

Sustainable Adaptation, Climate Change, and the Marketplace

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Presentation Outline

- What is the current state of and future outlook for financial and investment flows to address climate change?
- What are the important challenges and opportunities in sustaining climate adaptation projects and initiatives?
- What new triple bottom line strategies of financing climate change action are required to respond more effectively the climate change dilemma in the Asian context?

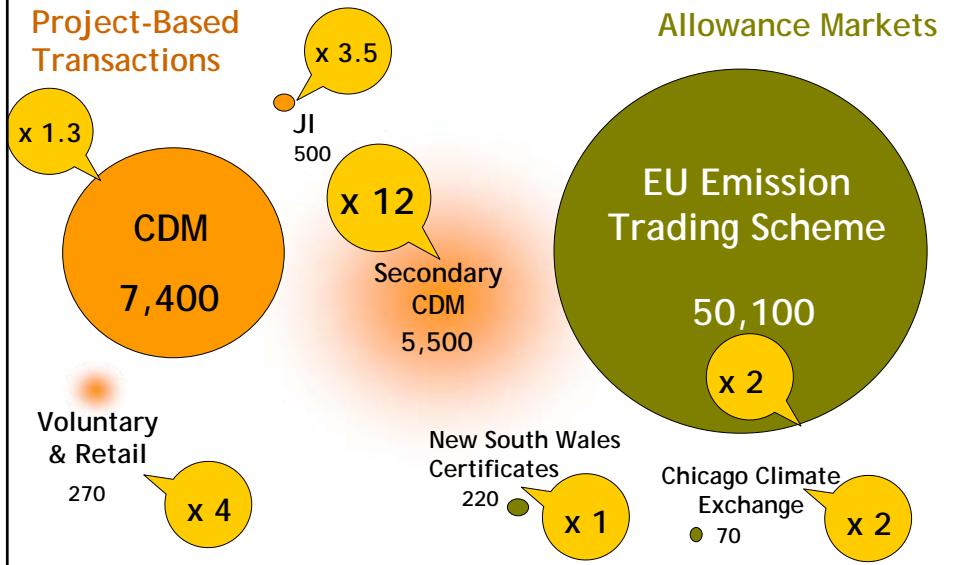
**What is the current state of and future outlook
financial and investment flows to
address climate change?**

**How much climate change-related financial and
investment flow do we need or are likely to have?**

- **World Bank (2008)** \$100 billion in mitigation and \$30-\$70 adaptation activities in 2030, 80 percent coming from the private sector.
- **UNFCCC (2007)** \$200-210 billion in mitigation and \$20-30 billion in adaptation in 2030 (or about global GDP [0.3 - 0.5 per cent] and global investment [1.1 – 1.7 per cent] with 86 percent coming from the private sector
- **Stern Review (2006)** recommends 1 percent of the global GDP in the range of \$350 and \$480 billion each year to cut GHG emissions

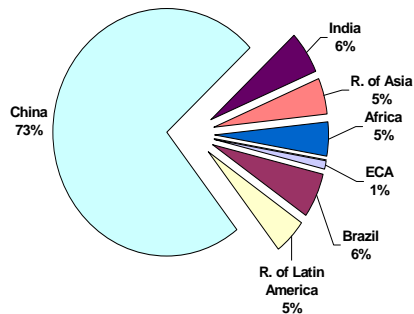
Even if we had the necessary funds, should we spend it on climate mitigation efforts in light of other development priorities like AIDs, public health, etc. ?

Carbon Market 2007 (World Bank 2008)
TOTAL: \$64 Billion!



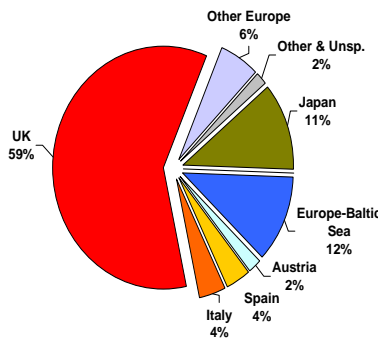
Location of CDM Projects and Primary CDM and JI Buyers

