Ten Drivers Behind Climate Policy Making in China

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From a new narrative to a new paradigm

- The narrative of climate change has changed profoundly in China and it has brought fundamental shift in climate policy and action, domestically and internationally.

China-US Joint Announcement on Climate Change

November 12, 2014

President Xi Jinping meets with visiting U.S. Secretary of State John Kerry

February 14, 2014

“"It is not at others' demand but our own will. We have already taken many measures (to address climate change) and will do more in the future.”

——President Xi Jinping

“不是别人要我们做，而是我们自己要做，采取了许多措施，今后我们还会这样做”——习近平

Global warming is a total, and very expensive, hoax!

— Donald J. Trump (@realDonaldTrump) **December 6, 2013**

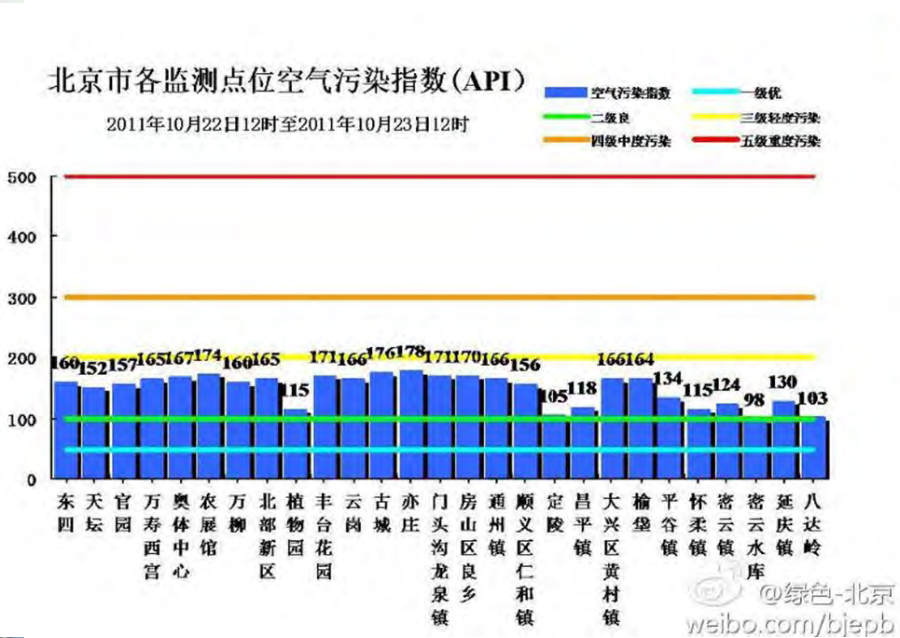
- The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive.

- — Donald J. Trump (@realDonaldTrump) **November 6, 2012**

Driver No.1: Air Pollution Governance

Measuring PM2.5

'Slightly polluted' or 'hazardous'?



2013 Air Pollution Prevention and Control Action Plan (“大气十条”)

		Targets for 2017	Actual pollution reduction[1]
PM2.5 reduction	Beijing-Tianjin-Hebei area	25%	39.6% (25%-UNEP)
	Yangtze River Delta region	20%	34.3%
	Pearl River Delta region	15%	27.7%
PM2.5 concentration in Beijing		below 60 μg/m^3	58 μg/m^3
PM10 reduction in cities at the prefecture-level		10%	22.7%

Source: Ministry of Ecology and Environment, 2018

Air Pollution Control through Coal Caps

Coal Cap Target (10^4ton)	Beijing	Tianjin	Hebei
2010	2635	4807	27465
2012	2300	5200	38900
2015	2000 (ideally 1500)	Increase < 1500 (compared to 2010 level)	
2017	Decrease by 1300 compared to 2012 level	Decrease by 1000 compared to 2012 level	Decrease by 4000 compared to 2012 level
2020	1000	6300	

Source: Annual Review of Low-Carbon Development in China (2014)

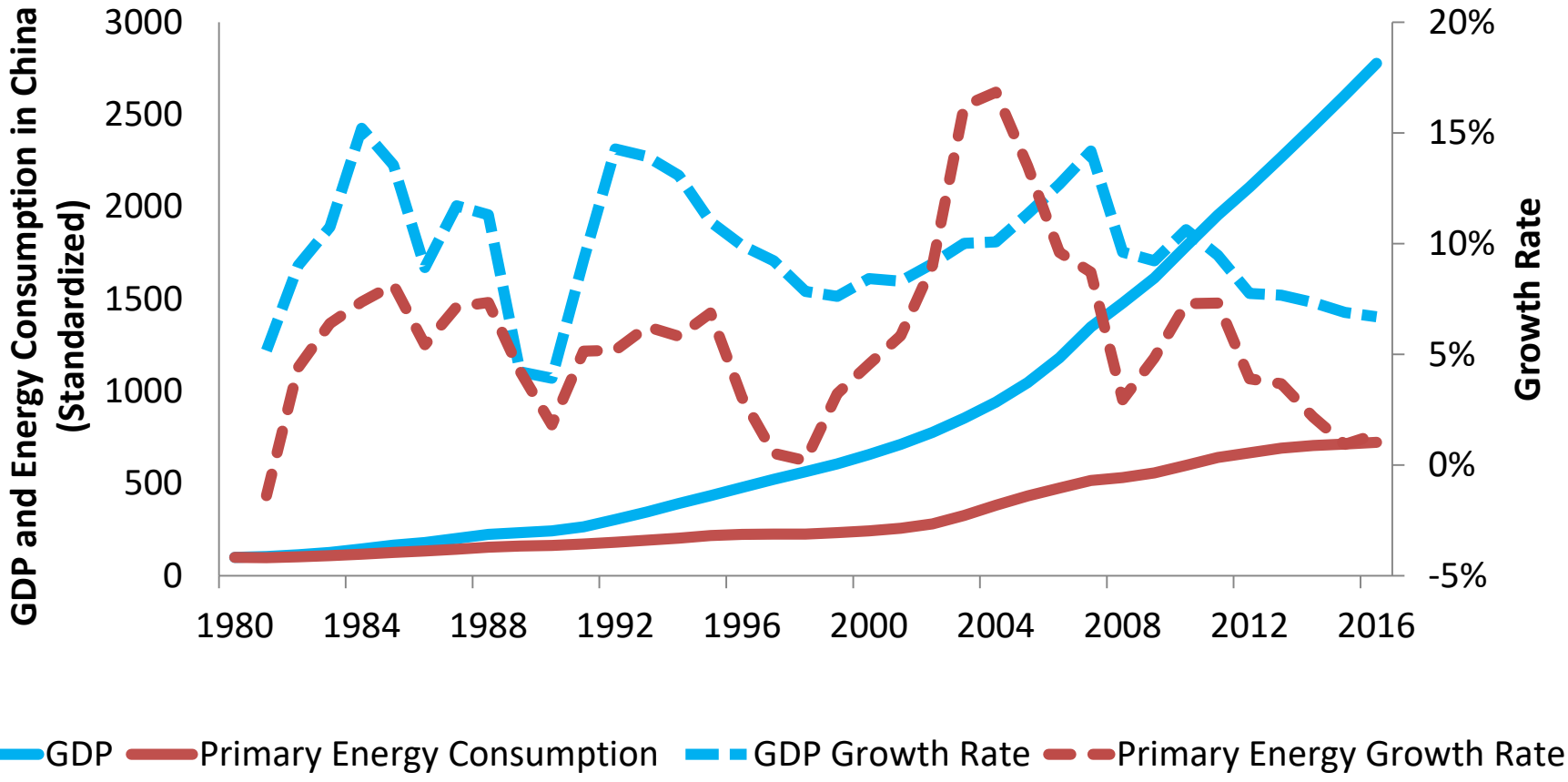
Driver No.2 Energy Transition

- Shift of energy system in composition, use, and efficiency, as a result of the changing technology, infrastructure, and institutions.
  - Renewable energy
  - Energy efficiency
  - Electrification (use of electricity)

