

# Setting Caps

Partnership for Market Readiness Technical Workshop

Domestic Emissions Trading

深圳, March 12-13, 2012

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## REVIEWING EXISTING AND PROPOSED EMISSIONS TRADING SYSTEMS

INFORMATION PAPER

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2010 NOVEMBER

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## SUMMING UP THE PARTS

*Combining Policy Instruments  
for Least-Cost Climate Mitigation Strategies*

INFORMATION PAPER

CHRISTINA HOOD

2011 SEPTEMBER

# Outline

- **Why a cap?**
- **Definitions and options**
- **Approaches to setting the cap**
- **What is in the cap?**
- **Information and processes**
- **Selected issues in cap-setting**
- **Questions to panelists**

# Why an emissions cap?

- The cap defines the overall and primary goal of an emissions trading system
- It creates the environmental constraint / emission scarcity / economic value for emissions / price ...

**“cap” = environmental goal *for the Emissions Trading System (ETS)***

# ETS Cap: Definition & Options

- **Absolute cap: A total quantity of greenhouse gas emissions over a set period of time (annual, multi-year)**
  
- **Intensity cap: A maximum quantity of greenhouse gas emissions per 'X' (GDP, per capita...)**
  - E.g. tCO<sub>2</sub>.e/\$ of GDP

**[Possible in 'theory'. In practice, difficult to translate an intensity cap into sector or plant allocations]**
  
- **Often defined in context of a longer-term goal**
  - ◆ Australia -80% by 2050; EU, etc.

# Approaches to Cap Setting:

## Top-Down

- **Political decision on future emission level**
  - **X% from Year Y emission levels by Year Z**
    - ◆ California AB 32: return emissions to 1990 levels by 2020
- **Drivers behind the decision?**
  - **Science (see reference to IPCC 2 degrees scenario)**
  - **Contribution to the country's national GHG objective**
    - ◆ ETS NAP ('coherence with Kyoto target') & ETS Phase III (contribution to -20% by 2020 and long-term goal)
    - ◆ In proportion to national target (-x% national => -x% in ETS)
  - **Goals in comparable regions/countries**
  - **Cost (macro-economic, marginal abatement cost curves)**
    - ◆ Attempt to equalise marginal cost per tonne of CO<sub>2</sub> in ETS and non-ETS activities

# Approaches to Cap Setting:

## **Bottom-up** ('cap-setting' meets 'allocation')

- **Cap as the sum of emission allocations to covered sources**
  - ◆ Note: Could be intensity-based at *activity level*
- **Based on historical emissions data (plant level)**
  - ◆ E.g. Australia (2014 onward)?
- **Sectoral trends (output and emissions)**
- **Estimate of (technical) mitigation potential**
  - ◆ Warning: industry better informed than government...
- **Acceptable distribution of cost**
  - ◆ See 'short' allocation to power generation and sometimes over-allocation to industry (NAP I)

