SIGMA GLOBAL

U.K. NETHERLANDS SINGAPORE AUSTRALIA

Steel Task Force

Third Experts Workshop

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Contents

- Introduction to Sigma Global
- The Global Carbon Markets
- The Clean Development Mechanism
- Action in developing countries
- Financing Clean Development
- Potential steel projects

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Who is Sigma Global?

- Sigma Global develops partnerships in order to assist companies develop their carbon business. Using the combined commercial, legal, transactional and carbon project expertise of its founders, Sigma Global is able to provide a broad range of products and opportunities for its partners and clients

Our activities revolve around our five core activities:

- Identifying opportunities across international operations
- Identifying emission reduction projects
- Facilitating emission reduction projects
- Creating carbon assets
- Managing carbon assets

- In what ever manner your company may wish to apply our expertise, Sigma and our global network of strategic partners are able to provide a fully integrated, end-to-end carbon service for your needs

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Global Carbon Markets

- Global Carbon Markets were worth **€22.5 billion** (approx AUD$38 billion) in 2006. The market saw transactions for 1.6 billion tonnes of CO2e
- The EU ETS accounted for 62% of the volume and over 80% of the value
- EU ETS saw 1 billion tonnes of CO2 transacted, worth €18.1 billion
- This was 2.5 times higher than in 2005
- The CDM saw transactions for 523 Mt CO2e in 2006, with a secondary market adding 40 Mt and a combined value of €3.9 billion
- National and regional emissions trading systems are being developed rapidly. The US and Australia are expected to be particular areas of growth

The Clean Development Mechanism (1)

- The Clean Development Mechanism (CDM) defined in Article 12 of the Kyoto Protocol provides for Annex I Parties (developed countries with a reduction target) to implement project activities that reduce emissions in non-Annex I Parties (developing countries with no reduction target), in return for certified emission reductions (CERs)
- The CERs generated by such project activities can be used by Annex I Parties to help meet their emissions targets under the Kyoto Protocol, as a supplementary measure
- Article 12 also stresses that such projects are to assist the developing country host Parties in achieving sustainable development and in contributing to the ultimate objective of the United Nations Framework Convention on Climate Change

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The Clean Development Mechanism (2)

- The Clean Development Mechanism facilitates emission reducing projects in developing (Non-Annex 1) countries
- Emission reductions must be additional to business as usual
- For a CDM project to be eligible it must be approved by the host country and administered and registered by the UNFCCC Clean Development Mechanism Executive Board (CDM EB)
- The host country must contribute reasonable capacity to meet the administration requirements – have ratified the Kyoto Protocol, established a Designated National Authority (DNA)

CDM Project Process

- CDM has been labeled the only regulated mechanism up and running, that ensures "real, measurable emission reductions that are additional to what would have occurred without the project."
- Transparency:
  - All information is public
  - Public comments are sought
- Close to the market stakeholders:
  - Bottom up approach
  - Increasing interaction/constructive dialogue
- Evolving with experience

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Joint Implementation (JI)

- Emission reduction projects in countries that have a Kyoto Protocol commitment
  - Emission reduction credits available from 2008
  - Emission reduction credits can be used for compliance with EU ETS when the ITL is established and if both countries meet the eligibility criteria under the Kyoto Protocol
  - JI somewhat procedurally behind CDM but catching up

- Projects typically taking place in EIT (economies in transition) countries in Eastern Europe

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Action in Developing Countries (1)