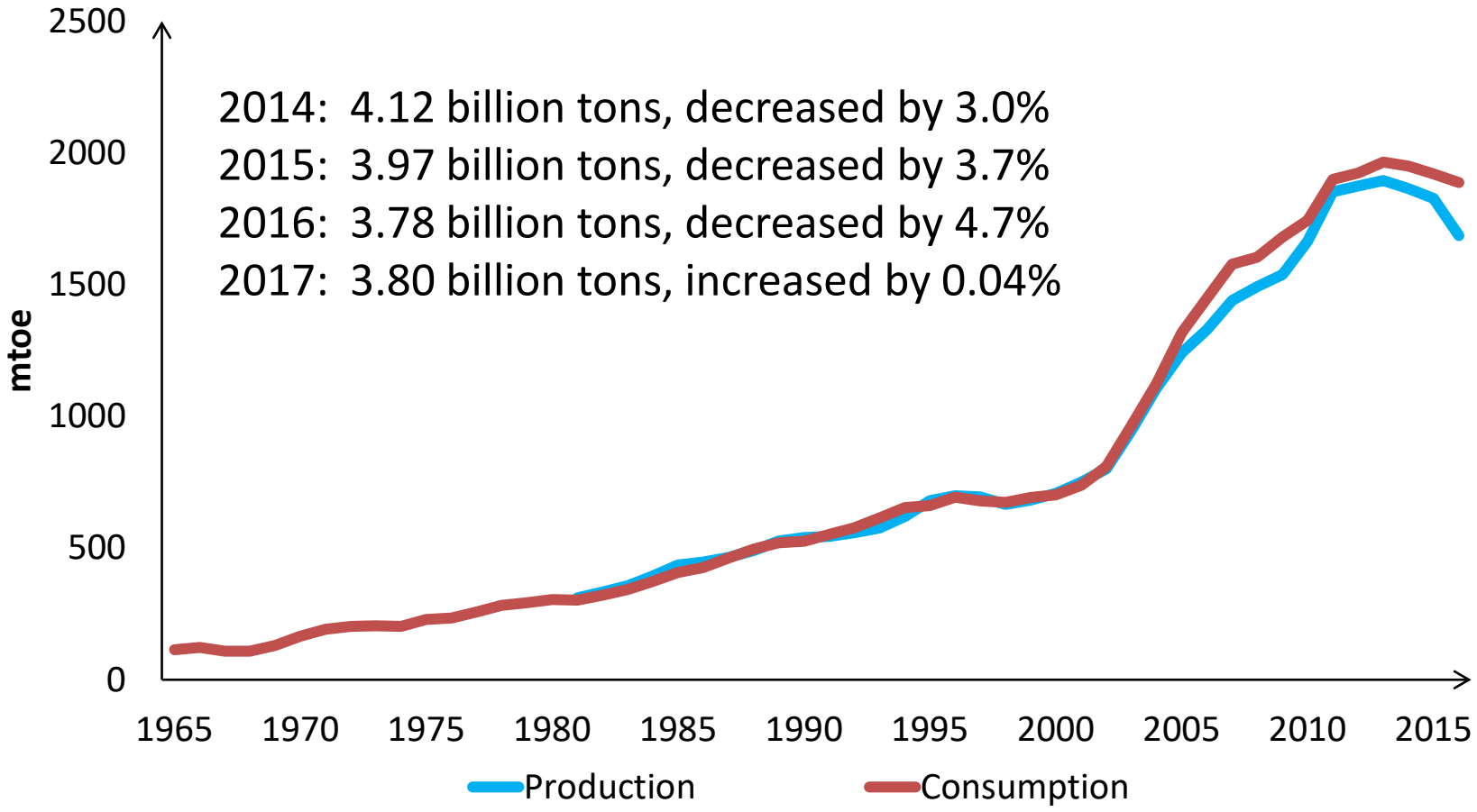
Megatrends in China's Energy Transition

1. Decelerated growth of energy consumption
2. Coal consumption peaked！
3. Energy intensity at all time low
4. Steady increase of electrification
5. Mainstreaming of natural gas
6. Accelerated decarbonization of energy system

1. Decelerated Growth of Energy Consumption

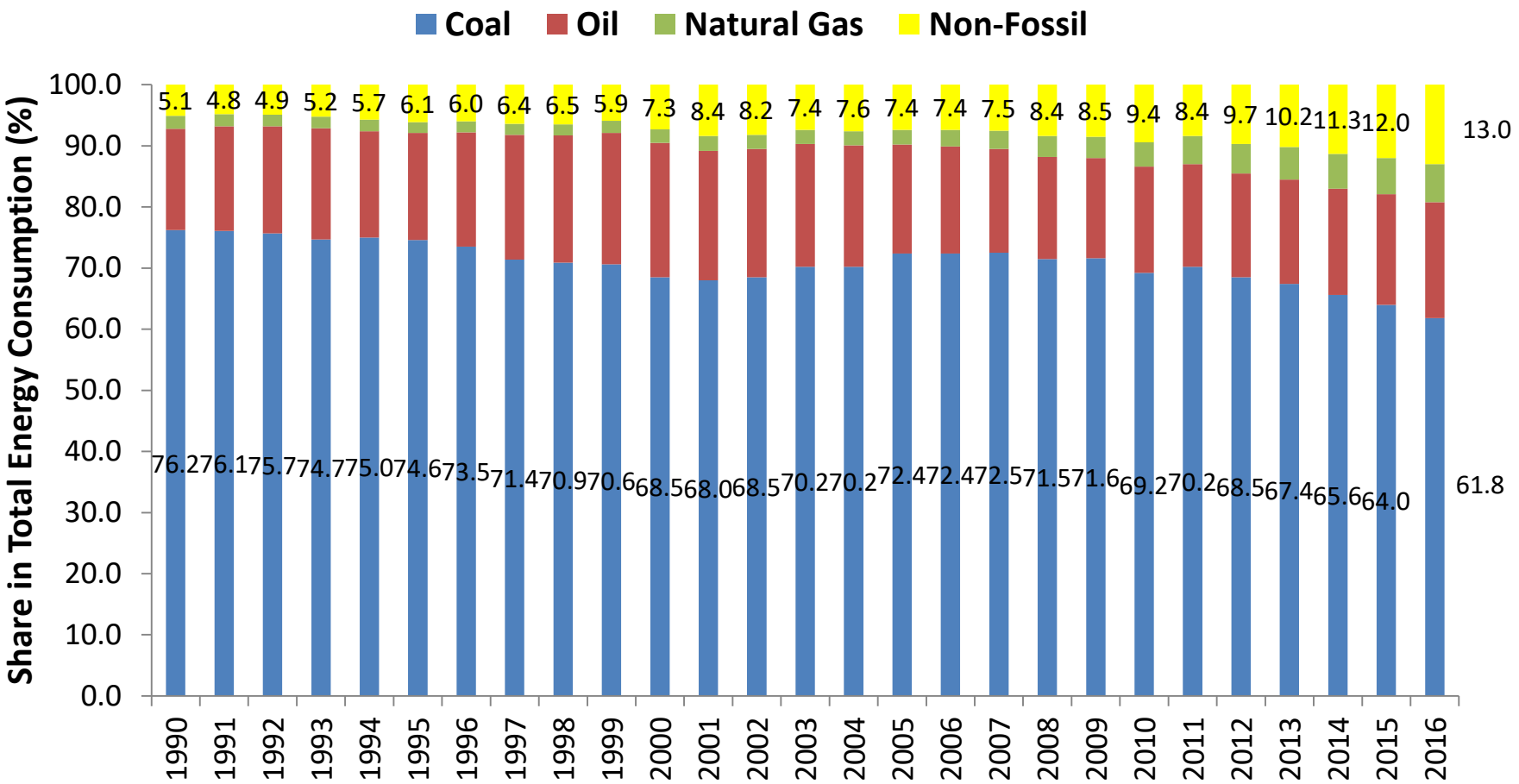


2. Coal Peak and the End of Coal-Fired Growth



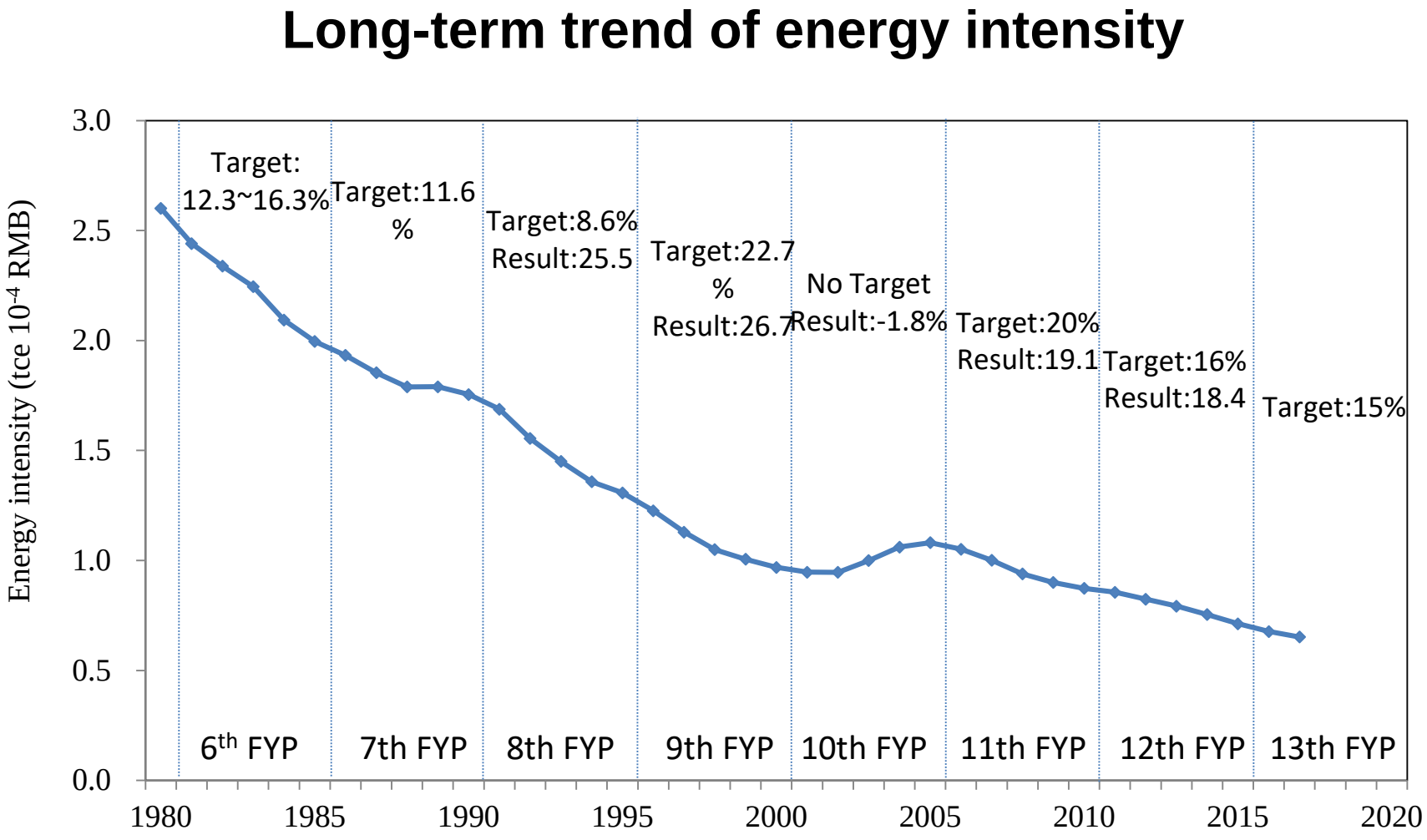
China’s Energy Structure

- Share of coal decreased from 76.2% in 1990 to 61.8% in 2016;
- Share of non-fossil fuels increased from 5.1% in 1990 to 13.0% in 2016



