



China Economic Transition Needs Electricity Greenization ——2050 China Energy Transition Outlook

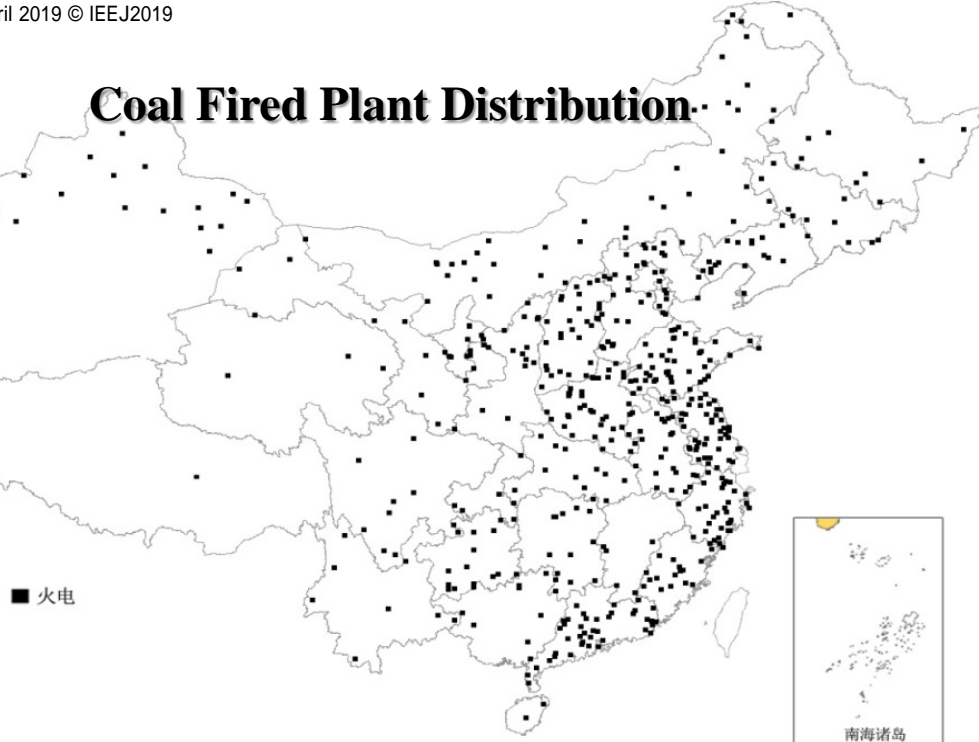
Prof. WANG Zhongying

Acting Deputy Director General, Energy Research Institute of NDRC

