

Coping with Climate Change: What has China done and what will China do?

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Singapore, October 10, 2009

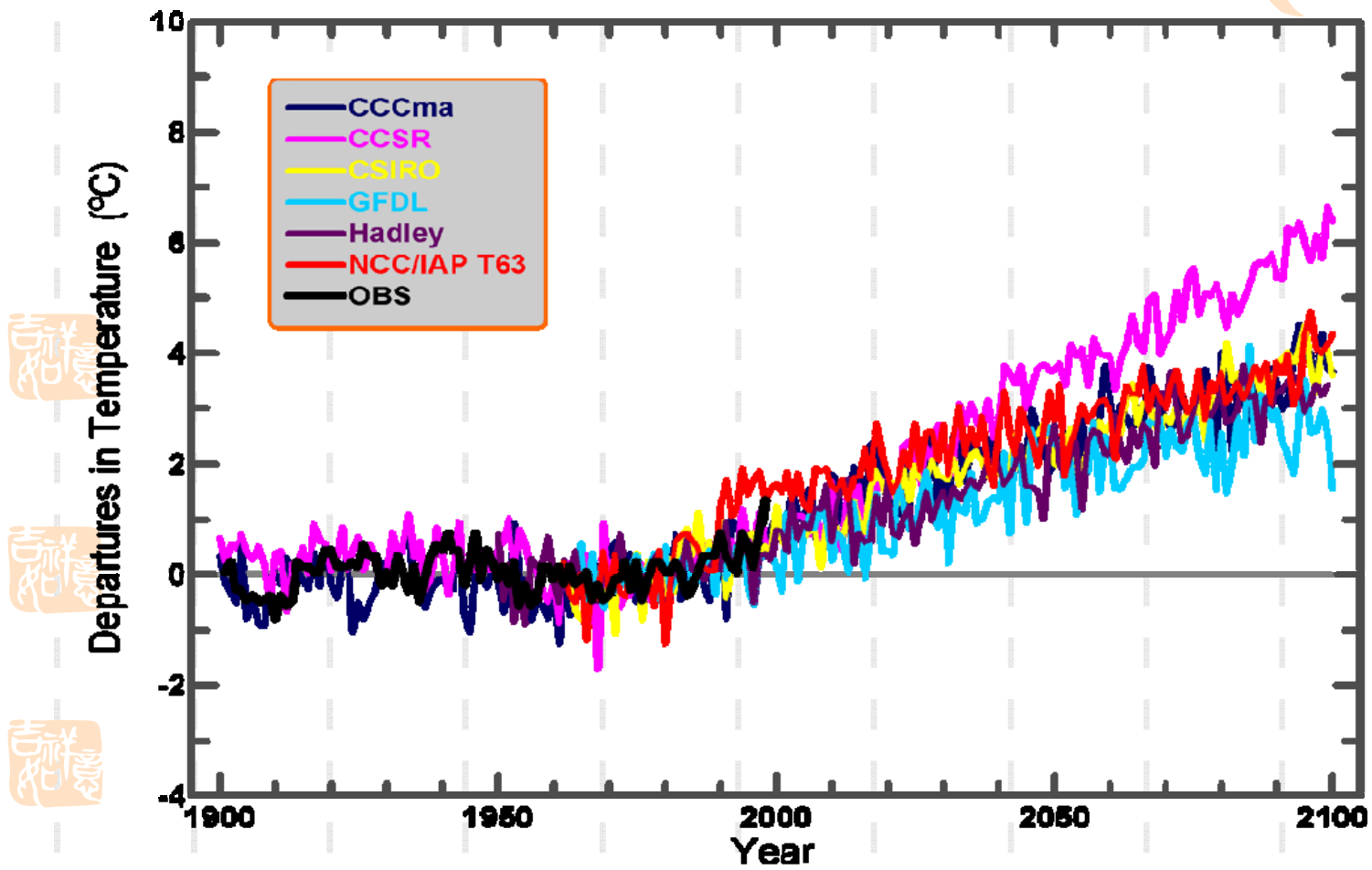
Outline



- What has China done?
- What achievements has China made?
- Why China is willing to take action?
- What should China do next?
- What can we do together in Asia-Pacific Region?