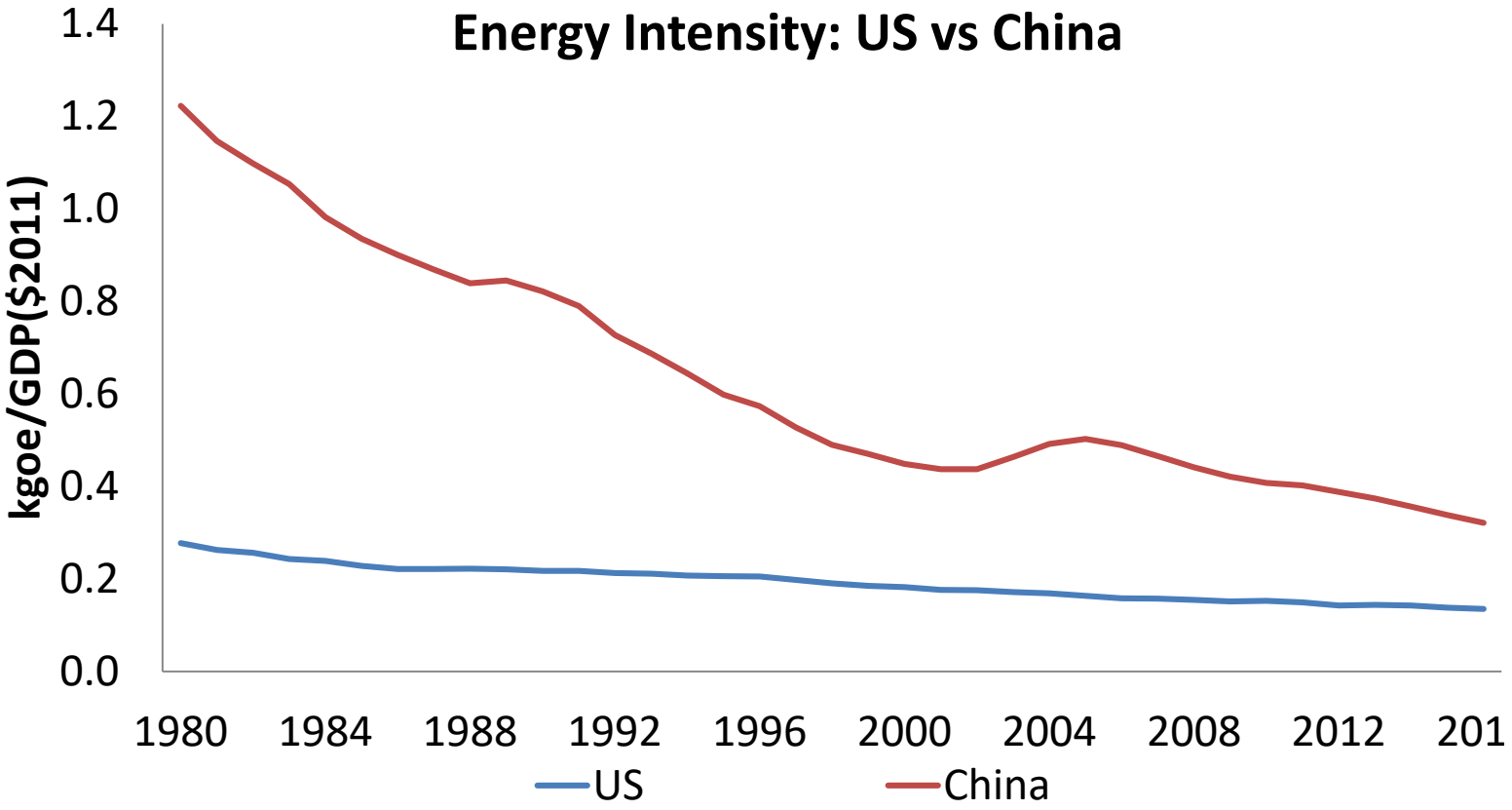
Source: Annual Review of Low-Carbon Development in China (2018)

