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The New Regional Energy Equation in APEC

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PECC 20th General Meeting
The Madison Hotel, 1177 15th Street, Washington, DC

September 29th, 2011

Snapshot of APEC & Its Top 3s

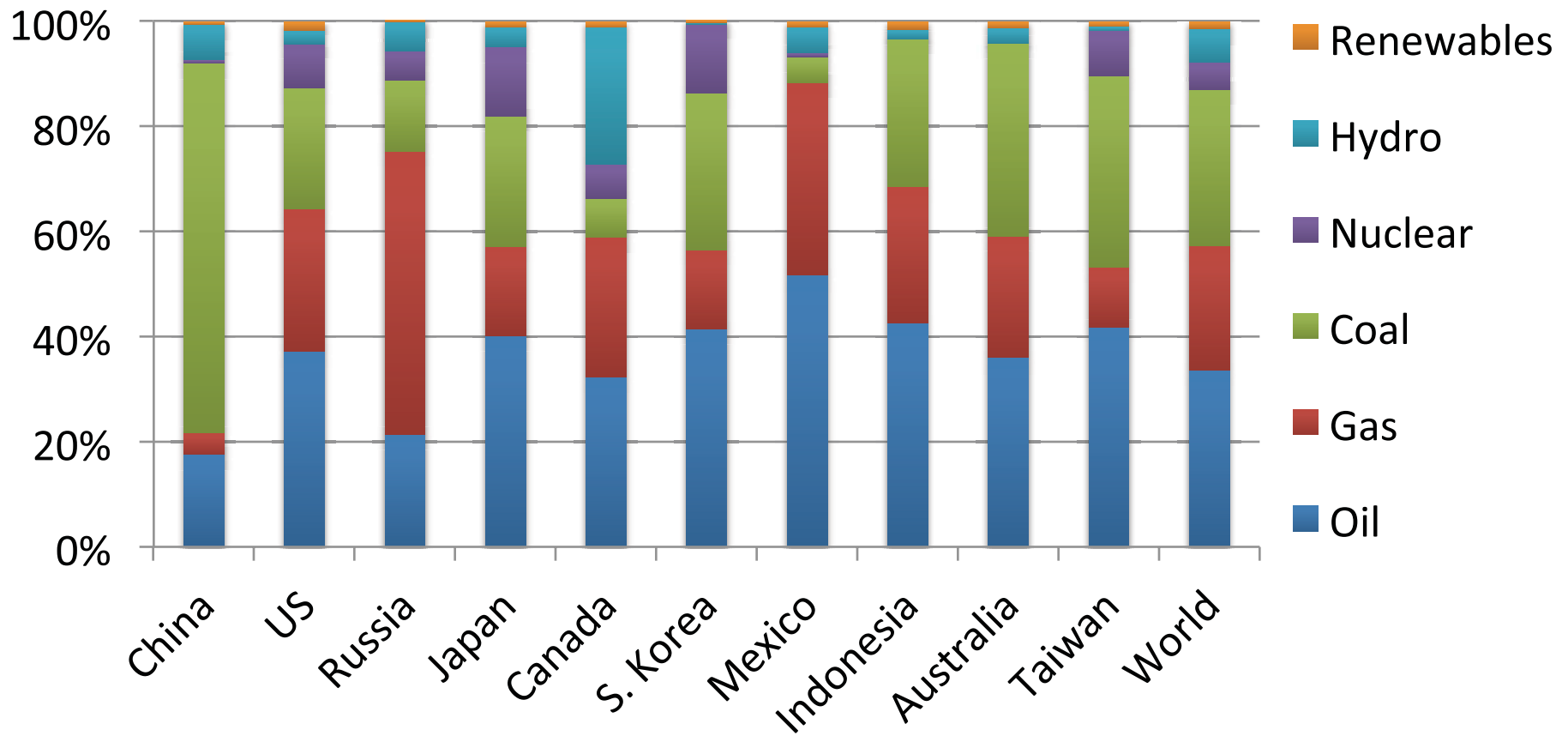
Indicator	APEC/World (%)	Top 3/APEC (%)	List of Top 3
GDP (PPP)	54	71	US, China, Japan
Population	41	68	China, US, Indonesia
Trade	49	55	US, China, Japan
Energy Use	59	73	China, US, Russia
Power Use	62	73	US, China, Japan
CO ₂ Emissions	60	75	China, Russia, US

Note: APEC = Member Economies of Asia-Pacific Economic Cooperation.