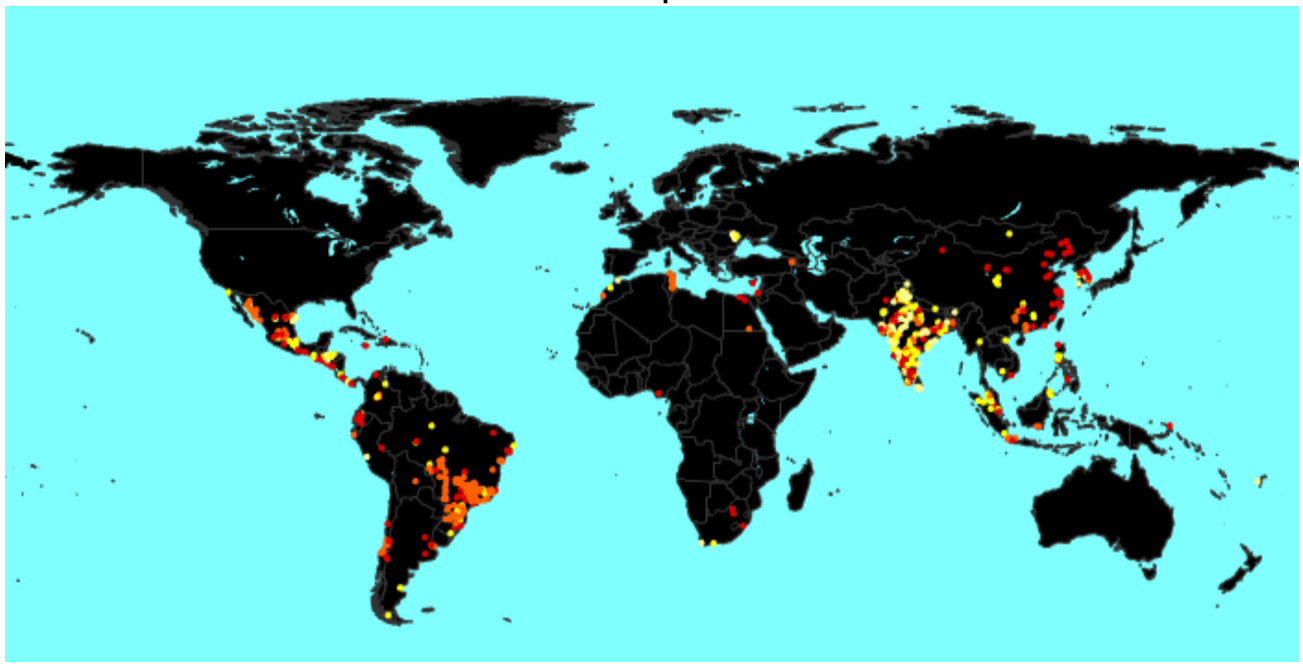
- Countries who have been most successful in establishing the necessary robust frameworks for CDM have so far attracted the largest investment
- Successful project development in various countries has stimulated further investment in those countries
- As development continues, and the demand and price of CERs continues to rise, projects are now being developed across a broader rang of technologies, and across a wider geographical range
- More and more financial institutions, hedge funds etc are engaging in CDM hence having a snow ball effect
- The total financial value of CDM transactions in 2006 = €3.9 billion

Action in Developing Countries (2)