3. Energy intensity at all time low

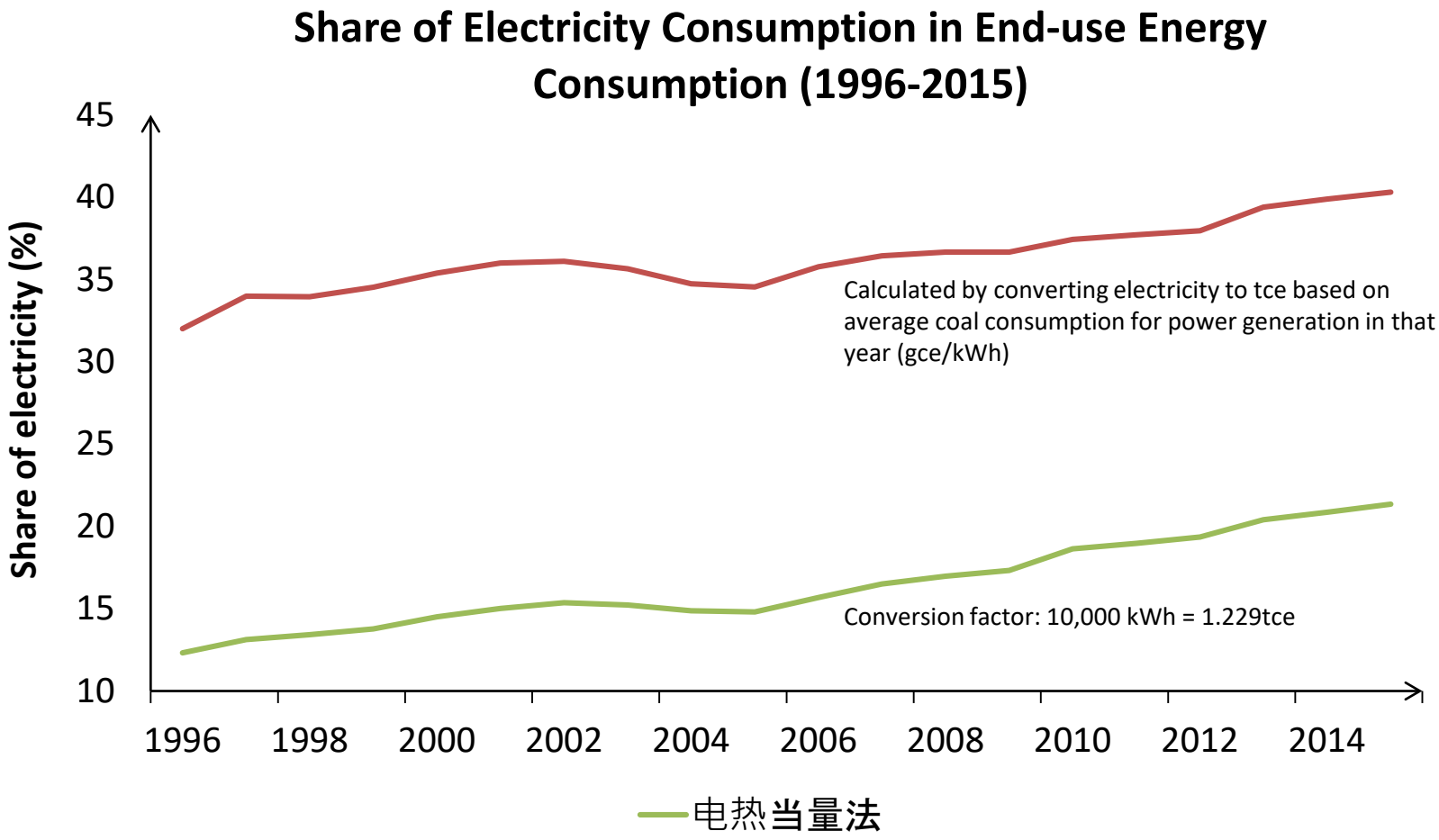


Adapted from Qi, King et. al 2013. *Nature Geoscience*

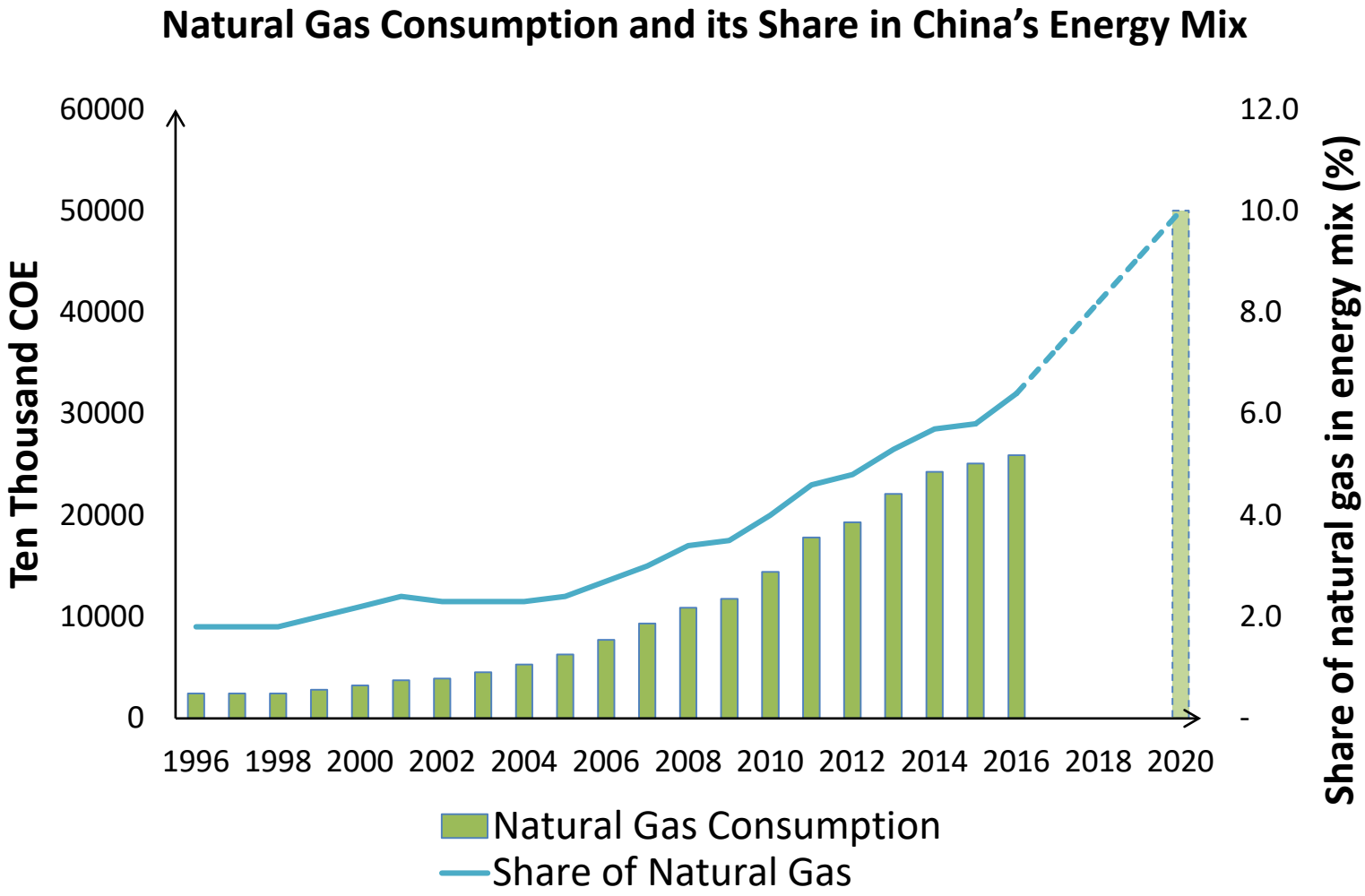
Fast Improvement in Energy Efficiency



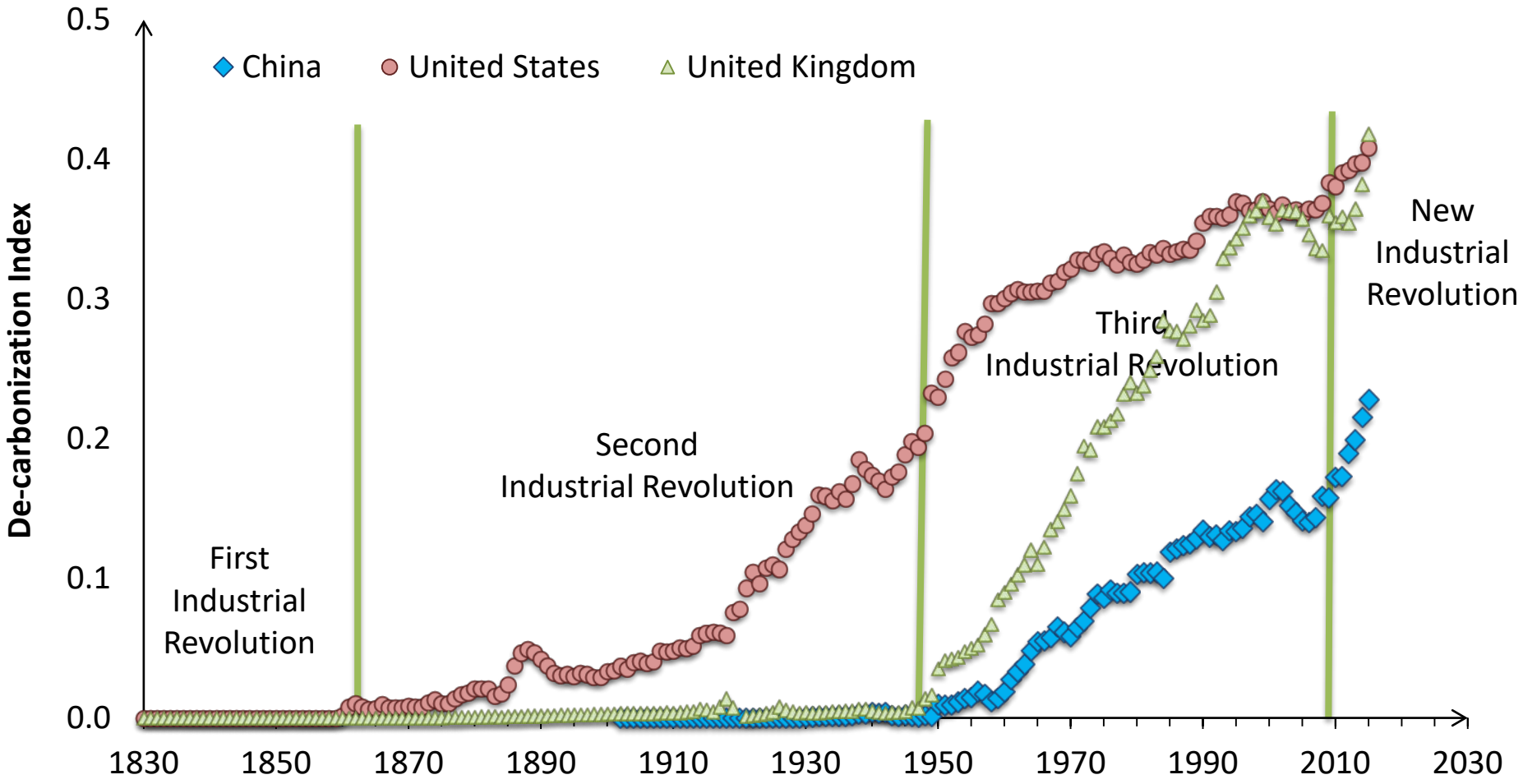
4. Steady Increase of Electrification



5. Natural Gas Becomes a key Component as a Bridge Fuel in the Energy System

