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Climate change post-Copenhagen: What's plan B?

Wednesday, April 28, 2010; 11:00 AM – 12:15 PM

Moderator:

Peter Passell, Senior Fellow, Milken Institute; Editor, *The Milken Institute Review*

Speakers:

Bryan Hannegan, Vice President, Environment and Renewables, Electric Power Research Institute

Matthew Kahn, Professor, Institute of the Environment, Department of Economics and Department of Public Policy, University of California, Los Angeles

Matt Petersen, President and CEO, Global Green USA

Joel Smith, Principal, Stratus Consulting

Michael Walsh, Executive Vice President, Chicago Climate Exchange

Climate change post-Copenhagen

What's plan B?

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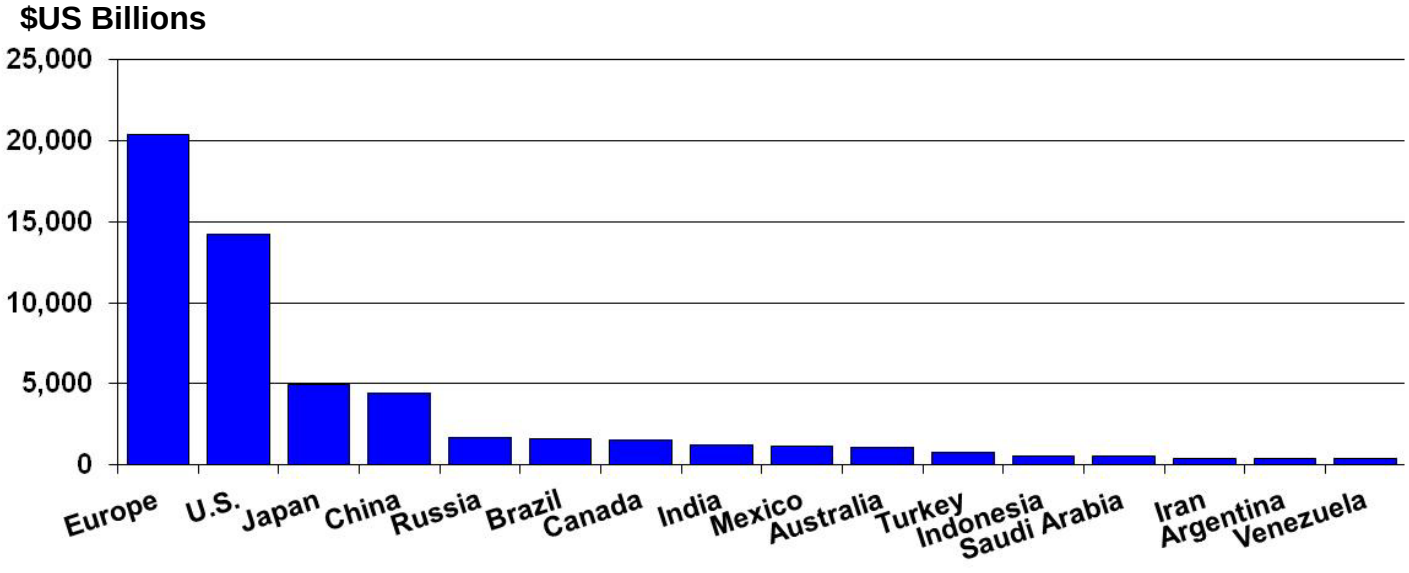
COP15
COPENHAGEN
UN CLIMATE CHANGE CONFERENCE 2009

