

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

CHRISTINA HOOD

2010 NOVEMBER

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SUMMING UP THE PARTS

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

INFORMATION PAPER

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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. tCO₂.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 CO₂ 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!)

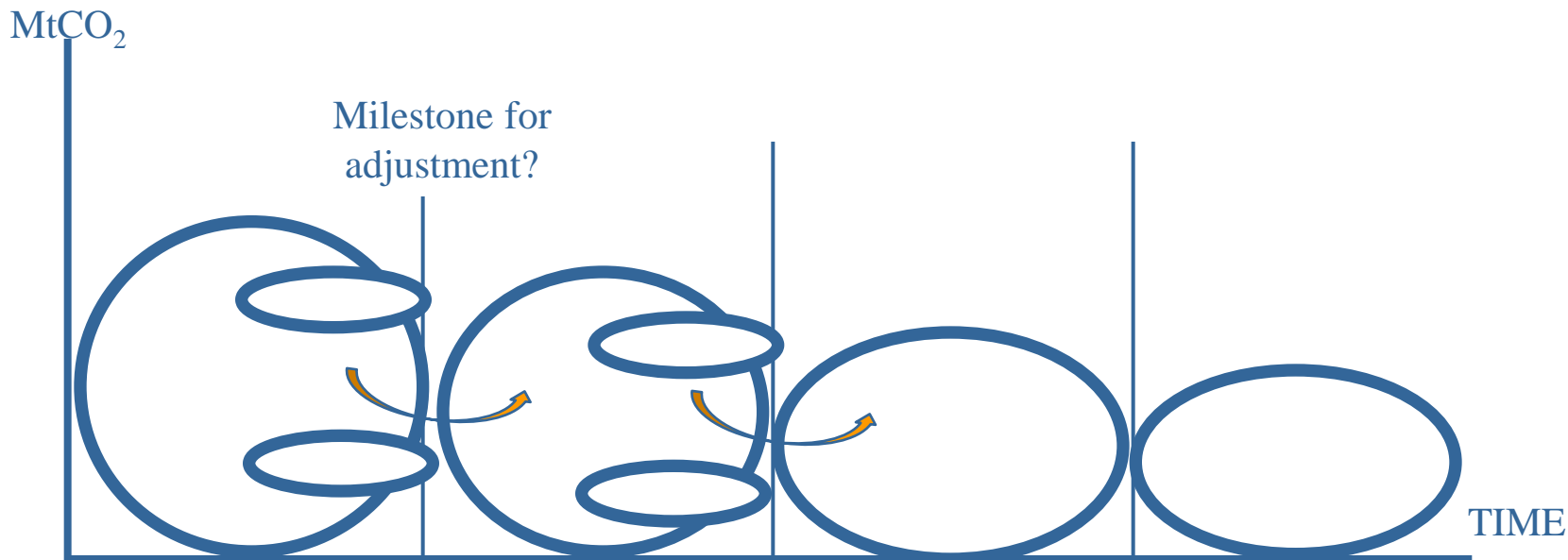
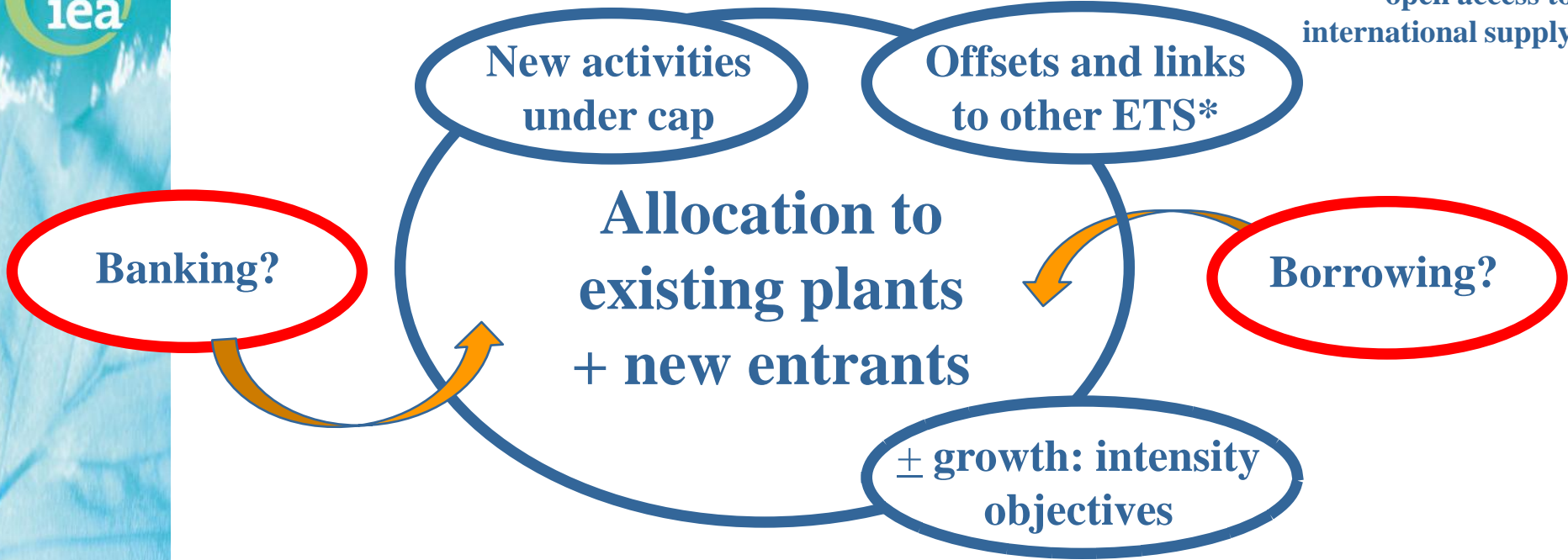
- **Nation-wide objective (and political will)**
- **Historical emissions data**
 - **Plant level**
- **Projections on sectoral emissions and output**
- **Various cost information**
 - **Useful in impact assessment / distribution issues**
 - **Caveat: assumption-driven (may change with time), unequal 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

* No explicit cap in New Zealand: open access to international supply



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?**