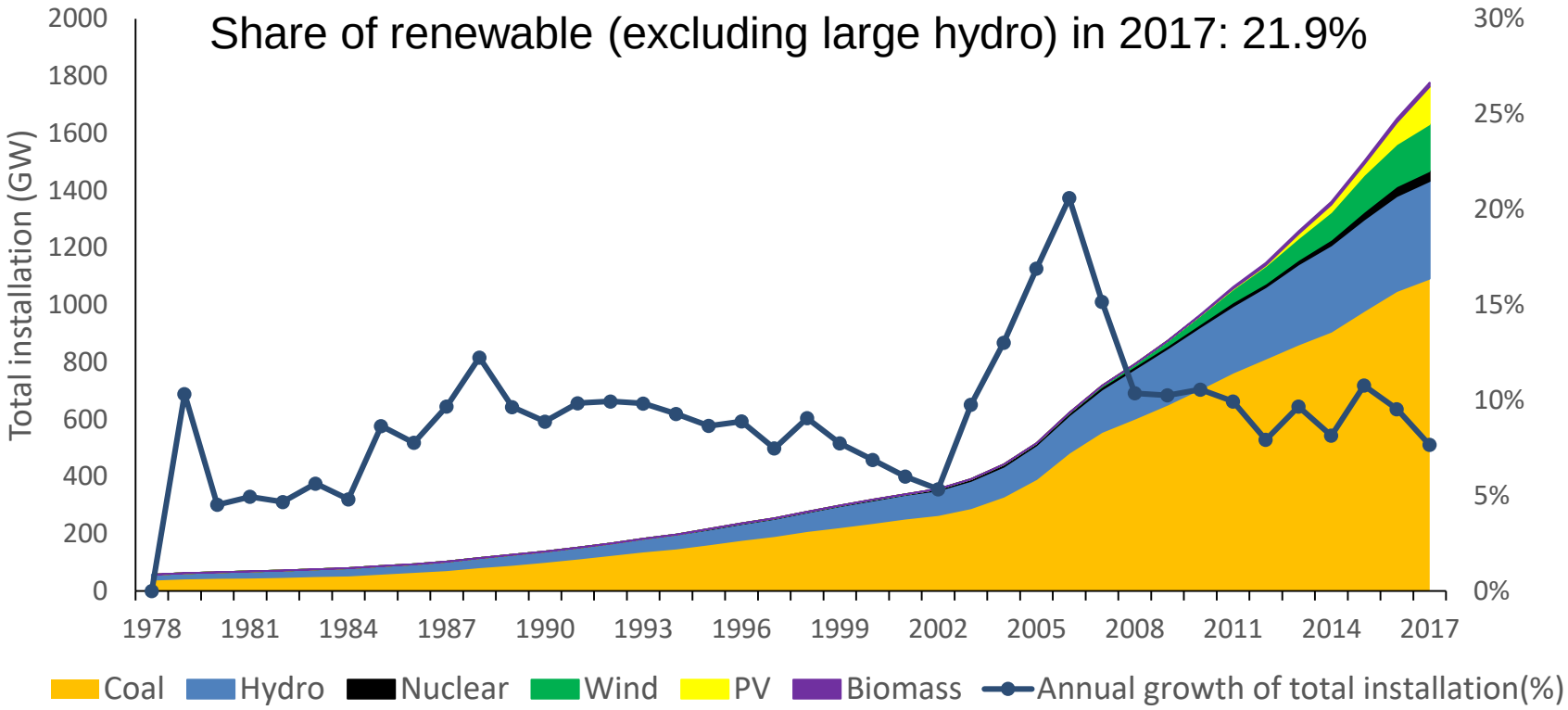


6. Accelerated Decarbonization of the Energy System

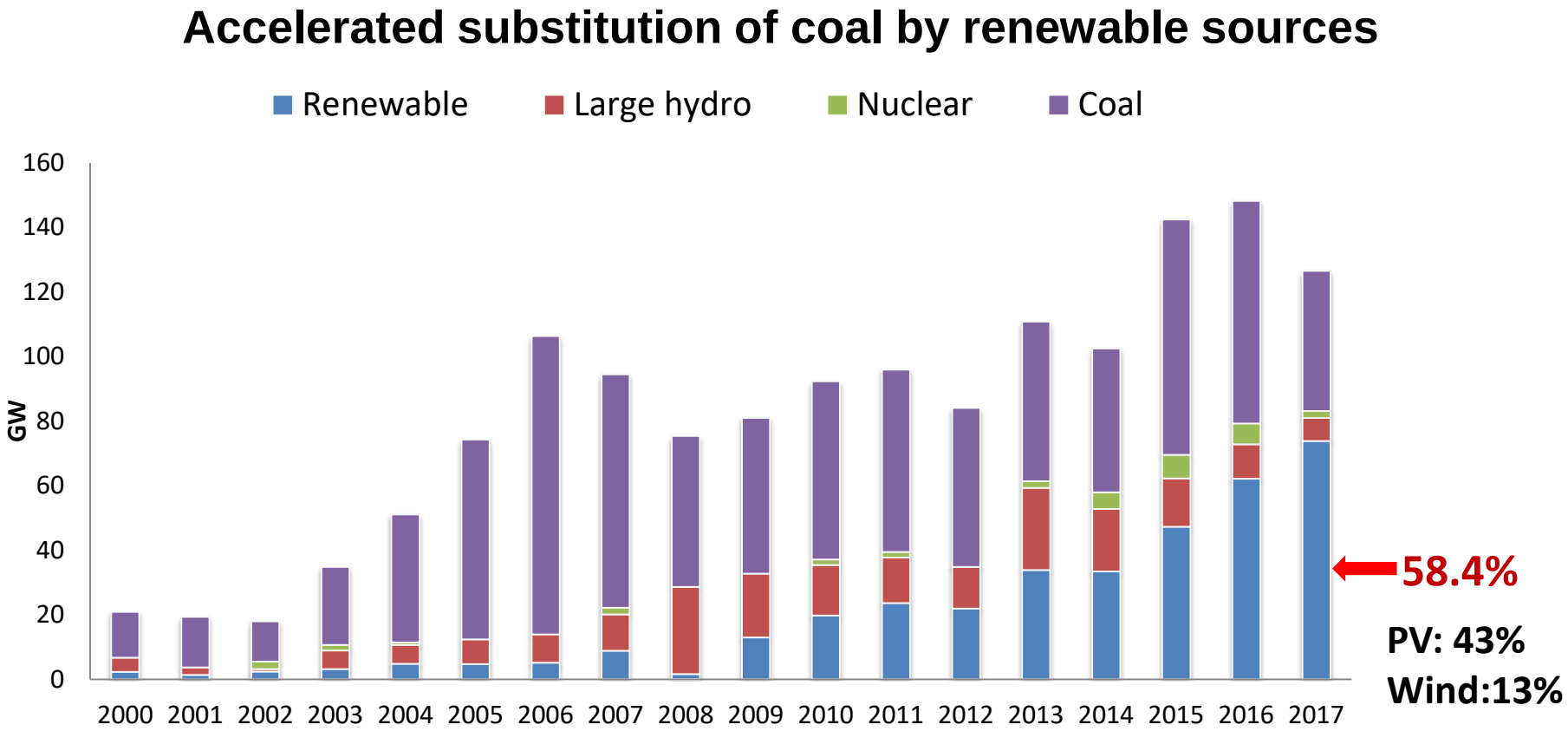


Driver No.3: Industrial Development

Growth of the Renewable Energy Industry (PV and Wind)



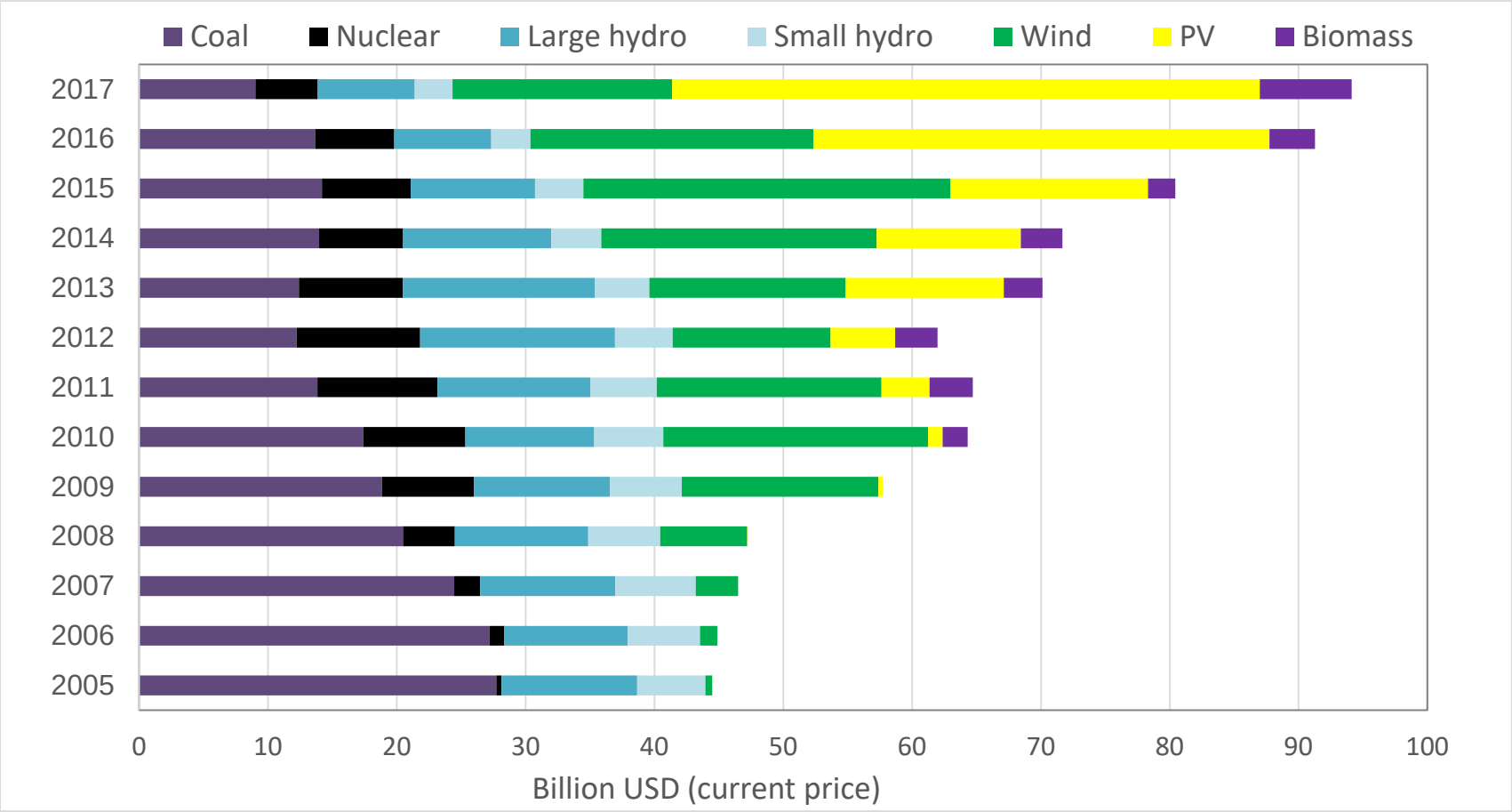
New Installed Capacity for Electric Power Generation (2000-2017)



