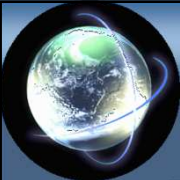


Climate Change and China's National Security




**“Climate Change: Security, resilience and diplomacy”
15-16 October 2012 in Chatham House**


**ZHANG Haibin
School of International Studies, Peking University**



Core questions

1. Is climate change a China's national security issue? Why?
2. In what way and to what extent does climate change endanger China's national security?
3. How to address climate change's threat to China's national security?
4. How to define the role of the UN Security Council in addressing climate change?





1. Climate change is a China's national security issue? A big controversy in China

Who are the supporters?

---The supporters are primarily from environmental and climate community.

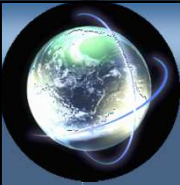
---Examples:

Qu Geping (the author of the book *Caring about China's Ecological Security*, 2004);

Xie Zhenhua (the editor-in-chief of the book *China National Report on Environmental Security Strategies*, 2005);

Wang Jinnan(the author of the book *Environmental Security Management: Assessment and Early Warninig*, 2007)

Zhang Haidong and Luoyong(co-authors of article "Impacts of Meteorological Disaster and Climate Change on National Security" in *Advances in Climate Change Research, Issue 2, 2006.*)



In addition, some military people also join this group. For example, General(retired) Xiong Guangkai, Chairman of the China Institute for International and Strategic Studies (CISS) argues that climate security should be one part of China's security (See his paper "Current China's Security Policy" in *International Strategic Studies*, Issue 4, 2008)

Their common voice: climate change is China's national security issue because climate change is a non-traditional threat to China. However, they didn't explain in what way and to what extent climate change poses a threat to China's national security.



Who are the opponents?

---The opponents come mainly from economic and international relationship communities.


Typical arguments

Argument 1

The impact of Climate change on China is exaggerated for two reasons. One is the lack of accurate data of GDP losses incurred by climate change in China. The other is special interests of some sectors. (Mao Yushi, "Global Warming and Human Being's Adaptability, *Green Leaf*, Issue 8, 2008")

Argument 2

This is another version of "China climate threat" in the west, aimed at postponing China's economic development. We should guard against the advocacy. (Guarding Against the Surprise Attack on China from "Climate Terrorism", *Global Times*, April 24, 2007)



Chinese government position on climate change and national Security: Self-contradiction

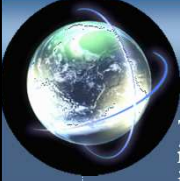
·After the cold war, the international situation has become characterized by relaxed international relations and growing world economy. Under the new historical conditions, the meaning of the security concept has evolved to be multifold with its contents extending from military and political to economic, science and technology, environment, culture and many other areas.

From China's Position Paper on the New Security Concept (July 31, 2002)

China's basic goals and tasks in maintaining national security are:

1. To stop separation and promote reunification, guard against and resist aggression, and defend national sovereignty, territorial integrity and maritime rights and interests.
2. To safeguard the interests of national development, promote economic and social development in an all-round, coordinated and sustainable way and steadily increase the overall national strength.

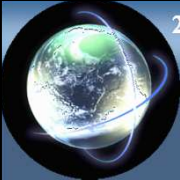
China's National Defense in 2004



The issue (climate change) could have certain security implications, but, generally speaking, it was, in essence, an issue of sustainable development.

- ◆ Climate change solutions required the concerted effort of the international community. Discussing the issue in the Security Council would not help countries in their efforts, and it would be hard for the Council to assist developing countries affected by climate change to find more effective adaptations.
- ◆ Discussions on climate change should be conducted within the framework that allowed participation by all parties. The developing countries believed that the Security Council did not have expertise and did not allow extensive participation in decision-making. It would not help produce widely acceptable proposals.

---Statement by H.E. Ambassador LIU Zhenmin, Deputy Permanent Representative of China to the United Nations, at the Open Debate of the *Security Council* on the impact of climate change on security 17 April 2007



2. Foreign studies on climate change and security/ climate change and China's national security

The U.S.

An Abrupt Climate Change Scenario and Its Implications for United States National Security
October 2003

By Peter Schwartz and Doug Randall

Imagining the Unthinkable

The purpose of this report is to imagine the unthinkable – to push the boundaries of current research on climate change so we may better understand the potential implications on United States national security.


We have interviewed leading climate change scientists, conducted additional research, and reviewed several iterations of the scenario with these experts. The scientists support this prospect, but caution that the scenario depicted is extreme in two fundamental ways. First, they suggest the occurrences we outline would most likely happen in a few regions, rather than on globally. Second, they say the magnitude of the event may be considerably smaller.

We have created a climate change scenario that although not the most likely, is plausible, and would challenge United States national security in ways that should be considered immediately.

Executive Summary

There is substantial evidence to indicate that significant global warming will occur during the 21st century. Because changes have been gradual so far, and are projected to be similarly gradual in the future, the effects of global warming have the potential to be manageable for most nations. Recent research, however, suggests that there is a possibility that this gradual global warming could lead to a relatively abrupt slowing of the ocean's thermohaline conveyor, which could lead to harsher winter weather conditions, sharply reduced soil moisture, and more intense winds in certain regions that currently provide a significant fraction of the world's food production. With inadequate preparation, the result could be a significant drop in the human carrying capacity of the Earth's environment.

The research suggests that once temperature rises above some threshold, adverse weather conditions could develop relatively abruptly, with persistent changes in the atmospheric circulation causing drops in some regions of 5-10 degrees Fahrenheit in a single decade. Paleoclimatic evidence suggests that altered climatic patterns could last for as much as a century, as they did when the ocean conveyor collapsed 8,200 years ago, or, at the extreme, could last as long as 1,000 years as they did during the Younger Dryas, which began about 12,700 years ago.



NOVEMBER 2007

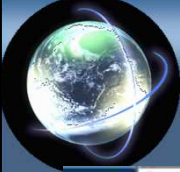
The Age of Consequences:
The Foreign Policy and National Security Implications of Global Climate Change

By Kurt M. Campbell, Jay Gulick, J.R. Mitchell, John Podesta, Peter Ogden, Leon Fuerth, R. James Woolsey, Alexander T.J. Lennon, Julianne Smith, Richard Weitz, and Derek Mix

Project Co-Directors
Kurt M. Campbell
Alexander T.J. Lennon
Julianne Smith

CSIS
CANADIAN STRATEGIC & INTERNATIONAL STUDIES

Center for New American Security



COUNCIL SPECIAL REPORT


Climate Change and National Security


An Agenda for Action

JOSHUA W. BUSBY

NUMBER 17, SEPTEMBER 2008

AN OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE
AND ASSOCIATED MEMBERS

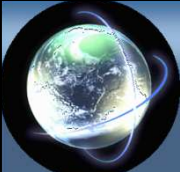




NATIONAL SECURITY
AND THE THREAT OF
CLIMATE CHANGE

SecurityAndClimate.org


The CNA Corporation
ANALYTICAL SERVICES TO THE U.S. GOVERNMENT



House Permanent Select Committee on Intelligence
House Select Committee on Energy Independence and
Global Warming


25 June 2008

National Intelligence Assessment on the National
Security Implications of Global Climate Change to 2030



Statement for the Record
of
Dr. Thomas Fingar
Deputy Director of National Intelligence for Analysis
and Chairman of the National Intelligence Council

Security Studies, 17: 468-504, 2008
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ISSN: 0963-6412 print / 1556-1852 online
DOI: 10.1080/09636410802319529

 **Routledge**
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Who Cares about the Weather?: Climate Change and U.S. National Security

JOSHUA W. BUSBY

Is climate change a national security threat to the United States? This question remains a subject of debate in academia and has received renewed emphasis in the policy community. Even taking a narrow definition of national security, climate change already constitutes a national security threat to the United States, both in terms of direct threats to the country as well as its broader extraterritorial interests. While some of these purported threats—abrupt climate change and sea-level rise—have been overstated by advocates, several concerns, mostly related to the effects of extreme weather events on the United States and its strategic interests overseas, are sufficient enough that they already constitute security threats. That climate change potentially poses a direct threat to the U.S. homeland and its overseas interests suggests the subject warrants serious attention.



