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What can we learn from the BRIC countries?

Jim Watson
Director, Sussex Energy Group

BIEE Academic Conference, Oxford, 22-23 September 2010

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Overview

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- Global trends and developing countries
- Energy policy in China: mixed implications?
- Industrial policy in Asia: a more relevant lesson?

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Global trends and developing countries (IEA, 2009)

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- World primary energy demand will grow 40% between 2007 and 2030 under 'business as usual'. Main driver is growth in developing Asia and Middle East
- Fossil fuels will remain dominant, with growth driven by rises in demand outside the OECD
- CO_2 emissions will continue to increase – from 29Gt in 2007 to 40Gt in 2030. 75% of this increase will come from China, India and the Middle East (50% from China alone)
- One consequence of 'business as usual' is rising fossil fuel prices – e.g. oil rises to $115 per barrel by 2030

Energy policy in China

Rapidly rising energy demand

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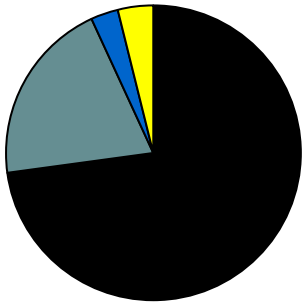
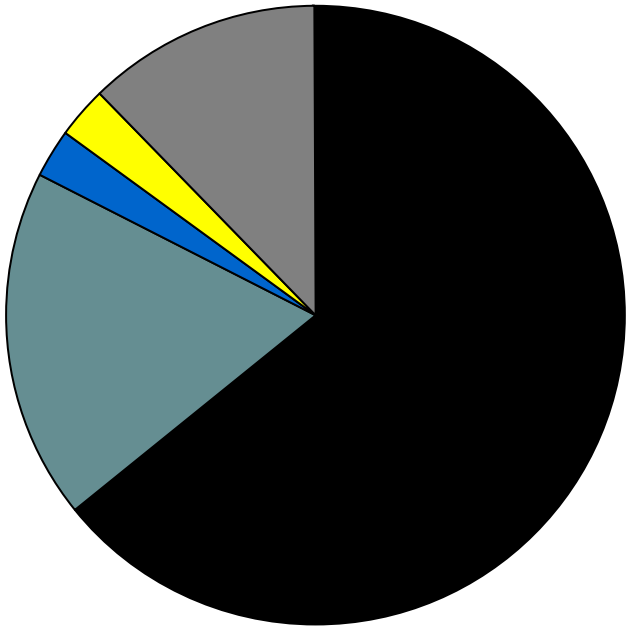
1980 (402 mtoe)



2006 (1879 mtoe)



Source: LBNL / IEA

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Energy policy in China
Rising emissions …