Source: World Development Indicators online (most recent available years).

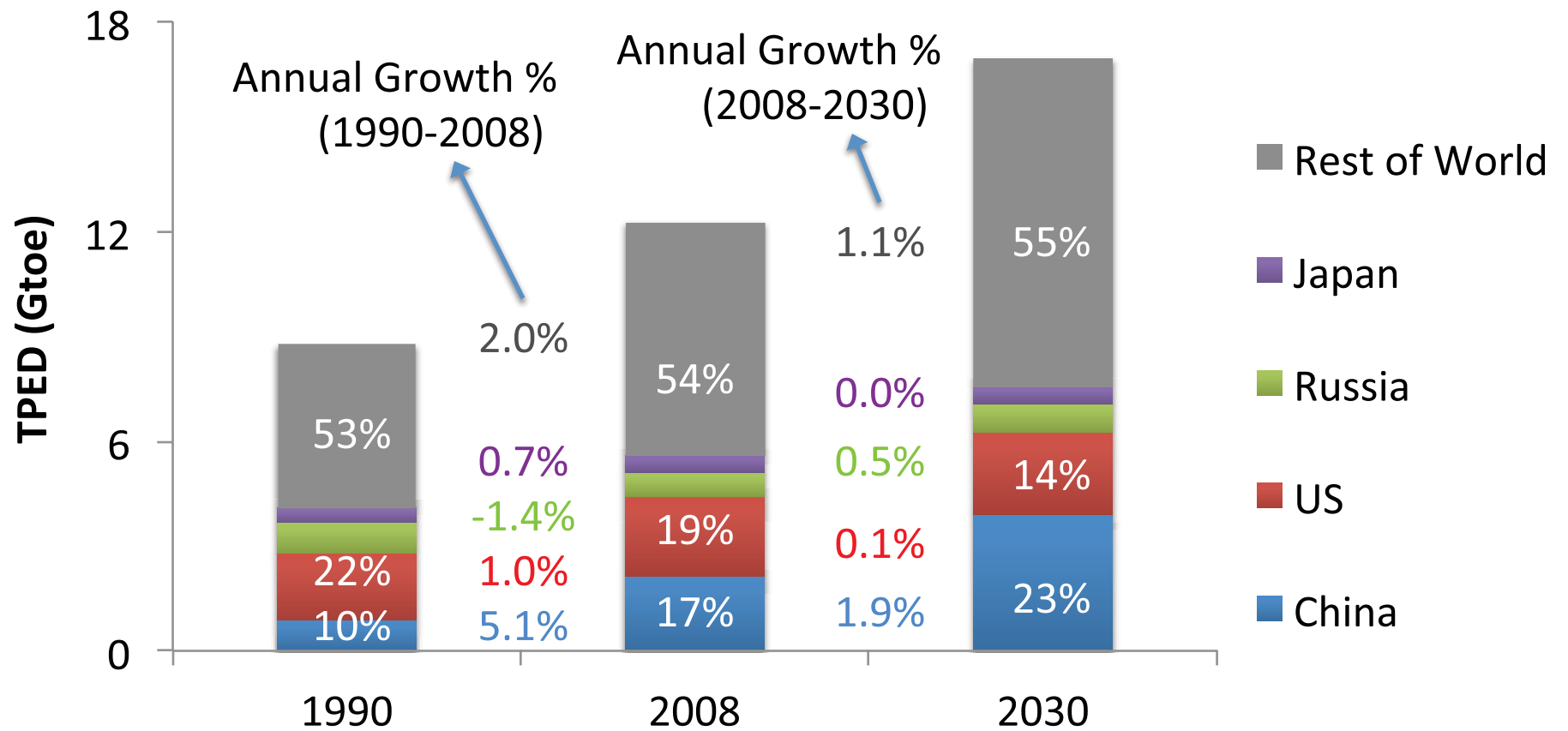


Primary Energy Mix of APEC Top 10 in 2010