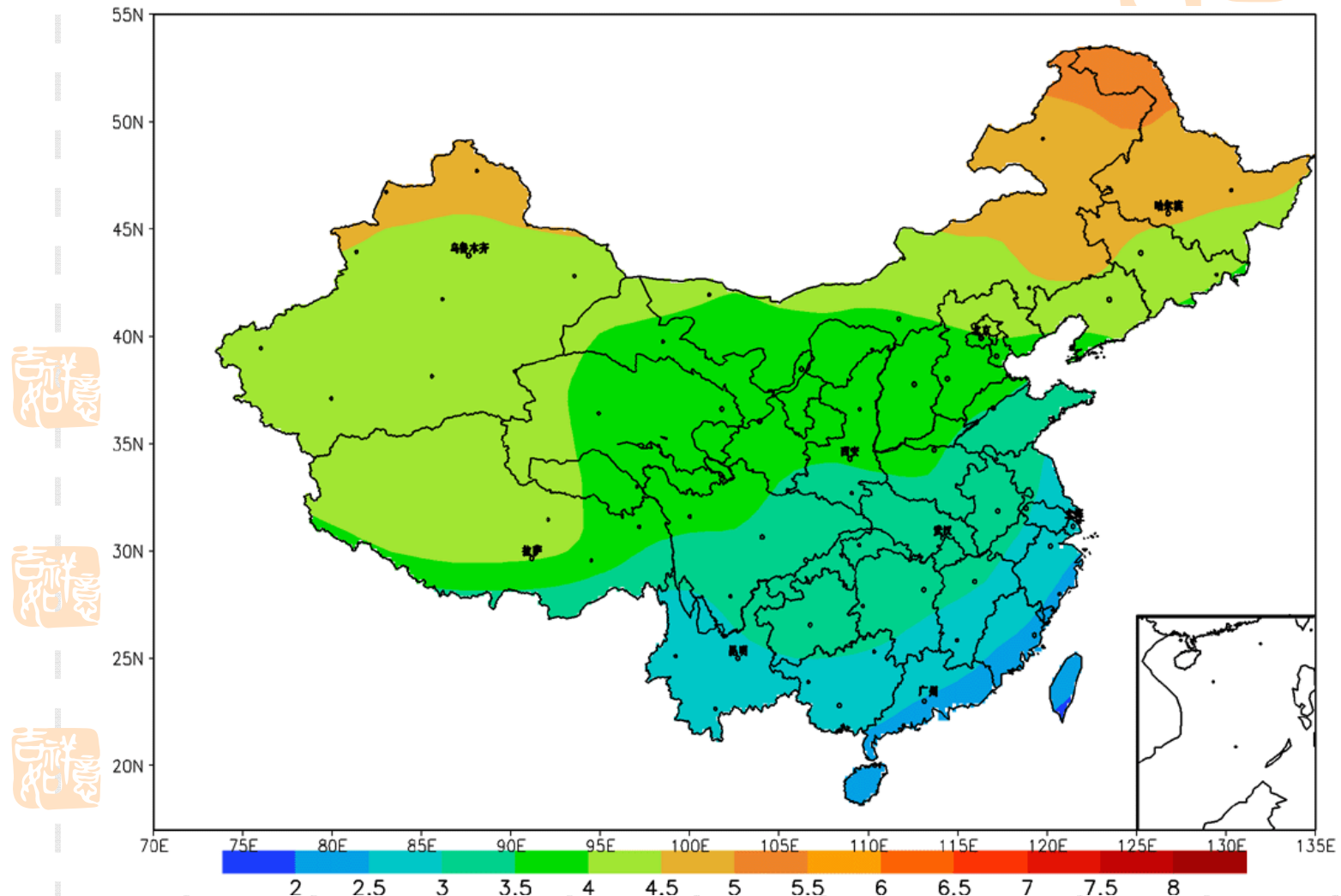


The time evolution of the averaged temperature change over China relative to years(1961 to 1990) of the SRES simulation B2 (unit:°C)