Germany

German Advisory Council on Global Change (WBGU)

Climate Change as a Security Risk

earthscan

S. Schubert
H. J. Schellnhuber
N. Buchmann
A. Eptey
R. GieseKumner
M. Kutschera
D. Messner
S. Rahmstorf
J. Scheid

UK

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AN UNCERTAIN FUTURE
LAW ENFORCEMENT, NATIONAL SECURITY AND CLIMATE CHANGE

Chris Abbott



UN
FOR WATER ONLY

STOP

BRIEFING PAPER JANUARY 2008

LOGO

Australia

Asia-Pacific review

WINTER 2008 • VOLUME 1 • NUMBER 1

The Role of Education in the Peace-Building and Reconstruction of Afghanistan

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Emerging New East Asia Regionalism

US Security Strategy in Asia and the Prospects for an Asian Regional Security Regime

How Japan Can Contribute to a Peaceful World

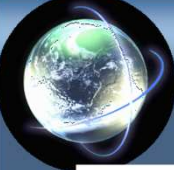
Japanese Security Policy in Transition: The Rise of International and Human Security

IIPS


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“China and Environmental Security in the Age of Consequences” by Katherine Morton, 2008

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Climate security skeptics



Implications of Climate Change for Armed Conflict

Halvard Buhaug, Nils Petter Gleditsch and Ole Magnus Theisen

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Vol. 45, No. 4, pp. 311-329
Key Publications: U.S. Dept. of State, New Delhi
and Singapore: www.pri.no
DOI: 10.1177/0022002708318212

VIEWPOINT

From Climate Change to Conflict? No Consensus Yet*

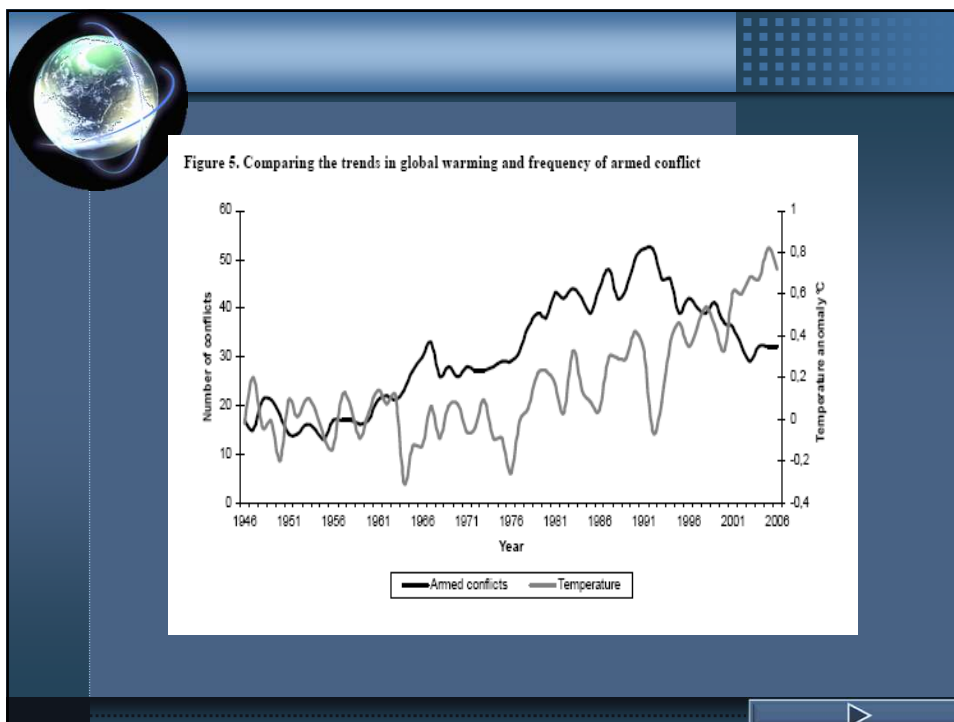
IDEAN SALEHYAN
Department of Political Science, University of North Texas

*Many scholars, policymakers, and activists have argued that climate change will lead to resource competition, mass migration, and ultimately an increase in armed conflict around the world. This article takes issue with the deterministic "hope that climate change and resource scarcity academics will have a direct impact on political violence. Rather, the effect of climate change on armed conflict is contingent on a number of political and social variables, which, if ignored by analysts, can lead to poor predictions about when and where conflict is likely. This article then discusses ways to improve research on the climate change-conflict connection and outlines broad policy suggestions for dealing with this potential problem. Scholars must communicate their findings with the policy community in order to come up with prudent solutions to this problem, while countering unnecessary rhetoric on both sides of the debate.

Introduction

Global climate change is one of the most important challenges facing the international community today. Scientists have presented overwhelming evidence that climate change is indeed occurring, that human activity has contributed to the problem, and that it will have far-reaching implications for ecosystems, including human settlements (IPCC, 2007). Even governments and corporations that were once skeptical about climate change research have come to the conclusion that something must be done to mitigate potentially disastrous consequences. National governments, international organizations, non-profit groups, and multinational firms, while seldom linking common, have nonetheless entered into serious dialogue on the issue.

Because climate change is likely to have profound effects on agriculture, settlement patterns, natural disasters, disease, and economic activity more generally, many have begun to speculate about future scenarios and potential human impacts. One group of scholars, policy planners, and activists has suggested that climate change will exacerbate resource scarcity, create mass population displacements, and ultimately fuel violent conflicts. These effects will be particularly acute in developing countries where infrastructure is lacking and agricultural economies are most sensitive to environmental stress. Writing in the *New York Times*, Homer-Dixon (2007) argues that "climate stress may well represent a challenge to international security just as dangerous – and more intractable – than the arms race between the






Key conclusions on climate change and China's national security

Conflict Scenario concerning China Due to Climate Change


2010-2020	2010: Border skirmishes and conflict in Bangladesh, India, and China, as mass migration occurs toward Burma 2012: Regional instability leads Japan to develop force projection capability 2015: Strategic agreement between Japan and Russia for Siberia and Sakhalin energy resources 2018: China intervenes in Kazakhstan to protect pipelines regularly disrupted by rebels and criminals.
2020-2030	2020: Persistent conflict in South East Asia; Burma, Laos, Vietnam, India, China 2025: Internal conditions in China deteriorate dramatically leading to civil war and border wars. Internal struggle in Saudi Arabia brings Chinese and U.S. naval forces to Gulf ,in direct confrontation. 2030: Tension growing between China and Japan over Russian energy

Source: An Abrupt Climate Change Scenario and Its Implications for United States National Security



Climate change as a threat to national security

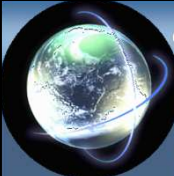
Climate change Colder Drier More storms	→	Decrease of carrying capacity Food Water Energy	→	Implications for national security Border management Global conflict Economic recession
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Summary of Key National Security Implications Of Three Climate Scenarios For China

	Scenario 1 Expected Climate Change	Scenario 2 Severe Climate Change	Scenario 3 Catastrophic Climate Change
Summary of climate change assumptions	Average 1.3° C warming .23 meters of sea level rise Approximately 30 year time frame	Average 2.6° C warming .52 meters of sea level rise Approximately 30 year time frame	Average 5.6° C warming • 2.0 meters of sea level rise • Approximately 100 year time frame
Key selected national security implications based on scenario assumptions	China's carbon emissions will reinforce or accelerate several existing domestic environmental Challenges—ranging from desertification to water shortages to the deterioration of air quality in urban areas—as well as become the primary driver of global climate change itself. there will be escalating pressure on China to be a “responsible stakeholder” as its economic and political strength grow and as it surpasses the United States as the world's largest carbon emitter in the near future. Furthermore, mounting global awareness about the threats posed by climate change—and the harm it is inflicting on developing countries in which China is seeking to expand its political and economic influence—will make it difficult for China to remain outside of a U.S.-supported post-Kyoto regulatory Framework on climate change without severely damaging its international standing.	Rising sea levels and accentuated storm systems will threaten China's industrialized coastal regions. Chinese economic growth will suffer as a result of the accelerated loss of land fertility due to salinization of river deltas, compounding shortages of arable land lost to urbanization. Decreased rainfall will accelerate China's already critical shortage of water, not only for drinking but also for industrial purposes. This will also cancel out the promised effects of massive hydro-engineering projects such as the Three Gorges Dam. There will be significant environmental pressures arguing for an inland shift of economic activity. China will also find itself in direct confrontation with Japan and even the United States over access to fish, at a time when all major fisheries will likely have crashed as the result of today's unsustainable fishing practices, combined with the ongoing, worldwide decimation of wetlands. All this can place tremendous additional pressure on the national concept and on the Chinese political system.	Northern Eurasian stability could also be substantially affected by China's need to resettle many tens, even hundreds, of millions from its flooding southern coasts. surge, sea level rise in the range of 2 meters could also have “very large” effects on a number of other states, including China and India. Considering all factors—land area, urban area, population, etc.—the most affected countries, In addition to the above, would be Guyana, Surinam, and Mauritania. Substantial impacts would also occur in Gambia, Liberia, Senegal, Guinea, Thailand, Burma, Indonesia, Taiwan, Bangladesh, and Sri Lanka. The above rise in sea levels—together with changed climate, agricultural disruptions and famines, spread of disease, water scarcity, and severe storm damage—will not occur in a world that is otherwise sustainable and resilient.