The total financial value of CDM transactions in 2006 = €3.9 billion

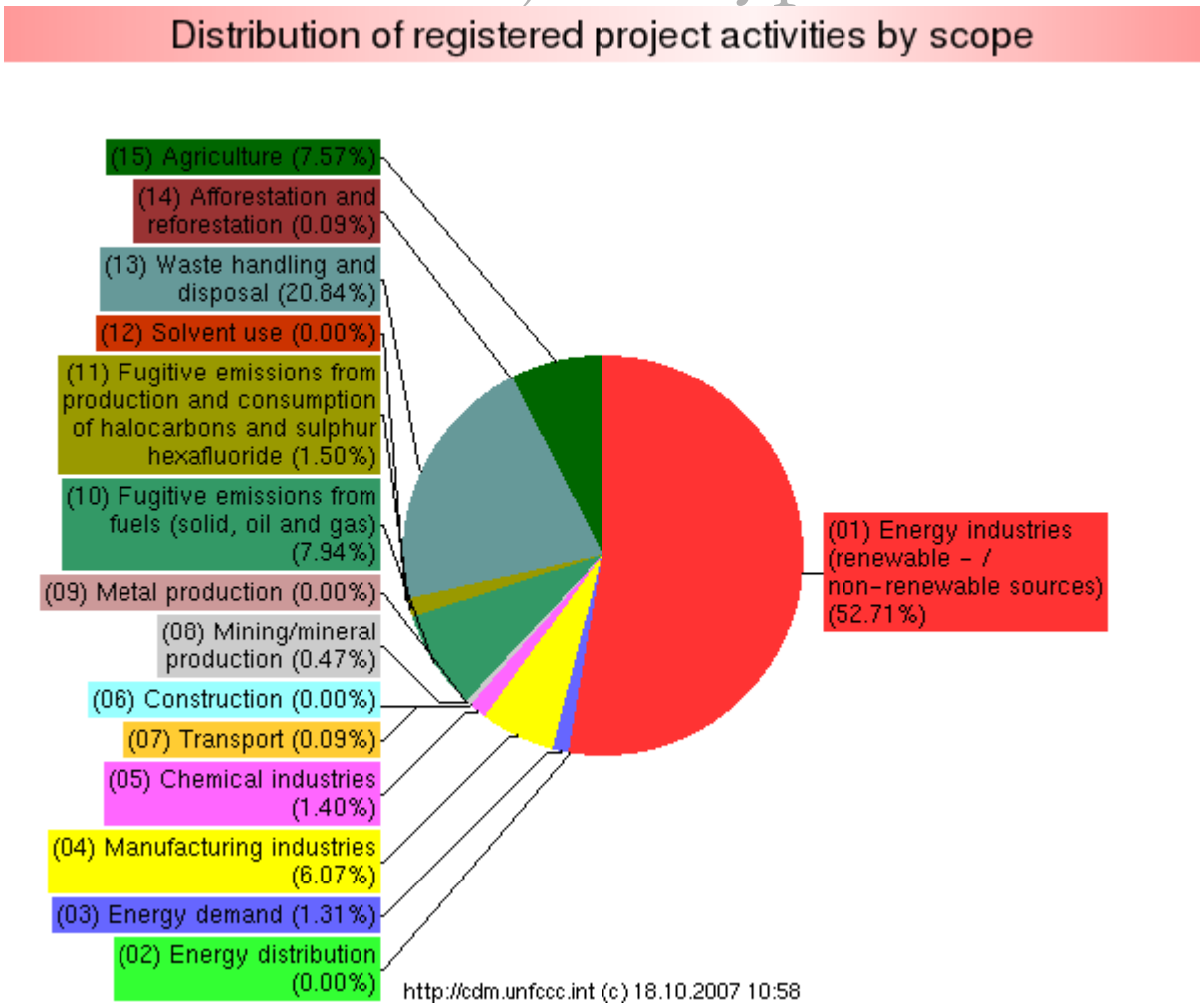
To date: - 819 registered CDM projects
- 84,525,534 million issued CERs as of 16 October 2007

In pipeline: - 1600 projects
- 1.9 billion CERs expected to the end of 2012



(assumption: no extension of crediting periods)
Map and statistics accessible from http://cdm.unfccc.int/

