

Greening development: The role and experience of development banks

**MINDS Conference on Development and the role of
public financial institutions**

BNDES, Rio de Janeiro

28 July 2014

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Greening development: An economic imperative for Brazil, India, China et al

The green transition – viewed in the developed world as a moral imperative (This is what we **MUST** do to mitigate climate change)

BUT – no sense of an economic imperative, and no real progress over past 15 years of the Kyoto process

Viewed from perspective of China, India, Brazil et al – takes on a **very different complexion – an economic imperative**

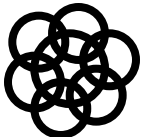
Can these countries continue their world-historic industrialization utilizing fossil fuels and almost limitless resource extraction – i.e. continue “Business as Usual”? Is it feasible?

Can the “western” model of industrialization scale to accommodate not just 1 billion people (Eur, North Am, Jpn) but 6-7 billion people?

Is therefore a “greening” of development the inevitable choice?

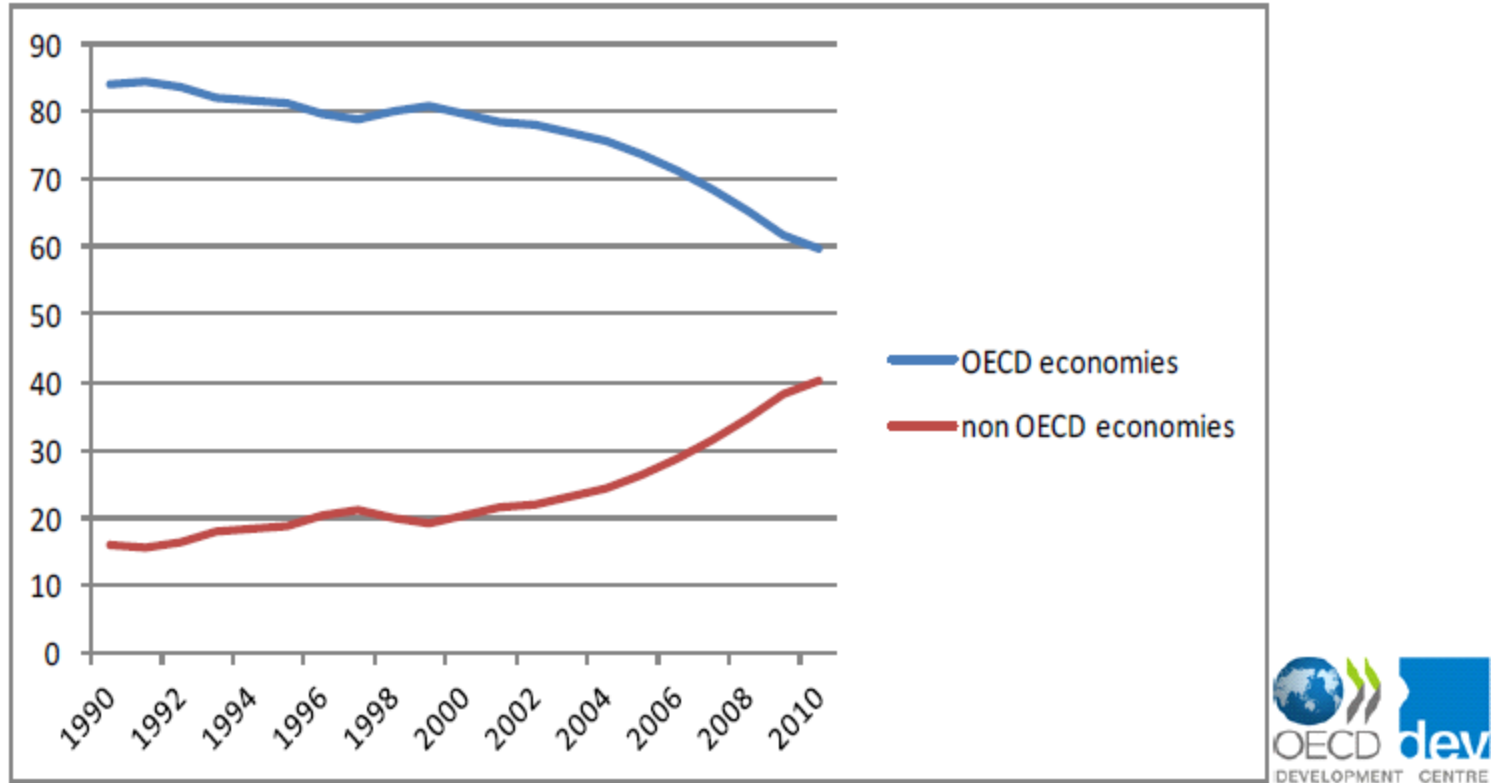
BIG QUESTIONS, BIG ISSUES

Consider the evidence

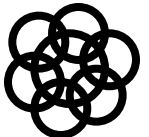


Shifting Wealth: Manufacturing is shifting East

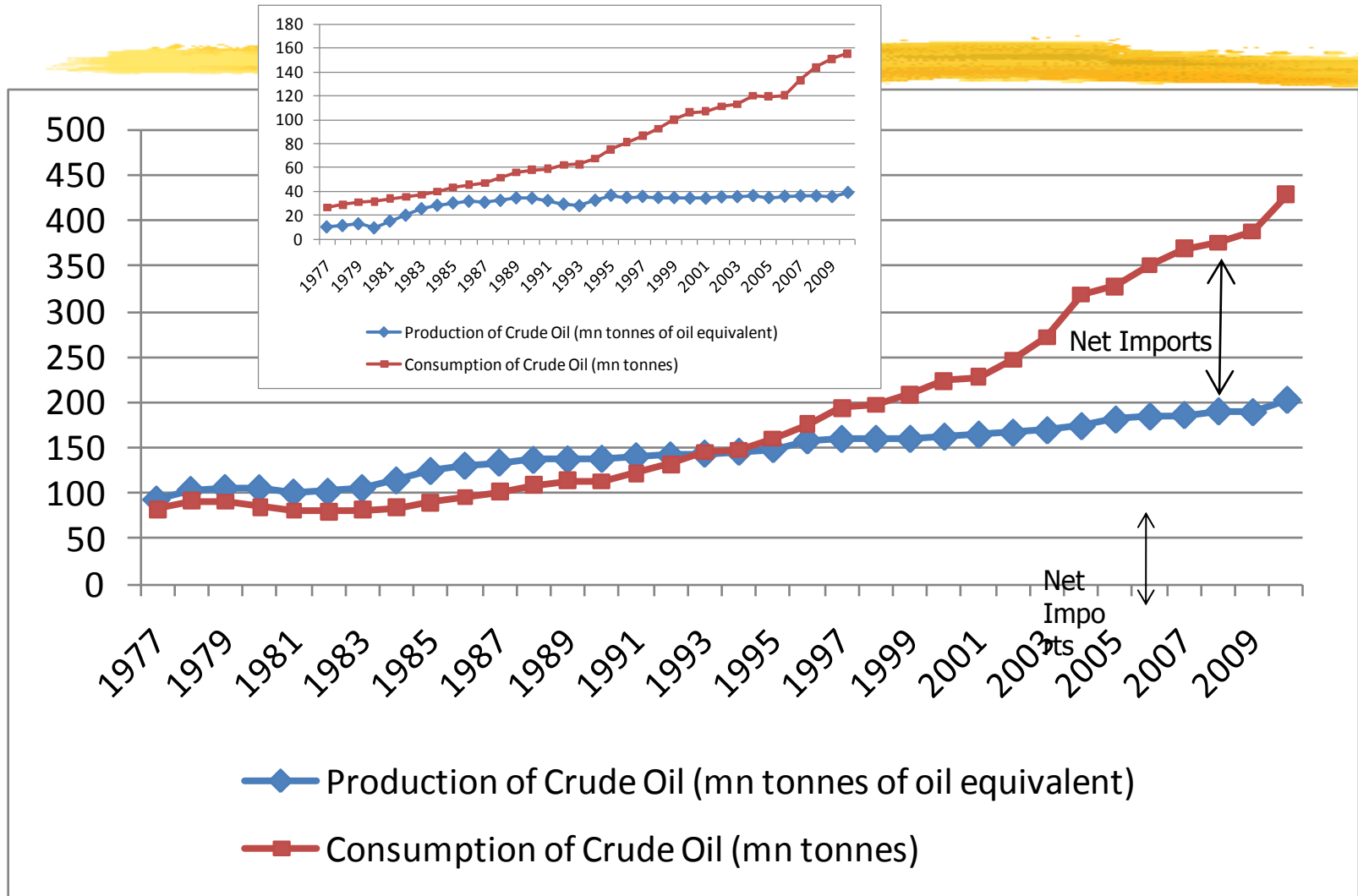
Share of manufacturing industry value added in total world manufacturing value added, 1990-2010