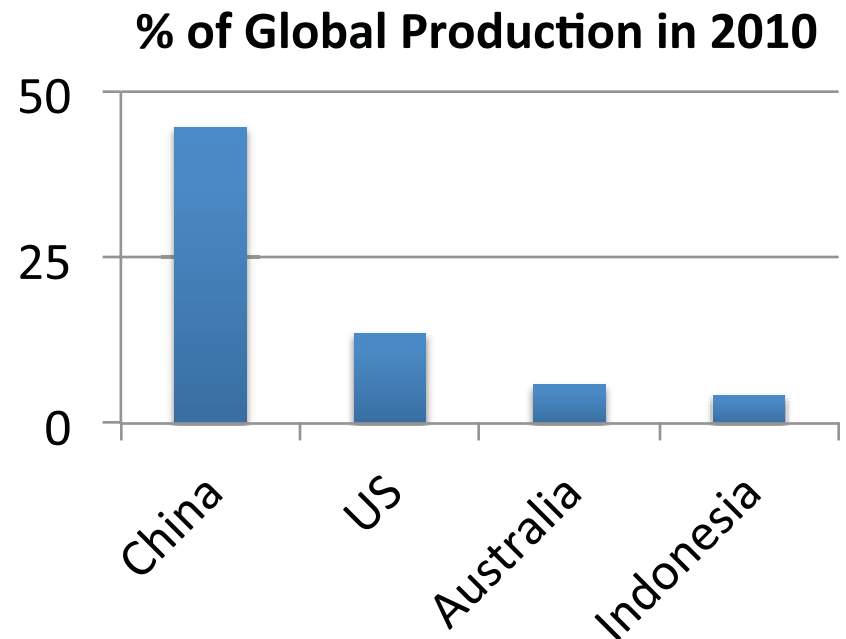
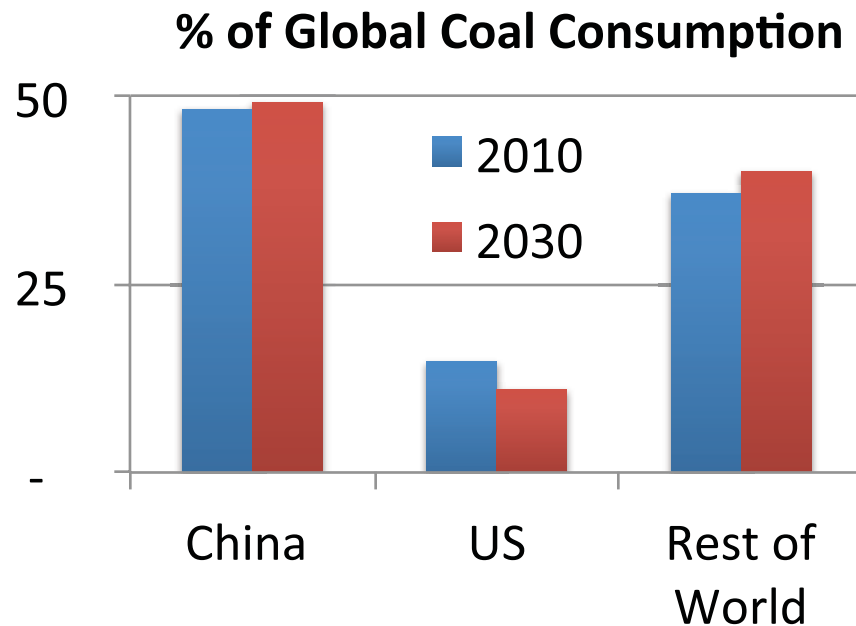
Source: BP World Statistical Review 2011.