**Often a practical mix of top-down and bottom-up**

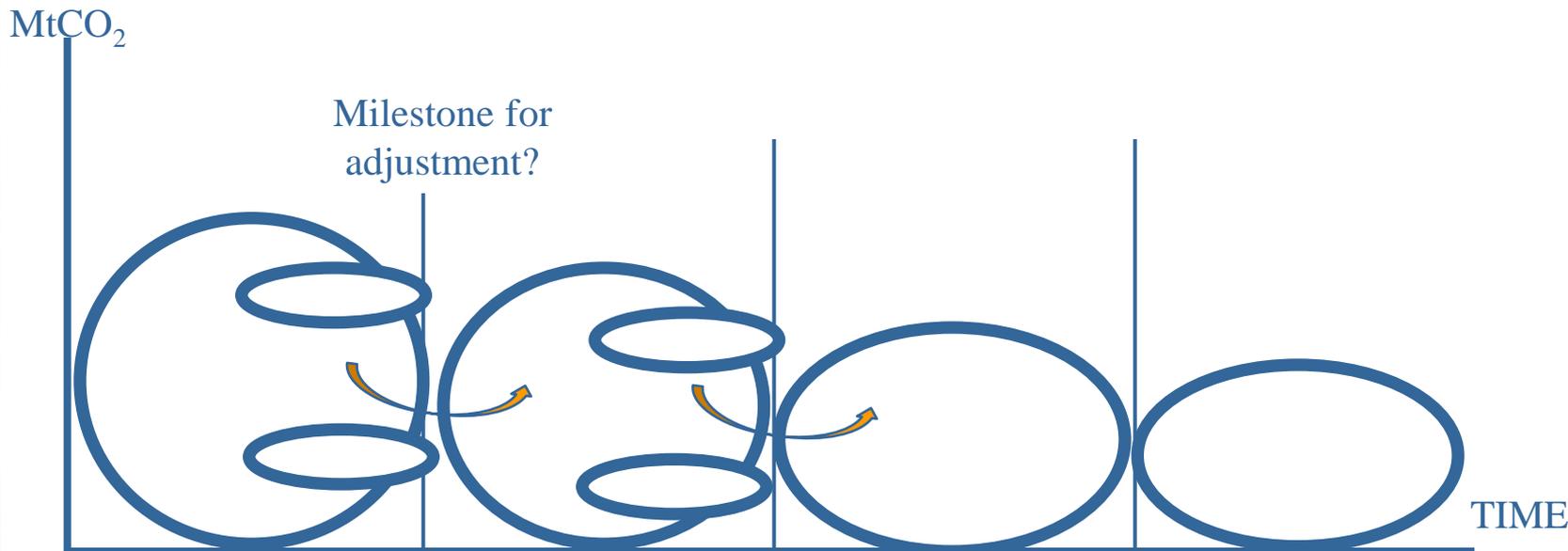
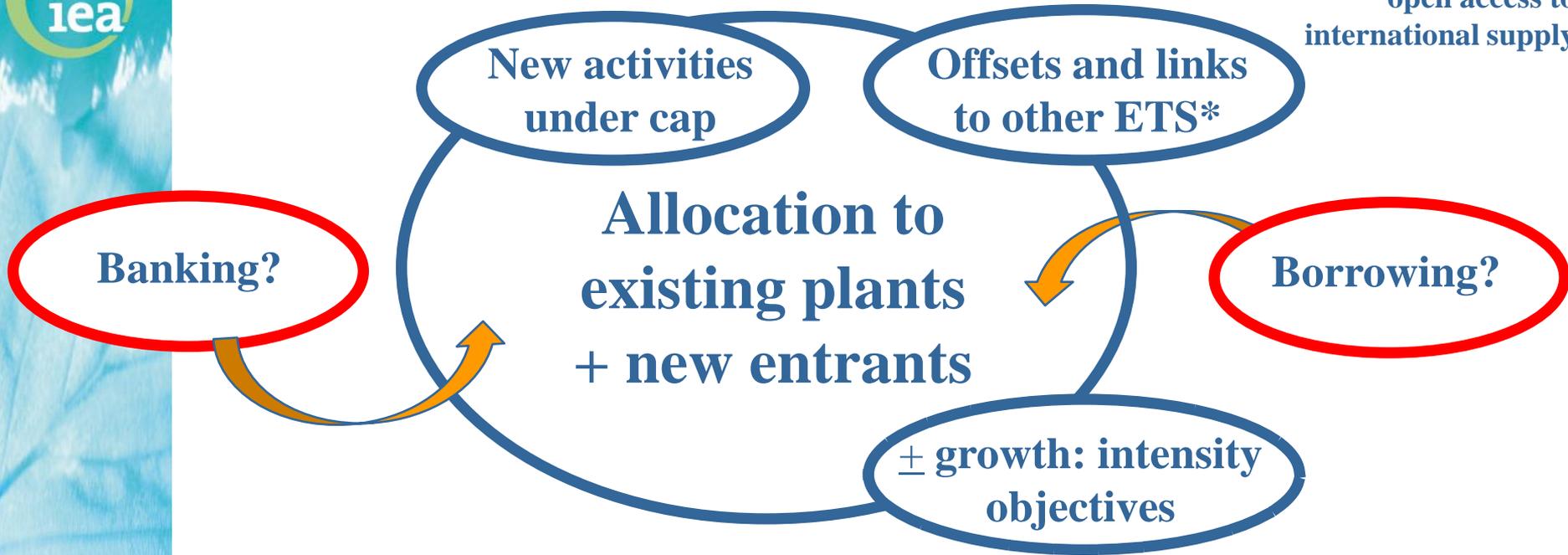
# Information & processes for cap-setting (an ideal list!)

- **Nation-wide objective (and political will)**
- **Historical emissions data**
  - **Plant level**
- **Projections on sectoral emissions and output**
- **Various cost information**
  - **Useful in impact assessment / distribution issues**
  - **Caveat: assumption-driven (may change with time), unequal information between regulator and sectors**
- **Inter-ministerial climate change policy group**
- **Industry associations**

# What (else) is in the cap?

- **Other components that define total emissions allowed in the ETS period:**
  - **Access to domestic and/or international offsets**
    - ◆ (Australia, California, EU, NZ, etc.)
    - ◆ Can be limited (a known quantity), or accessible without limits (Australia, NZ)
  - **Access to other emissions trading systems**
    - ◆ California and Québec in discussion about joining auctions
  - **Right to bank emission allowances for future use (affects future cap), to borrow allowances from future period (affects current cap)**

# CAP



# Selected issues in cap-setting

- **Evolution of the cap over time**
  - **Challenge of getting the cap right from the start (data issue)**
    - ◆ **Australia: evolving from a carbon price to an ETS (discovery phase?)**
  - **The option of “rolling” caps**
    - ◆ **Australia: cap set annually, 5 years in advance**
  - ➔ **Pilot phase to facilitate the introduction of the ETS?**
  - ➔ **Milestones for revisions based on new information?**
- **GDP growth, new entrants: important uncertainty factors for emerging economies**
- **Integration with other policy instruments**
  - **How much will a renewable energy/EE policy deliver?**
- **Misc. data issues:**
  - **Data ‘misalignment’: sector GHG (or energy) inventory v. sources in the sector actually under cap**
  - **Base year data (e.g. 1990, 2005) difficult to reconstruct**

# Questions to panelists

- **What is the primary driver behind the agreed cap?**
  - Robust, detailed data and analyses, or political will?
- **What information was available, useful?**
  - Historical plant data?
  - National / sectoral projections?
  - Abatement cost information?
- **Were intensity caps considered? Rejected? Why?**
  - Can a hard cap ETS be compatible with a broader intensity goal?
- **New entrants: what lessons for rapidly growing economies?**
- **Institutional process: Which stakeholders were involved? What were key sticking points?**
- **Should there be rules/milestones for revising the cap?**
  - What criteria could be used?
  - How to balance the plausible need for cap review and visibility?
- **Was the process of cap setting undertaken independently from the allocation process?**