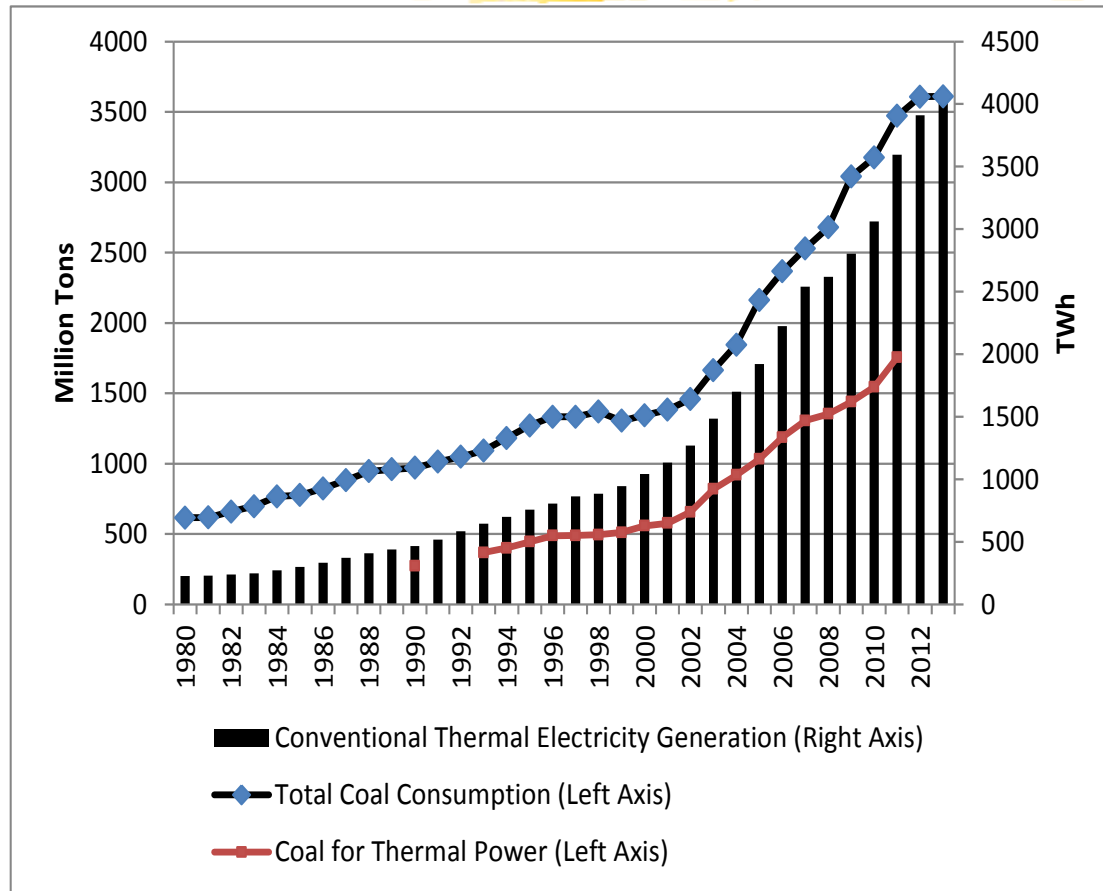
SOURCE: OECD Development Centre based on IHS Global Insight, special tabulations (2011) of World Industry Service database.
Note: OECD: no data for Austria, Estonia, Greece, Hungary, Iceland, Luxembourg, Portugal, Slovak Republic, Slovenia.