Source: The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change



Conclusions from Climate Change as a Security Risk , German Advisory Council on Global Change (WBGU)

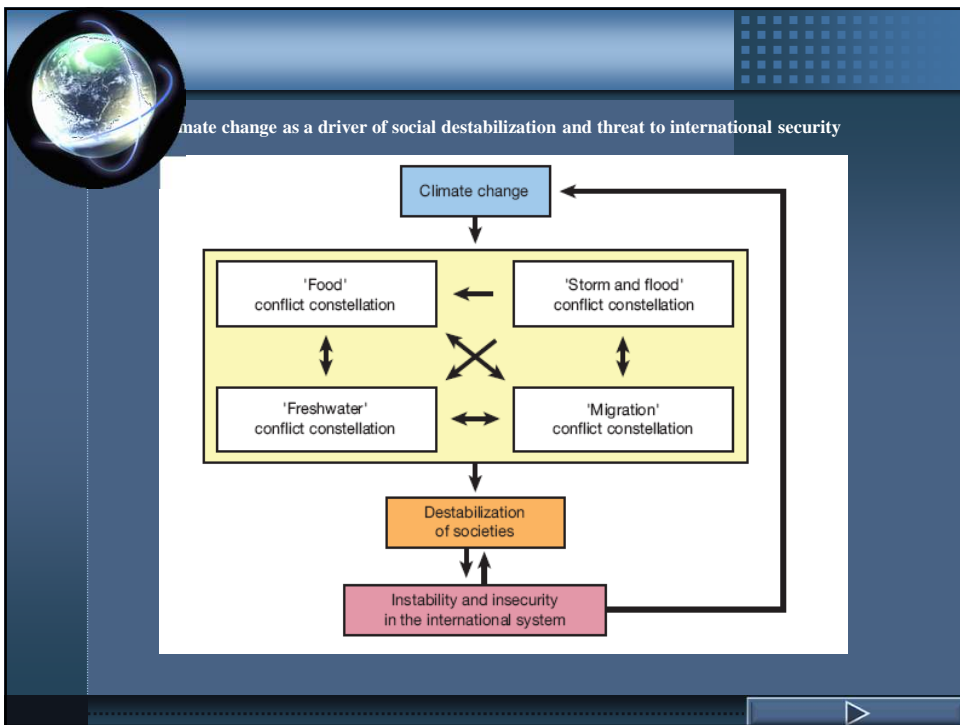
The major environmental changes to be expected in China as a result of climate change are increasing soil degradation and the loss of arable land, an increase in extreme weather events and periods of drought and increasing water scarcity.


- ◆ The effects will, however, vary in different parts of China. Nevertheless, existing ecological and social problems in the cities and rural areas could escalate, undermining the dynamism of the economy and ultimately affecting the political stability of the country.
- ◆ The south will be confronted with an increase in flood disasters, severe weather events, storms and landslides. The main problems in the north will be water scarcity in summer and an increase in droughts – with subsequent harvest failures – as a result of glacier melt and precipitation variability.
- ◆ The rural population will bear the brunt of climate impacts. Compounded by ethnic tensions, poverty and social disadvantage, these regional developments could have a destabilizing effect on the entire country and on neighboring states. Since rural exodus as a result of environmental degradation is already being observed, it is very likely that internal migration will increase further and will represent one of the central challenges of the coming decades. Further significant risk and conflict



potential arises from the concentration of the economic infrastructure in the densely populated river deltas of the east coast. The rising sea level and an increase in flood disasters, possibly also driven by more powerful typhoons, could cause major damage both to industrial facilities – thus striking at the heart of the Chinese economy – and to residential areas in which millions of people live. The potential for conflict would be considerable.

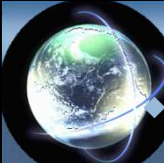
- ◆ The anticipated problems present a major challenge to the political structures and the legitimacy of the Chinese government both internally and externally.
- ◆ Externally China, with its growing economic strength and global political weight, is not only becoming a serious competitor of the United States but is also being seen increasingly as a key player in matters of international climate policy. Tough international disputes are emerging over responsibility for the reduction of greenhouse gas emissions; such disagreements put the international system under pressure and can lead to tension in foreign policy matters.
- ◆ At home, the Chinese leadership runs the risk of being overstretched by the combined effects of heightened environmental problems, social polarization and economic and political liberalization.





Major deficiencies of the research at home and abroad

1. Lack of an analysis framework which can address the major concerns of traditional and non-traditional security perspectives.
2. Lack of systematic assessment of the ways in and degree to which climate change threatens China's national security.



3. A Framework of Analysis


What can we learn from the Evolution of Security Studies in Post Cold War Era?

A Matrix of Security Studies

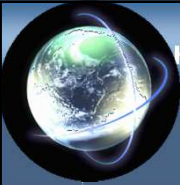
What is the Source of the Security Threat?

		Military	Military, Nonmilitary, or Both
Security for Whom? States societies, groups and individuals	States	Cell 1 National Security (conventional realist approach to security studies)	Cell 2 Redefined security (e.g., environmental and economic security)
	societies, groups and individuals	Cell 3 Intrastate Security (e.g., civil war, ethnic, conflict, and democide)	Cell 4 Human security (e.g., environmental and economic threats to the survival of societies, groups and individuals)

Source: Roland Paris, Human Security: Paradigm Shift or Hot Air? in Michael E. Brown, Owen R. Cote Jr. et al, eds., *New Global dangers: Changing Dimensions of International Security*, London: The MIT Press, 2004, p.260.




- ◆ Traditional security approach can not catch up with the new times, unable to address the new nonmilitary threats to national and international security.
- ◆ Human security (environmental, personal, and physical security, economic security, social security, political security, and cultural security) is so vague that it verges on meaninglessness and consequently offers little practical guidance to academics, or to policy makers who must prioritize among competing policy goals.
- ◆ The more feasible way is to discuss how to redefine national security in a new context which can address the major concerns of both traditional security approach and human security approach?



How to define a national security threat to China?

China's national security issues are not inherently military, economic, or environmental. Any problem that can meet one of the following criteria should be considered as a China's national security issue:

- 1) **threatens territory integrity of a state,**
- 2) **threatens drastically to degrade the quality of life for inhabitants of a state,**
- 3) **threatens significantly to narrow the range of policy choices available to the government of a state, or**
- 4) **threatens to cause serious political and social instability,**
- 5) **threatens the functioning of key national defense projects or key national projects of strategic importance.**

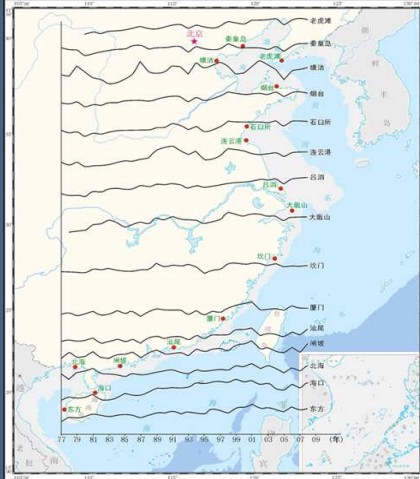


4. How does climate change threaten China's national security?

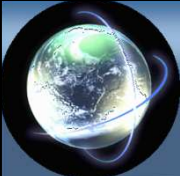
4.1 Sea level rise is submerging China's territory.

According to 2009 Sea Level Report of SOA


- The average increase in sea level has been about 2.6 millimeter per year in the past 30 years, 0.8 millimeter higher than the world's average.
- The sea level along China's coastal areas will rise 0.13 meter in the next three decades.
- Global warming is the major contributor to the rise of sea level.
- Some research shows a area of 5500 km² in Guangdong and half of Tianjin City will be inundated if the sea level along China's coastal areas rises 0.30 meter and no further countermeasures .



Source: SOA, 2009




One incomplete research shows the land of more than 2000 km² in China has been submerged by rising sea water.