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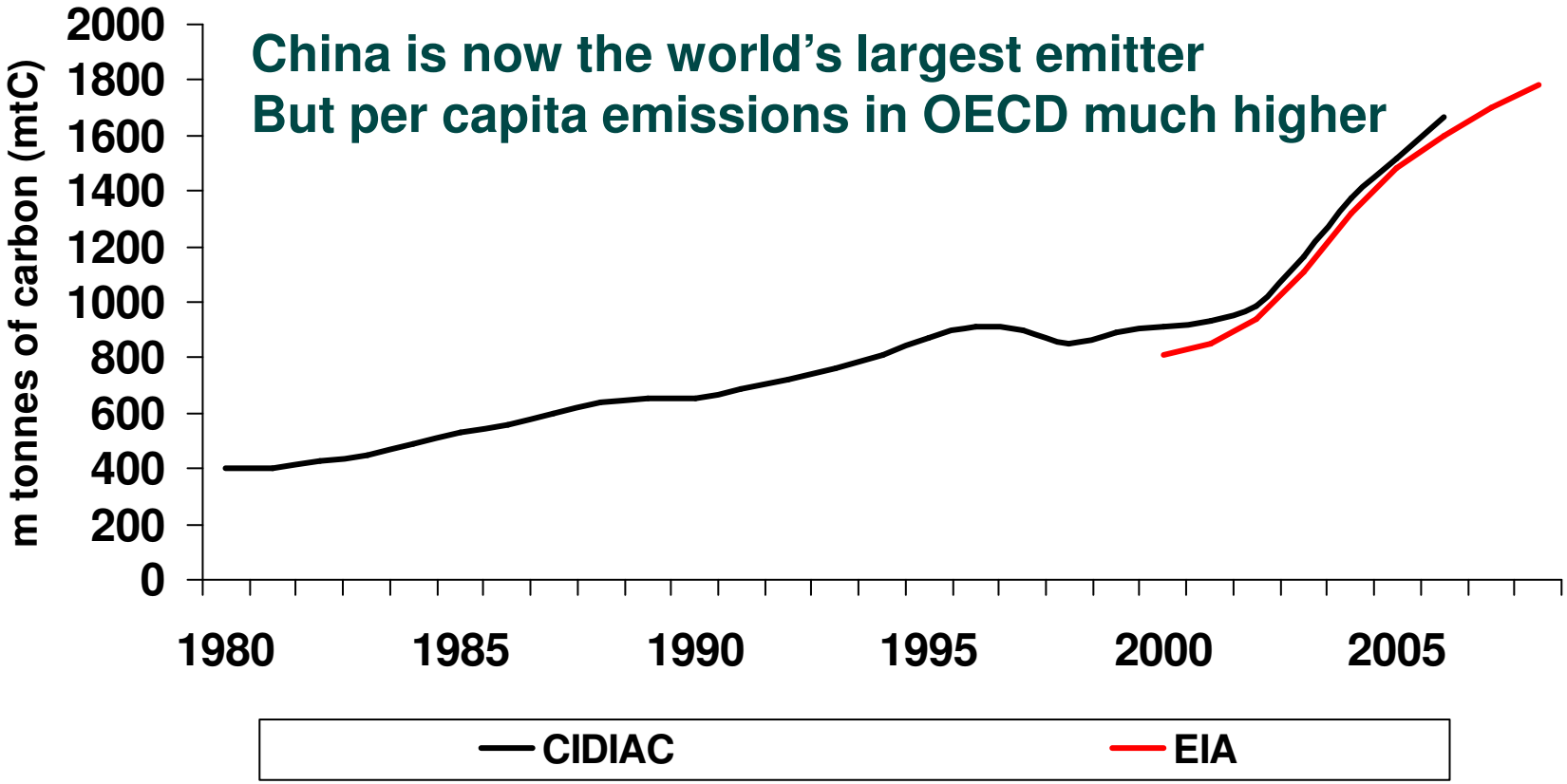

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Energy policy in China
Falling energy intensity