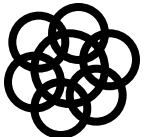
The energy issue and development: China's (India's) looming oil/energy gap



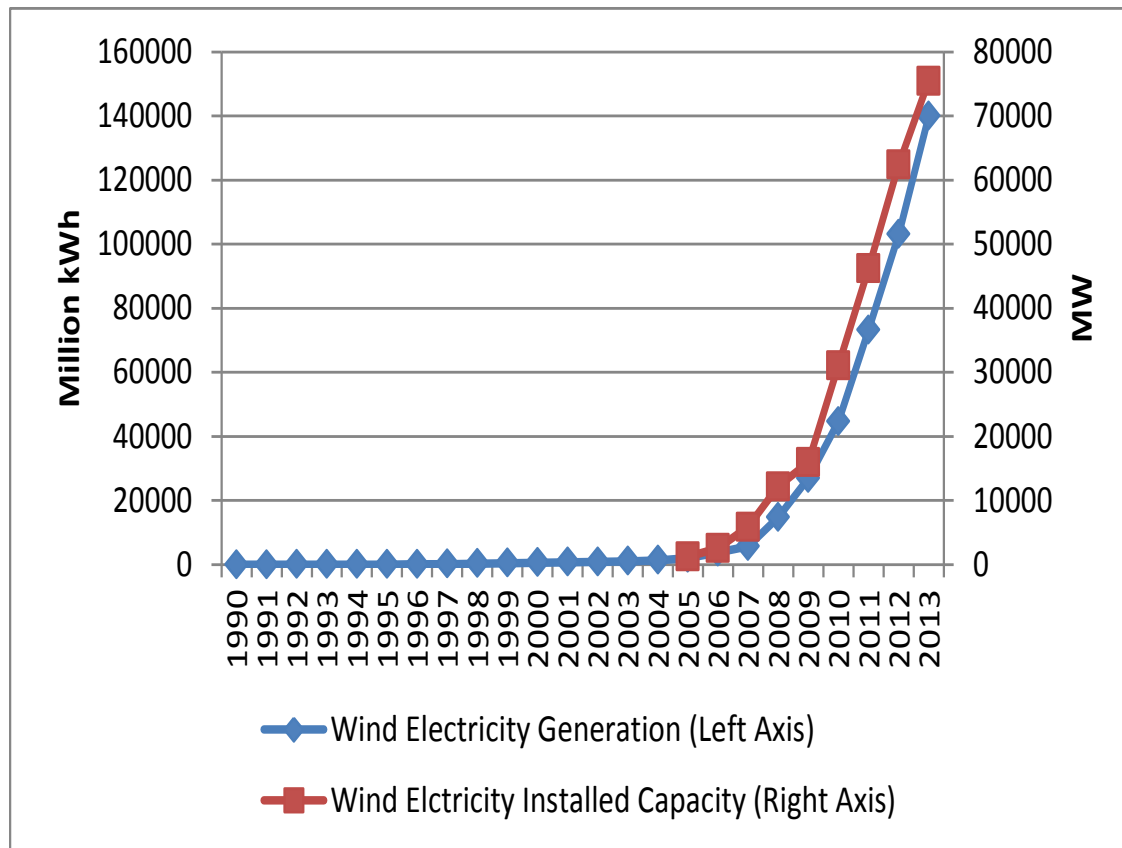
One face of China: Chinese power generation and rising coal consumption



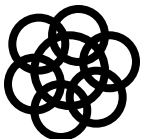
Source: Mathews & Tan; primary data: US EIA, China Electricity Council