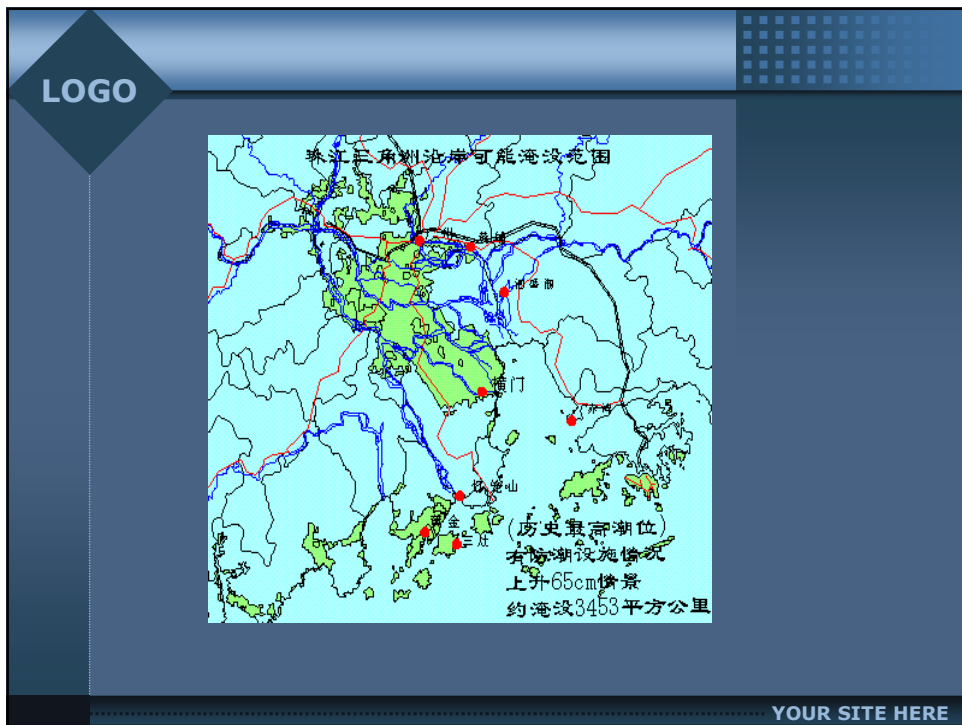
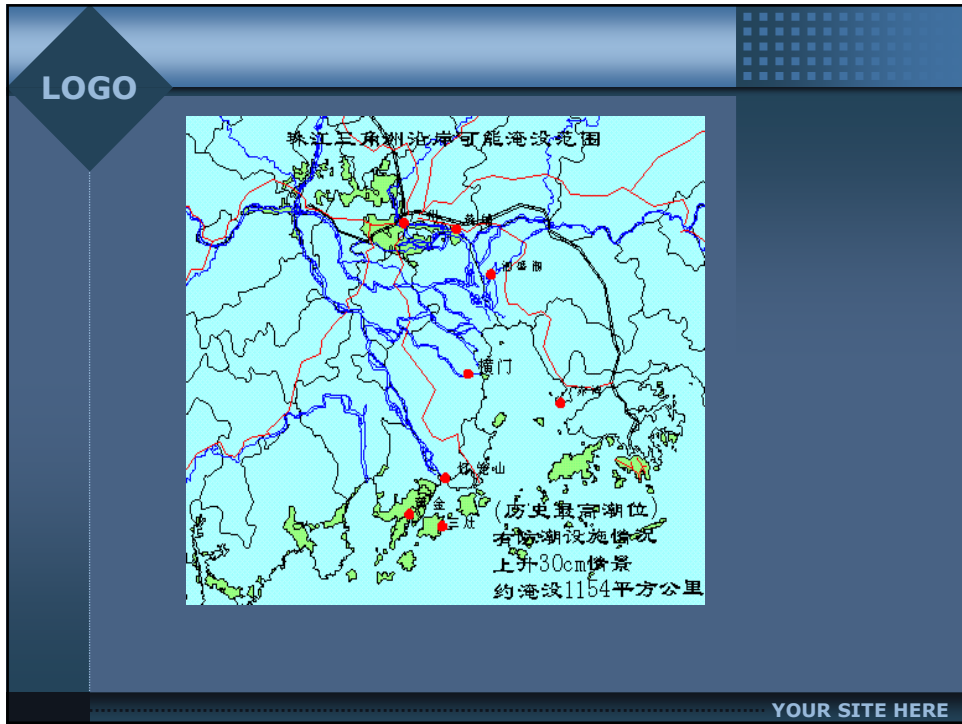
Coastal erosion in Longqi Bay in Hai Nan Province.

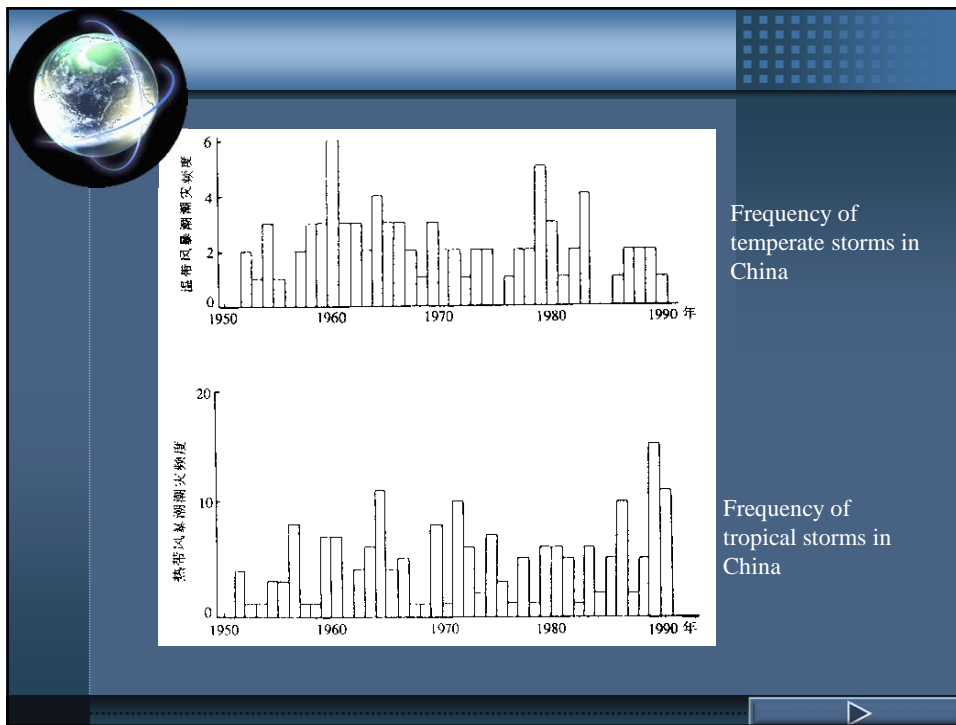
The coast line retreated by 200 meters in last 11 years, a big detriment to the habitat of local people.



Temperate storm hit Yantai coast, Shandong in 2007

Shandong Province is seriously affected by sea encroachment. For example, the sea encroachment area in Laizhou Bay reaches 2500 km².






Frequency of temperate storms in China


Frequency of tropical storms in China

◆ What's more, some Chinese reports say some low lying islands are very likely to be submerged by sea level rise in the several decades to come. This will have an adverse impact on China's maritime negotiations with neighboring countries.



4. 2 Climate change degrades the quality of China's territory by accelerating desertification.

- ◆ Currently in China the area of desertification reaches 2.63 million km² , accounting for 27% of its total land. The area of desertification is on the increase since 1950s and expanded at a fast rate of 3460 km² pre year in 1990s.



Case Study of Minqin

Map of Minqin County





总理又坐在村民家的炕头:决不能让民勤从地图上消失

决不能让民勤成为第二个罗布泊——温家宝总理民勤之行纪实

- ◆ 新华网兰州10月2日电(记者 赵承) 10月1日国庆节,中共中央政治局常委、国务院总理温家宝一大早就从北京出发,赶往他一直惦念的甘肃省民勤县,看望这里的干部群众。从上午8时到晚上10时,十四五个小时他没有停歇,奔波在石羊河流域,深入腾格里沙漠和巴丹吉林沙漠交会处,察看防沙治沙情况,进入村庄走访农户,与干部群众座谈,研究民勤生态保护、沙漠治理的根本大计。
- ◆ 民勤,地处石羊河流域最下游,东西北三面被腾格里和巴丹吉林两大沙漠包围。由于石羊河上游祁连山水源涵养能力降低和中游用水激增,进入民勤的地表水锐减,当地超采地下水灌溉,荒漠边缘以每年3至4米的速度向绿洲推进。目前,仅有一条狭长的绿色通道和武威相连,窄处只有1000多米。民勤,几乎变成沙漠孤岛。
- ◆ 防沙治沙,关乎民勤的生死存亡,也深深牵动着总理的心。早在2001年7月30日,温家宝就在一次批示中指出“决不能让民勤成为第二个罗布泊”。此后,他一直关注着石羊河流域综合治理和民勤防沙治沙工作,有关批示和指示达11次。每年全国两会,温家宝参加甘肃代表团讨论时,都要了解民勤防沙治沙情况,和代表们共商生态建设的大计。根据总理的要求,国家有关部门多次到民勤调查研究,制定了石羊河流域治理的规划方案,并启动了应急调水工程。
- ◆ 温家宝首先来到被誉为民勤生命工程的红崖山水库。这座水库承接了发源于祁连山的石羊河水,养育着被沙漠合围的30万民勤人民。登上水库大坝,温家宝一边听取水库管理人员的介绍,一边详细询问红崖山水库近几年水位变化情况。当地干部告诉总理,民勤年降雨量只有110毫米,蒸发量高达2600毫米,蒸发量是降雨量的20多倍。举目眺望,汪汪水泊不远处就是绵延的沙丘,温家宝面色严峻,陷入沉思。


Migration of Minqin

LOGO

- ◆ **Nearly 20,000 people in Minqin so far were forced to move out of Minqin due to the desertification.**
- ◆ Prof. Reuveny described four ways in which this environmental migration can contribute to conflict.
- ◆ First, violent competition can ensue between natives and migrants over local resources, especially under conditions of scarcity or when property rights are already loosely defined.
- ◆ Second, the arrival of migrants of a different ethnic background than the natives can threaten to shift the locality's ethnic balance, a prospect the natives may resist.
- ◆ Third, people in both the original and the new host country can seek to use the migrants as a foreign policy tool, especially to destabilize the other country.
- ◆ Fourth, the migration can exacerbate already existing conflicts over issues such as land rights, resulting in an escalation of these disputes.