Director, China National Renewable Energy Centre

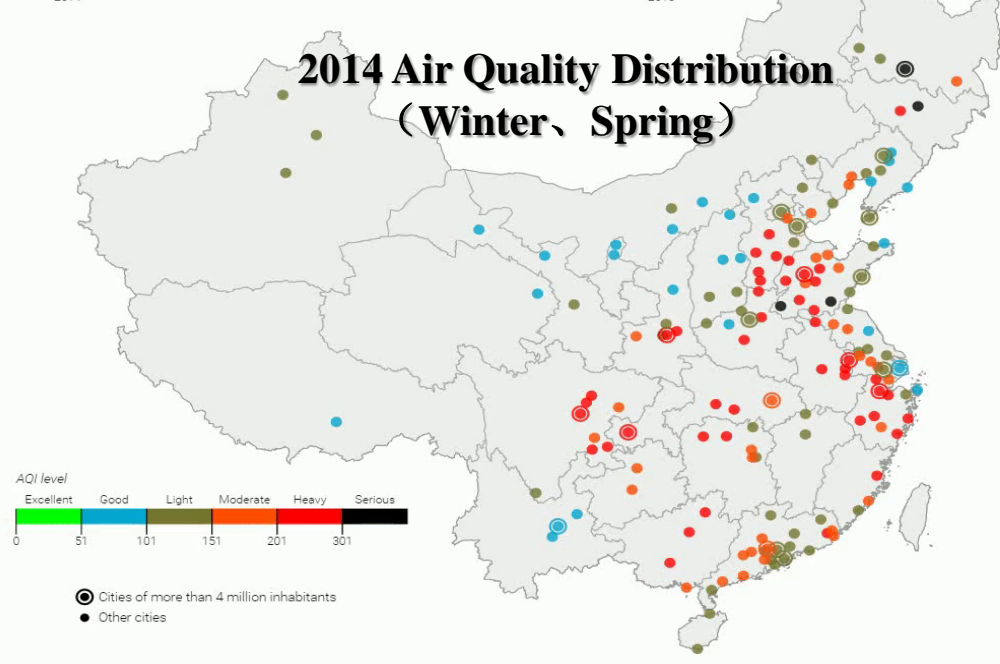


Coal Fired Plant Distribution

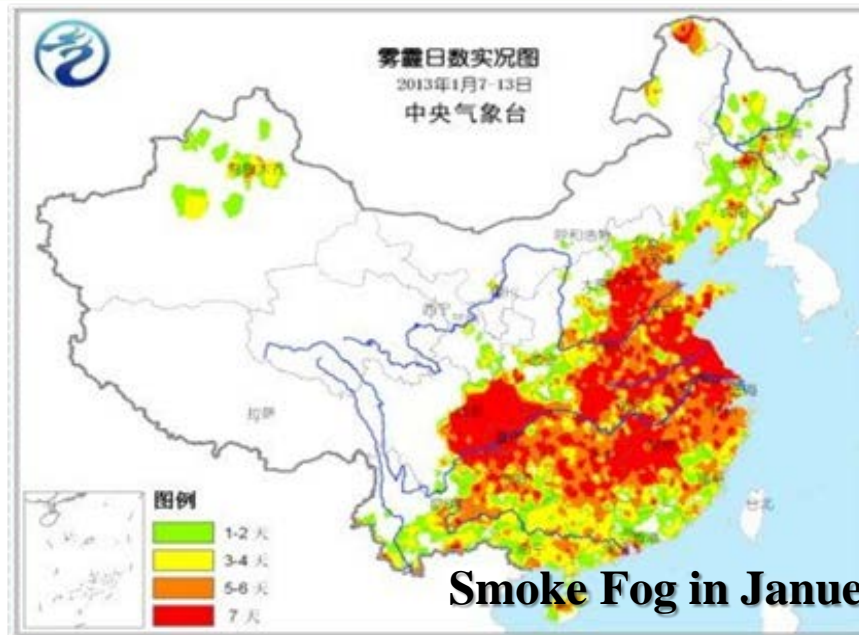
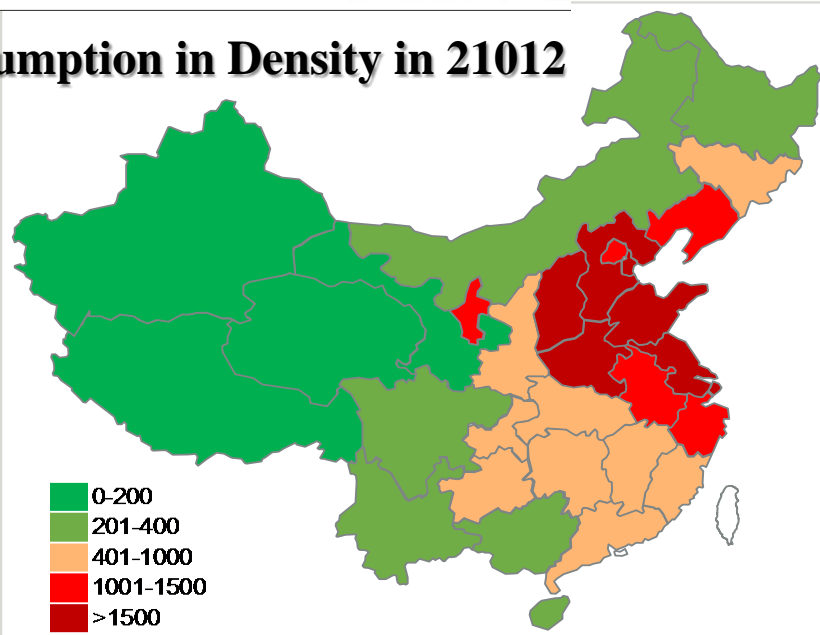