PV: New installation 53GW, >50% of global

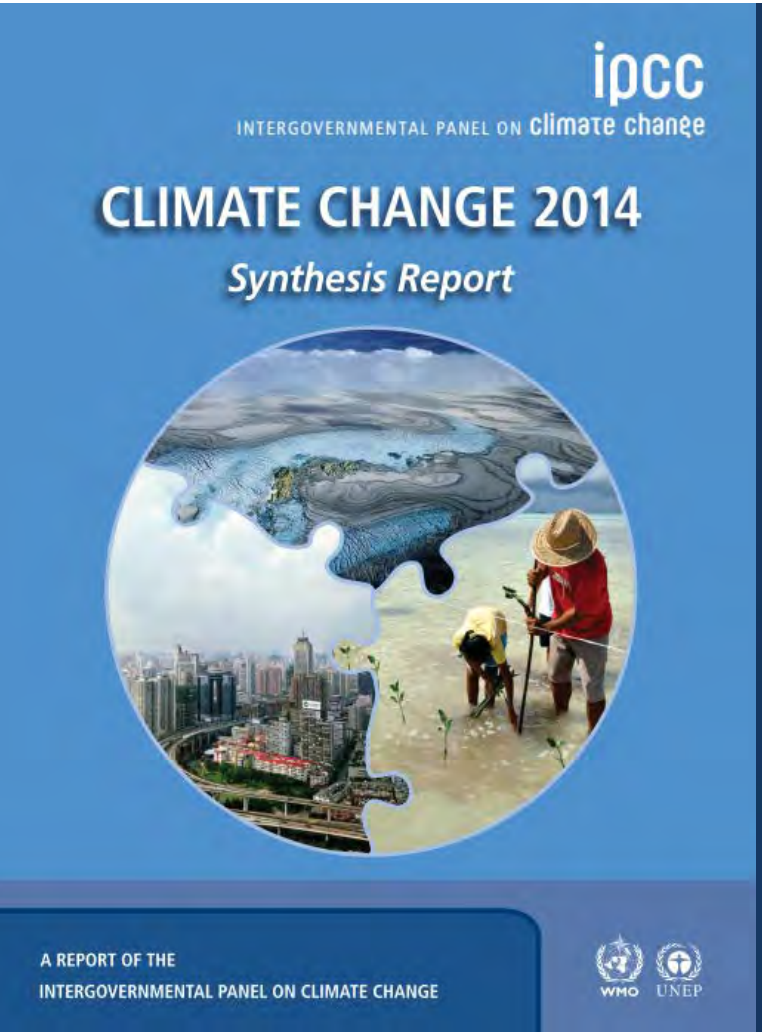
Wind: 15GW, about ¼ of global

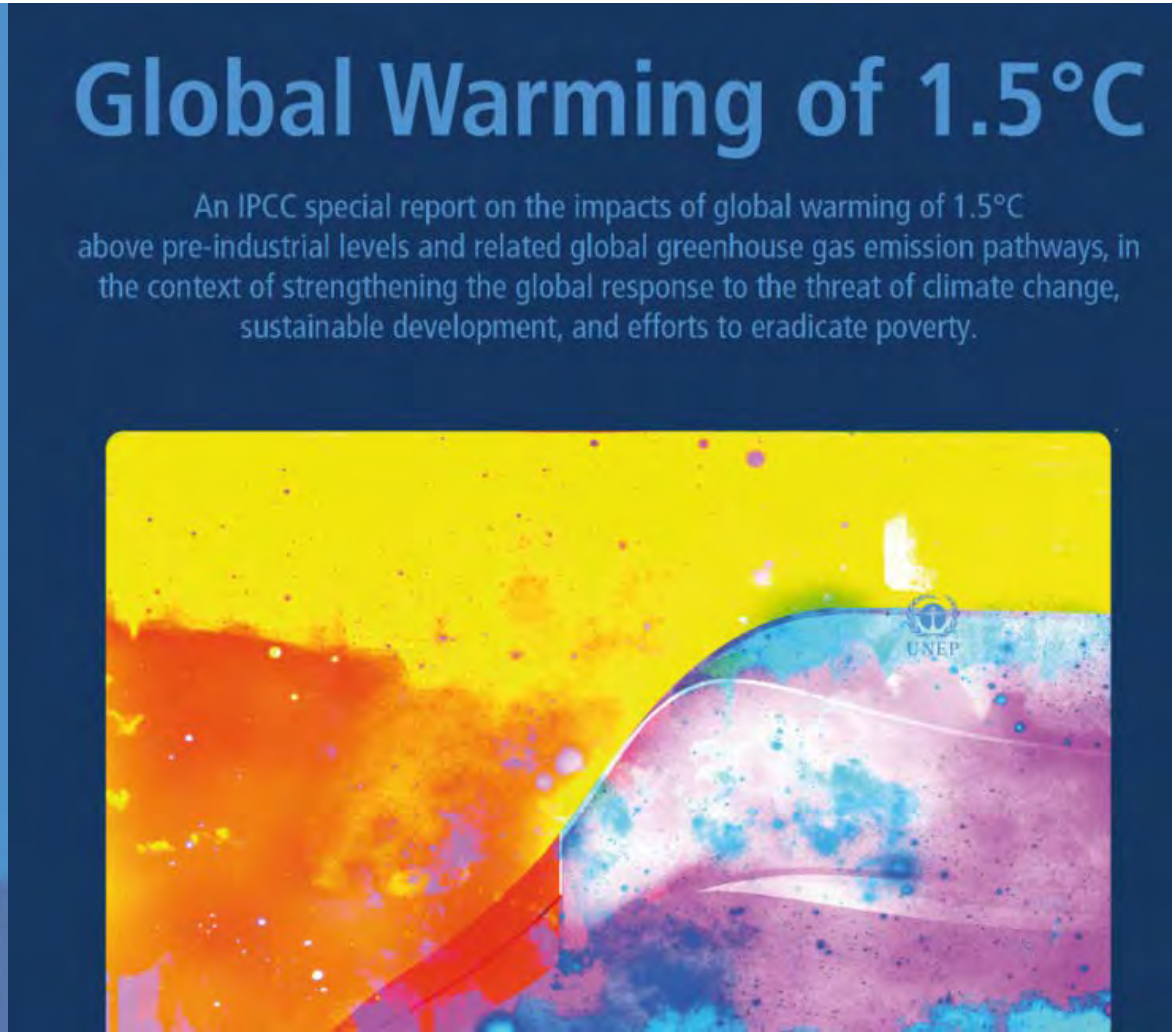
Share of investment in renewables increased from 13% in 2005 to 77% in 2017



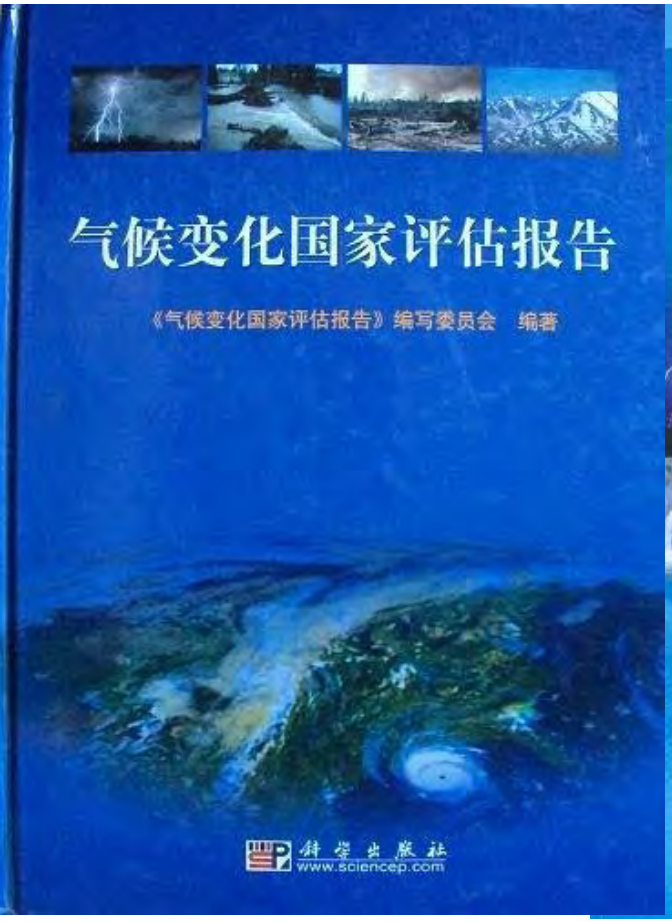
Source: Annual Review of Low-Carbon Development in China (2018)