(Rafael Reuveny, "Environmental Change, Migration and Conflict: Theoretical Analysis and Empirical Explorations," Human Security and Climate Change: An International Workshop (21-23 June 2005): 2.)

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4.3 Climate change exacerbates China's water shortage problem, food security problem and causes more extreme weather events, threatening the life and living standards of Chinese people.

- ◆ Climate change led to $\frac{1}{4}$ reduction of China's glaciers in the last 300-350 years, and is projected to cause another $\frac{1}{4}$ reduction by mid-21 century.
- ◆ The natural runoff volume of China's major seven rivers is on the decrease. Yellow River is on the top.
- ◆ Yangtze River and Yellow River both originate from Tibet Highlands.

▶



China's Major Rivers

北河東河西
黃河的變遷

長江萬里行
長江文明
治理和開發
詩文詠江河


在中國遼闊的大地上，有許多源遠流長的大江巨川，縱橫奔馳，滔滔不絕。其中流域面積在1,000平方公里(km²)以上的，就有1,500多條。如果把中國所有天然河流連接起來，其總長度可繞地球赤道十圈半。

中國主要河流分布圖




請在地圖上標出河名。
顯示河流的數據

河流名稱	長度 (km)	流域面積 (km ²)	流量 (m ³ /s)




Dangqu--the source of Yangtze River in 1970.



infzm.com

Dangqu--the source of Yangtze River in 2007.



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◆ Food Security

Food production in China is projected to decrease by 5-10 percent by 2030. More reduction by 2050.

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◆ Food Security

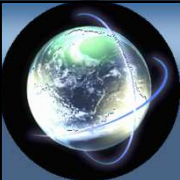
Food production in China is projected to decrease by 5-10 percent by 2030. More reduction by 2050.

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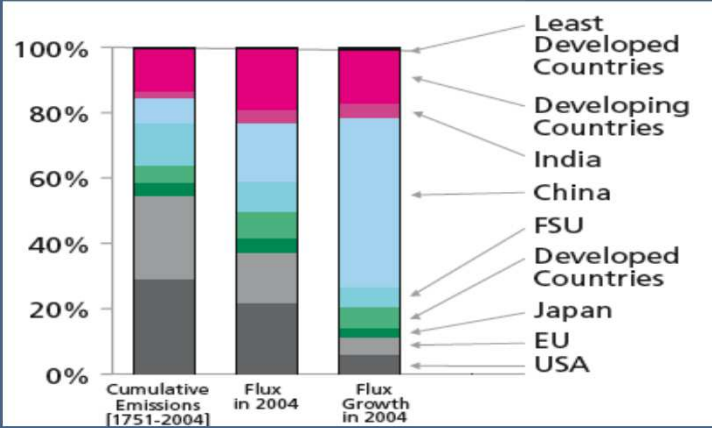
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- ◆ More extreme weather events
 - ◆ **Flood**
 - ◆ 1998 flood hit China heavily, 3004 people dead, 220 million people affected , direct economic loss reaching 166 billion yuan.
 - ◆ **Drought**
 - ◆ 2009 saw a heavy drought across China. 7 million people had difficulties in accessing drinking water.
 - ◆ **Storm tides**
 - ◆ From 1989 ~2008, storm tides in China caused 6000 deaths and direct economic loss of 200 billion yuan.

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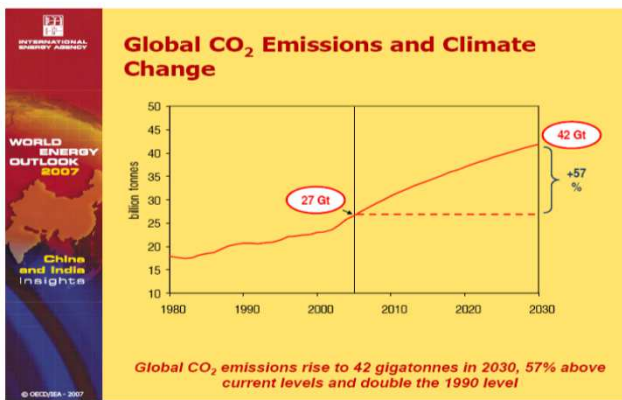


4.4 Climate change narrows down China's choice for economic development due to increasing domestic and international pressure on China.



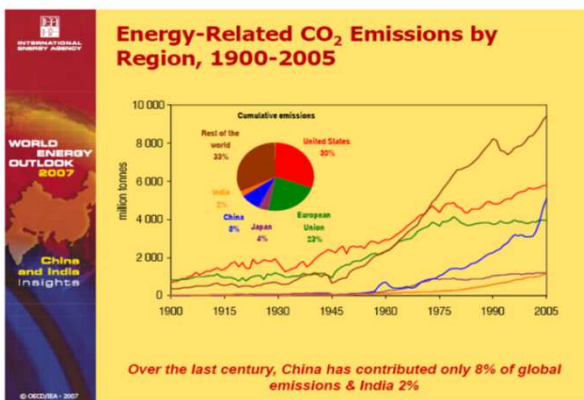
Region	Cumulative Emissions [1751-2004]	Flux in 2004	Flux Growth in 2004
Least Developed Countries	~10%	~10%	~10%
Developing Countries	~15%	~15%	~15%
India	~5%	~5%	~5%
China	~10%	~10%	~10%
FSU	~10%	~10%	~10%
Developed Countries	~15%	~15%	~15%
Japan	~5%	~5%	~5%
EU	~5%	~5%	~5%
USA	~5%	~5%	~5%

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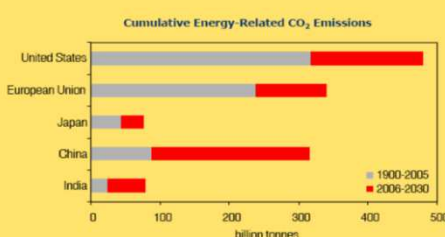
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China & India in Global CO₂ Emissions

Cumulative Energy-Related CO₂ Emissions




Entity	1900-2005	2006-2030
United States	~300	~150
European Union	~200	~100
Japan	~50	~20
China	~100	~200
India	~20	~50

Around 60% of the global increase in emissions in 2005-2030 comes from China & India

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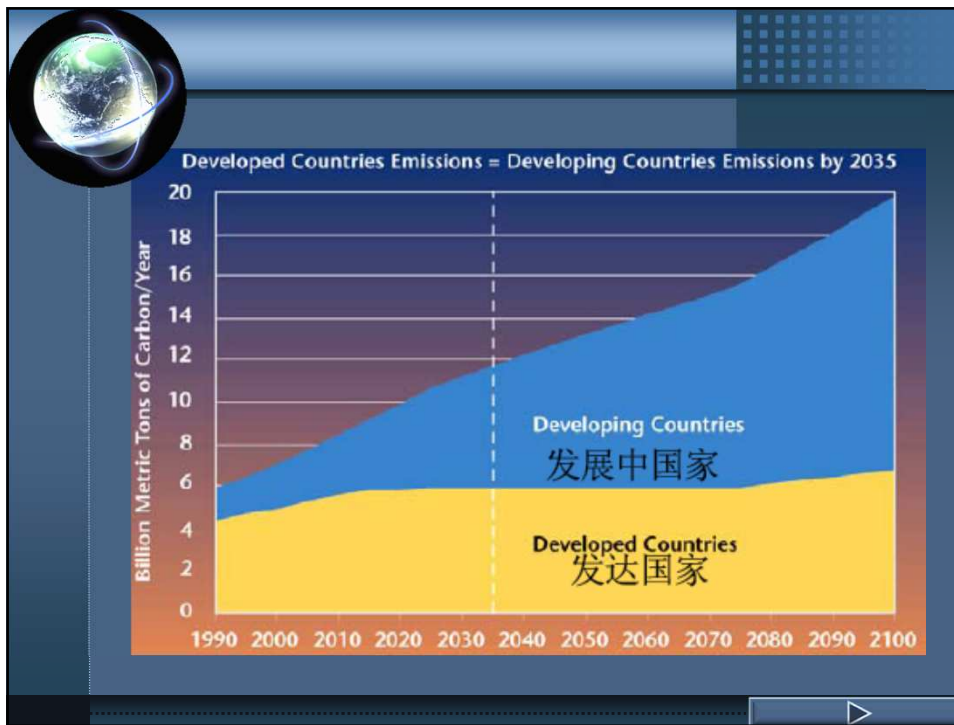
World's Top Five CO₂ Emitters