Location of CDM projects



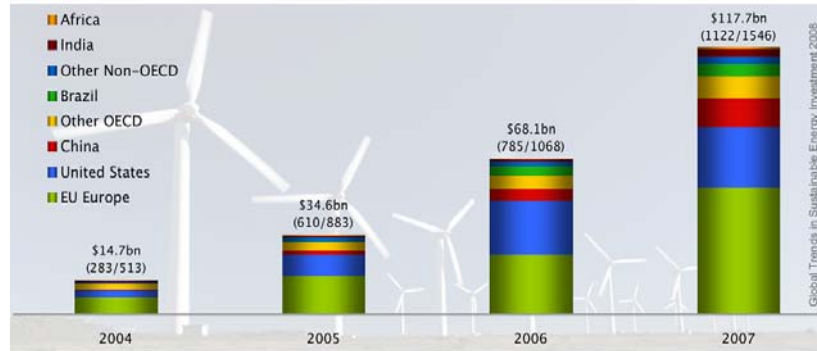
Jan. 2007 to Dec. 2007

Primary CDM&JI Buyers



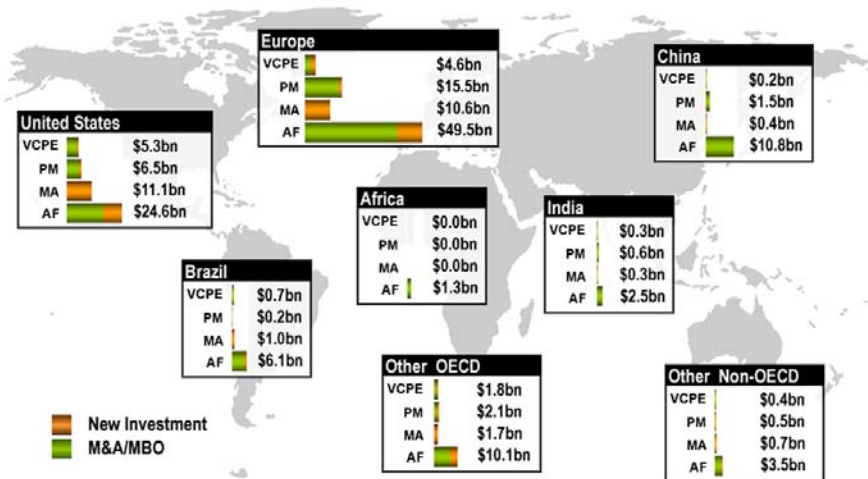
Jan. 2007 to Dec. 2007

New Investment by Region (VC/PE, Public Markets and Asset Finance), 2004 - 2007



Source: SEFI, New Energy Finance

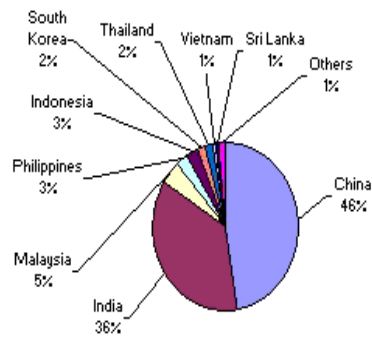
Global Investment in Sustainable Energy by Region, 2007



Source: SEFI, New Energy Finance

What are the important challenges and opportunities in sustaining climate adaptation projects and initiatives?

Asia benefits financially from CDM, but the benefits are not distributed evenly or equitably



Source: UNEP Riso Centre (2008)

Pollution Bonanza

South Korea is one of the biggest recipients of pollution-trading 'credits'...

Carbon credits* in millions



And also one of the wealthiest to benefit from the pollution trade

Gross domestic product per capita†

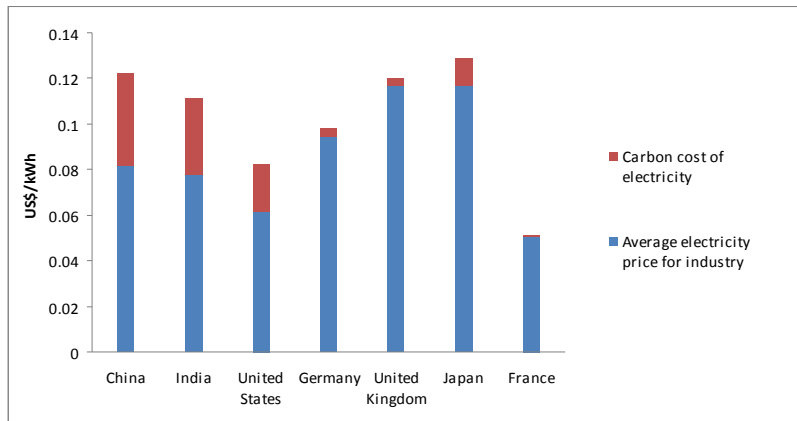


*Certified emissions reductions †Estimates as of April 2008

Sources: United Nations Environment Programme Riso Centre; International Monetary Fund