Driver No.4: Scientific Research

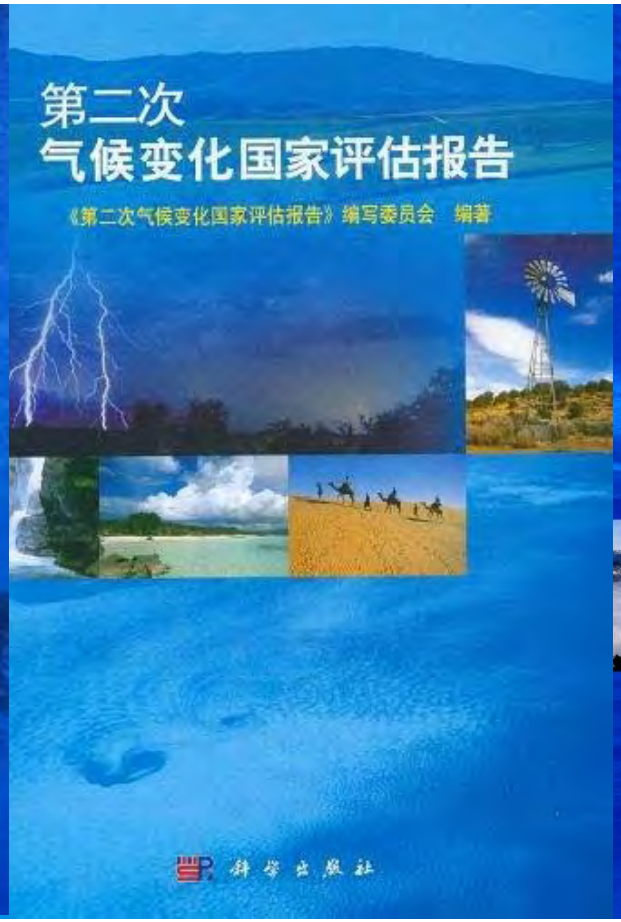




National Assessment Reports of Climate Change



2006

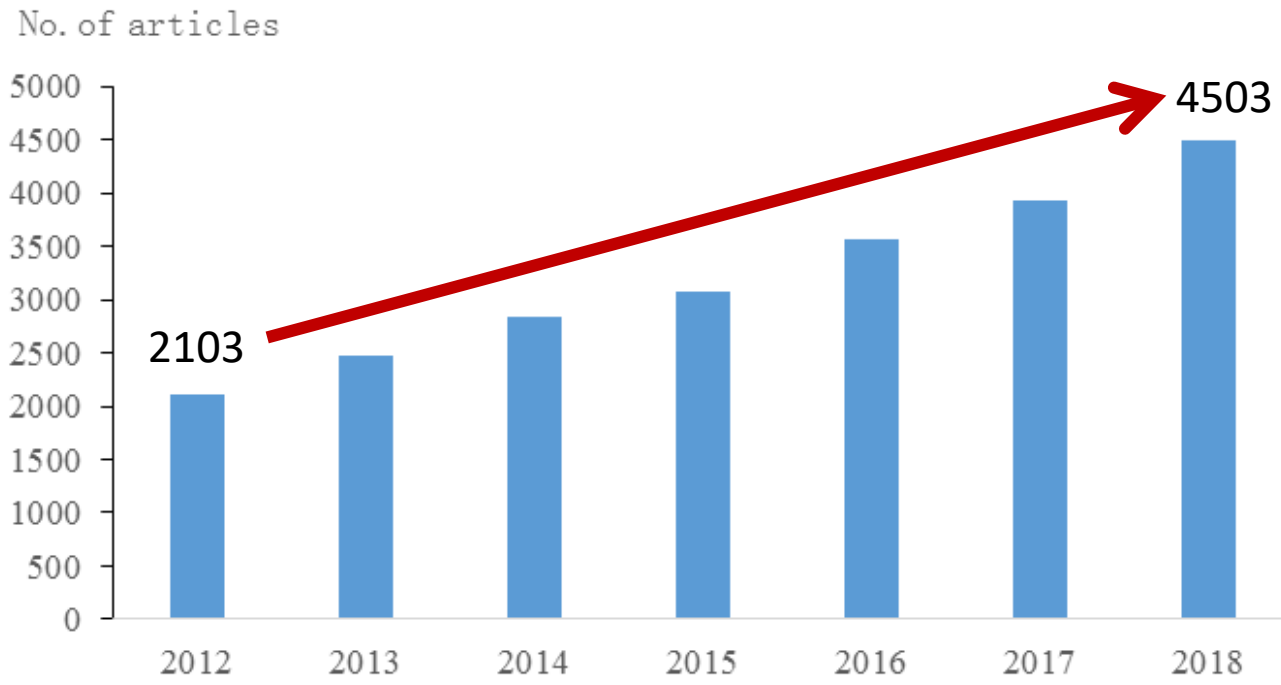


2011

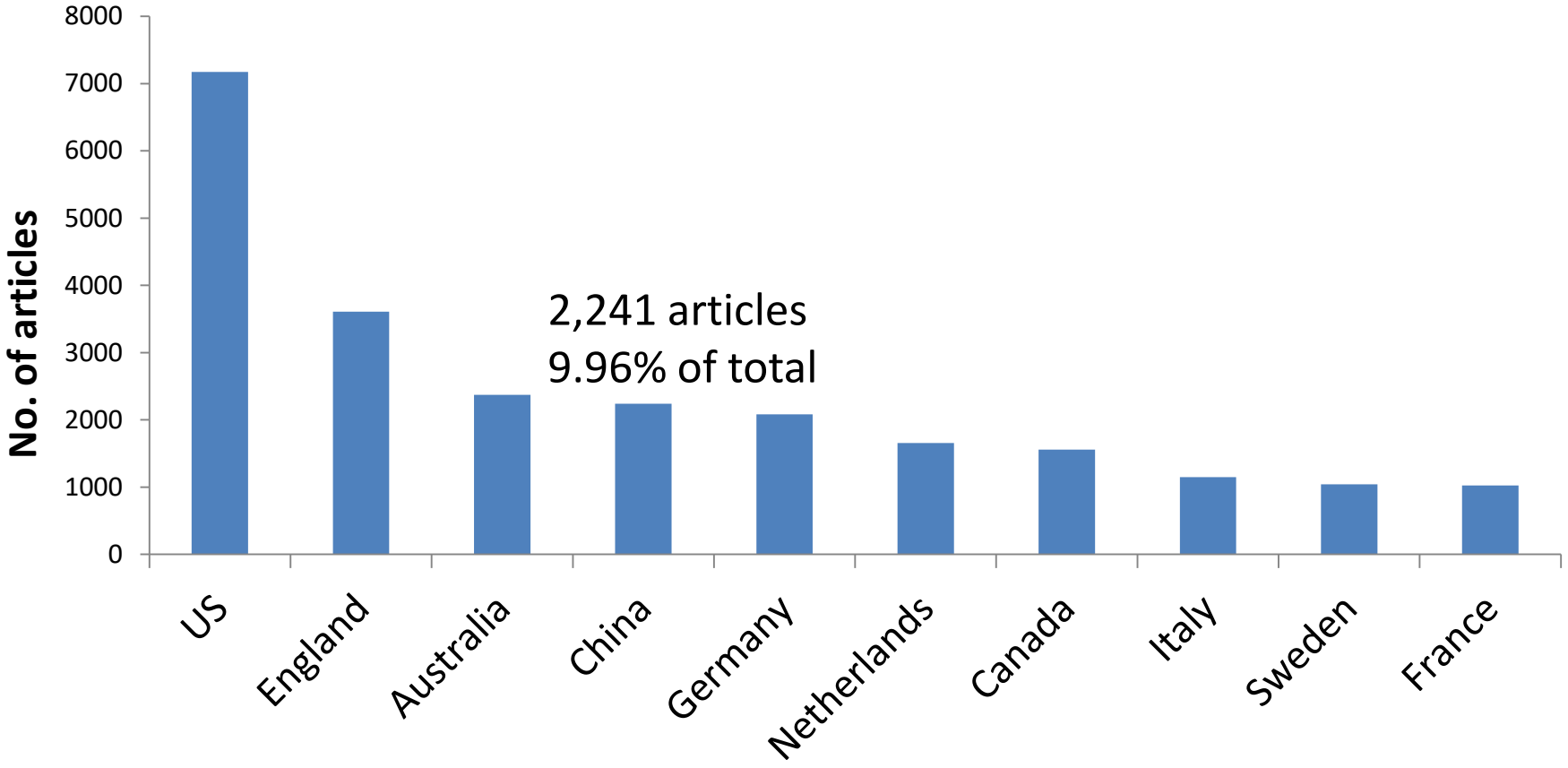
2015

Climate Change has Drawn Increasing Scholarly Attention

- 2012-2018, 22,492 peer-reviewed articles on climate science (Web of Science)



Growing Climate Science Research Contributed by Chinese Scholarship

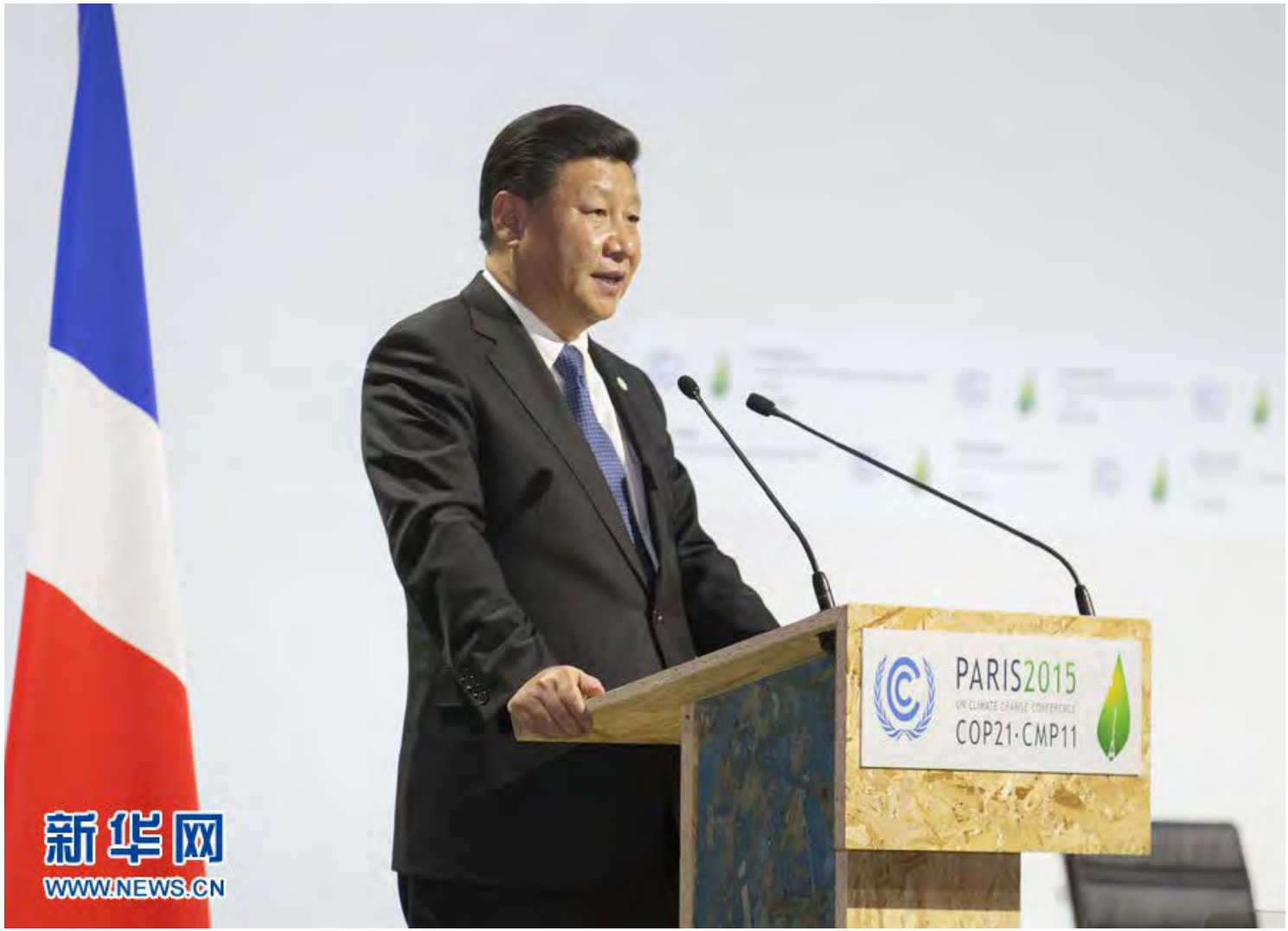


Driver No.5: International Climate Negotiations

Ed Miliband blaming China on Copenhagen failure

图片来源: Anja Niedringhaus/AP

Driver No. 6: International Collaboration



President Xi Jinping delivered a speech on the opening day of COP21, Nov 30, 2011

Bilateral and Multilateral Collaboration

Bilateral announcements:

- China-Europe Joint Announcement on Climate Change, June 2015
- China-US Joint Announcement on Climate Change (the 2nd), September 2015
- Joint China-France Statement on Climate Change, Nov 2015

Multilateral platforms:

- G20 Summit—G20 Presidency Statement on Climate Change, Guangzhou Sherpa Meeting, April 8, 2016
- BRICS Meetings
- Major Economies Forum on Energy and Climate

China-US Joint Announcement on Climate Change

November 12, 2014

Joint China-France Statement on Climate Change

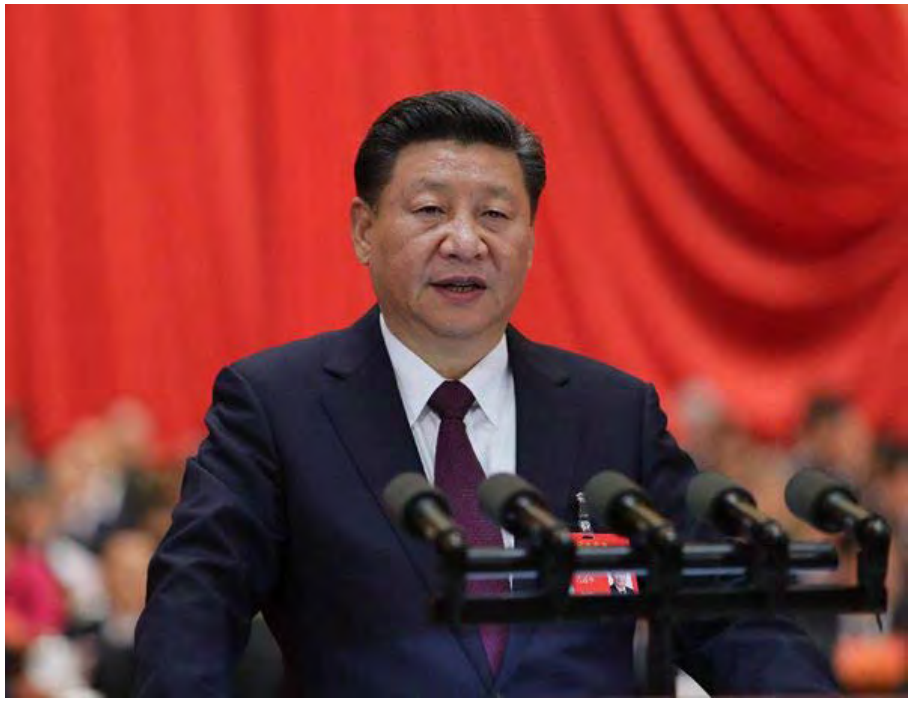
Nov 2015

South-South Cooperation on Climate Change

- Facilitates South-South cooperation mainly in forms of material donation and capacity building.
  - Xi Jinping announced the “Ten-Hundred-Thousand” program: launching 10 low-carbon demonstration zones and 100 mitigation and adaptation projects in developing countries and training 1,000 officials for climate change
- 20 billion RMB Climate Fund for South-South Cooperation