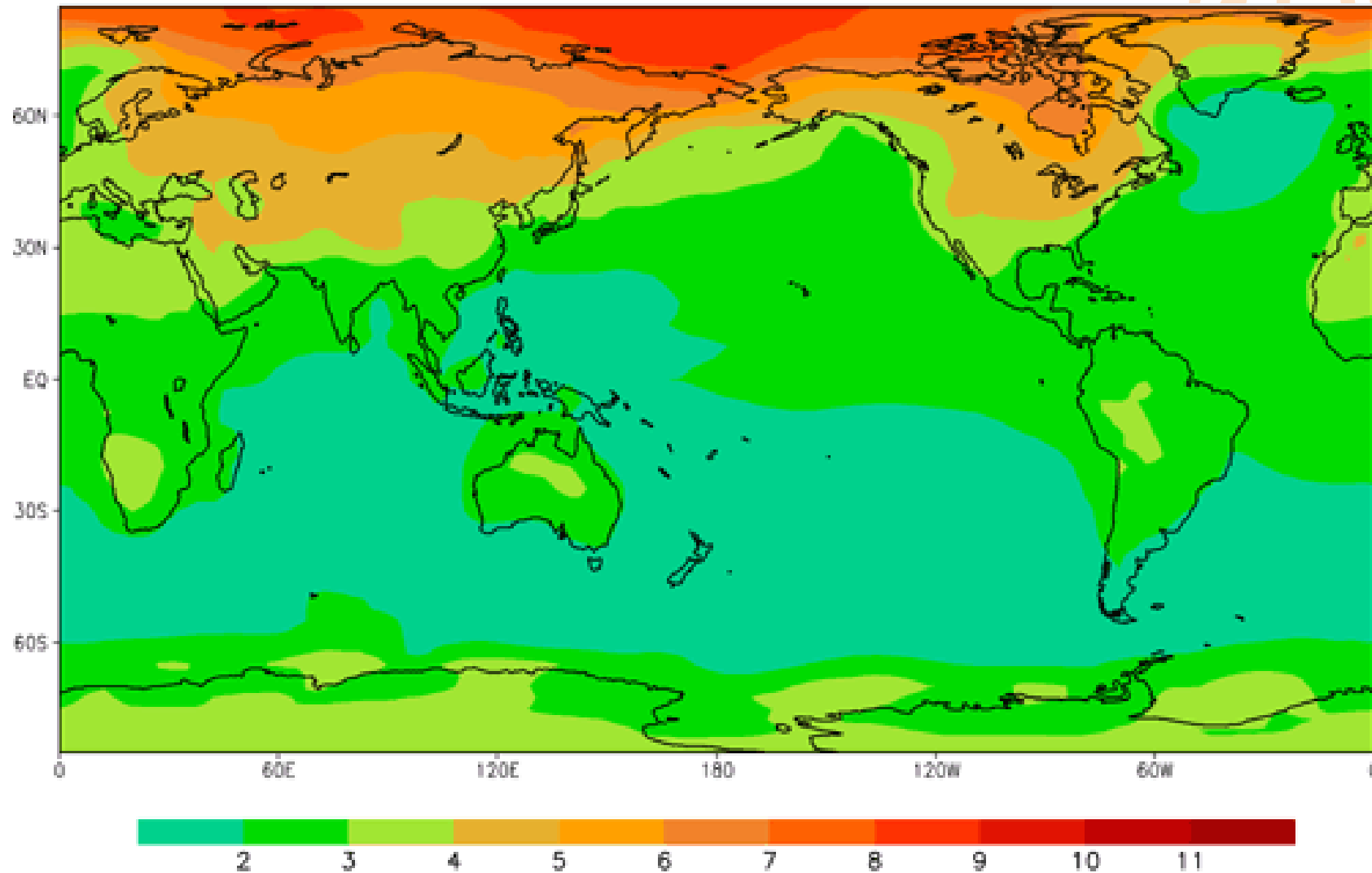
National Climate Center (2004)