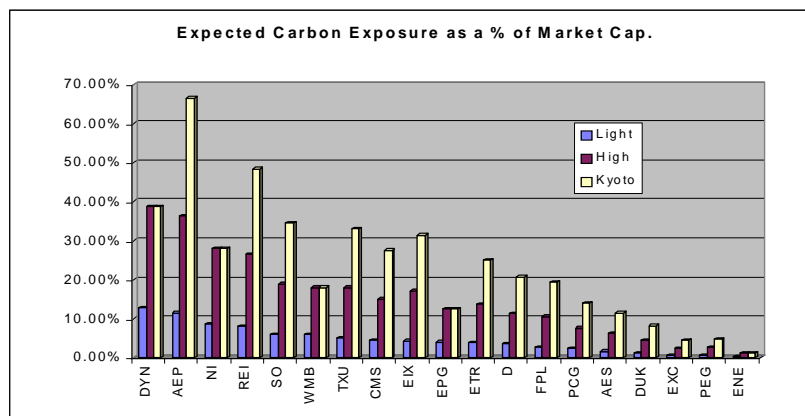
Source: Wall Street Journal, July 23, 2008, A1

Country-level impacts of carbon costs on electricity prices



Source: Trucost (2008)

What happens if Asian companies have to internalize the cost of their carbon footprint into their market cap?



SOURCE: Value At Risk Report (CERES/Innovest, 2002) and John Cusack/Gifford Park Associates

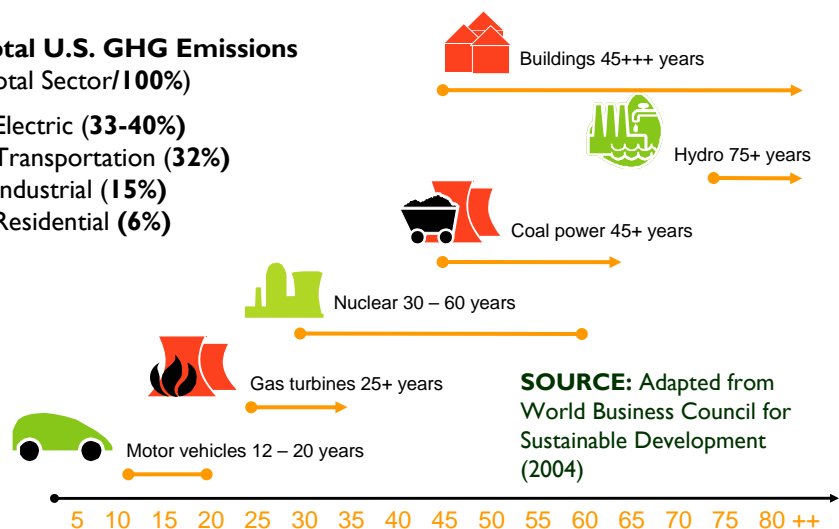
Mismatch between climate change-related financial and investment flow need versus resources?

- **Japan's \$10 billion (\$2 billion annual disbursement) Cool Earth Partnership** and **ADB's Energy Efficiency Initiative** and soon to be launched **Carbon Emissions Fund**
- **US AID (2007) report** Developing Asia currently accounts for about 23 percent of global CO₂ emissions (6 million out of 26 million metric tons), and its share of global emissions is projected to increase to nearly 50 percent (20 Mt out of 40 Mt) of global CO₂ emissions by 2030.
- **The key issue:** how much of the **\$6 trillion in new energy and other related infrastructure investments** in China, India, Indonesia, Philippines, Thailand, and Vietnam (which account for 96 percent of the GDP in developing Asia) that is expected to be spent over the next two decades will actually be environmentally sustainable?

Why the greening of \$6 trillion Asian energy investment and infrastructure spending is so important

Total U.S. GHG Emissions (Total Sector/100%)

- Electric (33-40%)
- Transportation (32%)
- Industrial (15%)
- Residential (6%)



Lesson from the Japanese industry experience: Importance of environmental and energy innovation

- Japan on average consumes half as much energy per dollar worth of economic activity as the European Union or the United States, and one-eighth as much as China and India in 2005 (IEA 2008).
- Japanese industry has managed to keep its overall annual energy consumption unchanged at the equivalent of a little more than a billion barrels of oil since the early 1970s, even as the economy doubled in size during the country's boom years of the 1970s and '80s.
- Japanese steel industry, for instance, invested \$45 billion in energy-saving technologies between 1972 and 2006, while the Japanese government announced (2008) that they will invest \$30 billion into the environmental and energy sector R&D over the next five years
- Along with other developing Asia countries, China spends anywhere between \$40 to \$100 billion (or as much as 1 percent of the country's GDP) in subsidizing energy prices

What new triple bottom line strategies of financing climate change action are required to respond more effectively to the climate change dilemma in the Asian context?