5 Jan 2014
 Jan 2014 Mar May Jul Sep Nov Jan 2015
 C II

2014 Air Quality Distribution (Winter, Spring)



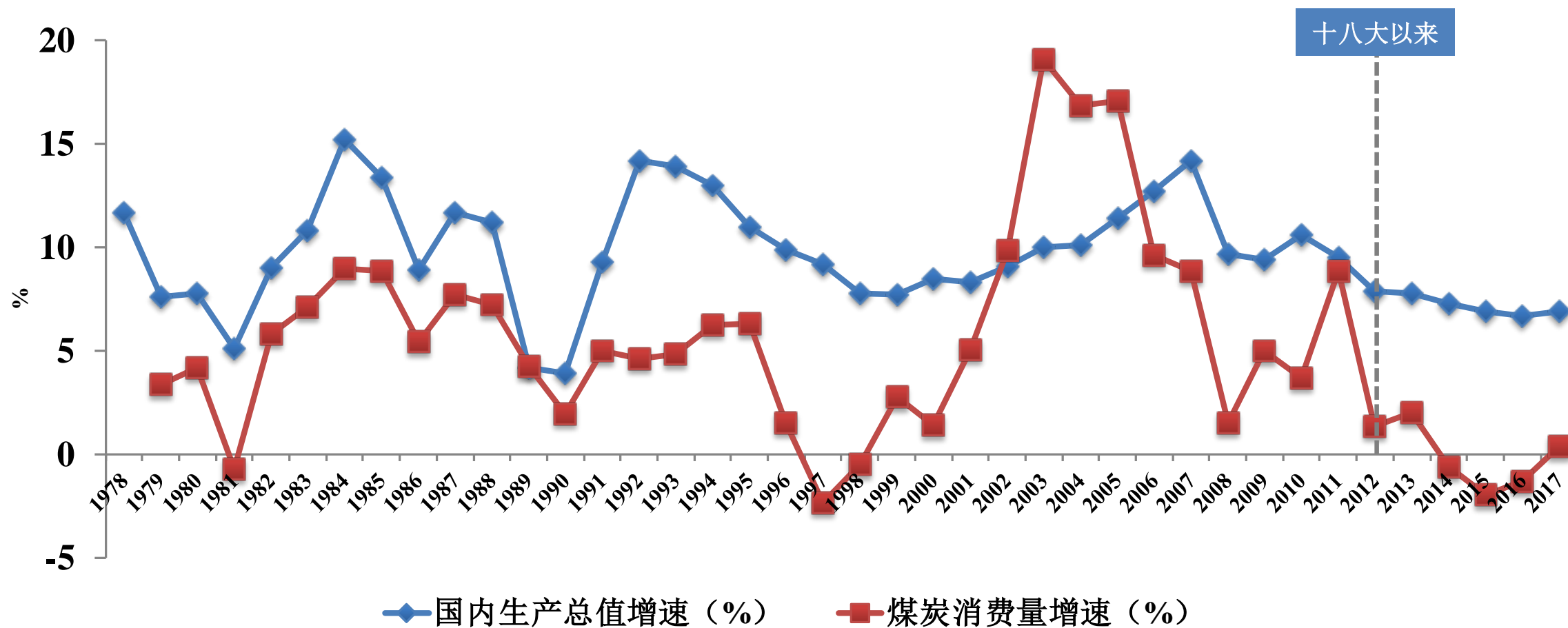
Coal Consumption in Density in 21012



Smoke Fog in January of 2013