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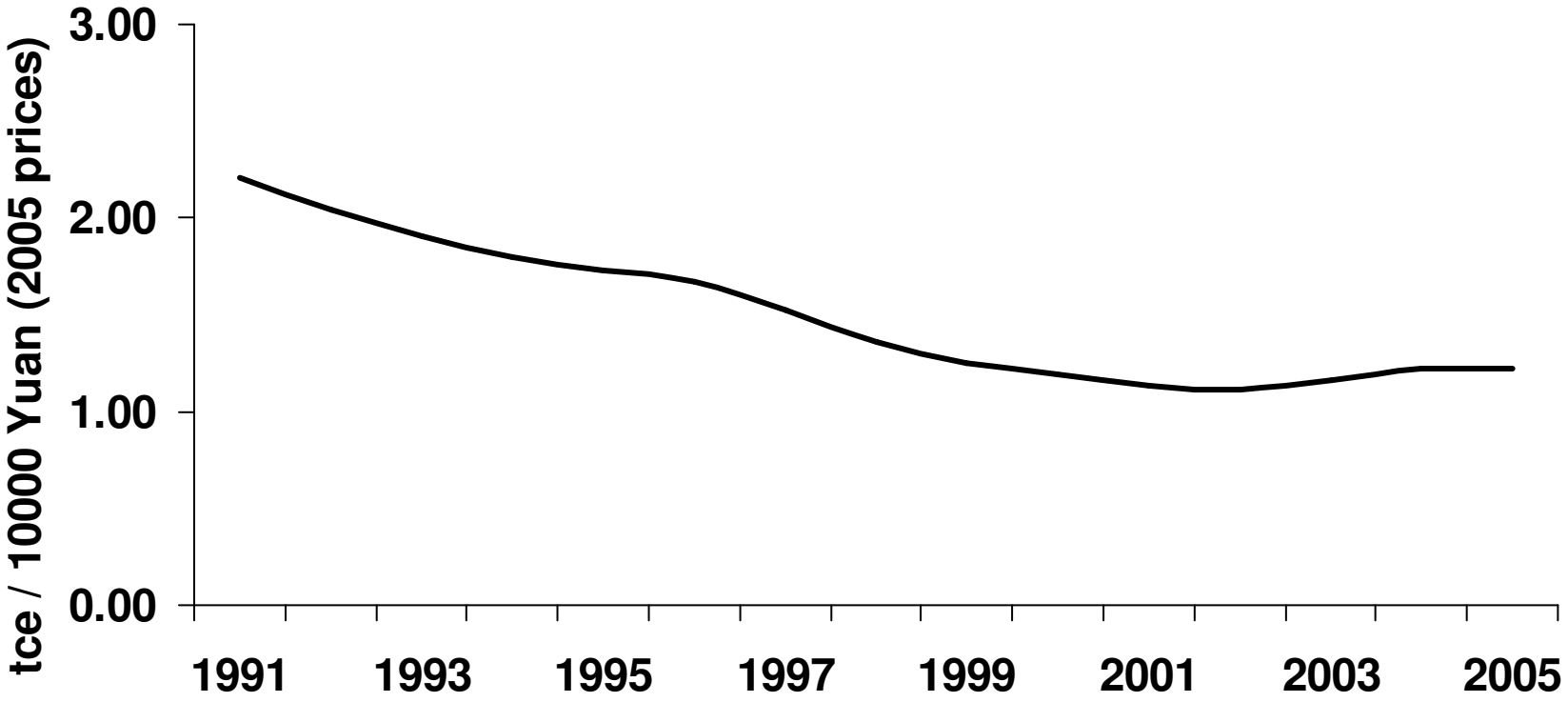

Source: Energy statistical yearbook

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Energy policy in China

Improving electricity access (IEA)