Energy Consumption: APEC Top 4 vs. Rest of World



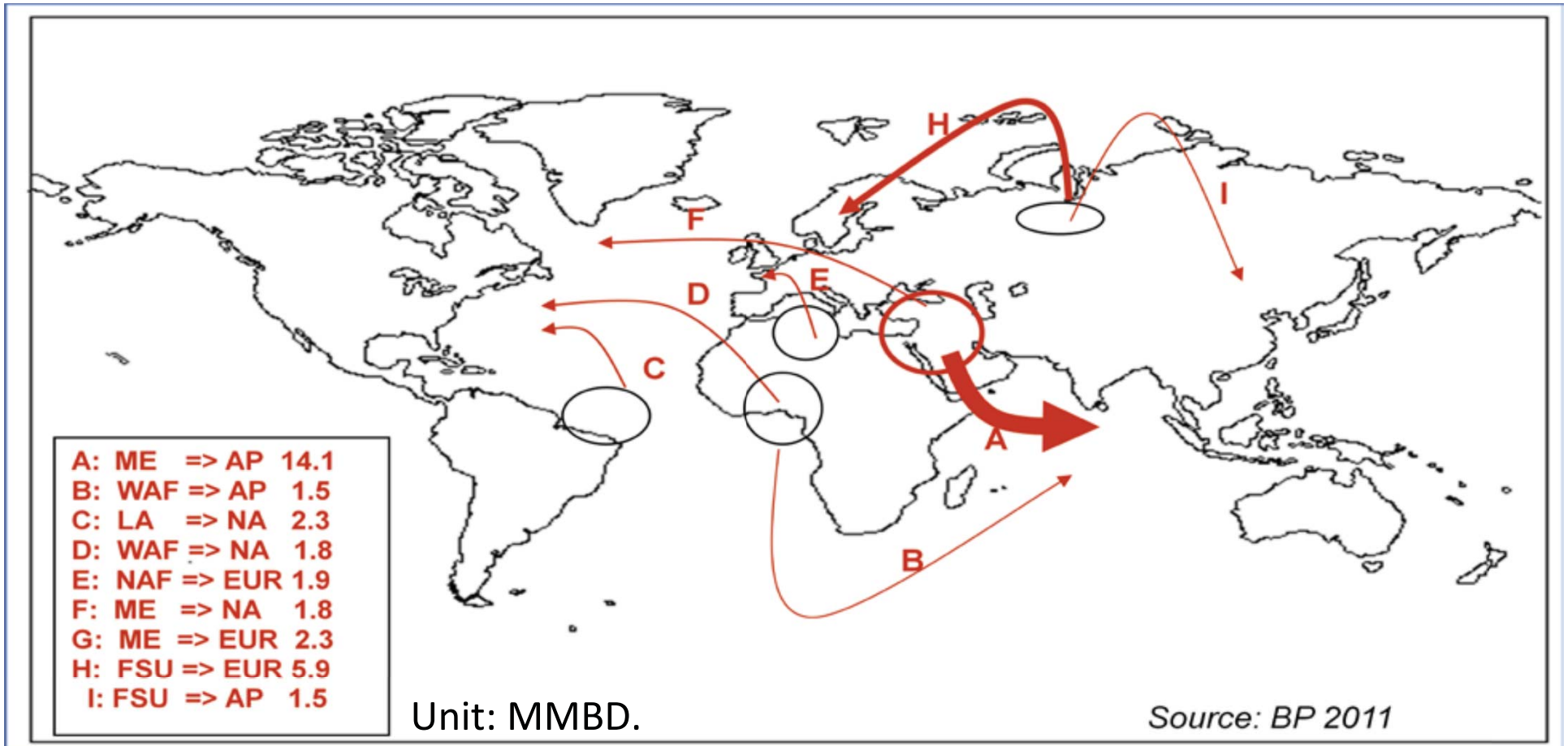
Source: IEA International Energy Outlook 2010.

