



Climate &
Renewables

Green Enterprise: the EU perspective
“Why carbon matters”

The Inaugural MEF-EU Roundtable
Kuala Lumpur 12 November 2009

E.ON – Who we are



Key figures for the year 2008¹

Sales	€86.8 billion
Adjusted EBIT	€9.9 billion
Electricity sales volume ²	614.6 billion kWh
Gas sales volume ²	1,224.0 billion kWh
Employees	93,538

- Activities in conventional power and gas markets all over Europe and US – Renewable Energy and Carbon Sourcing worldwide
- Vertically and horizontally integrated business ranging from power generation and gas production to trading, distribution and customer sales
- Power generation capacity of 74 GW including nuclear, fossil and renewable energy

¹ According to the 2008 Annual Report.

² Unconsolidated figures.

EU Sustainable Development Strategy

- Climate change & clean energy
- Sustainable transport
- Sustainable consumption & production
- Conservation & management of natural resources
- Public health
- Social inclusion, demography & mitigation
- Global poverty [eradication]

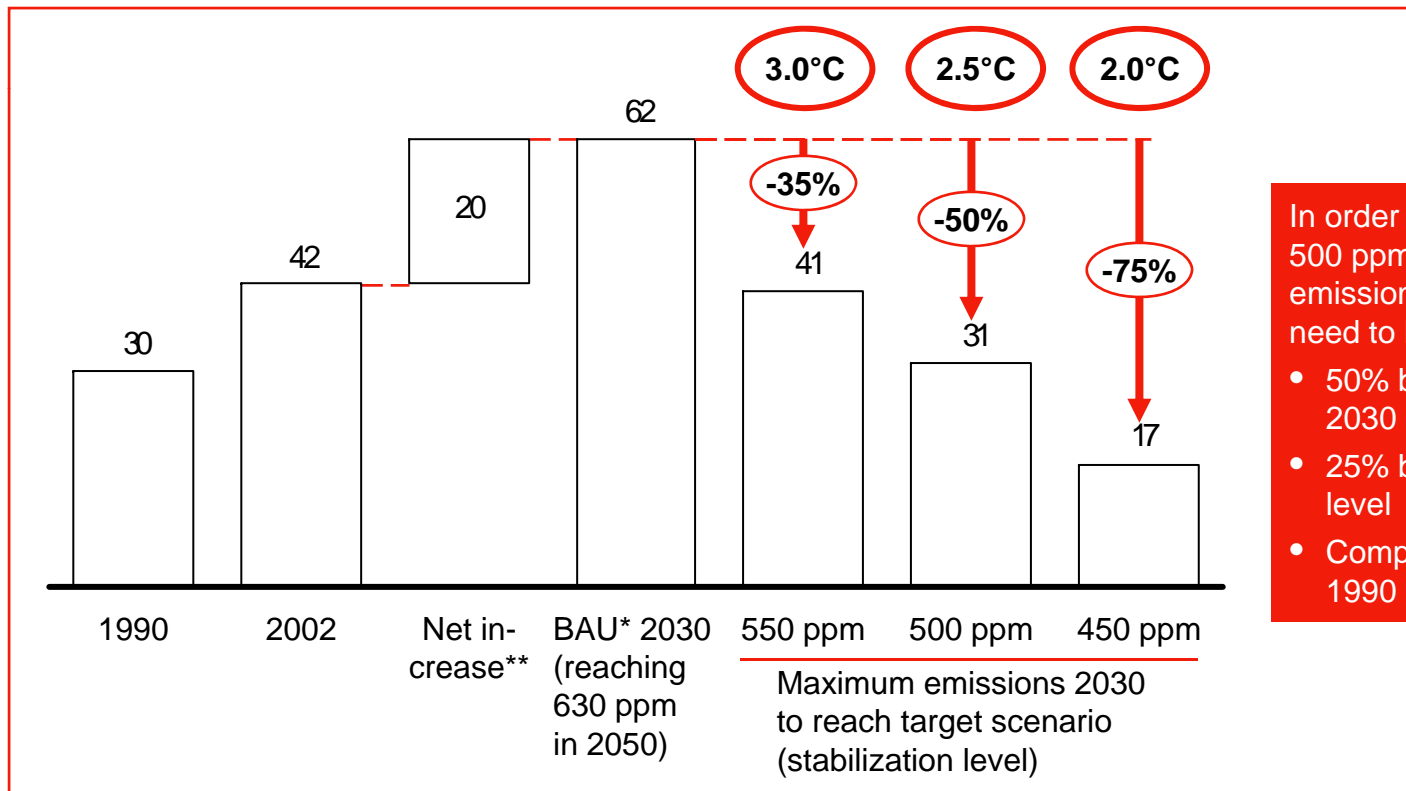
EU Sustainable Development Strategy

- Climate change & clean energy