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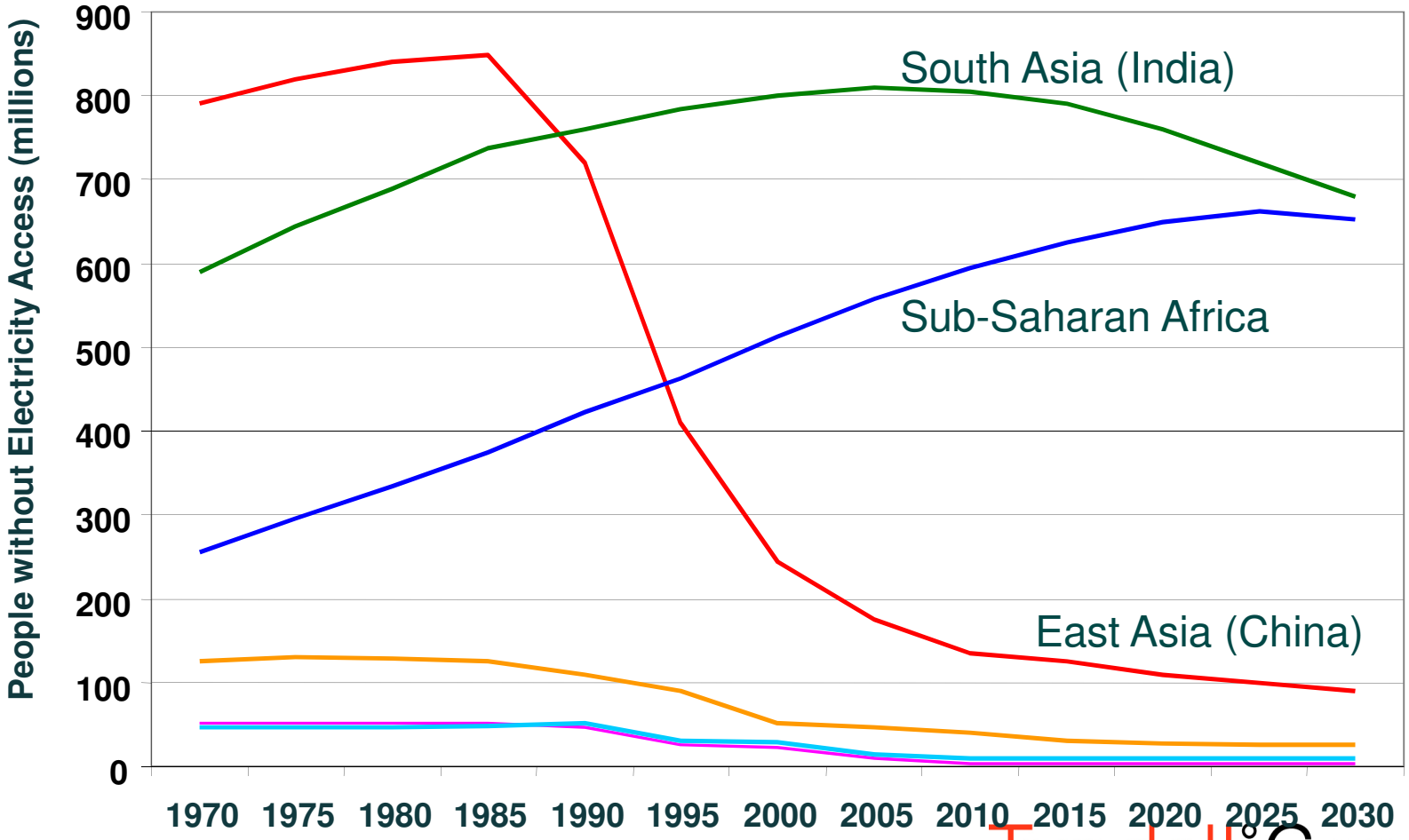

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Energy policy in China

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- Key driver is high energy intensity and dependence on fossil fuels - large 'efficiency gap' in heavy industries
- Target of 20% reduction in energy intensity, 2005-2010 (achieved 14% by 2009, but trend has reversed this year)
- Climate science has strengthened and helped to convince policy makers about severe impacts China could suffer
- New carbon intensity target: 40-45% reduction, 2005-2020.
- Also by 2020, 15% of total energy should be non-fossil: upward revisions to renewables / nuclear power targets
- 570bn RMB of stimulus funds committed to cleaner technologies and energy efficiency programmes

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Tania Branigan in Beijing
guardian.co.uk, Monday 9 August 2010 19.27 BST
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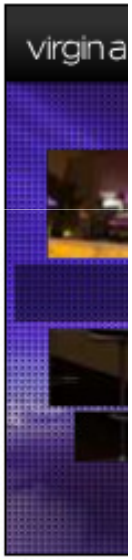

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guardian.co.uk, Sunday 19 September 2010 17.06 BST
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Industrial policy in Asia
1. Wind industry in India and China

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Type of catching up:

- Industrial development and technology adoption

Features:

- Policy integration and a coherent set of policies and regulations: creation of domestic market, and support for domestic industry
- Growing public R&D support
- Use of national and global learning networks (licensing agreements, R&D outposts)

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Industrial policy in Asia
Wind deployment in China