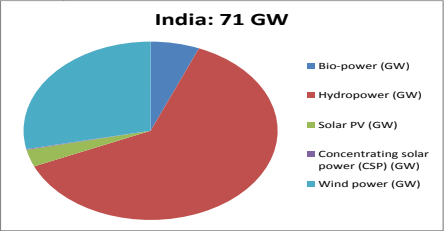
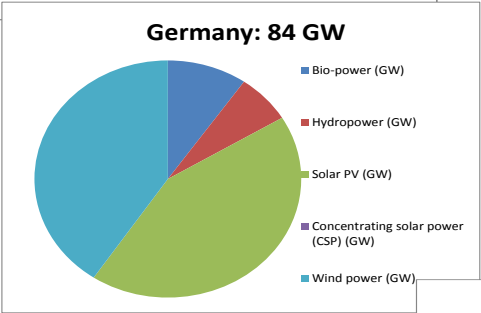
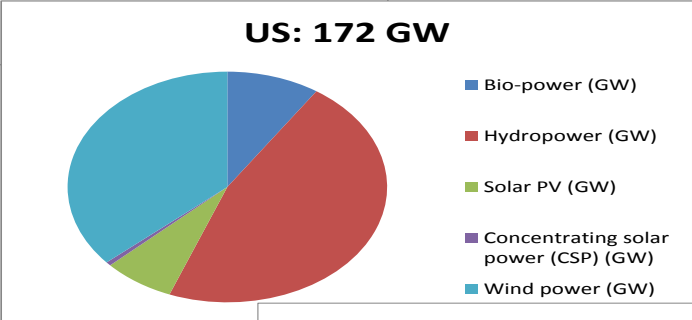
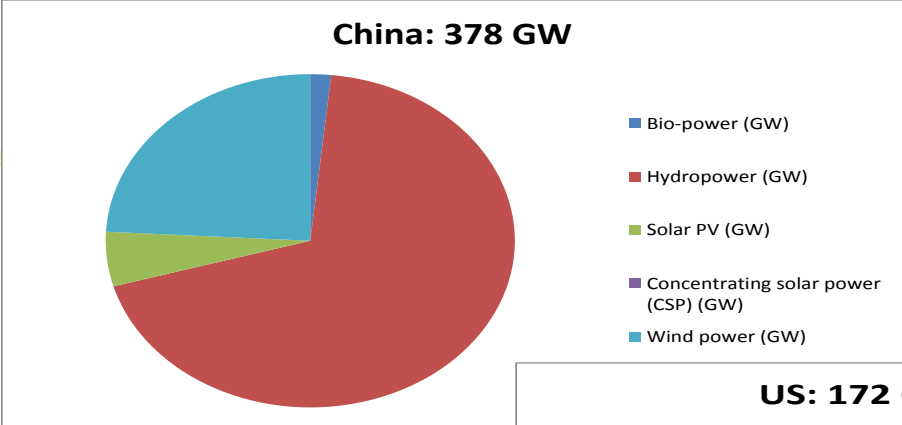
A different (green) face of China: China's build-up of wind power



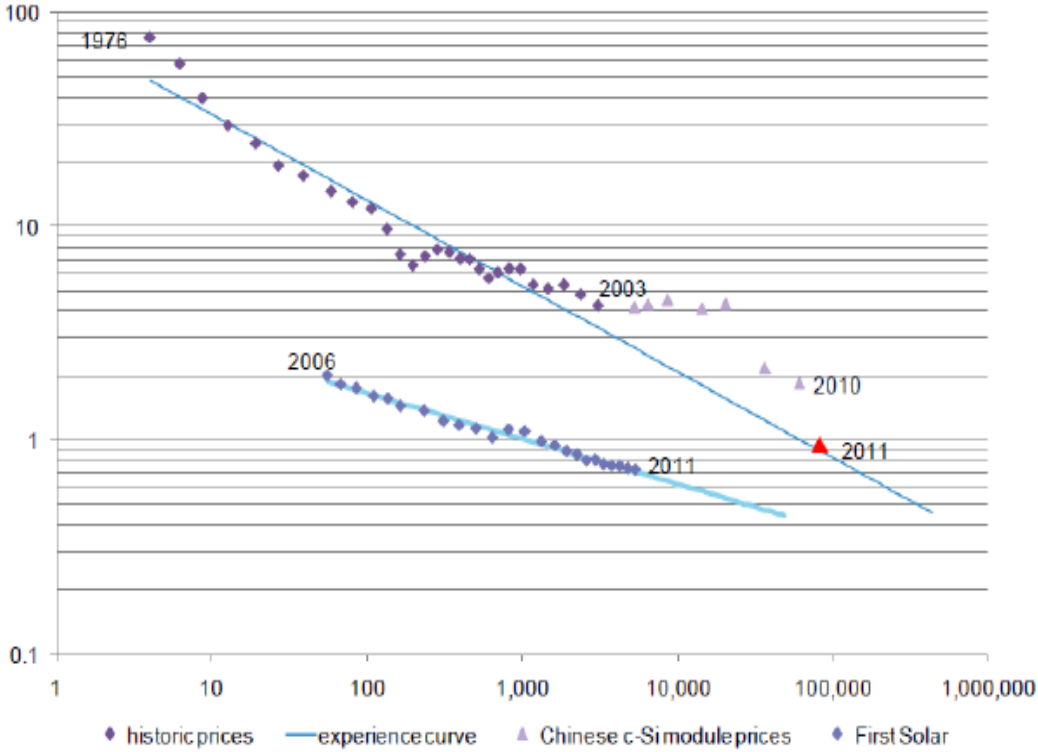
Mathews & Tan: Source of primary data: US EIA;
World Wind Energy Report