 - By 2020, Europe must cut greenhouse gas emissions by 20%, produce 20% of its energy from renewable sources and increase energy efficiency by 20%,
 - If there is an international agreement post 2012 then there will be a growth of emission reduction effort from 20% to at least 30%.
 - Strong correlation between augmenting clean energy generation and reducing emissions (% of carbon emissions from energy)
 - Interface with emerging economies [Malaysia] is primarily through carbon project development under the Clean Development Mechanism (CDM) under the Kyoto Protocol
 - Carbon acts as a vehicle for fostering trade and technology transfer between the EU and emerging economies [Malaysia] in both the public and private sectors

Required abatement to stabilize GHG's concentration in the atmosphere

Bn tCO₂e, Percent

○ Median estimated temperature increase



In order to reach 500 ppm, 2030 emissions would need to be

- 50% below BAU 2030
- 25% below 2002 level
- Comparable to 1990 level

* Business as usual

** After BAU-decarbonization

Source: Stern Report, McKinsey analysis

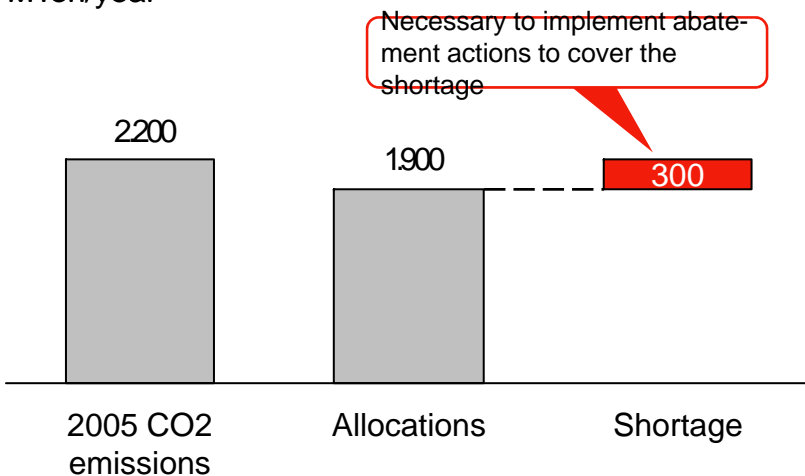
Climate & energy package

EU set very ambitious emission targets

EU emission cap and trade system (ETS)