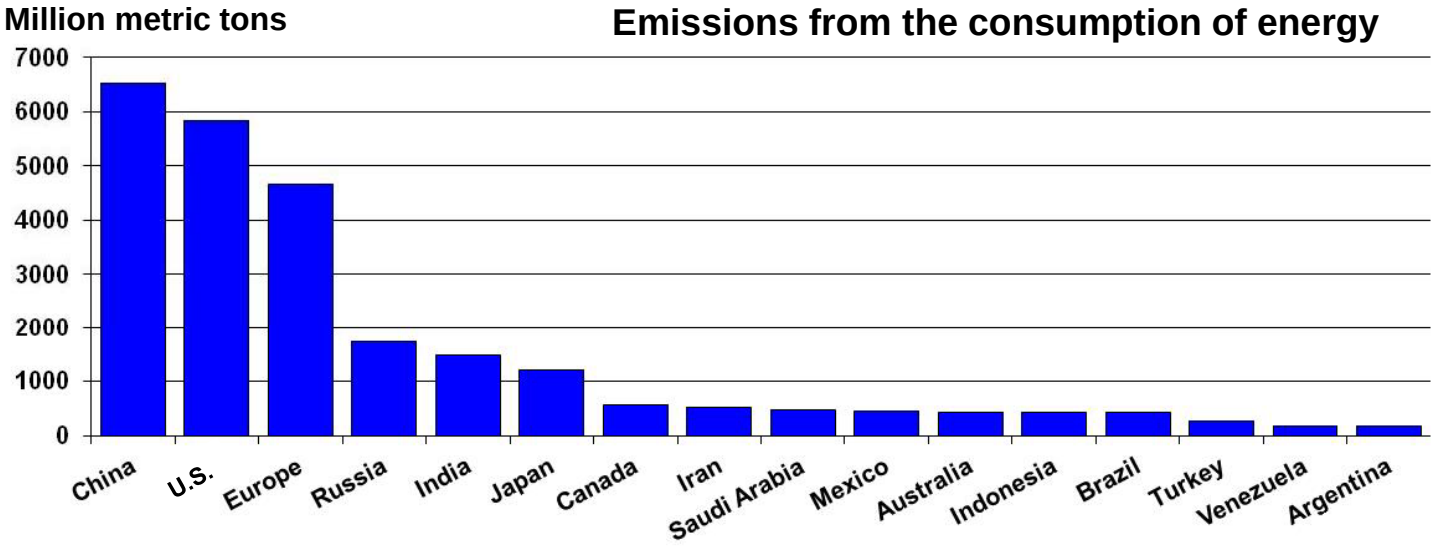
Gross Domestic Product

in 2008



Source: International Monetary Fund

Total CO_2 emissions
in 2008



Sources: U.S. Energy Information Administration, International Monetary Fund

Per capita CO_2 emissions

in 2008

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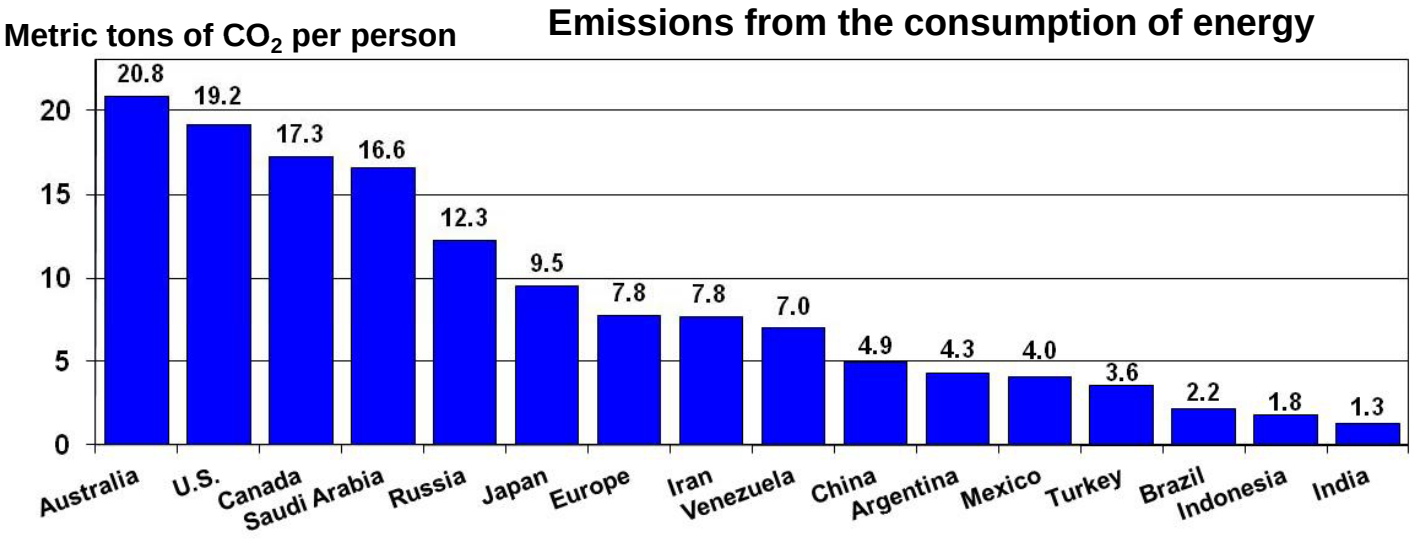