Coal: Mostly About China



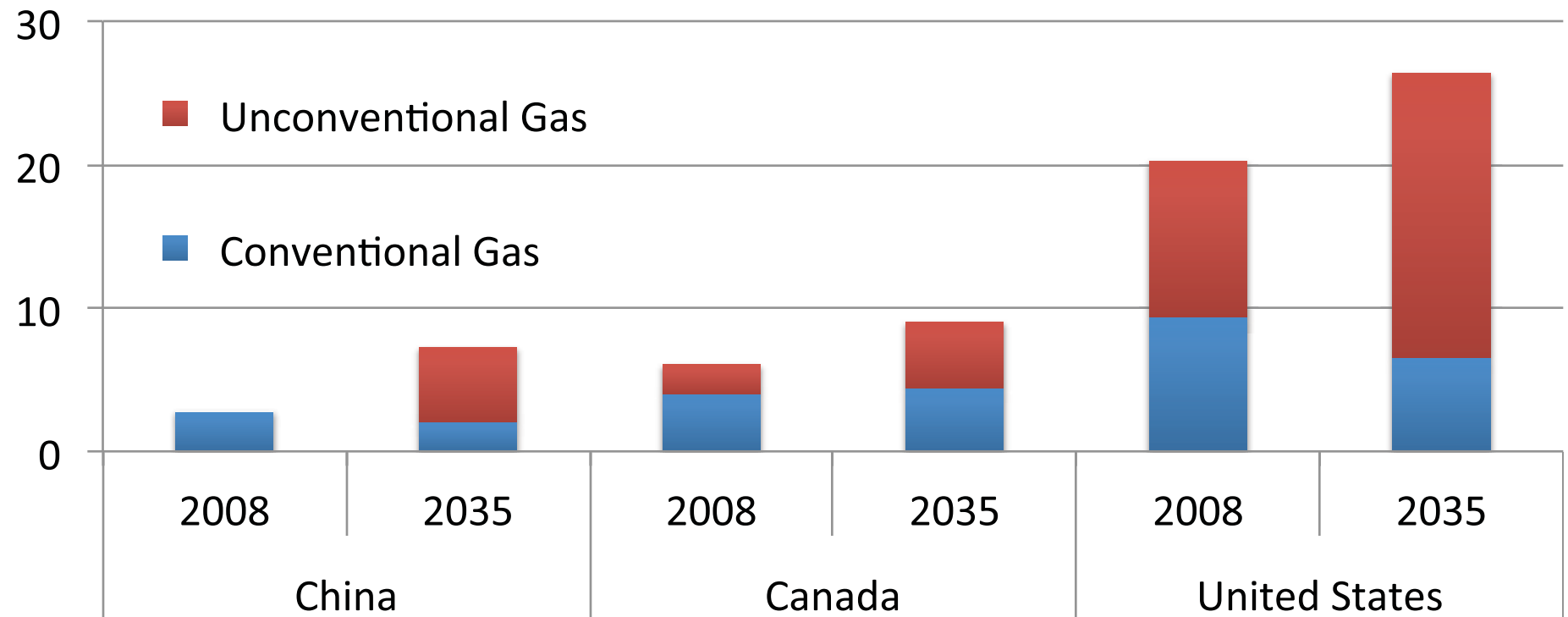
- China > half of IEA's projected global demand growth by 2030.
- Global hard coal trade: about 30% size of Chinese domestic market.
- China became net importer since 2009, uncertainty for global trade.

Pattern of Oil Trade in 2010



Gold Age of Shale Gas in APEC?

Gas Production (Trillion Cubic Feet)



Source: EIA International Energy Outlook 2011.