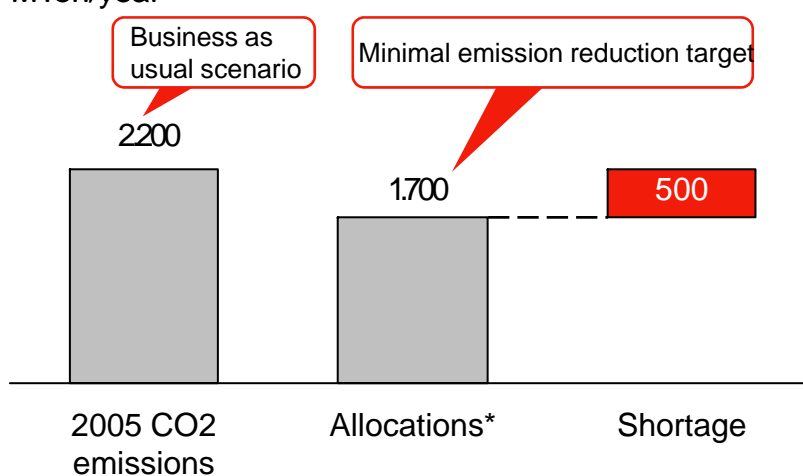
2008-2012

MTon/year



Post 2012

MTon/year



The required reduction effort is huge

If we had to reduce 500 MTon only in the power sector this would mean – for example – applying CCS to more than 70 GW of old coal plants (or replacing their production

*Allocations by 2020; average allocation 1.850 Mton/year (2013-2020)

...and has set up E.ON Climate & Renewables (EC&R) to achieve its ambitious Renewables targets

EC&R remit

Setting strategy, portfolio and the investment plan for renewables

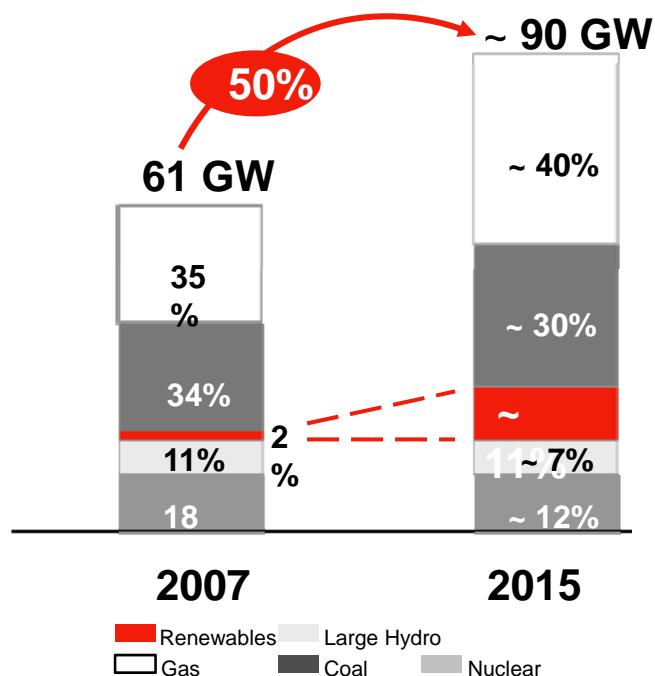
Managing all existing and future renewables operations