Sources: U.S. Energy Information Administration, International Monetary Fund

CO_2 emissions per unit of production by country *in 2008*

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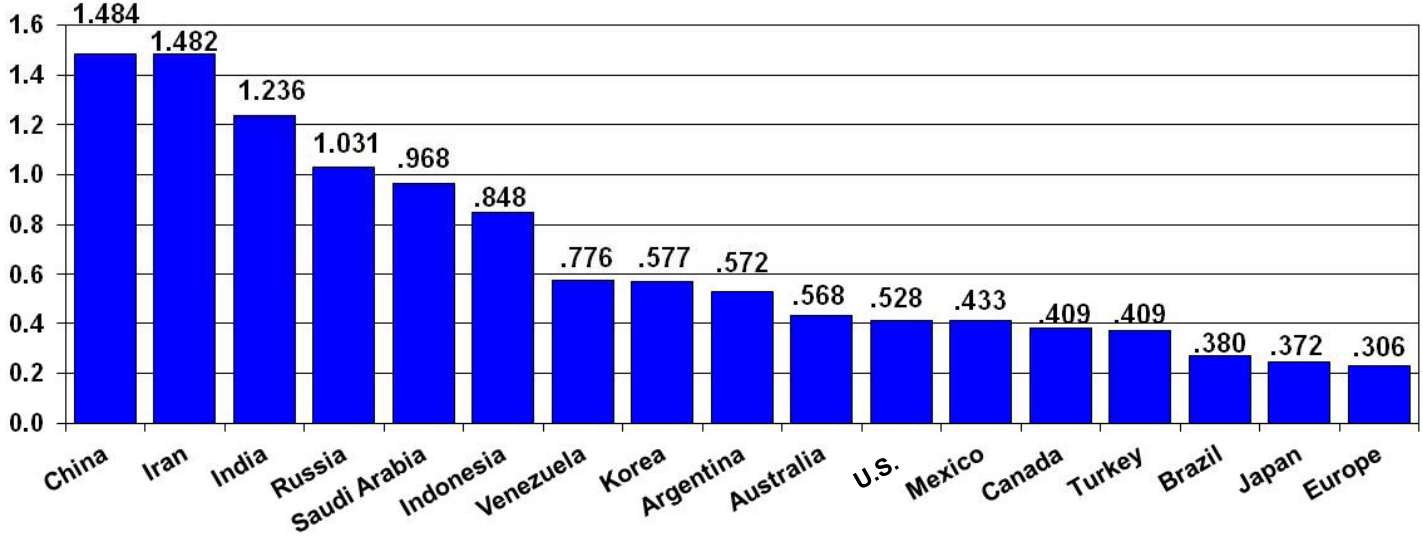
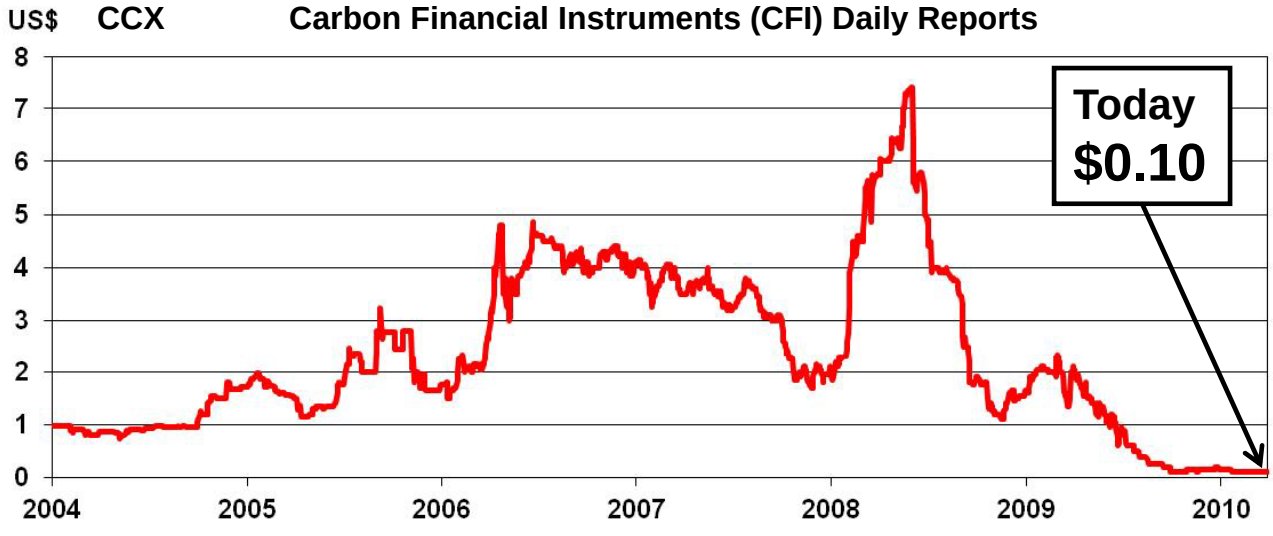
Million metric tons of CO_2 per $US billion of GDP