Prospects of LNG Trade in APEC

Country	Gas Liquefaction Capacity (Mt)		
	2011	2015-2016	2020+
Qatar	77	77	77
Australia	20	60 - 70	60 - 160
North America	2	12 - 34	26 - 113
Canada	0	5 - 27	10 - 50
United States	2	7	16 - 63
Russia (Far East)	10	10 - 15	10 - 25

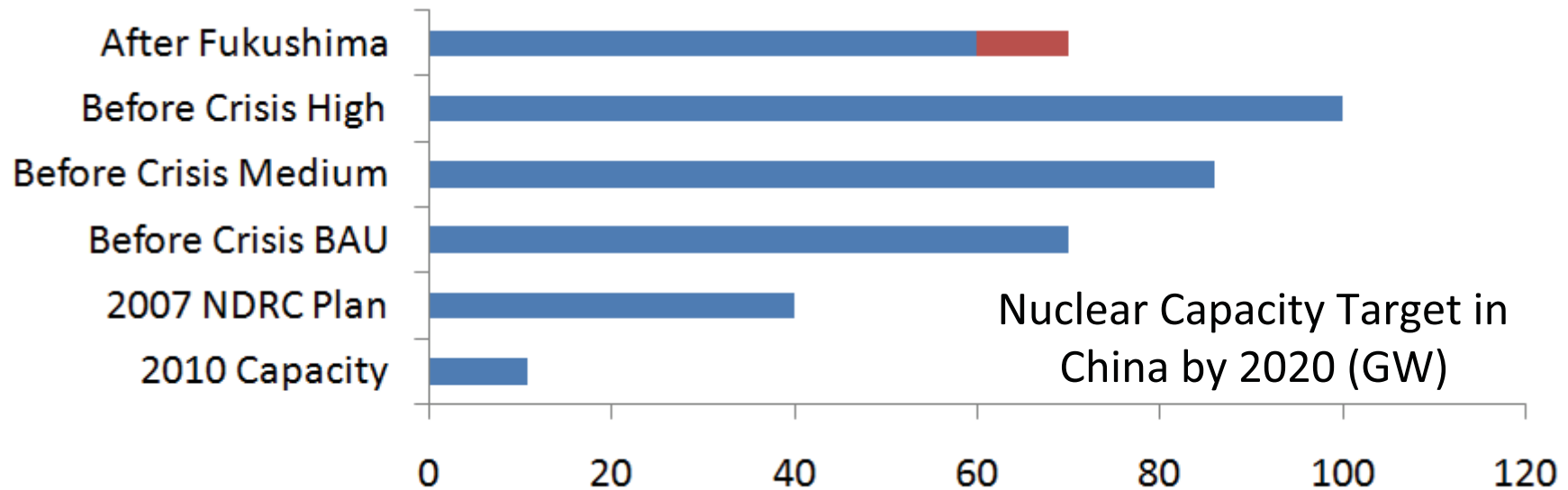
Source: Tilak K. Doshi & Nahim Bin Zahur (2011).

Energy Investment: Are They Ready?

Company	Project	Category	Billion \$	Date
CNOOC (China)	MEG, Canada	Oil Sands	0.2	May-05
KNOC (S. Korea)	Black Gold	Oil Sands	1.7	Aug-06
Sinopec (China)	Syncrude	Oil Sands	4.6	Apr-10
PTT (Thailand)	Kai Kos Dehseh	Oil Sands	2.3	Nov-10
CNOOC (China)	Chesapeake, US	Shale Gas & Oil	0.6	Jan-11
Sinopec (China)	Northern Gateway	Pipeline	2.3	Jan-11
PetroChina	Encana, Canada	Shale Gas	6.9	Feb-11
Reliance (India)	Atlas, Chevron, US	Shale Gas	3.2	Feb-11
KNOC (S. Korea)	Anadarko, US	Shale Gas & Oil	1.6	Mar-11
CNOOC (China)	OPTI, Canada	Oil Sands	2.1	Jul-11

Source: Tilak K. Doshi & Nahim Bin Zahur (2011).