Breakdown of Project Types



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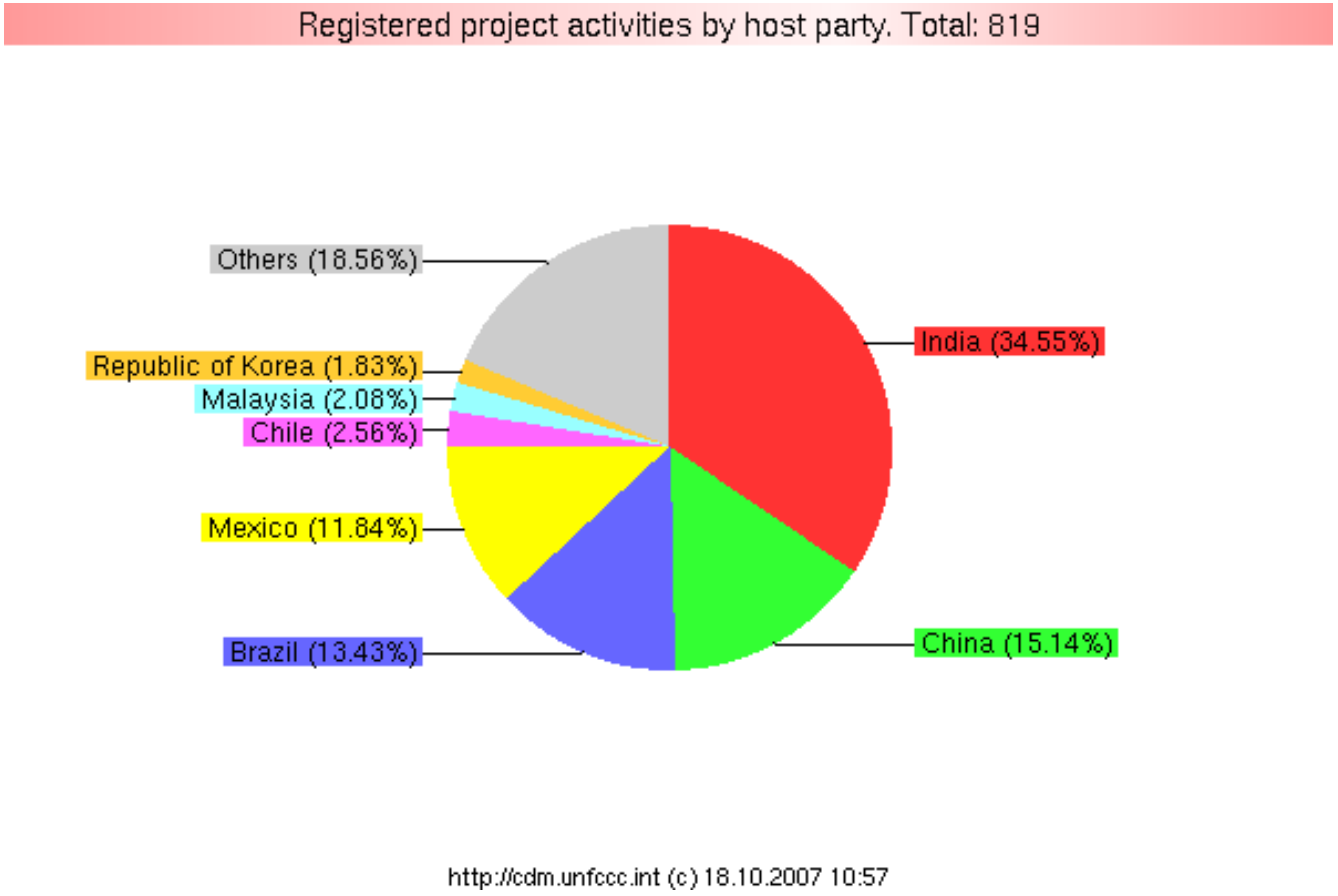
Registered Projects by Host Country



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Financing CDM projects (1)

- Carbon Finance was initially comparable to a Power Purchase Agreement where the buyer agreed to buy the Carbon Credit production of the project under and Emission Reduction Purchase Agreement (ERPA)
- Early buying was dominated by the World Bank and the Dutch Government
- Financing of the project was done by the project developer using traditional debt and equity with the Carbon element forming a later add-on
- Simple pre-payments on the basis of future credit delivery are now common place and are used as an integral part of the financing process
- Technology and maintenance contracts generally remain separate to the carbon finance, and are usually realised in US dollars.