	2005		2015		2030	
	Gt	rank	Gt	rank	Gt	rank
US	5.8	1	6.4	2	6.9	2
China	5.1	2	8.6	1	11.4	1
Russia	1.5	3	1.8	4	2.0	4
Japan	1.2	4	1.3	5	1.2	5
India	1.1	5	1.8	3	3.3	3

China becomes the largest emitter in 2007 & India the 3rd largest by 2015

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Global energy-related CO₂ emissions and selected countries'/groups of countries' shares in these emissions based on the IEA's Alternative Policy Scenario.
Source: IEA, 2006c

	1990	2004	2015	2030
Global energy-related CO ₂ emissions [Gt CO ₂]	20.5	26.1	31.6	34.1
China's share [%]	11.2	18.3	23.1	25.8
India's share [%]	2.9	4.2	4.8	5.9
Brazil's share [%]	0.9	1.2	1.2	1.3
OECD's share [%]	54.0	49.2	43.8	38.7

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Table 1. Consumption of primary energy (millions of tons of oil equivalent), 1990, 2005 and 2030

	1990	%	2005	%	2030	%	Incr. 90-05	%	Incr. 05-30	%
World	8,755	100.0	11,429	100.0	17,721	100.0	2,674	100.0	6,292	100.0
OECD	4,518	51.6	5,542	48.5	6,800	38.4	1,024	38.3	1,258	20.0
China	874	10.0	1,742	15.2	3,819	21.6	868	32.5	2,077	33.0
India	320	3.7	537	4.7	1,299	7.3	217	8.1	762	12.1
China + India	1,194	13.6	2,279	19.9	5,118	28.9	1,085	40.6	2,839	45.1

Source: IEA, *World Energy Outlook 2007* and the author.

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Table 2. Coal consumption (millions of tons), 1990, 2005 and 2030

	1990	%	2005	%	2030	%	Incr. 90-05	%	Incr. 05-30	%
World	2,570	100.0	4,154	100.0	7,173	100.0	1,584	100.0	3,019	100.0
OECD	1,373	53.4	1,615	38.9	1,883	26.3	242	15.3	268	8.9
China	446	17.4	1,563	37.6	3,426	47.8	1,117	70.5	1,863	61.7
India	75	2.9	297	7.1	886	12.4	222	14.0	589	19.5
China + India	521	20.3	1,860	44.8	4,312	60.1	1,339	84.5	2,452	81.2

Source: AIE, *World Energy Outlook 2007* and the author.

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Table 3. Per capita and accumulated emissions of CO₂ (through energy consumption), per capita GDP and number of people living without electricity

	Per capita emissions of CO ₂ 2004 (tonnes)	Total emissions of CO ₂ 1840-2004 (as % of world total)	Per capita accumulated emissions of CO ₂ 1850-2004 (tonnes)	Per capita GDP (PPP), 2005 (US\$)	Number of people without electricity, 2005 (millions)
China	3.8	8.1	68.9	6,757	8.5
India	1.2	2.3	23.3	3,452	487.2
USA	20.6	29.4	1,105.4	41,890	-
Japan	9.9	3.9	334.2	31,267	-
Germany	9.8	7.2	962.8	29,461	-
Spain	7.6	0.9	237.9	27,169	-
Developing countries	2.4	24.9	53.9	5,282	1,569.0
Developed countries	13.3	75.1	843.0	33,082	-

Sources: UNDP, *Human Development Report 2007*, Tables 1, 22 and 24; World Resources Institute, Climate Analysis Information Tool (CAIT) and the author.

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will be just 1.4 tonnes, compared with 11.4 for the OECD. In 2030, emissions will be 7.9 tonnes in China and 2.3 tonnes in India, as opposed to 19.0 tonnes in the US and 11.6 tonnes on average for the countries of the OECD.

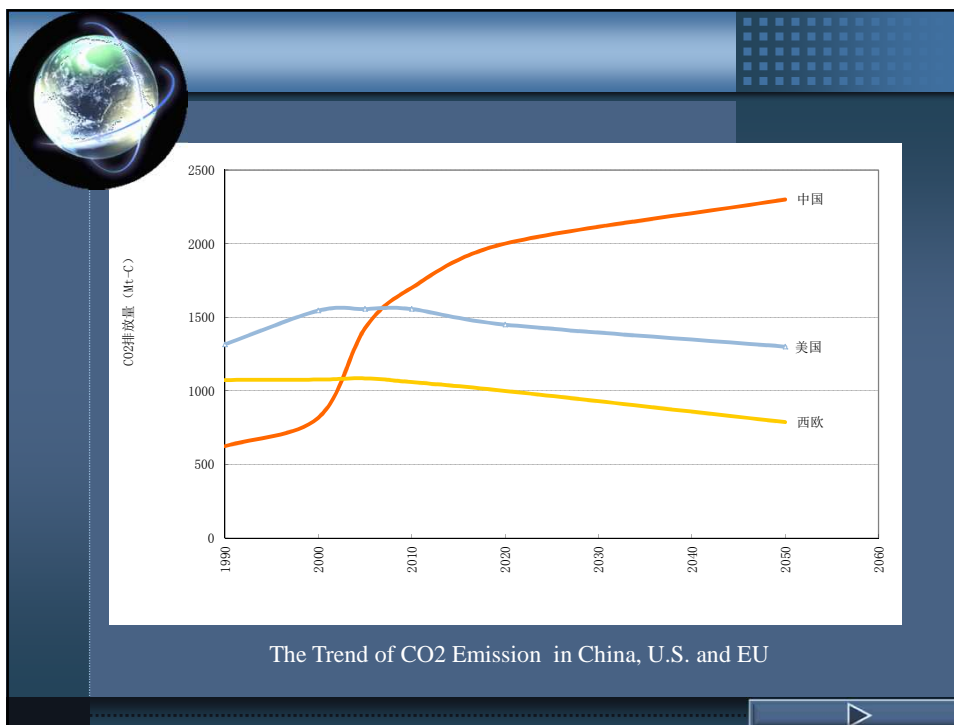
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Source: IEA, *World Energy Outlook 2007* and the author.

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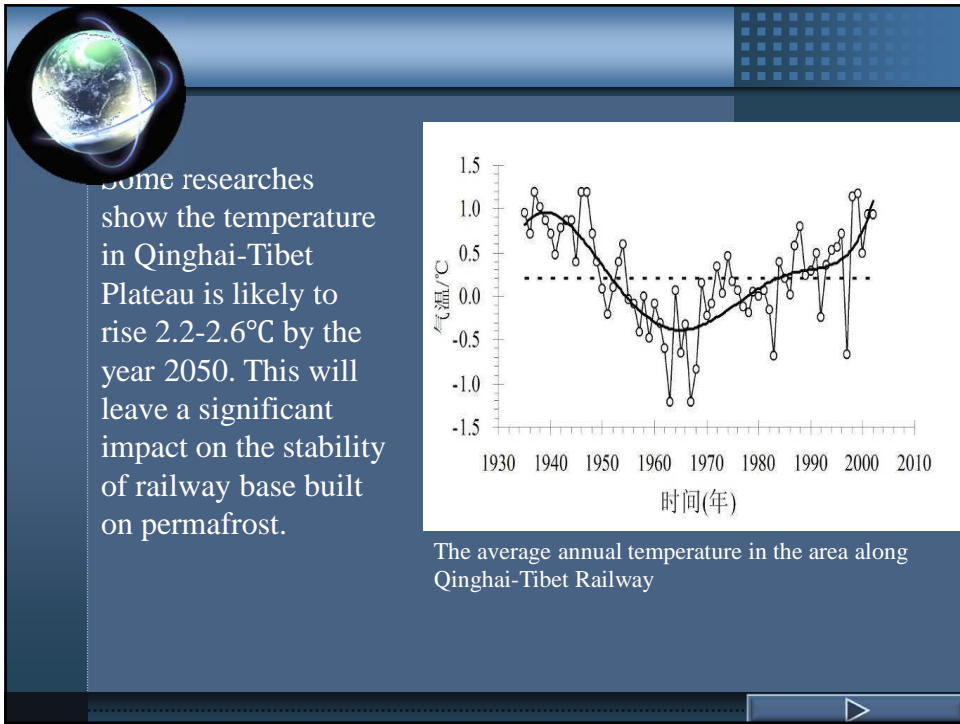
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4.5 Climate change threatens some China's key national defense projects.