The multi-AOGCM ensemble annual mean change of the temperature (unit : °C) over China for the SRES scenario B2 for the years 2071 to 2100 relative to the period 1961 to 1990



National Climate Center (2004)

The multi-AOGCM ensemble annual mean change of the temperature (unit : °C) over globe for the SRES scenario B2 for the years 2071 to 2100 relative to the period 1961 to 1990



National Climate Center (2004)

What has China done?

—— International treaties

- Signed **UNFCCC** in June 1992 in Rio, Brazil
- Signed **Kyoto Protocol** on May 29, 1998 and confirmed it on Aug 30, 2002
- Actively involved in **CDM**
- Actively participating COP, MOP meetings for post-KP negotiation
- Bilateral cooperation

Et al.

What has China done?

——Domestic efforts

- National laws and regulations

- ***China's Agenda 21*** (issued in July of 1994) and Sustainable Development as a national strategy

- ***Energy Saving Law*** (Approved by NPC in Nov, 1997; Revised in Oct of 2007; came into force on Apr 1st 2008)

- ***Renewable Energy Law*** (Approved by NPC in 2005; Came into force in June 2006; Is under discussion and revision) and a series of complementary regulation

What has China done?

——Domestic efforts

- Chinese government set up a special organization for Climate Change issue early in 1990
- In 1998, set up *National Climate Change Countermeasure Coordinating Group*,
- In 2007, set up *National Leading Group for Coping with Climate Change*, Prime Minister as the group leader, responsible for strategical decisions and policies making and coordinating the involved *18 ministries*

What has China done?

——Domestic efforts

Targets for the *11th Five Year Plan* (2006-2010)

- 20% of energy and GHGs intensity reduction
- 10% of SO_x reduction
- 1.8% forest coverage of total territory increasing

What has China done?

——Domestic efforts

National Action Plan for Coping with Climate Change (Issued on June 5, 2007)

- Key principles
 - Sustainable development
 - Mitigation and adaptation
 - Policy integration and coordination with other sector policies
 - Technology innovation
 - *Common but differentiated responsibilities*
 - Active international cooperation
- Quantitative Targets
 - Mitigation
 - 20% *energy intensity reduction* during 2006-2010 (same as 11th five year plan)
 - By 2010 **renewable energy taking up 10% of total energy** and nuclear energy 4% of total
 - By 2010 **N₂O keeping at the same level of 2005**
 - Control paddy rice and animal methane
 - 50 million ton of **carbon sequestration** increasing during 2005-2010

What has China done?

——Domestic efforts

■ Programs

- **Energy efficiency** programs- e.g. *energy efficiency label Household Electric Appliance*
 - Economy **structure adjustment** - phasing out backward production capacity
 - **Low carbon energy and Renewable energy** development – rural biogas, solar, hydropower, nuclear...
 - Plantation for **carbon sequestration**
 - **Population control** with 0.5% annual growth rate
- Et al.

What has China done?

——Domestic efforts

■ Some minor Stories

➤ Indoor temperature regulations for governmental buildings

■ Winter: shouldn't be higher than 20 °C(68 F)

■ Summer: shouldn't be lower than 26 °C (78.8 F)

➤ Electric scooter/bicycle

➤ Solar boiler and heating installation

➤ ISO14000 management for electricity

➤ Smart refrigerator for energy saving

➤ Washer and drier combo

What achievements has China made?

2006-2008: phasing out small and backward production capacity

- thermal power plant **38.26 GW**,
- iron production (pudding) **60.59 million ton**
- steel production capacity **43.47 million ton**
- cement production capacity **140 million ton.**



Decommission of small sized,
backward, low efficiency coal
burning power plants

(Zhongning Power Plant,
Ningxia, June 2007)



Phasing out backward iron/steel and cement plants



What achievements has China made?