Carbon sourcing (JI/CDM) for the entire E.ON Group

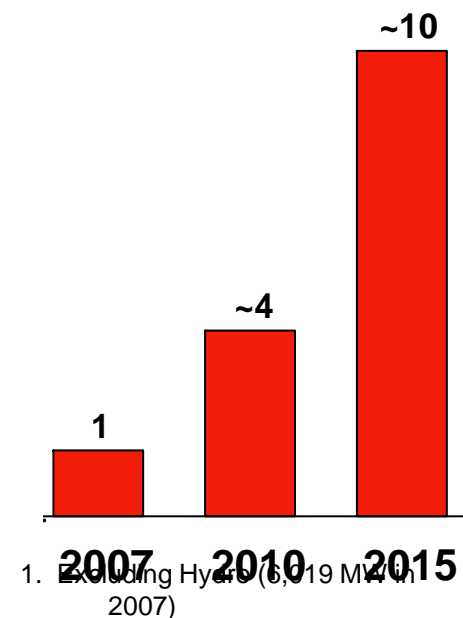
Driving E.ON's key growth aspirations

Spearheading E.ON's activities in emerging markets

E.ON's generation portfolio



Renewables capacity (GW)¹

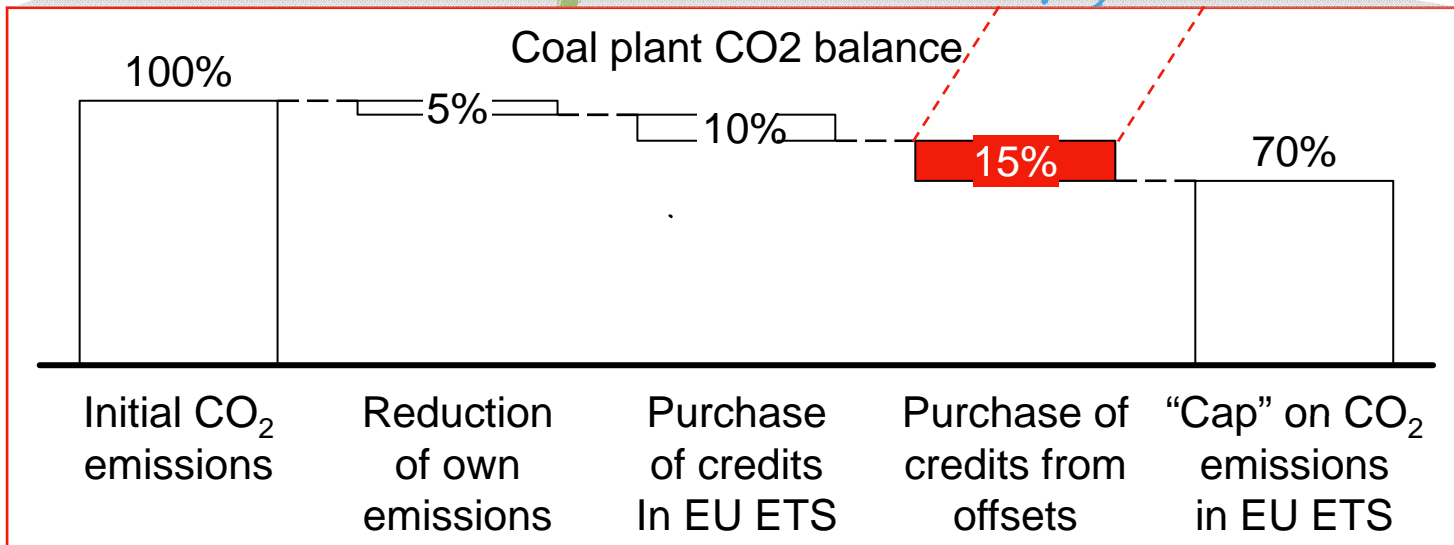
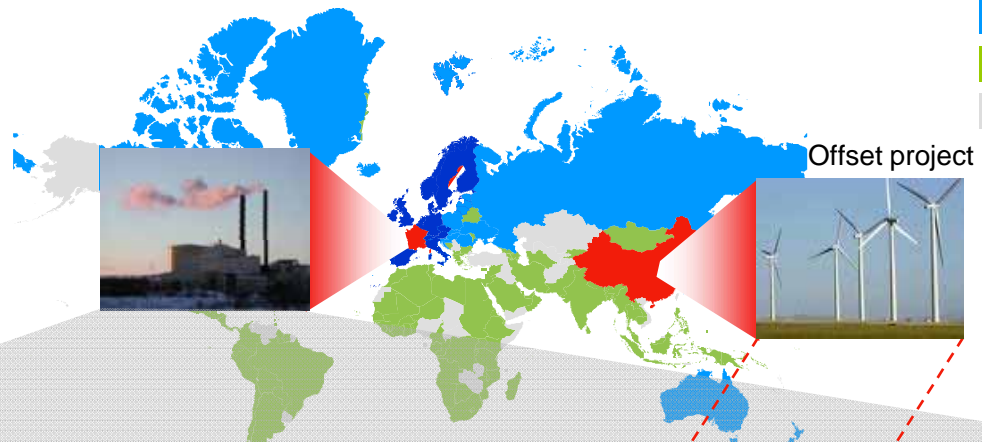


E.ON is investing about €6 bn between 2007-2010 and will decrease own CO₂ emissions by 50% until 2030