Emissions from the consumption of energy



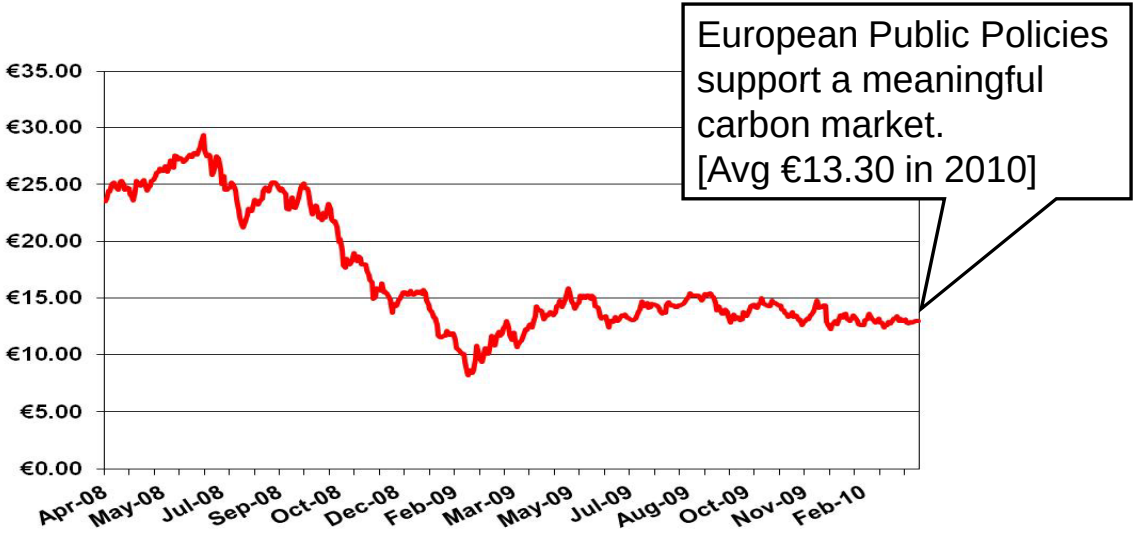
Sources: U.S. Energy Information Administration, International Monetary Fund