2000 to 2008, New/Renewable Energy Increase:

- wind power from **340 MW** to **10,000MW**,
- hydro-power from **79.35GW** to **172.00GW**,
- nuclear power increased from **2.1GW** to **9.1GW**, another **25.4GW** has been approved or is under construction;
- rural household biogas used by **26.5 million households**, equivalent to CO₂ reduction of **44 million** (by the end of 2007)
- Photo-voltage battery production **2,000 MW** (most for export) (by the end of 2007)
- Biomass power generation **3,150 MW** (by the end of 2007)

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What achievements has China made?

- By the end of Apr 2009, Designated National Authority (DNA) of China has approved **2,023 CDM projects**, of which, **417 projects** have been registered by EB of UN, accounting for **26.4% of the world total**.

GHG reduction	Project number	Proportion to the project total number	Estimated annual reduction (ton)	Proportion to the annual total reduction
Energy substitute	1,418	70.09%	171,322,006.32	43.13%
Energy saving and efficiency improvement	371	18.34%	62,120,083.64	15.64%
CH ₄ collection and use	127	6.28%	42,250,955.20	10.64%
Biomass	37	1.83%	24,525,700.68	6.17%
N ₂ O decomposition and reduce	25	1.24%	24,600,966	6.19%
HFC-23 decomposition	11	0.54%	66,798,446	16.81%
Solid waste burning and power generation	5	0.25%	1,211,524	0.30%
Reforestation	5	0.25%	118,520	0.03%
Other	24	1.19%	4,317,084	1.09%
total	2,023	100.00%	397,265,286	100.00%

What achievements has China made?

- From 2006-2008,
energy consumption for unit GDP output got
annual reduction of **1.79%**, **4.04%** and **4.59%**
respectively, with a total unit GDP energy
consumption decreased by over **10%**,
equivalent to 290 million ton of coal saving and
CO₂ reduction of 660 million ton.
- In the past 30 years,
China supported its annual economic increase
rate of **9.8%** with an energy use increase rate of
5.5%.

Why China is willing to take action?

- Realizing the common threaten that could be brought by global climate change; Is willing to undertake APPROPRIATE international responsibility;
- Is facing resource, especially energy resource supply pressure, considering it's fast economic expansion;
- Is facing serious local pollution problem, in connection with its large quantity of production;
- Has realized that the tendency of technology development and industrial revolution must be labeled "GREEN", and is willing to regarding environmental friendly industry as new opportunity for economic development.

What will/should China do next?

- Go on **MAINSTREAMING** Climate Change issue into *national economy and social development planning*
- **More ambitious** new energy utilization (under discussion):
 - Higher objectives (originally given in 2007) for the year of 2020:
wind-power from 30GW to 100GW ,
photo-voltage generation from 1.8 GW to 10 GW
- Use **more economic instruments**
 - green credit
 - green taxation
 - green trade: Trade related Environmental countermeasures
 - Embedded flowing out with goods and services from China
 - 23% of virtual carbon
 - 39% of virtual sulfur
 - 12% of virtual water
- priority strategy: **co-control** and **co-benefit**
- promote technology revolution and industry upgrading

What can we do together in Asia-Pacific Region? — Green recovery

- Greener consumption
- Greener production
- Greener trade : way to Win-Win
 - More carrots: liberalization of Environmental Goods and Services (EGS)
 - Global-environmental goods and services, such as low carbon products and services, non-CFC products
 - Eco-labeled product exporting encouragement to be applied – easier, cheaper and faster
 - Less sticks: Border Adjustment Tax of USA (carbon tax)
 - Understanding China's new trade measures
 - Energy and pollution intensive products exporting tariff already applied, e.g., Cock, et al.
- Meet the Demand of clean technologies and IPRs protection
 - Not only for China but the world
 - 20 years long protection period
 - HIV medicine compulsory license

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Thank you!

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