How “offset projects” can be used under Kyoto

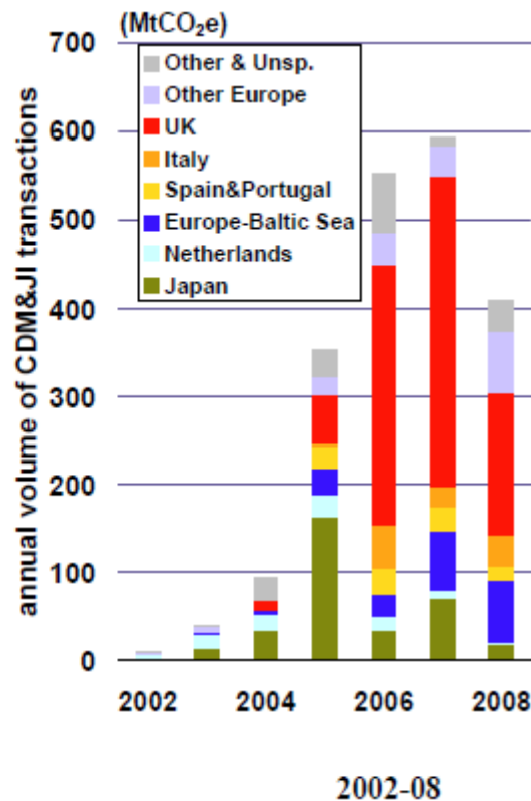
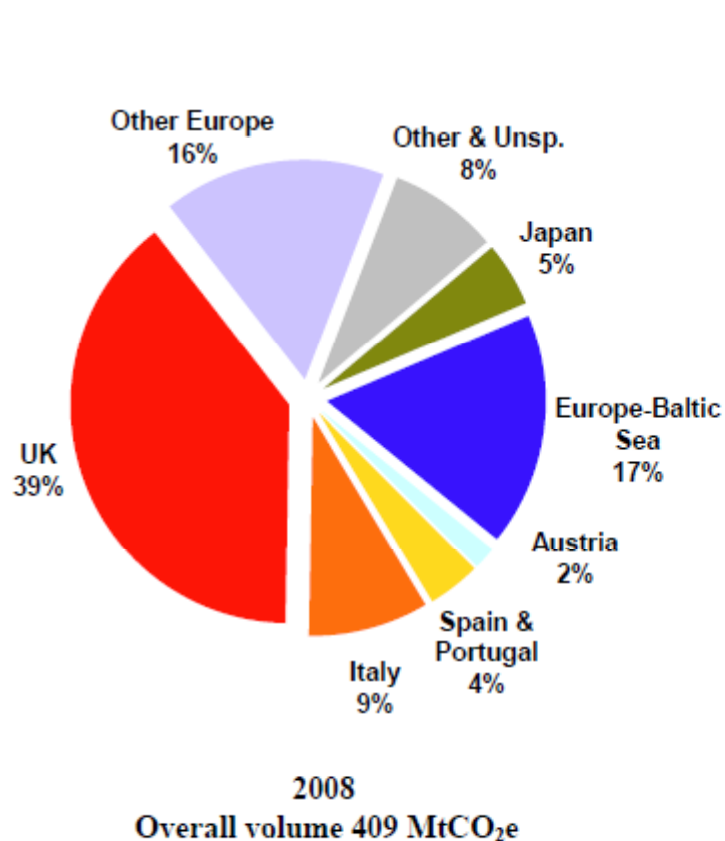
ILLUSTRATIVE

- Kyoto Protocol, JI, EU ETS
- Kyoto Protocol, JI
- CDM
- Other (non Kyoto)



Who is buying?