4.5.1 Qinghai-Tibet Railway

- 2000 km long, completed in 2007, the railway passes through permanent permafrost of 550 km.



4.5.3 Climate change endangers Chinese military personnel, equipments, facilities and deployment by increasing the frequency and severity of extreme weather events

Source: Department of Defense, U.S.

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- ◆ The conclusion from Chinese military:

Climate change is posing a threat to China's military security.

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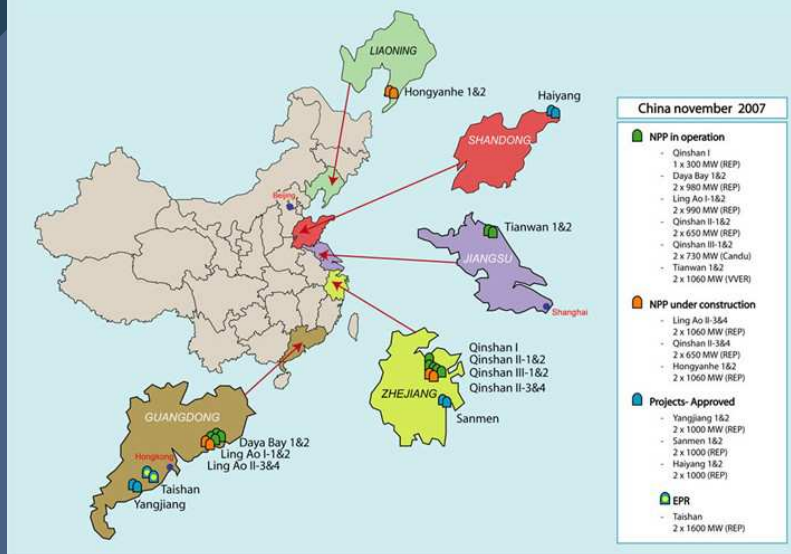
4.6 Climate change increases the risk of China's nuclear reactors

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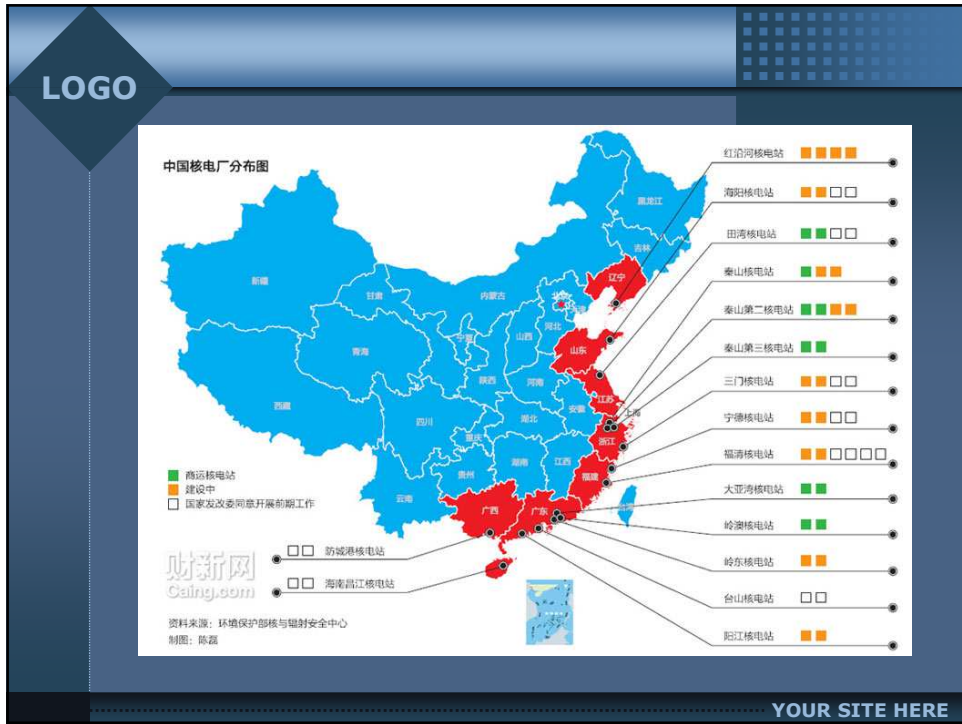


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The establishment of the fourth generation nuclear reactor, the first of its kind in China, was supposed to start in Shandong Province in April 2011.



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5. How to Respond?

5.1 China's National Climate Change Programme(2007) lists China's policies and measures to address climate change as follows:

- ◆ Key Areas for GHG Mitigation
- ◆ Key Areas for Adaptation to Climate Change
- ◆ Climate Change Science and Technology
- ◆ Public Awareness on Climate Change
- ◆ Institutions and Mechanisms

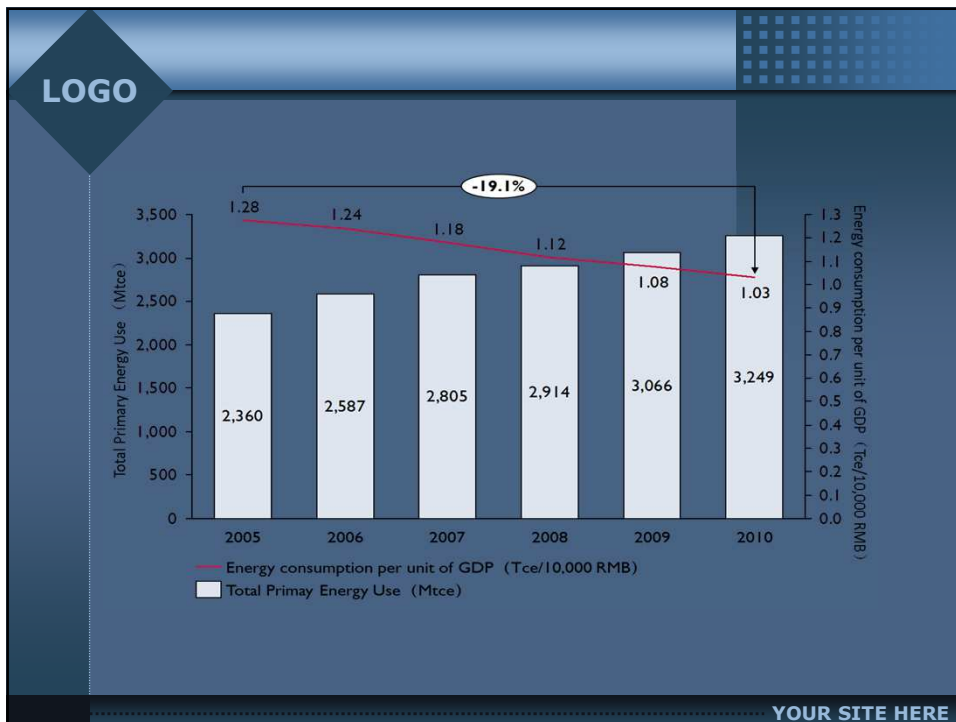


5.2 The 11th Five-Year Plan for National Economic and Social Development

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- ◆ In the 11th Five-Year Period (2005-2010), China accomplished its energy conservation goals listed in the Eleventh Five-Year Plan.
- ◆ China's energy consumption per unit of GDP dropped 19.1 percent from that of 2005 accumulatively, or a reduction of 1.46 billion tons of carbon dioxide emissions.