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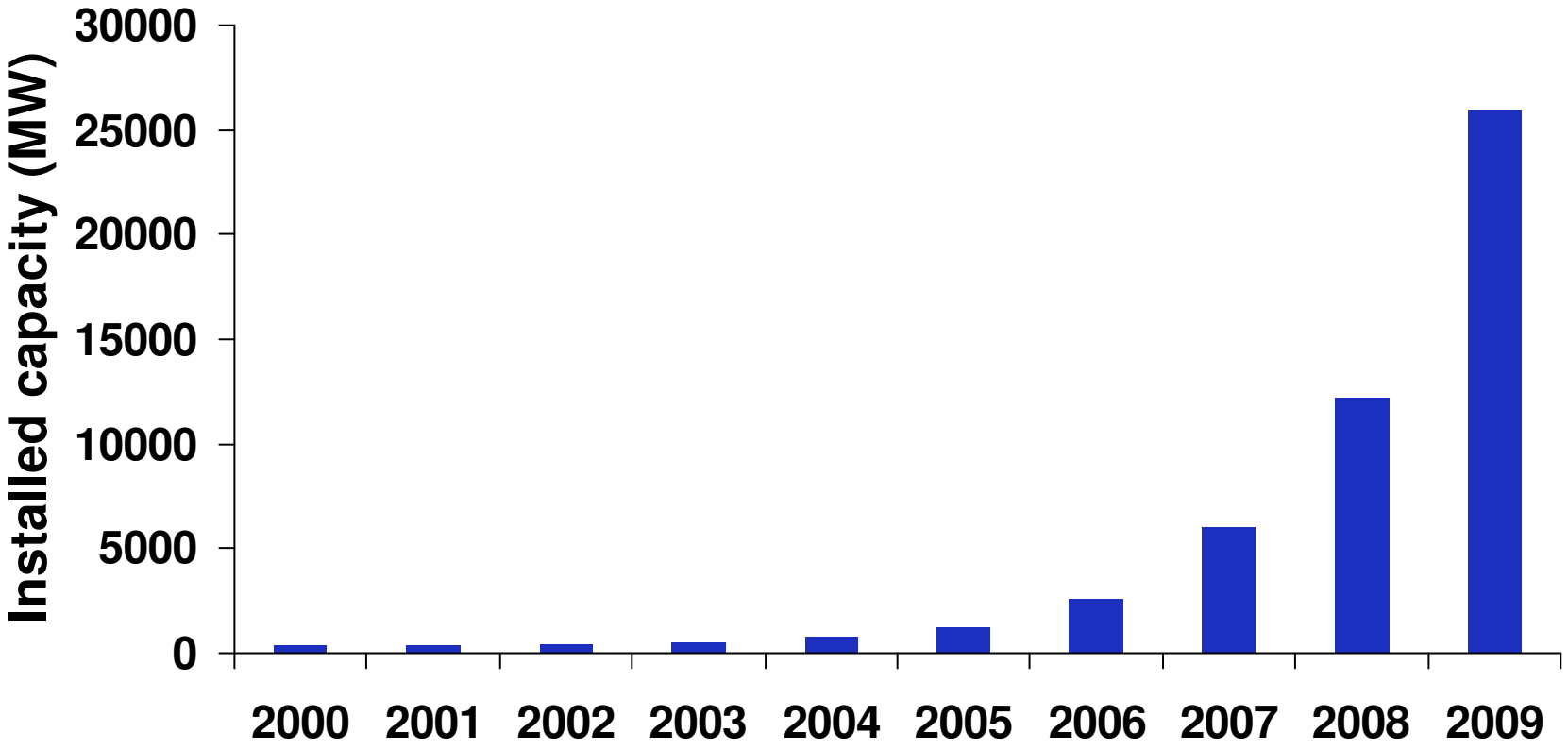

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Industrial policy in Asia
2. Korean steel industry

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Type of catching up:

- Industrial development to technological leadership

Features:

- Strong state-backed development in face of external pressures
- Support for education, training and R&D
- Policies not limited to domestic market protection, but exposure to international markets
- Global overcapacity enabled access to state-of-the-art technology

What can we learn?

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- Difficult to transfer policy lessons from one country to another due to large contextual differences
- But clear lessons from leadership & catching up by China, India (and Brazil?) in some low carbon technologies
- Importance of industrial policy alongside energy policy: the UK has not been good at integrating the two
- Does not mean protectionism or 'picking winners', but careful industrial support policies within global markets and supply chains

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