Training for Officials from Developing Countries

Driver No.7: Global Governance



President Xi Jinping delivered a report to the 19th National Congress of the CPC, Oct 18, 2017

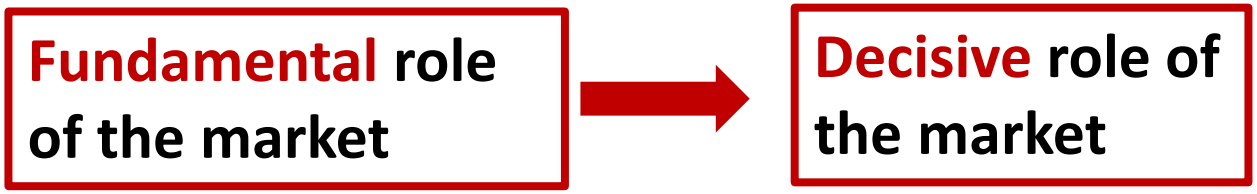
"Taking **a driving seat** in international cooperation to respond to climate change, China has become an important **participant, contributor, and torchbearer** in the global endeavor for ecological civilization."

——President Xi Jinping

Driver No.8: Marketization

- "The **decisive role of the market** and a better role of the government in resource allocation"

  ——President Xi's report to the 3rd plenary session of the 18th CPC National Congress, also written into the CPC Constitution



Trial Carbon Markets in Seven Provinces

- Covered approximately 3000 enterprises in more than 20 industries
- Total allowances (2013-2018) approximately 1.3 GtCO2e, slightly less than EU ETS

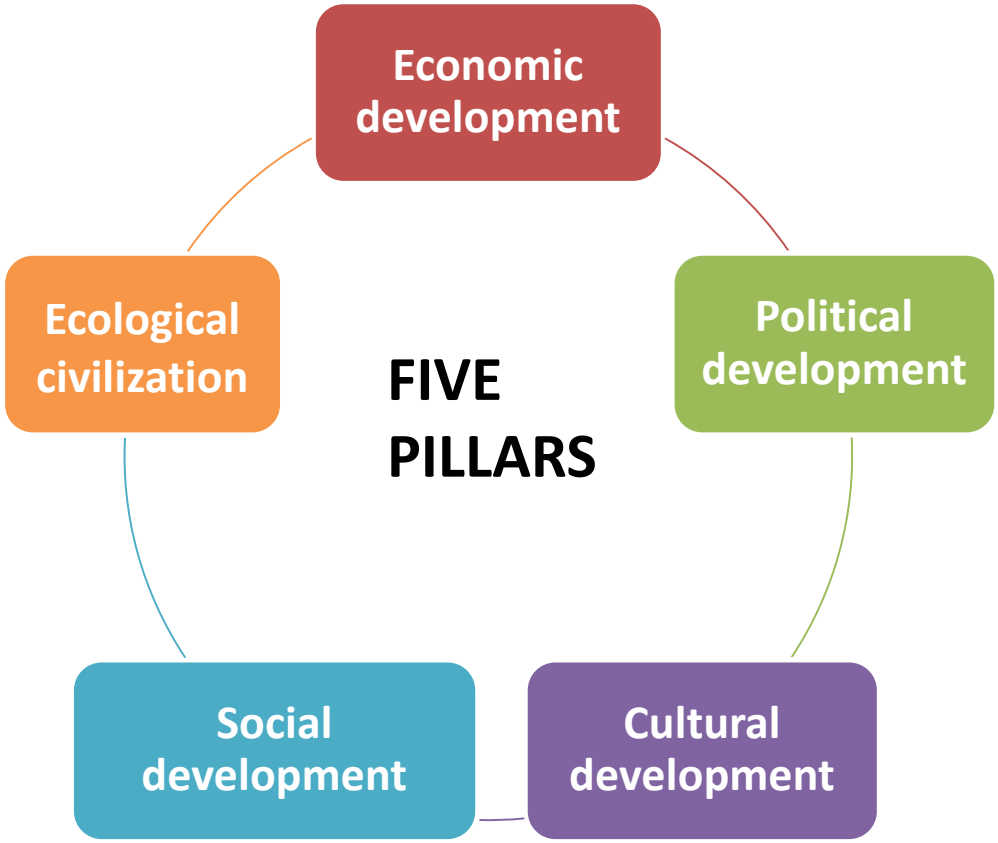
National Carbon Market Launched on Dec 19, 2017

- Apply to emissions from >1700 **power plants**, responsible for more than 3 $GtCO_2$, **nearly 1/3 of China's national emissions**.
- The **largest carbon market in the world**
- Allowance allocation scheme still pending
- Expected to expand to industrial facilities (annual energy consumption >10 ktce or emissions 26 $ktCO_2$) in other industries such as petrochemical, chemical, construction, iron&steel, non-ferrous metals, paper, and aviation.

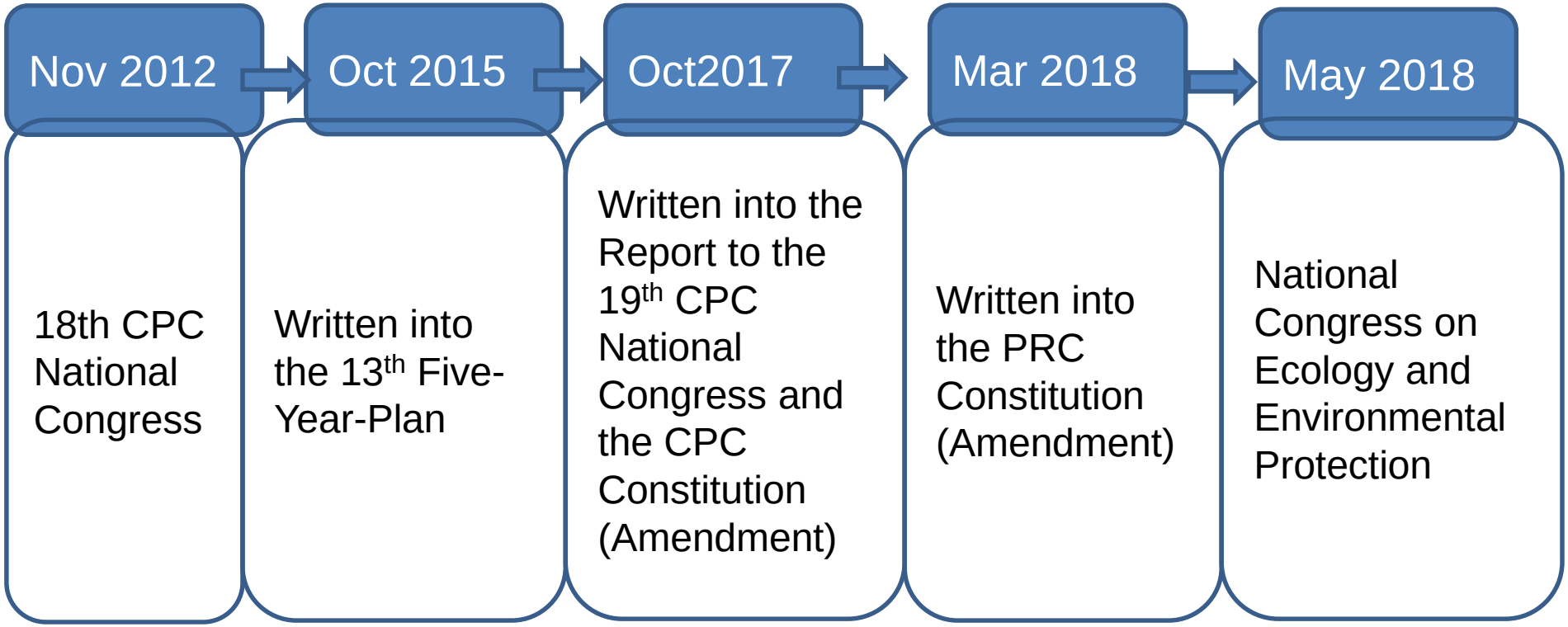
Driver No.9: Building an Ecological Civilization

- "Ecology and the environment is a major **political problem that concerns the mission of the Party** and a major **social problem that concerns the livelihood of the Chinese people**."

——President Xi Jinping



Evolution of the Xi Jinping Thought on Ecological Civilization



Driver No.10: Environmental NGOs

自然资源保护协会
NATURAL RESOURCES DEFENSE COUNCIL

WORLD
RESOURCES
INSTITUTE

气候组织
THE CLIMATE GROUP

Strategies of NGOs for Different Target Groups

Target Group	Primary action strategy
International community	• International negotiation • International communication
Governments	• Research consultation • Policy advocacy • Project collaboration
Businesses	• Corporate Social Responsibility • Capacity building • Information disclosure
Public	• Education outreach • Awareness raising

Ten Drivers behind Climate Policy Making

1. Air pollution control
2. Energy transition
3. Industrial development
4. Scientific research
5. Climate negotiation
6. Marketization
7. Environmental NGO’s
8. International cooperation
9. Global governance
10. Eco-civilization