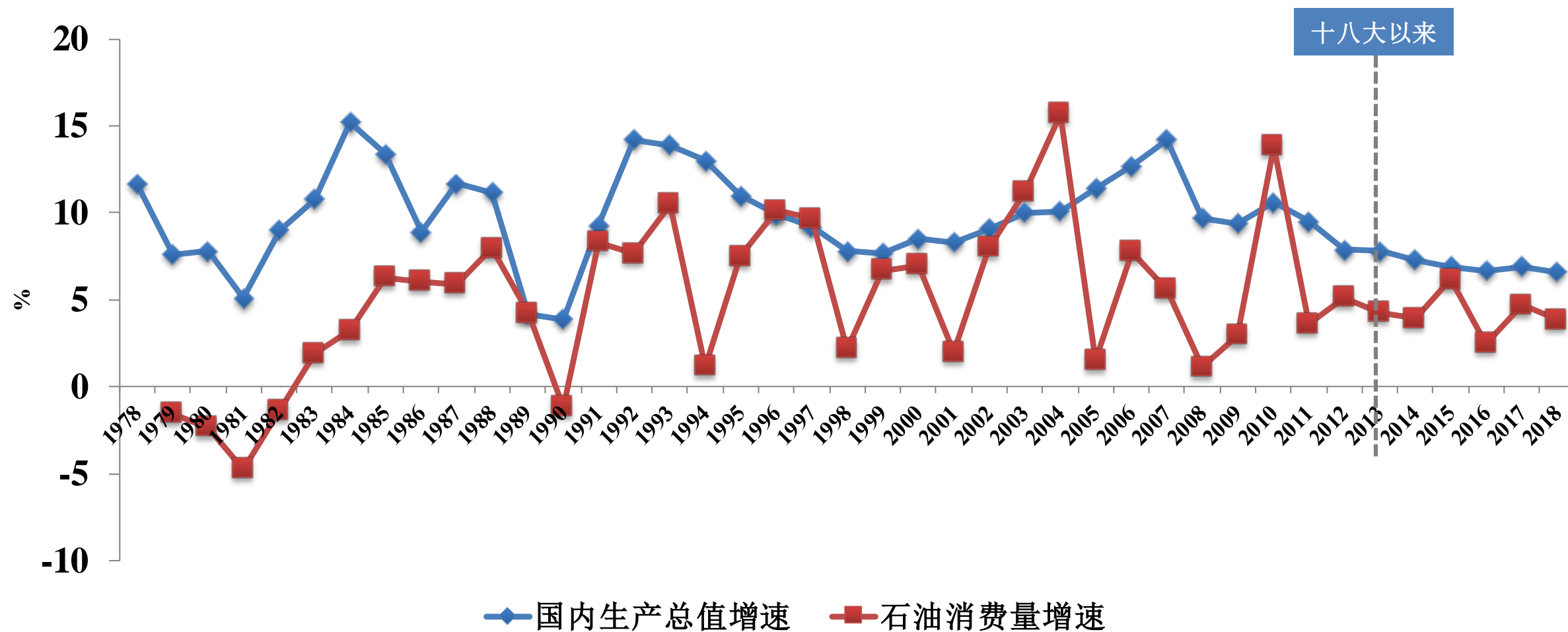


Coal and GDP



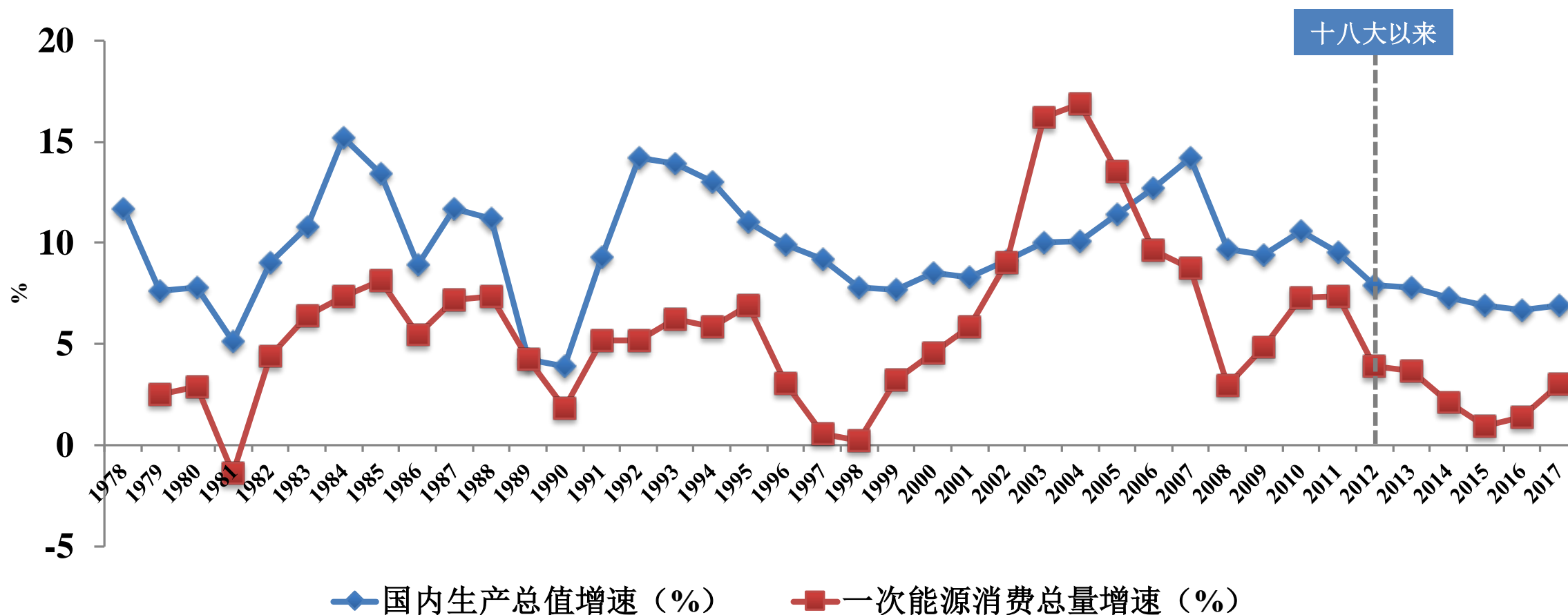


Oil and GDP



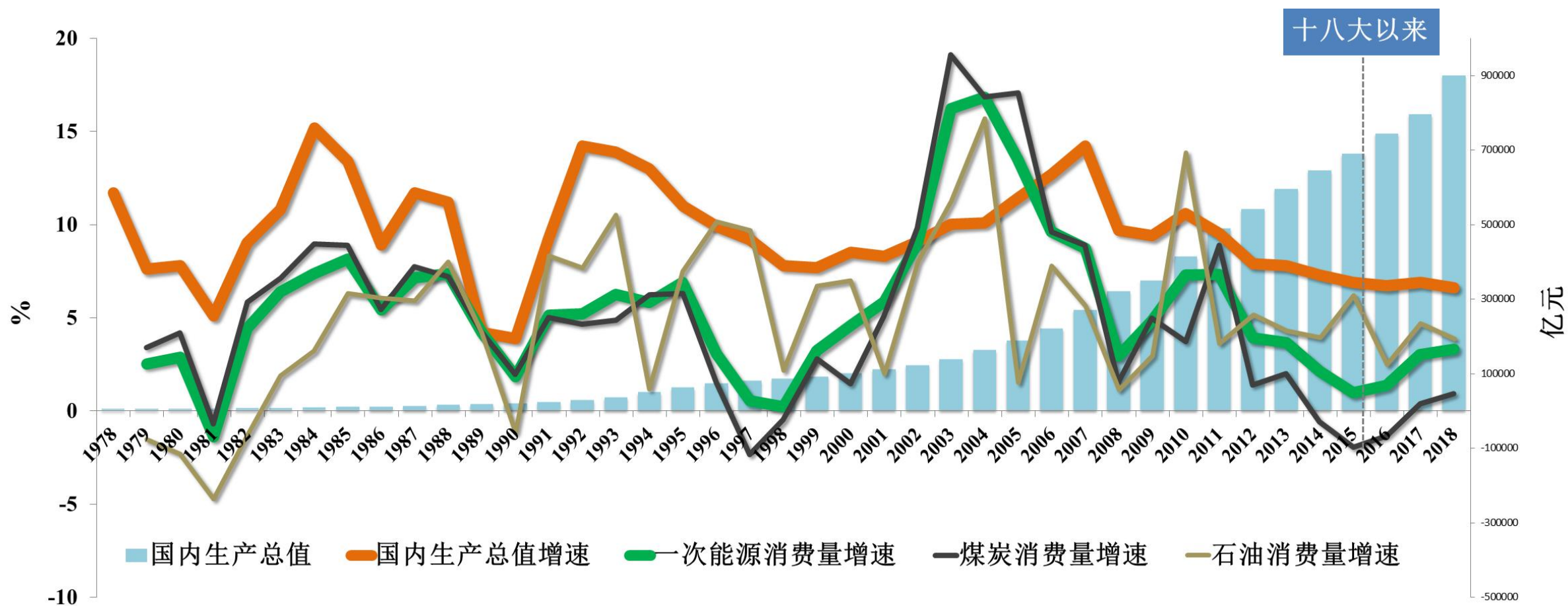


Primary Energy and GDP