Uncertainty has led to lower carbon prices in the US…



Source: Chicago Climate Exchange

…though prices have held steadier in a more policy-certain Europe



Source: European Climate Exchange

Carbon emissions across the USA

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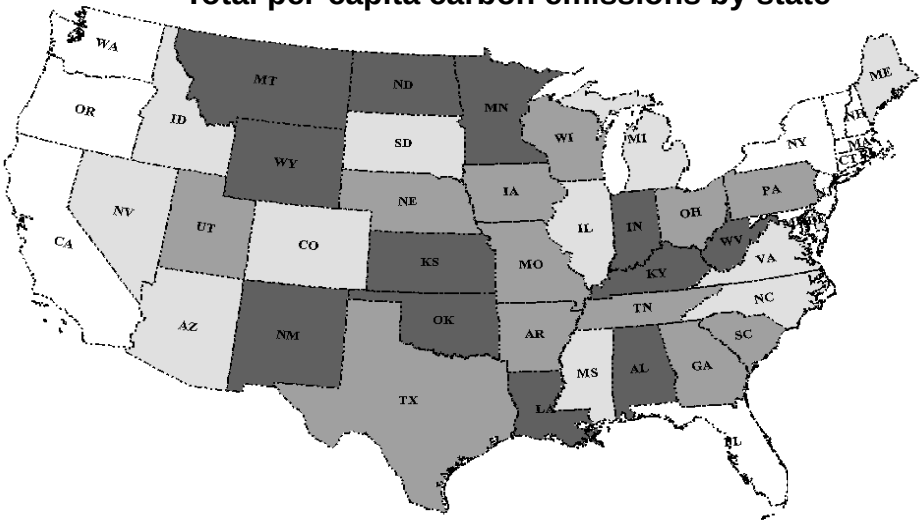
Total per-capita carbon emissions by state

