BEYOND
SMART CITIES
GLOBAL CARBON MARKETS - EMISSIONS TRADING
TRAINING PROGRAM
FOR ENVIRONMENTAL AND GHG SPECIALISTS
KRISHNAJI PAWAR,LEED AP BD+C,GSAS CGP,ISO 14001:2015,GCP
ENVIRONMENTAL SPECIALIST CURRICULUM

TOWARDS A GLOBAL EMISSIONS TRADING
ARCHITECTURE
FOR ENVIRONMENTAL AND GHG PROFESSIONALS
KRISHNAJI PAWAR,LEED AP BD+C,GSAS CGP,ISO 14001:2015,GCP
ENVIRONMENTAL SPECIALIST CURRICULUM

LEARNING OBJECTIVES
We begin by looking at The Australian Carbon Pollution Reduction Scheme
The New Zealand Emissions Trading Scheme
The Japanese Emissions Trading Scheme
Emissions trading in South Korea
Canada
The Indian Emissions Trading Scheme

INTRODUCTION

In this lesson, we will examine the prospects for greenhouse gas emissions trading systems being developed in outside of Europe, including Australia, New Zealand, Japan, Korea, and Canada We will also discuss how these emerging systems tie into a potential future global carbon market.

Moving beyond Europe, what other countries and regions are expected to implement emissions trading schemes? How will they operate? Will they work? And will we ever see a fully integrated global carbon market?

We attempt to answer these questions in this lesson and in upcoming lessons on North American emissions trading programs. However, only as the future unfolds will we discover the real answers. We ask you to post your questions and thoughts on these questions in the discussion forum to have a dialog with your instructor and fellow learners on this topic.

THE AUSTRALIAN CARBON POLLUTION REDUCTION SCHEME

Recall that emissions trading enables companies and governments to use low cost greenhouse gas abatement opportunities beyond their factory gates or national borders in order to mitigate the impact of their emissions. The larger the trading program or the more connections it has with other similar schemes, the more low-cost abatement opportunities there are likely to be. In economic parlance, "economies of scale" exist in emissions trading.

In this lesson we will examine five developing emissions trading schemes that may, one day, link seamlessly with carbon markets in Europe and the United States.

These are the Australian Carbon Pollution Reduction Scheme, the New Zealand ETS, The Korean Local Government and National ETS, the proposed Japanese and Tokyo ETS, and Canada's proposed intensity- based ETS.

We will then look at inter-governmental policy discussions for linking these emissions trading schemes and the possibilities and implications of a global emissions market.

THE AUSTRALIAN CARBON POLLUTION REDUCTION SCHEME +

In December 2007, the first major political act of new Australian Prime Minister, Kevin Rudd, was to ratify the Kyoto Protocol, bringing Australia into the community of Kyoto nations and leaving the United States as the only industrialized country non-party to the treaty.

Australia is a highly emissions-intensive economy, with much of its productive activity in metals and minerals extraction and processing.

Australia's dependence on natural resource exports enabled its delegates at the UN negotiations over Kyoto targets in 1997 obtain an extremely relaxed Kyoto target of 8% more than the country's 1990 emissions levels. In comparison, the average target for industrialized countries under the Kyoto Treaty is 5% below 1990 emission levels.

But even with this apparently soft target, the Conservative government at the time did not ratify the Kyoto Protocol because it held that investment in low emissions technology was a more effective solution to climate change than committing to binding targets.

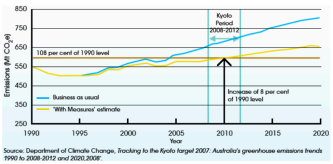
THE AUSTRALIAN CARBON POLLUTION REDUCTION SCHEME +

The Labour Party under current Prime Minister Rudd wasted no time in pursuing emissions trading when it took power in 2007. The party established a new Department of Climate Change to manage the program and published plans in July 2008 describing the government's preferred position on how the scheme would be designed.

These plans were open to public comment, and many of the country's major polluting companies provided extensive critique on the proposals. The Department of Climate Change considered many of these comments and mentions them explicitly it is final policy documents, known as the "Carbon Pollution Reduction Scheme, or CPRS, "White Paper" published in December 2008.

THE WHITE PAPER

In the long term, the Australian government has committed to reducing Australia's greenhouse gas emissions to 60 per cent below 2000 levels by 2050. In the near term, the reduction goal depends on the efforts of other countries. The White Paper suggests a 5 to 15 percent cut below 2000 emissions levels by 2020, with 5% being the absolute minimum that the country will reduce.



Source: Department of Climate Change, *Tracking to the Kyoto target 2007: Australia's greenhouse emissions trends 1990 to 2008-2012 and 2020.2008*.

Finally, and perhaps most surprising given the extensive debate on the use of CDM and JI credits in Europe, the White Paper proposes that an unlimited quantity of C.E.R.s can be used for compliance with emissions targets. The implication of such a move is that the marginal abatement cost, and hence the Australian allowance price, will be closely aligned to the price of international offsets, meaning CERs and ERUs.

THE NEW ZEALAND EMISSIONS TRADING SCHEME

The New Zealand Emissions Trading Scheme is the Government's main tool for reducing greenhouse gas emissions.

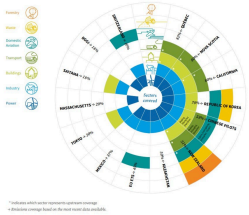
The New Zealand Emissions Trading Scheme (NZ ETS) is a key tool for meeting our domestic and international climate change targets, including the 2050 target set by the Climate Change Response Act 2002.

The New Zealand Emissions Trading Scheme helps reduce emissions by doing three main things:

- ☑Requiring businesses to measure and report on their greenhouse gas emissions
- ☑Requiring businesses to surrender one 'emissions unit' (known as an NZU) to the Government for each one tonne of emissions they emit
- ☑Limiting the number of NZUs available to emitters (i.e. that are supplied into the scheme).