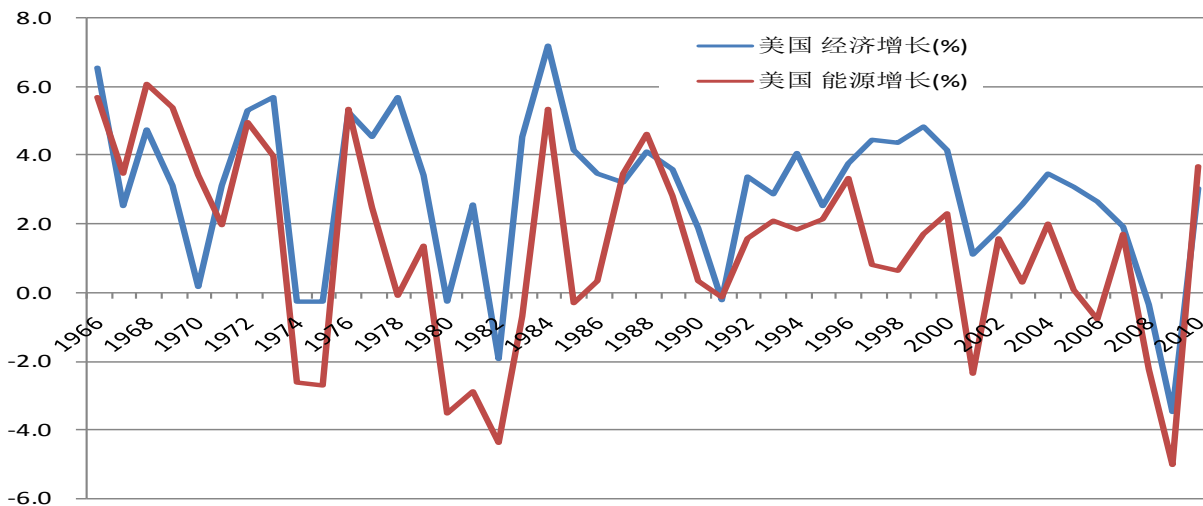




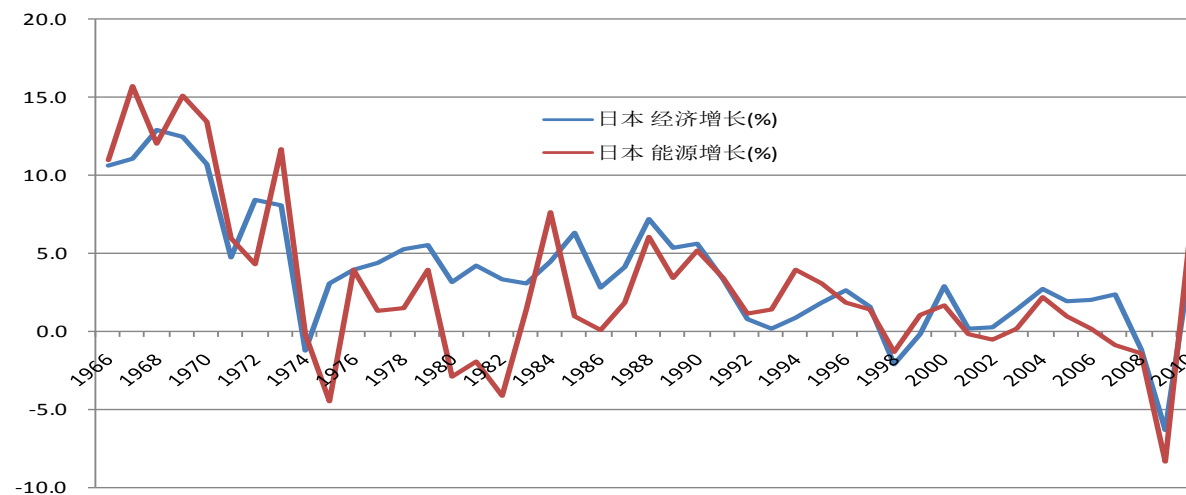
Coal, Oil, Primary Energy and GDP



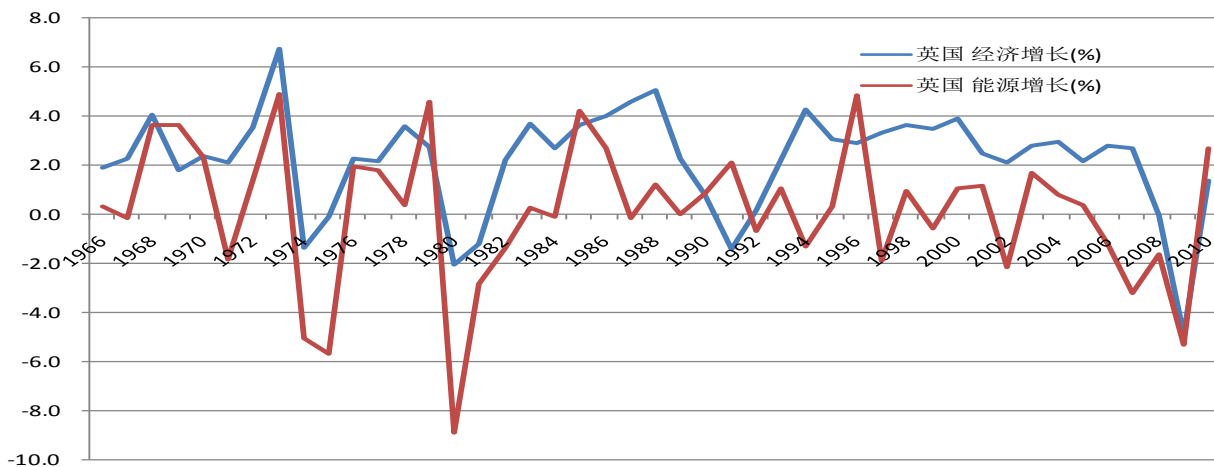
USA, Japan, UK, Germany's Energy and GDP