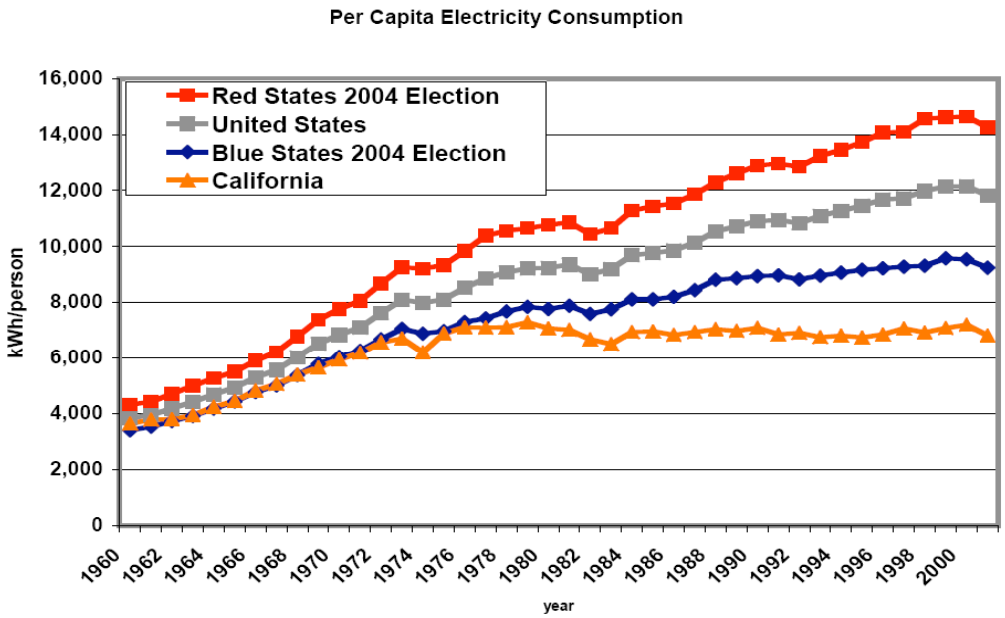


Per-capita carbon emissions

- 7.5736 to 36.5632
- 5.7556 to 7.5735
- 4.5296 to 5.7556
- 2.5779 to 4.5296

Source: Matt Kahn

Per capita electricity consumption



Sources: Professors Bushnell & Wolfram, California Energy Commission

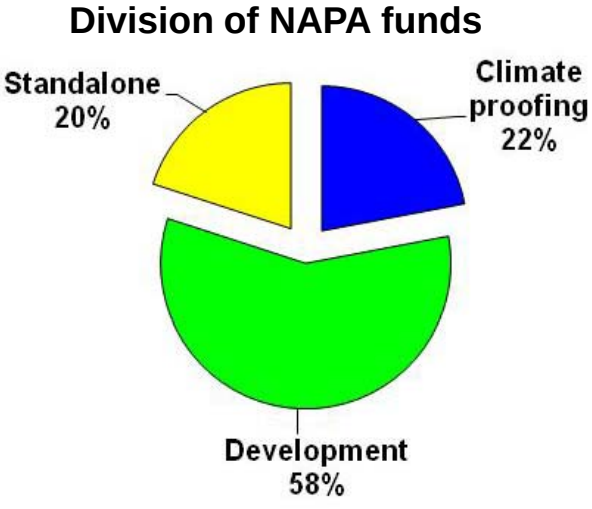
NAPA funds

National Adaptation Programme of Action

- UNFCCC established the Least Developed Countries Fund (LCDF)
  - Fund size is $115 million.
  - Aimed to assist vulnerable countries with less ability to adapt to climate change
- Supported by the Global Environment Facility (GEF), LCDF can mobilize resources to implement NAPAs
- Actions are meant to reduce future vulnerability of least developed countries or reduce the adaptation costs associated with delayed action.

Source: United Nations Institute for Training and Research

Where would NAPA funds go?



- My subjective analysis
- Most $$ for development
- Begs the question: Why are “adaptation” funds treated differently than development funds?

Developing country adaptation costs

Comparison of published estimates of developing country adaptation costs (U.S. $billions per year in 2030)

Sector	United Nations	Parry et al.	World Bank
Agriculture, Forestry, Fisheries	7	7	6 (9)
Water Resources	9	Much higher	9-13 (14-19)
Human Health	5	At least 10	1 (2)
Coastal Zones	5	10	15 (22-23)
Infrastructure	2-41	65-154	9-20 (14-30)
Extreme Events	--	--	3 (5)
Ecosystem	--	33-40[a]	--
TOTAL	**28-69**	**> 134-230**	**47-55 (71-83)**

Key insights from Prism/MERGE

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- The technical potential exists for the U.S. electricity sector to significantly reduce its CO_2 emissions over the next several decades.

- Low-carbon electricity technologies can drive growth in electricity demand even as CO_2 emissions are reduced.

- A low-cost, low-carbon portfolio of electricity technologies can significantly reduce the costs of climate policy.

- No one technology will be a silver bullet –a portfolio of technologies will be needed.

- Much of the needed technology isn't available yet –substantial R&D, demonstration is required.

Offsets depend on international outcomes

- Proposed climate legislation assumes abundant and cheap U.S. and international "offsets" as a way to contain compliance costs

- But…
  - Although there is significant potential for offsets from forestry and agriculture, it won't be available immediately and globally

  - Energy-related CO_2 abatement in non-OECD is abundant and cheap, but many institutional barriers exist near-term

  - As they consider their own efforts, developing countries will become less willing to export cheap abatement options

International actions will help shape the U.S. climate landscape

Senate climate legislation – what to watch

- Reconciliation vs. regular order
  - Can key objectives be accomplished via budget process?

- Allowance allocations
  - More allowances, different formula; 75/25 vs. 50/50 in House

- Cost containment
  - Rigid “price collar” between \$10-30/tCO_2
  - Availability of domestic and international offsets

- Complementary policies
  - RPS/CES, offshore drilling, nuclear, CCS, 3-P … in or out?
  - Federal/state regulatory pre-emption … deal killer?