THE NEW ZEALAND EMISSIONS TRADING SCHEME +

Global sectoral coverage - by scheme



The Government sets and reduces the number of units supplied into the scheme over time. This limits the quantity that emitters can emit, in line with New Zealand's emission reduction targets.

Businesses who participate in the NZ ETS can buy and sell units from each other. The price for units reflects supply and demand in the scheme. This price signal allows businesses to make economically efficient choices about how to reduce emissions.

In 2020, all ETS's in operation covered around 9 % of global greenhouse gas emissions. This is projected to rise to around 14% of global greenhouse gas emissions in 2021

Jurisdictions making up 42% of global GDP are using emissions trading

Almost 1/6 of the global population lives under an operational ETS.

THE JAPANESE EMISSIONS TRADING SCHEME

The Japanese Ministry of Economy, Trade and Industry (METI) and the Japan Exchange Group (JPX) plan to create the country's first market for trading carbon emissions, launching a demonstration project in September 2022.

The mechanism should become fully operational in the fiscal year starting April 2023. Under the scheme, companies participating in the market will set emissions reduction targets for 2030. If they fail to reach their targets, they will be able to buy emissions credits (surplus reductions from other firms identified as carbon credits by the government) through the market to make up the difference. The price of carbon will be made public as a reference for other participating businesses.

Currently, carbon emissions are traded over the counter in Japan. With its new policy, the country aims to improve transparency in prices, encourage more companies to participate in the market and foster decarbonisation in its economy.

THE JAPANESE EMISSIONS TRADING SCHEME +

The Japanese government had already announced in 2012 its intention to introduce a national compulsory emissions trading scheme for large CO2 emitting companies. However, in the face of strong opposition from industries, the government scrapped the proposal and instead introduced a CO2 tax. In April 2021, Japan raised its target reduction of GHG emissions for 2030 from 26% in its NDC to 46% (2013 as base year).

The country's greenhouse gas (GHG) emissions decreased by 5.1% in the financial year 2020-2021 (April 2020-March 2021) to 1,150 MtCO2eq, their lowest level since 1990-1991, according to final figures from the Japanese Ministry of the Environment. It represents an 18.4% decline compared to the financial year 2013.

EMISSIONS TRADING IN SOUTH KOREA

The Korea ETS (K-ETS) was launched in 2015, becoming East Asia's first nationwide mandatory ETS and, at the time, the second-largest carbon market after the EU ETS. The K-ETS covers 684 of the country's largest emitters, accounting for ~73.5%* of national GHG emissions. It covers direct emissions of six GHGs as well as indirect emissions from electricity consumption. The K-ETS is meant to play an essential role in meeting Korea's 2030 updated NDC target.

The legal base for green growth and implementation of the K-ETS is the "Framework Act on Low Carbon, Green Growth" (2010). The "Act on Allocation and Trading of Greenhouse Gas Emissions Allowances" (Emissions Trading Act) and its Enforcement Decree, passed in 2012, stipulate government actions, institutions, and timelines for the K-ETS. Further details of the K-ETS have been outlined in three "Master Plans" (January 2014, February 2017 and December 2019). Detailed Allocation Plans have been released for each trading phase (January 2014, July 2018, and September 2020).

EMISSIONS TRADING IN SOUTH KOREA +

In 2021, Korea enacted the "Carbon Neutral Green Growth Framework Act for Response to Climate Crisis" (Carbon Neutral Framework Act), which institutionalized the carbon neutrality goal for 2050 that the government had originally announced in 2020. Furthermore, during COP 26, the government announced that it would seek to increase its 2030 NDC goal, initially for a 24.4% reduction from 2017 emissions, to 40% below 2018 emissions. This proposed increase in ambition is also 5% above the minimum set in the Carbon Neutral Framework Act.

Starting from Phase 3, domestic financial intermediaries ("third parties") can participate in the secondary market and trade allowances as well as converted carbon offsets on KRX. In line with this, 20 third parties were approved for participation in the carbon market from December 2021. However, they can only hold up to 200,000 allowances each, to avoid excessive market share. To support market liquidity, the "market maker system" that was introduced in Phase 2 saw the appointment of three new financial institutions in April 2021, in addition to the two market makers that had been appointed in 2019.

EMISSIONS TRADING IN INDIA

India has well-developed complementary infrastructure including fully developed technology within the country to implement an Emission Trading Scheme with minimal additional infrastructure inputs. It however requires a detailed framework for allocation methodology, implementation, compliance enforcement and legal aspects

India has let the world know of its approach towards climate change through the Prime Minister's announcements of climate change commitments at the Glasgow COP26. It's a very bold and laudable step by a country that has only been responsible for 4 per cent of global emissions but has a huge need to grow its economy with low-cost energy. This is the first time India has taken climate targets in terms of absolute emissions, bracketing it with the developed countries of the world.

EMISSIONS TRADING IN INDIA +

While Government may take time to implement a comprehensive Indian ETS, it is suggested that a pilot ETS for Hydrogen Offset Trading Scheme can be started under the National Hydrogen Missions soonest. This is because the low carbon Hydrogen Industry is just getting started and as such it would be easier to initiate the scheme.

Emission Trading Scheme is an increasingly popular market mechanism that harnesses market forces to address climate change by creating financial incentives for companies to lower their emissions by switching to more efficient processes or cleaner fuels. In this way, the overall environmental goal is achieved in the most flexible and least-costly way to society. Placing an adequate price on GHG emissions is of fundamental relevance to internalise the external cost of climate change in the broadest possible range of economic decision making and in setting economic incentives for clean development.