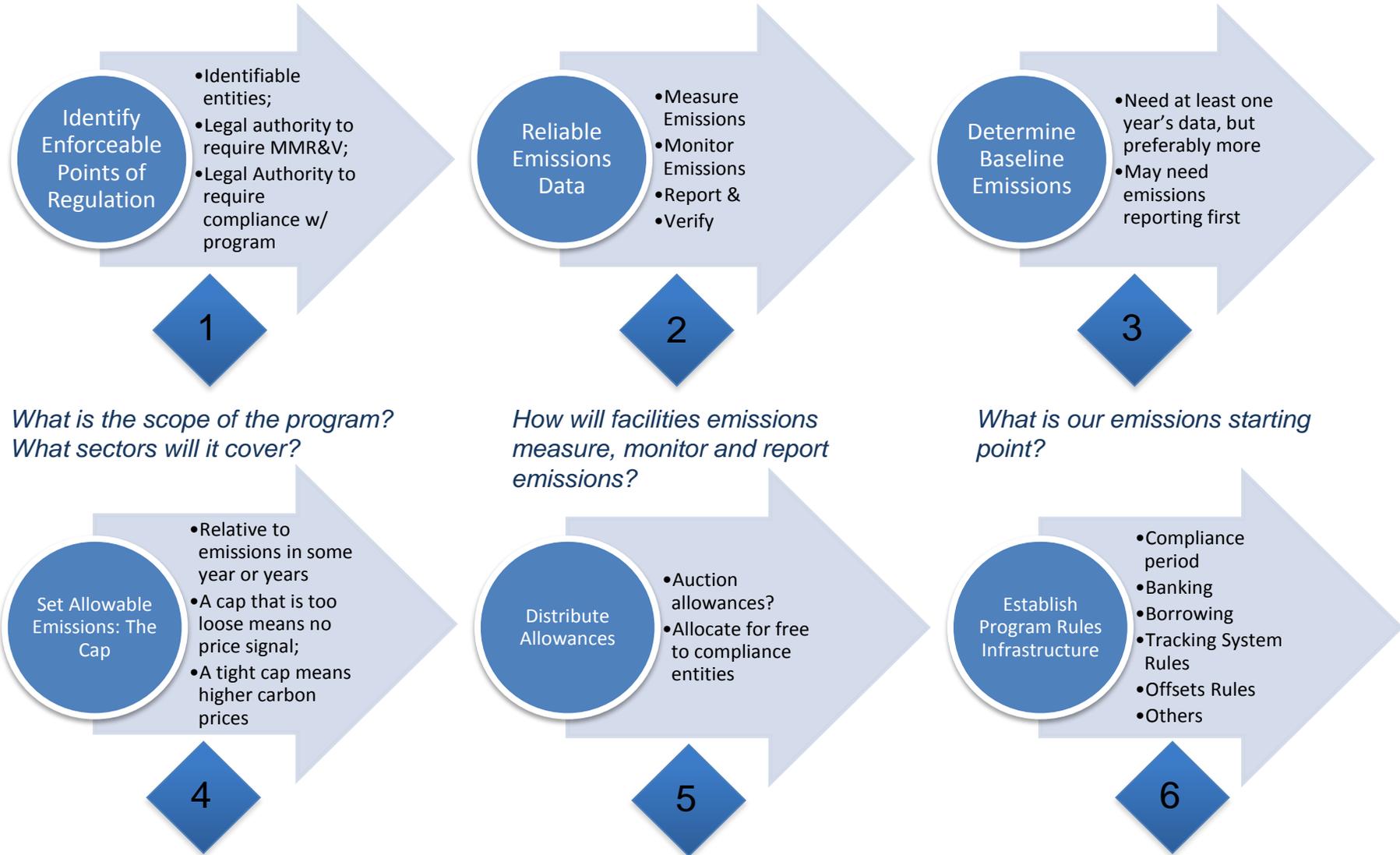


## Emissions Trading: A Definition

- ▶ Emissions trading is a policy approach to controlling emissions of a given pollutant by establishing a total allowable level of emissions (the cap) over a given time period and issuing emissions allowances that permit the holder of an allowance to emit one unit of emissions. The issued allowances may be traded among regulated entities to provide flexibility to each entity.



Source: Political Climate, 2010



Source: Litz, 2013



## Summing Up Some Lessons

- ▶ **Starting early with emissions trading is important**  
Build capacity with pilot projects or reduced scope; build on existing infrastructures; collect robust data; involve stakeholders; factor in review
- ▶ **Cap definition and allocation are weak spots:** it is easy to set the cap **too low** – but it can also be risky to set cap too high and create political backlash. A good compromise is to start easy, but factor in opportunities to review and strengthen the cap – and aim for auctioning as soon as possible because...
- ▶ **Free allocation** is always vulnerable to political lobbying and rent-seeking: be prepared. Auctioning offers the benefit of revenue, which can provide environmental & other benefits even when cap is too weak: “insurance policy”
- ▶ Actively engage with **stakeholders** and the public to learn from and inform them
- ▶ Be clear about your **objectives & priorities** and expect multiple **trade-offs**
- ▶ **Emissions trading** is a means to an end, not an end in itself!