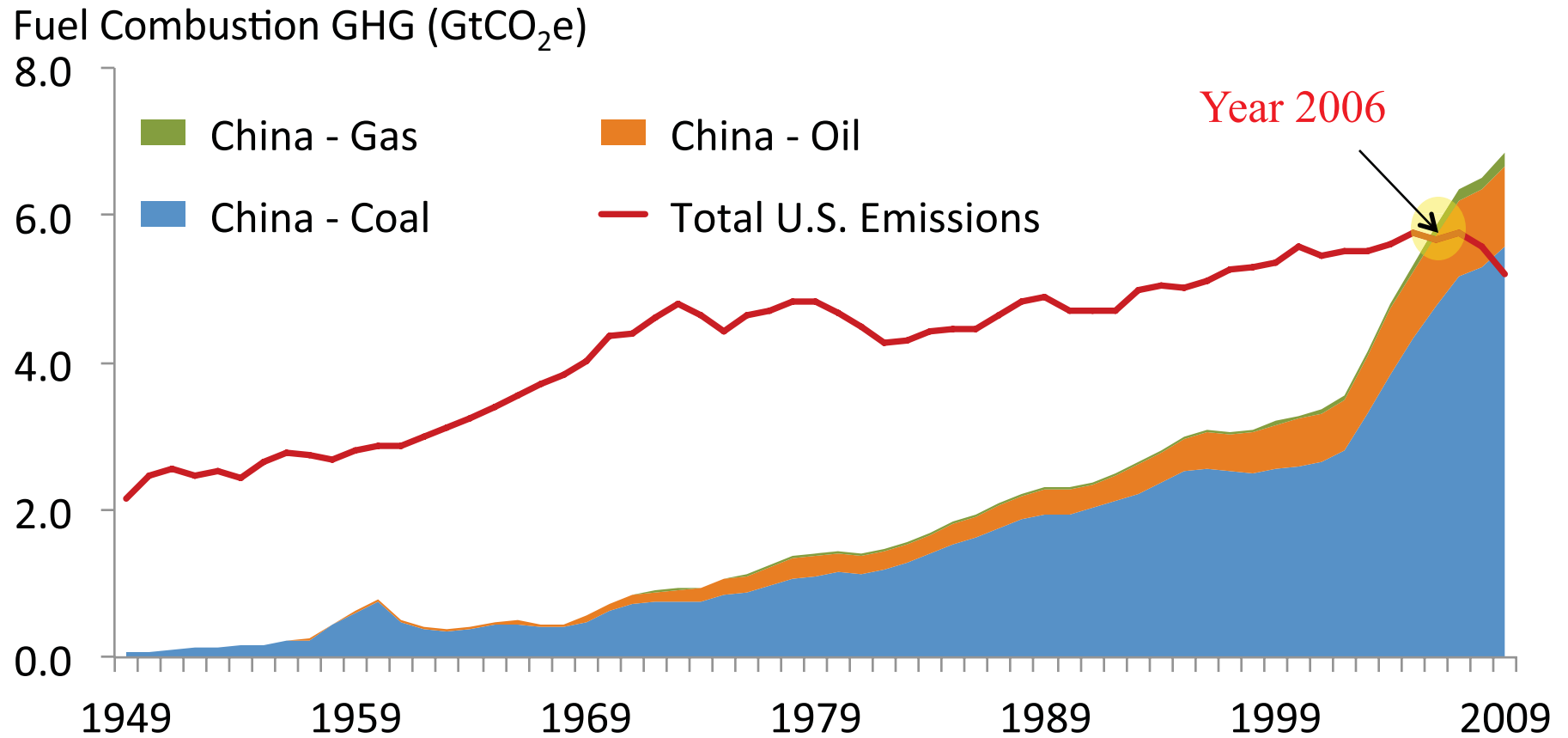
Nuclear: Aftermath of Fukushima Daiichi



Source: Jianjun Tu (2011). Carnegie Policy Outlook on the Chinese Nuclear Industry (in Chinese).

- All major nuclear accidents occurred in APEC.
- Fukushima Daiichi has profound impacts in the years to come.

Carbon Emissions & Climate Negotiation



Source: Jianjun Tu (2011). Industrial Organization of the Chinese Coal Industry.



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Thank You !