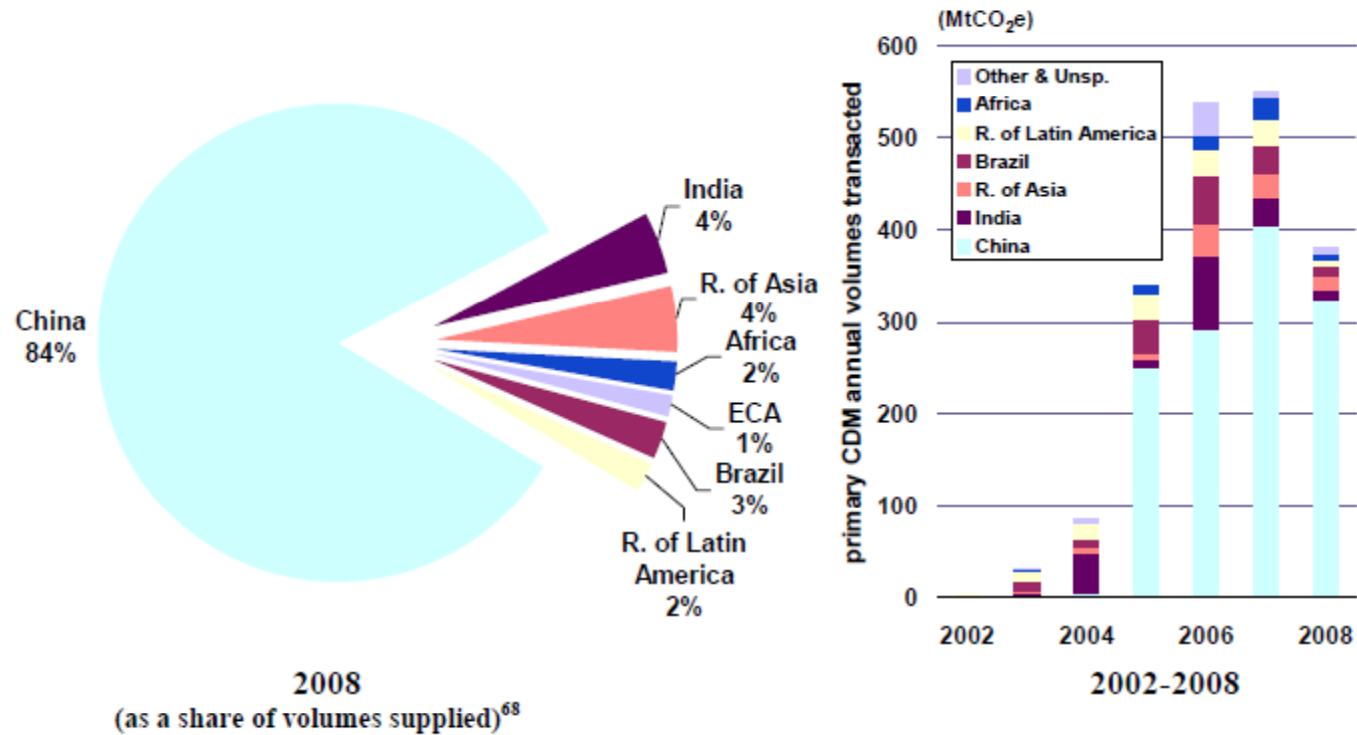
Primary CDM&JI Buyers (as shares of volumes purchased, vintages up to 2012)⁶⁵



Source: World Bank "State and Trends of the Carbon Market 2009"