Carbon intensity is greater in urban areas, but target the rural areas if you want to decrease poverty

RURAL SHARE OF POVERTY

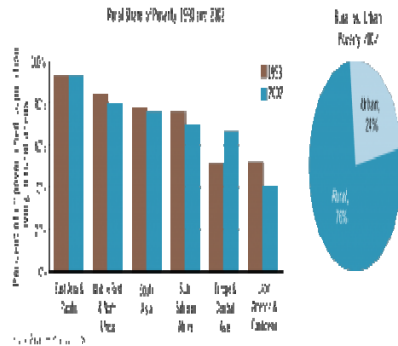
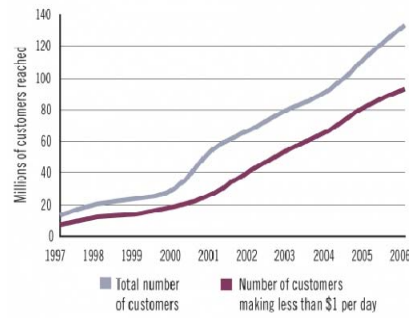


FIGURE 4.1 REACHING THE POOREST WITH MICROCREDIT WORLDWIDE, 1997 - 2006

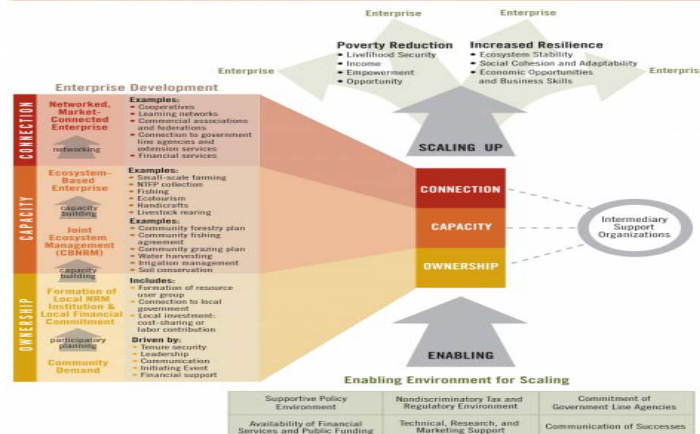


Sources: Deby-Harris 2007:22-23

Source: WRI et al, World Resource Report (2008)

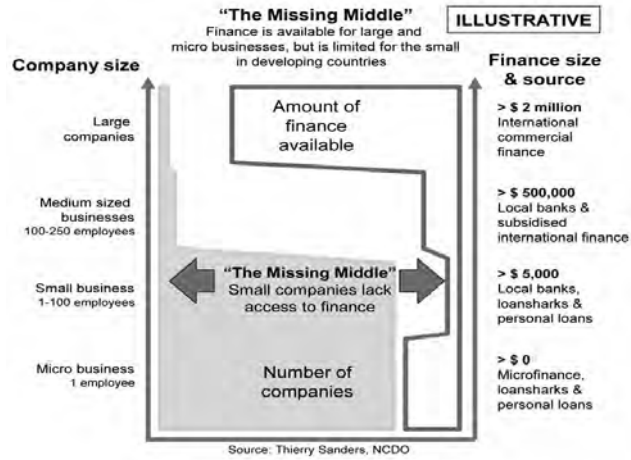
Increase the scalability of Asian SMEs devoted to clean energy and biodiversity-friendly issues

FIGURE 3.1 SCALING UP COMMUNITY-DRIVEN ECOSYSTEM ENTERPRISE

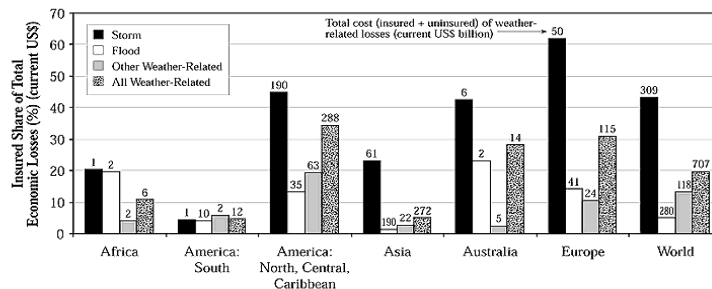


Source: WRI et al, World Resource Report (2008)

Focus on allocating sustainable financial resources for the “missing middle”



Provide insurance and other risk management tools to the Asian poor to increase adaptive resiliency



Number of Events	810	610	2,260	2,730	600	1,810	8,820
Weather-Related	91%	79%	87%	78%	87%	90%	83%
Fatalities	22,990	56,080	37,910	429,920	4,400	8,210	559,510
Weather-Related	88%	50%	72%	70%	95%	96%	70%
Economic Losses (current US\$ billion)	7	16	433	433	16	130	947
Weather-Related	81%	73%	84%	63%	84%	89%	75%
Insured Losses (current US\$ billion)	0.8	0.8	119	22	5	40	187
Weather-Related	100%	69%	86%	78%	74%	98%	87%

Source: IPCC Third Assessment Report WG II (2001)