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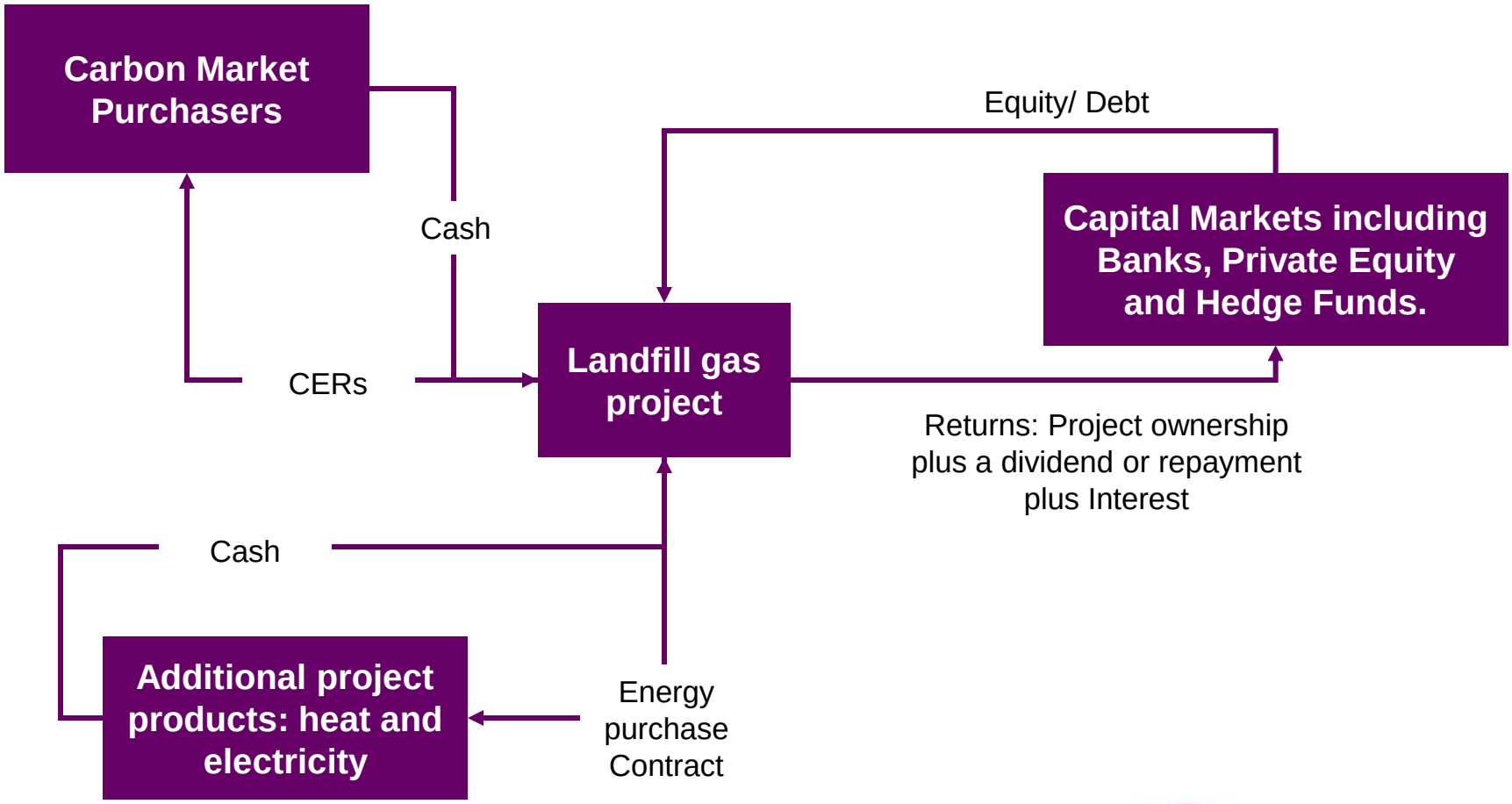
Carbon finance for a typical CDM project



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Financing CDM projects (2)

- Increasingly, more sophisticated buyers are bringing new financing methods to the market
- Funds such as the European Carbon Fund, Natsource GG-CAP and Trading Emissions Plc employ a portfolio approach to purchasing in order to minimise their delivery risk
- The use of call option premiums as pre-payment, credit enhancement with issued CERs, multi-market hedging models and other structures is becoming more common-place
- Contracting is becoming more precise and attuned to executing business in developing countries
- **Carbon is increasingly recognised as an asset class in itself and can contribute to the cash flow financial viability of many Developing Country energy projects**

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Pricing Certified Emission Reductions

The price of a CER depends on the degree of certainty the seller can provide the buyer with respect to delivery volume and dates

CDM Price Ranges

Category	Description	Price
1	Non-firm volume; buyer assumes regulatory risk	€6-8 (AUD$9.60 - 12.75)
2	Non-firm volume; standard offtake contract	€9-14 (AUD$14.35 – 22.30)
3	Firm volume; compensation upon non-delivery	€13-15 (AUD$20.70 – 23.90)
4	Firm volume; seller assumes all delivery risk	€14-17 (AUD$22.30 – 27.10)

