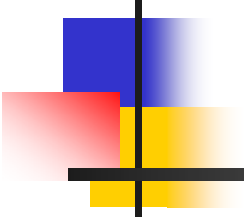


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The Challenges of Emissions Trading within the Context of Taiwan's Greenhouse Gases Reduction Policies

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Outlines

- **Introduction**
- **Methods**
- **Results and Discussions**
- **Summary**



Introduction

- **Climate change has been a global concern**
- **Multilateral agreements entered**
 - **UNFCCC & Kyoto Protocol**
- **Taiwan, though not a party, has endeavored to reduce GHGs emissions**
 - **Proposed the Bill for the GHGs Reduction Act (GGRA) in 2008**
 - **Emissions trading system** as the main policy tool
- **Comment on the GGRA and challenges confronted by Taiwan**



Methods

- **Documentary analysis** to report on the updated status of Taiwan's emissions trading system
- Comment on it based on **environmental economics**



Results and Discussions

- **GHGs emissions of Taiwan**
- **Two main approaches to GHGs emissions trading**
- **Implications of Taiwan's emissions trading strategy**
- **Indefinite reduction targets**



Results and Discussions

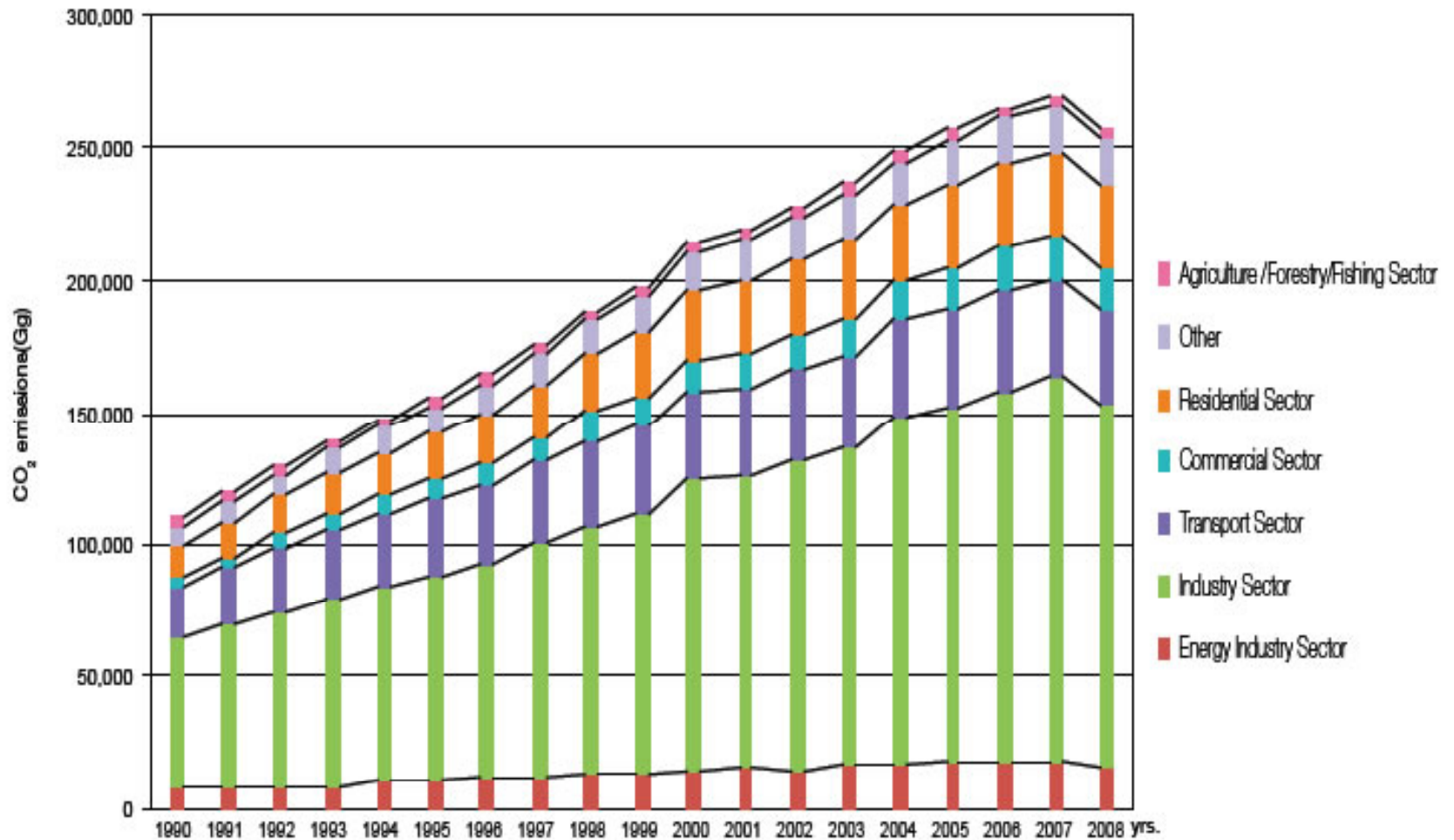
- Embedded **uncertainties**
- Linking with other trading systems **unilaterally**
- Compatibility between **emissions trading** and **carbon taxes**