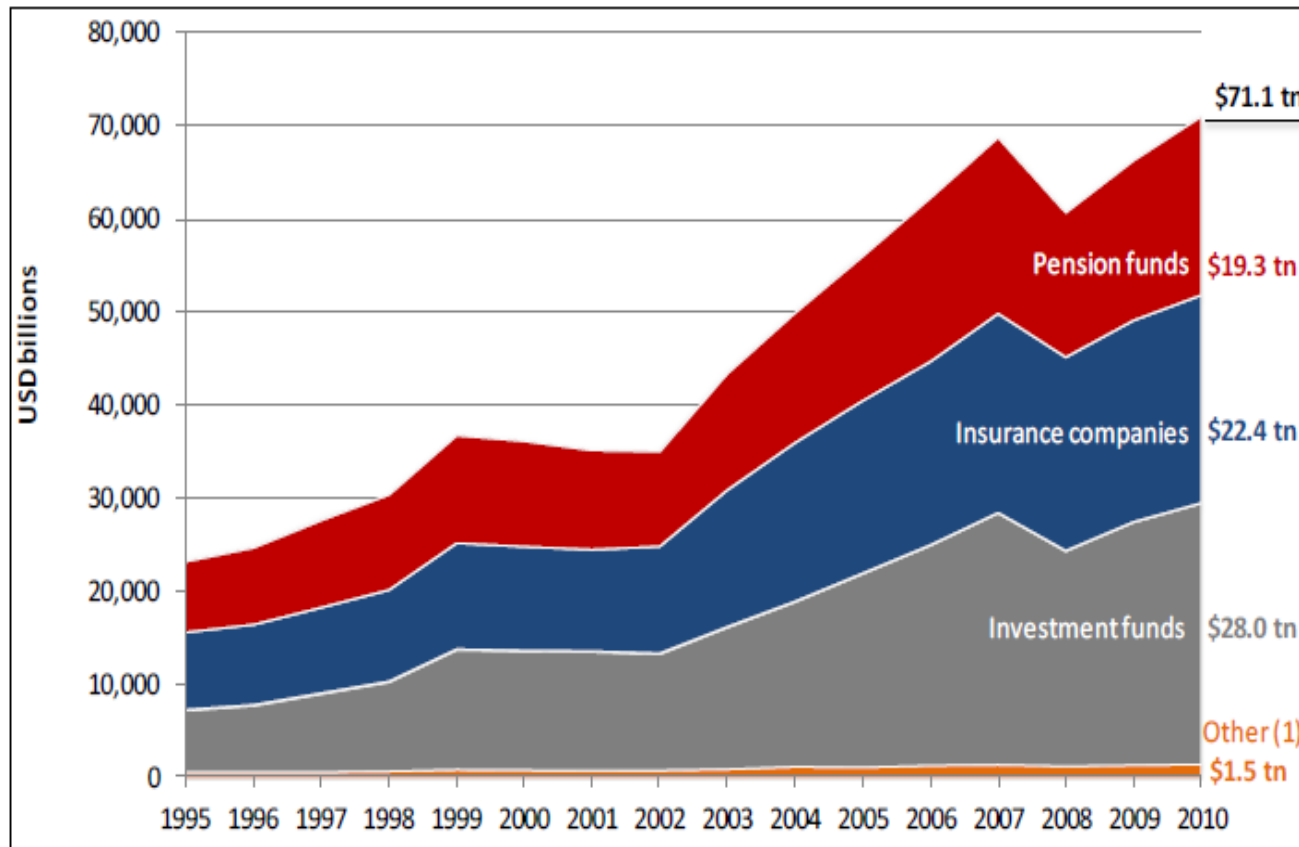
China's renewable power system cf others



Solar PV becoming universal: Learning curve (BNEF)



Funds available for investment (Institutional investors)



Source: OECD Global Pensions Statistics and Institutional Investors databases and OECD estimates¹⁵

Source: Andersen (2002) Fig. 1, based on Mitchell, B.R. (1988) *British Historical Statistics*. Cambridge: Cambridge University Press, p. 541. [Data for Ireland are not included. The data for 1868–70 are lacking or are problematic.]