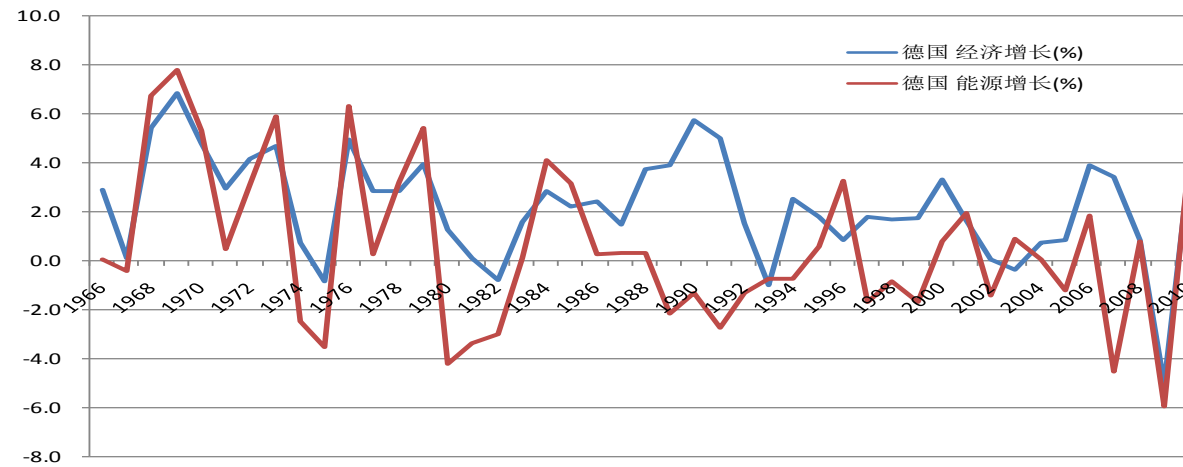
(a) USA



(b) Japan



(c) UK

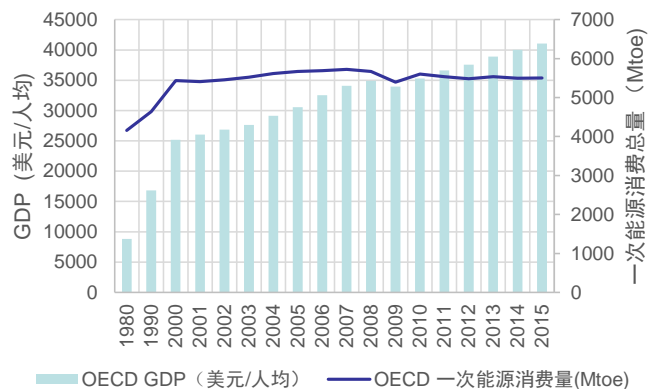


(d) Germany

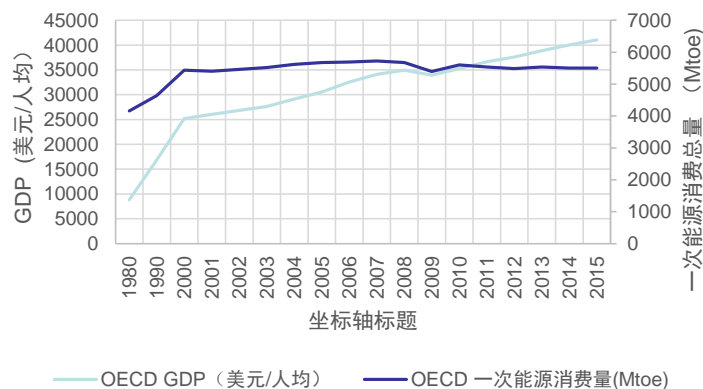
GDP and Energy Trends for OECD Countries