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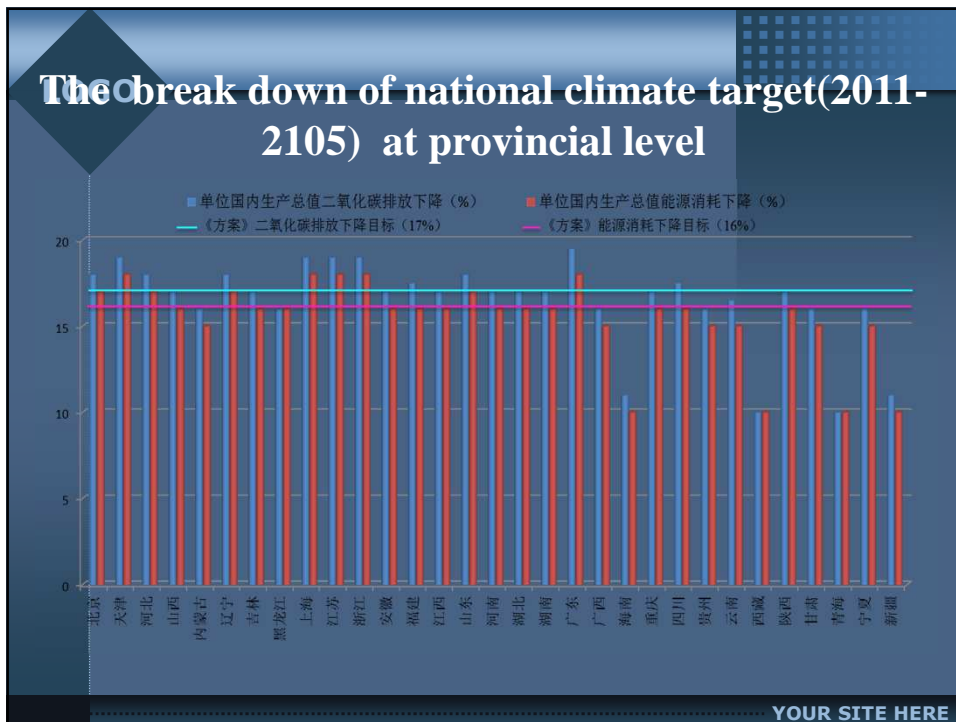


5.3 Objectives listed in 12th Five-Year Plan for National Economic and Social Development

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Item	2010	2015	Growth
GDP (Trillion RMB)	39.8	55.8	7%(annual growth rate)
The share of tertiary industry added value in GDP (%)	43	47	9.3%
The share of the expenditure on R&D in GDP (%)	1.75	2.2	25.7%
Annual Per Capita Disposable Income of Urban Households (RMB)	19109	>26810	>7%(annual growth rate)
Annual Per Capita Net Income of Rural Households (RMB)	5919	>8310	>7%(annual growth rate)
Population (million)	1341	<1390	0.72%(annual growth rate)
The share of non-fossil energy in primary energy consumption mix (%)	8.5	11.4	34.1%
Energy consumption per unit GDP (%)	1.03	0.87	-16%
Carbon emission per unit GDP (%)	2.29	1.90	-17%
Stock volume of Forest (100 million cu. m)	137	143	4.4%

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5.4 Laws, Regulations, and Important Policies

- ◆ China has formulated or amended
- ◆ the Renewable Energy Law,
- ◆ Circular Economy Promotion Law,
- ◆ Energy Conservation Law,
- ◆ Clean Production Promotion Law,
- ◆ Water and Soil Conservation Law and
- ◆ Islands Protection Law,

- ◆ China also promulgated
- ◆ the Regulations on Civil Buildings Energy Conservation,
- ◆ Regulations on Public Organizations Energy Conservation and
- ◆ Regulations on Drought Control,

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- ◆ and issued

- ◆ the Interim Measures for Energy Conservation Evaluation,
- ◆ Review of Fixed Assets Investment,
- ◆ Measures for Energy Conservation Supervision of High-Energy-Consuming Special Equipment
- ◆ Interim Measures for Supervision of Energy Conservation and Emission Reduction of National Enterprises.

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- ◆ China has been compiling the National Plan to Address Climate Change (2011-2020), Climate Change Addressing Law, and Low Carbon Development Promotion Law now to guide the work in the coming years.

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5.5 Fiscal and Tax Measures

- ◆ China's central treasury invested an accumulative total of RMB225 billion during the 11th Five-Year Plan period (2006-2010), to support energy-efficient technology upgrading and the popularization of energy-efficient products, forming an energy conservation capacity of 340 million tons of standard coal.

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5.6 Market-based Mechanism and Instruments

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- ◆ China has embarked on one of the largest endeavors on emission reduction, to establish a national carbon emission trading system by 2015.
- ◆ As a first step, carbon-trading pilots have been initiated in seven provinces and cities, which include Beijing, Tianjin, Shanghai, Chongqing, Shenzhen, Hubei and Guangdong.

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5.7 Demonstration Pilot Projects

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- ◆ China has promoted low-carbon pilot projects in selected provinces and cities.
- ◆ In 2010, China launched a national "low-carbon province and low-carbon city" experimental project. The first batch of selected localities included five provinces, namely, Guangdong, Hubei, Liaoning, Shaanxi and Yunnan, and eight cities, namely, Tianjin, Chongqing, Hangzhou, Xiamen, Shenzhen, Guiyang, Nanchang and Baoding.

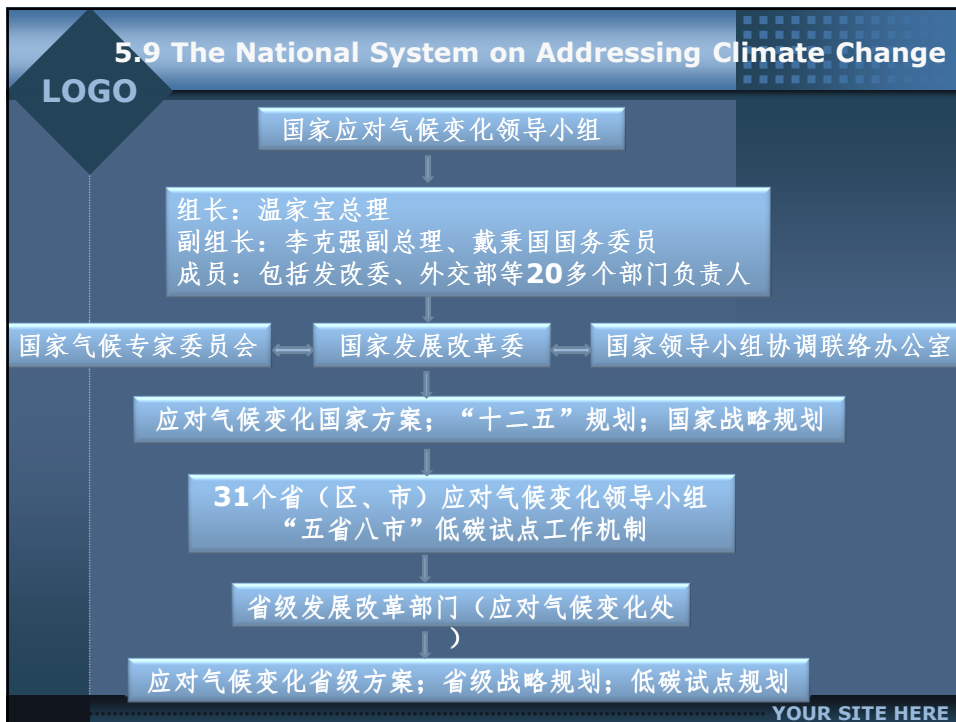
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5.8 Proactive Actions by Non-governmental Organizations

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- ◆ The China Society of Territorial Economics has opened low-carbon territory experimental areas,
- ◆ the All-China Environment Federation and China Tourism Association have carried out the nation's first low-carbon tourism experiments at 48 tourist resorts, and
- ◆ the China Iron and Steel Industry Association and All-China Federation of Trade Unions have organized benchmarking contests on energy conservation and consumption of large-scale energy-consuming steel production equipment.

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What's more important,

Climate change should be integrated in China's national security framework:

- "West Conspiracy" in climate change should be abandoned.
- Strategic priority should be given to China's international climate cooperation.
- The National Leading Group on Climate Change should include the representatives from the military. The military should also establish The Military leading group on climate change.
- Efforts must be made to build a low carbon army.


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----Shift of China's negotiation strategy from using the climate negotiation primarily as a tool to defend its space of development to as a tool of pushing forward China's transformation of economic development pattern, which is in the long term interest of China.

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6. How to define the role of the UN Security Council in addressing climate change?

- ◆ UNSC's two debates on climate change and security in 2007 and 2011.

----As an important forum in the near term to raise the public climate awareness.

----As a main mechanism for climate-related PKO in the long run.

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7. Some recent changes in China's domestic climate politics

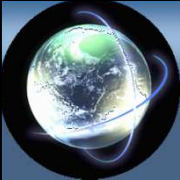
- ◆ China's domestic climate politics is increasingly complex.
- ◆ The public
- ◆ The renewable energy industry
- ◆ The military

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8. Conclusion

- ◆ It's high time to consider climate change as a national security threat to China. The threat is a long-term and comprehensive one.
- ◆ The threat from climate change currently is not a matter of survival of China.
- ◆ Combination of traditional security means and non-traditional security means is required to address the threat from climate change in China.
- ◆ What we lack the most now are the political will and the consensus in the society.



Thank you!