‘Climate bond’-like financial instruments

European Investment Bank (EIB) **Climate Awareness Bond 2007**

Euro 600m 5-year bond, issued by the EIB (financial arm of the EU) through the services of merchant bank Dresdner Kleinwort

World Bank **Green Bonds 2009**

US\$350m 6-year bond issued by the World Bank

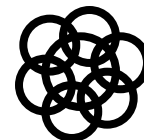
Second issue 2009: State of California purchased US\$300m

US Treasury: **Green Bonds 2009**

Oct 2009 US Treasury released \$2.2 billion in Green Bonds to power up the financing of renewable energy initiatives

African Development Bank 3-year US\$500 million Green Bond
(Oct 2013) – for funding green growth projects

Many kinds of financial instruments available!
The key to the greening of capitalism ...



Development Banks

Scale of disbursements in 2013

World Bank	\$ 53 billion
BNDES	\$ 88 billion
China DB	\$240 billion

Now supplemented by BRICS institutions

New Development Bank (capital \$50 billion)

to start lending in 2015/2016

plus Contingent Reserve Arrangement (capital \$100 billion) – bilateral swaps

Already playing a role in Green finance (eco-finance)

CDB: long credit lines to Chinese renewable energy producers

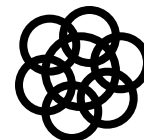
China: Regulatory imposition of greening rules on bank lending

BNDES: green lending achieved through use of socio-technical criteria

Green bonds already being issued by Kexim, KfW, AfDB

When will BNDES issue its own green bond?

What about BDC, VEB, JIBC, NAFINSA, FINNVERA, SIDBI et al?

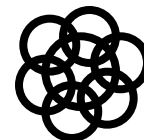


2013: Kexim Green Bond issue

- March 2013 Korean Export Import Bank
- Floats \$500 million 5-year bond designated for climate investments
- Targeted at institutional investors (pension funds, SWFs)
- Oversubscribed
- Funds to be channelled to green projects, audited by 3rd party CICERO (Centre for Int Climate and Env Research, Oslo)
- US investors took 47%; European 32%; Asian 21%
- Kexim has AA3 credit rating – bonds carry little risk
- Projects involving Korean firms around the world
- Coupon payments to be made from consolidated revenues

Bonds are serious business – if there is default, this would be counted as sovereign Korean default

Strong discipline for holding to green investment promises



What is driving China's energy revolution – and why can we expect India, Brazil et al to follow?

Climate change is probably least of China's concerns

-- after all, US and Eur created around 80% of the problem

More pressing as a driver is to clean the skies of smog: BIG problem

And to solve China's energy security problem

Oil, gas etc. – from Russia, Saudi Arabia, Venezuela, Nigeria

All geopolitical hotspots – threaten war, revolution and terrorism

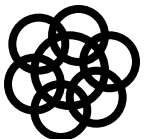
Better: Use **manufacturing industries** to build devices that tap into renewable energies and resource recirculation

Apply China's **latecomer catch-up strategy** to energy and resources problem

Building renewable energy industries creates export platforms of tomorrow (12th Five Year Plan) and drives industrial development

This relieves energy insecurity

And it clears skies What is there to lose?



The issues in this panel

Infrastructure – a greening perspective puts emphasis on building energy and resource infrastructure that protects energy and resource security through emphasis on MANUFACTURING

Renewables devices are manufactured – cf extracting fuels on the other side of the world and protecting them militarily

Manufactured resources can be recirculated → Circular Economy
(national development goal of China)

Innovation – a greening perspective focuses on technology and latecomer strategies, e.g. leapfrogging (and avoiding carbon lock-in)

SMEs – a greening perspective focuses on manufacturing and building value chains (which consist mostly of SMEs) e.g. China focus on renewable device V/Cs; Brazil focus on biofuel V/C (including equipment suppliers, e.g. Dedini)

Sustainability – this is what a greening perspective is all about

If you're serious about developing in the 21st century (as are China, India, Brazil) then you'd better green your strategies – or face fossil-fuelled war, revolution, terror – and you'd better green your finance!

Greening of Capitalism: How Asia is Driving the Next Great Transformation