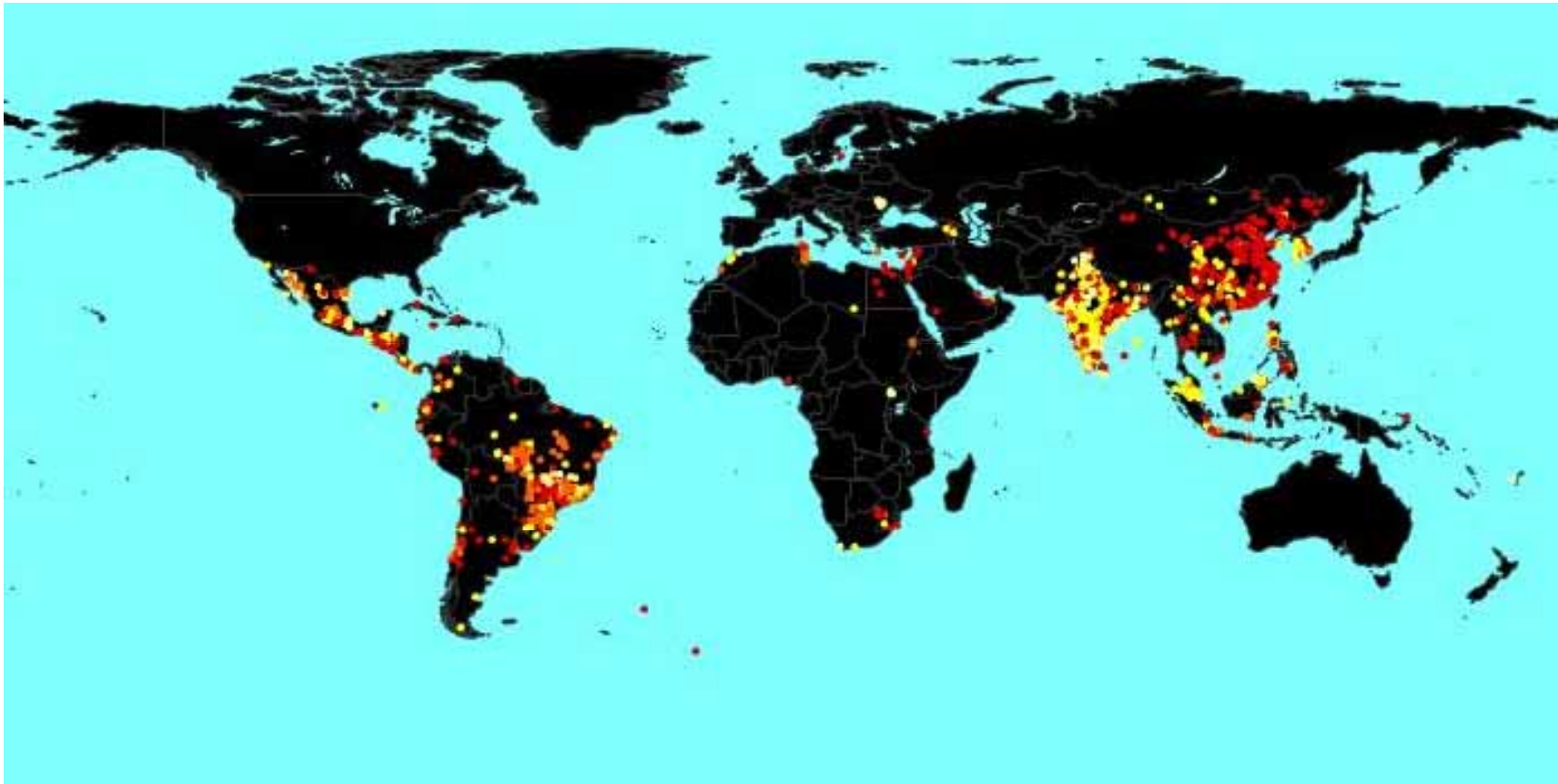
Who is selling?

Location of CDM Projects



Source: World Bank "State and Trends of the Carbon Market 2009"

Snapshot of worldwide CDM projects 2009



Conclusions and prospects for Malaysia

- Malaysia has the opportunity to positively contribute to climate change mitigation while simultaneously developing mutually beneficial trade opportunities with the EU, increasing energy security and fostering effective and efficient low-carbon infrastructure, which in turn can stimulate economic growth
- Accelerating development and diffusion of technologies that can achieve this goal should be paramount;
- Long-term (20++ years) commitments to policy that reward/penalize relative GHG performance via a market (Kyoto period of five (5) years is *way too short*)
- Capacity building and strong, domestic regulatory policy will further enable this sector.



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