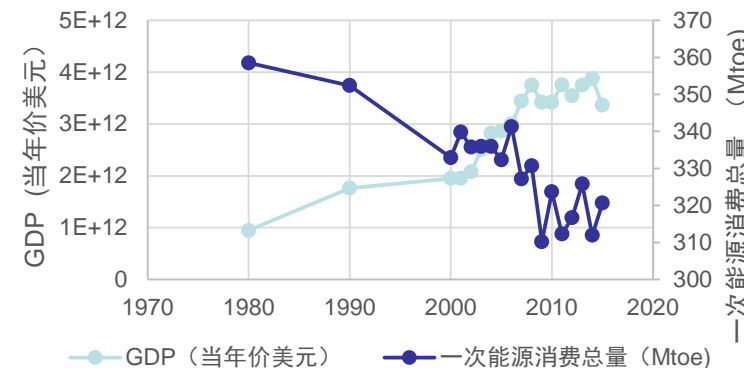
OECD GDP增长与一次能源消费量



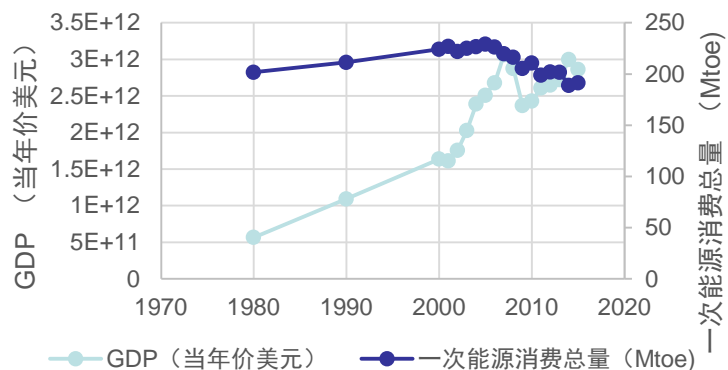
OECD GDP增长与一次能源消费量



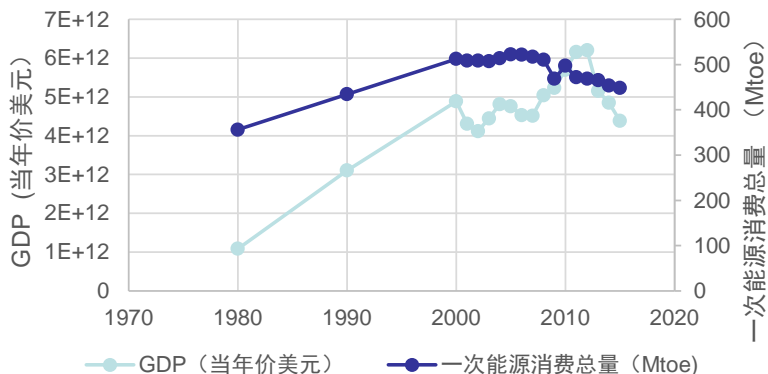
德国GDP增长与一次能源消费总量



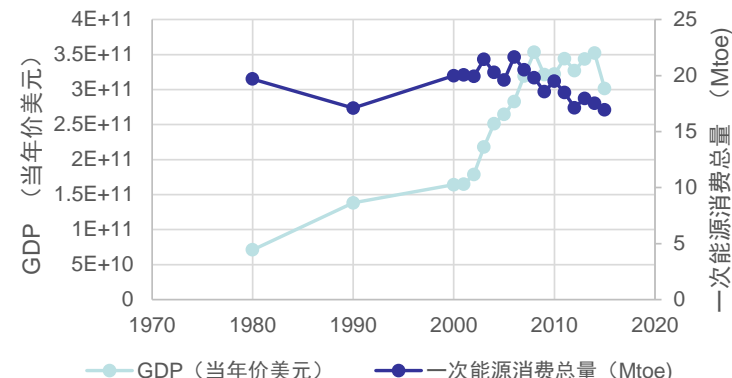
英国GDP增长与一次能源消费总量



日本GDP增长与一次能源消费总量



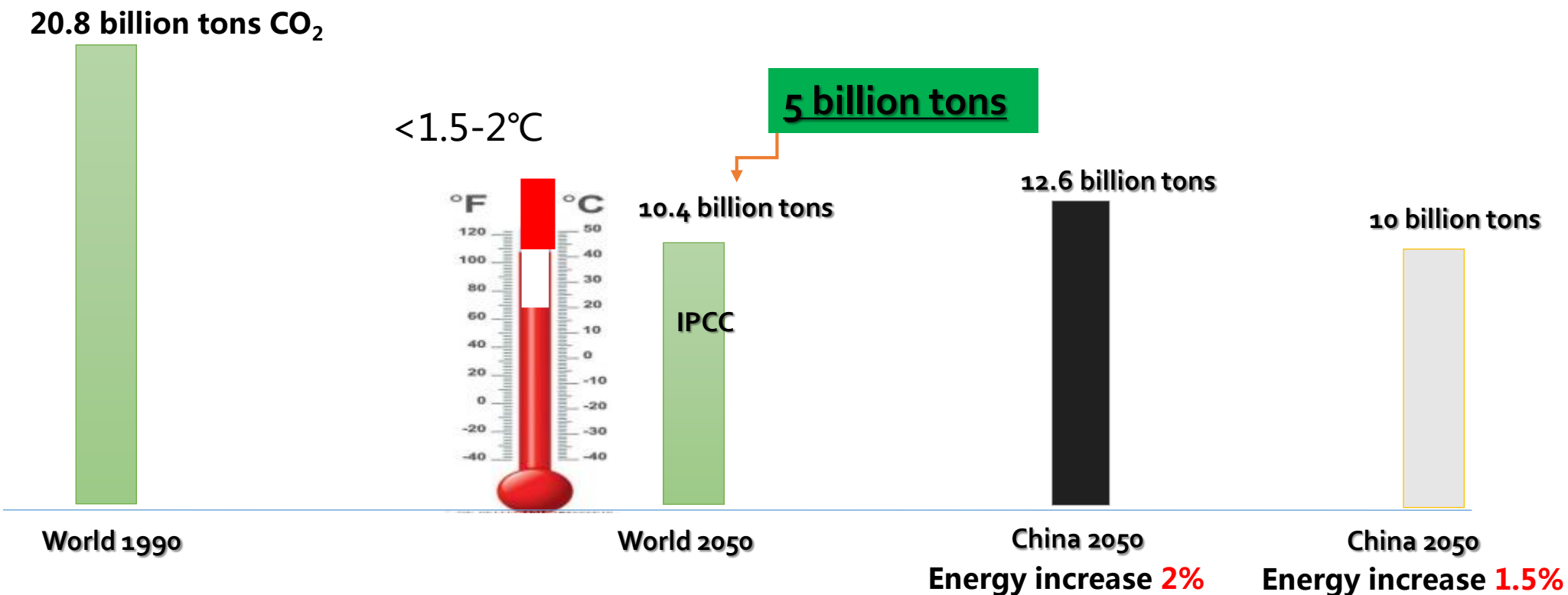
丹麦GDP增长与一次能源消费总量