GHG Emissions of Taiwan

- In 2008, Taiwan emitted 289.8 Mt CO₂ eq.
- Globally ranked **22**
- **92 %** is energy-related CO₂ emissions
- **48.1 %** is from **industrial sector**
- **9.0 %** is from **energy sector**
- Good news: emissions of 2008 decreased **4.3%** compared with 2007

GHGs Emissions of Taiwan





Two Main Approaches to GHGs Emissions Trading

- **Cap-and-Trade (CAT)**
 - Set a total cap for the emissions of regulated sources over a specific period of time
 - Allocate the cap, free or by auction, to regulated sources (**allowances**)
 - Regulated sources can trade allowances freely according to their planned emissions
 - Buy allowances if in short, and sell if in excess



Two Main Approaches to GHG Emissions Trading

- **Baseline-and-Credit (BAC)**
 - Define **baseline** for each regulated source
 - Baseline is an **emission efficiency** measured in weight per unit of input, output or activity
 - Compare emissions calculated by baseline with actual emissions
 - Buy credits if in short, and sell if in excess
 - Earn credits before trading



Two Main Approaches of GHG Emissions Trading

- **CAT is certain on the environmental outcome**
- **BAC implies free of charge to emit to baselines and imposes no limitation on production activity**
- **CAT is more cost-effective than BAC**



Implications of Taiwan's Emissions Trading Strategies

- **Three-stage strategy**
 - **Stage-I : report emissions inventory mandatorily**
 - **Stage-II : implement BAC system**
 - **Stage-III: implement CAT system**



Implications of Taiwan's Emissions Trading Strategies

- **Implications of three-stage strategy**
 - **Stage-I is to collect information for stage-II and III**
 - **BAC is a transitional step to lower impacts on the regulated sources**



Implications of Taiwan's Emissions Trading Strategies

- **Discussions: is BAC really a necessary transition?**
 - **Information gap between Stage-I and BAC**
 - **CAT has a good chance to be a global model**
 - **CAT could be managed to lower impacts and gain political support as the BAC does**
 - **Allocate allowances freely first, then by auction**
 - **Tighten the cap gradually**



Indefinite Reduction Targets

- **The government prefers not to set national reduction targets in GGRA**
 - **Maintain flexibility to cope with post-Kyoto development**
 - **Without binding targets, the government does not show enough determination**
 - **Without reduction targets, how to set the cap for CAT, decide the scope of regulated sources?**



Embedded Uncertainties

- **Regulatory certainty is key for regulated sources to manage costs and make long term investments**
- **GGRA remains unclear about**
 - **Which industries will be included?**
 - **How to set baselines for BAC?**
 - **How to set the cap and allocate allowance for CAT?**
 - **What are the timeframes of BAC and CAT?**
- **Legislative process of GGRA is stopped due to political resistance from the industries**



Linking with Other Trading Systems Unilaterally

- **First reading of GGRA allows to buy credits or allowances from other systems up to **35 %****
 - Credits of Joint Implementation (JI) and Clean Development Mechanism (CDM) under Kyoto
 - EU ETS and other trading systems
- **Buying credits abroad does not help to transit into low carbon society**
- **Taiwan needs not to buy credits because of no international reduction obligations**



Linking with Other Trading Systems Unilaterally

- **It could be a long term strategy but not now**
- **To do so, organizing its trading system compatible with prevailing systems is more important than linking with them unilaterally**



Compatibility between Emissions Trading and Carbon Taxes

- **Taiwan plans to impose carbon taxes**
- **Taiwan needs to consider the following issues carefully:**
 - **Complicated added regressive effects of carbon taxes**
 - **OECD and EU do not impose carbon taxes yet**
 - **Added costs which impact industries' international competitiveness**
 - **Double regulation should be avoided**



Summary

- **Taiwan firmly determined to reduce GHGs emission, but will not be able to do so under UNFCCC and Kyoto protocol**
- **It might be an advantage to implement emissions trading at its own pace**
- **To reduce resistance, uncertainties need to be clarified**
- **CAT system could follow stage-I immediately**



Summary

- **CAT should be implemented in stages in accordance with its transition timescale into low carbon society**
- **Linking with other systems could be a long term strategy but not immediately after CAT implementation**
- **Carbon tax regime should be compatible with CAT and the schedule needs to be planned carefully**