Source: Point Carbon

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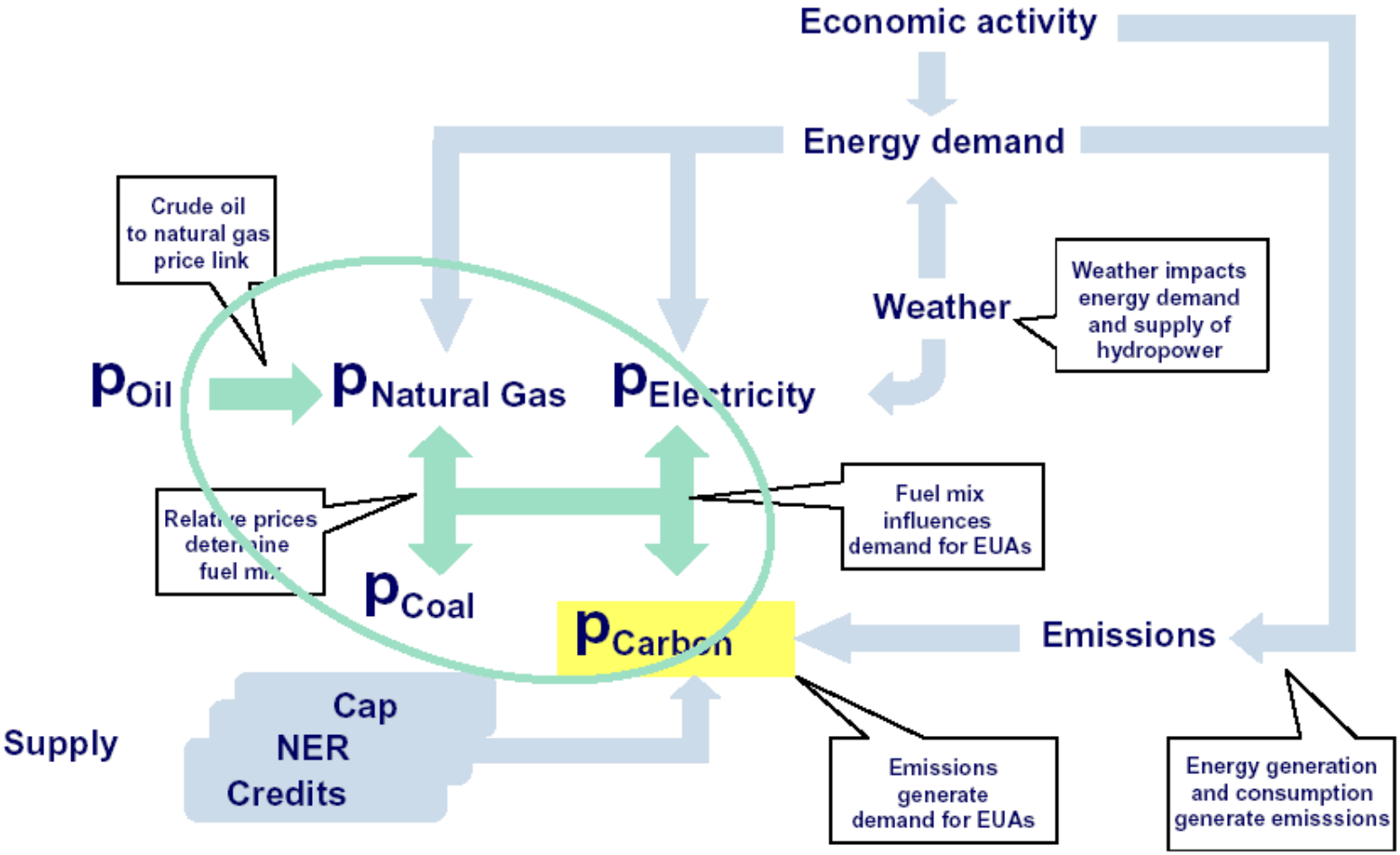
Carbon Price Drivers



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Potential Steel Projects (1)

- Sigma Global works in collaboration with steel experts to identify suitable technologies to implement according to individual company requirements
- CDM can be used to finance projects and derive added revenue
- Typical project types can include:
  - Coke Dry Quenching (instead of wet)
  - Coke oven gas recovery
  - Blast furnace gas recovery
  - Top pressure Recovery turbine (TRT)
  - Basic Oxygen Furnace gas recovery

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Potential Steel Projects (2)

- Further project types:
  - Sintering waste heat recovery
  - Use of waste plastic in coke production
  - Use of slag
  - Several ways to recycle internal residues and external products (like slag and waste plastics)

- Contact Sigma Global for assistance in developing a carbon business, or to add value an existing carbon business

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