The energy transition should start with controlling and reducing coal consumption: 100 million tons less each year and within 1 billion tons by 2050.

Base year: 2011; Energy Mix: three one third.
 2050: 6500Mtce (1.5%), 7500Mtce (2%)

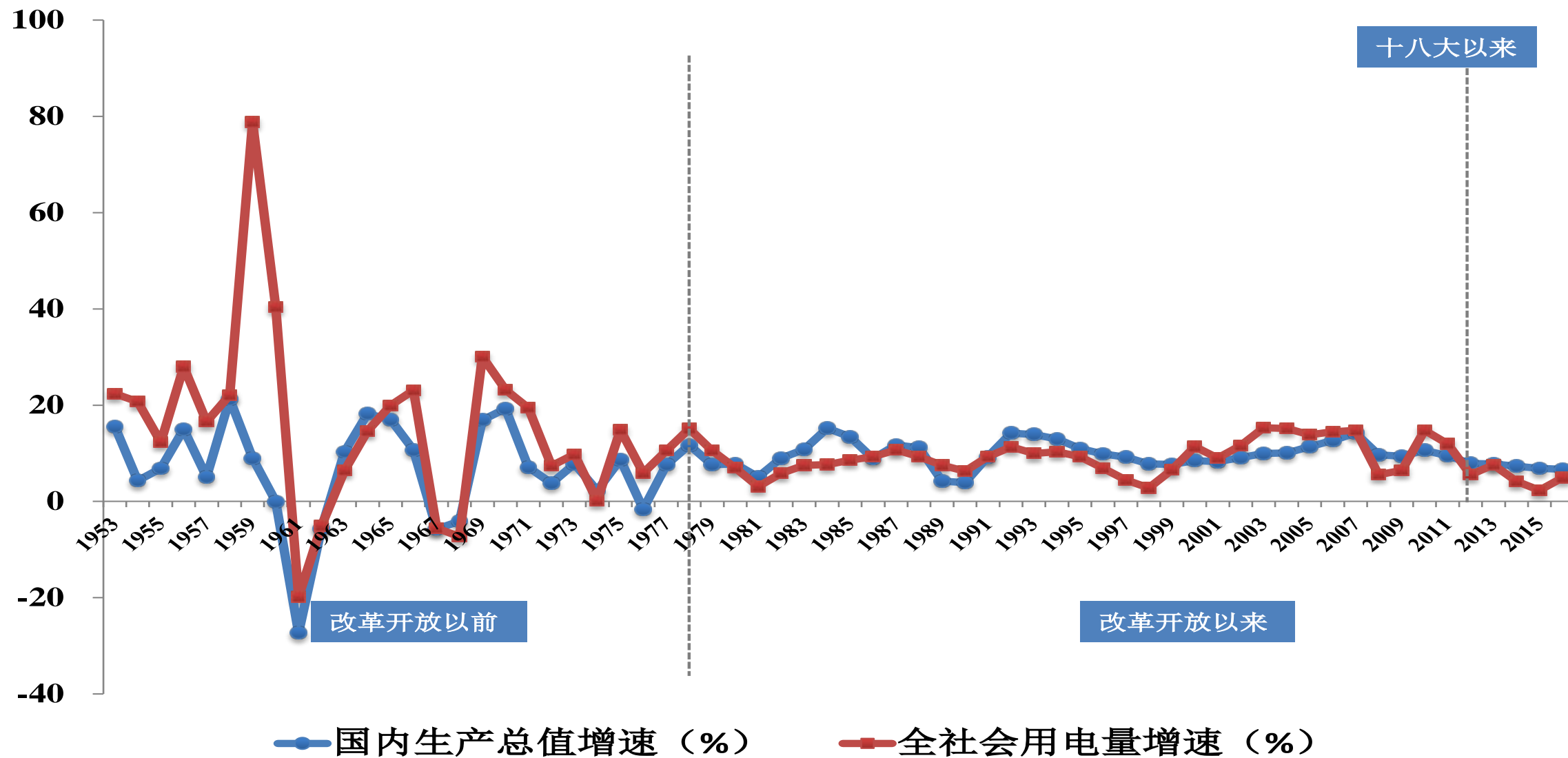




**How to reduce primary energy
consumption from 6500-7500Mtce to 3500-
3800Mtce in 2050???**

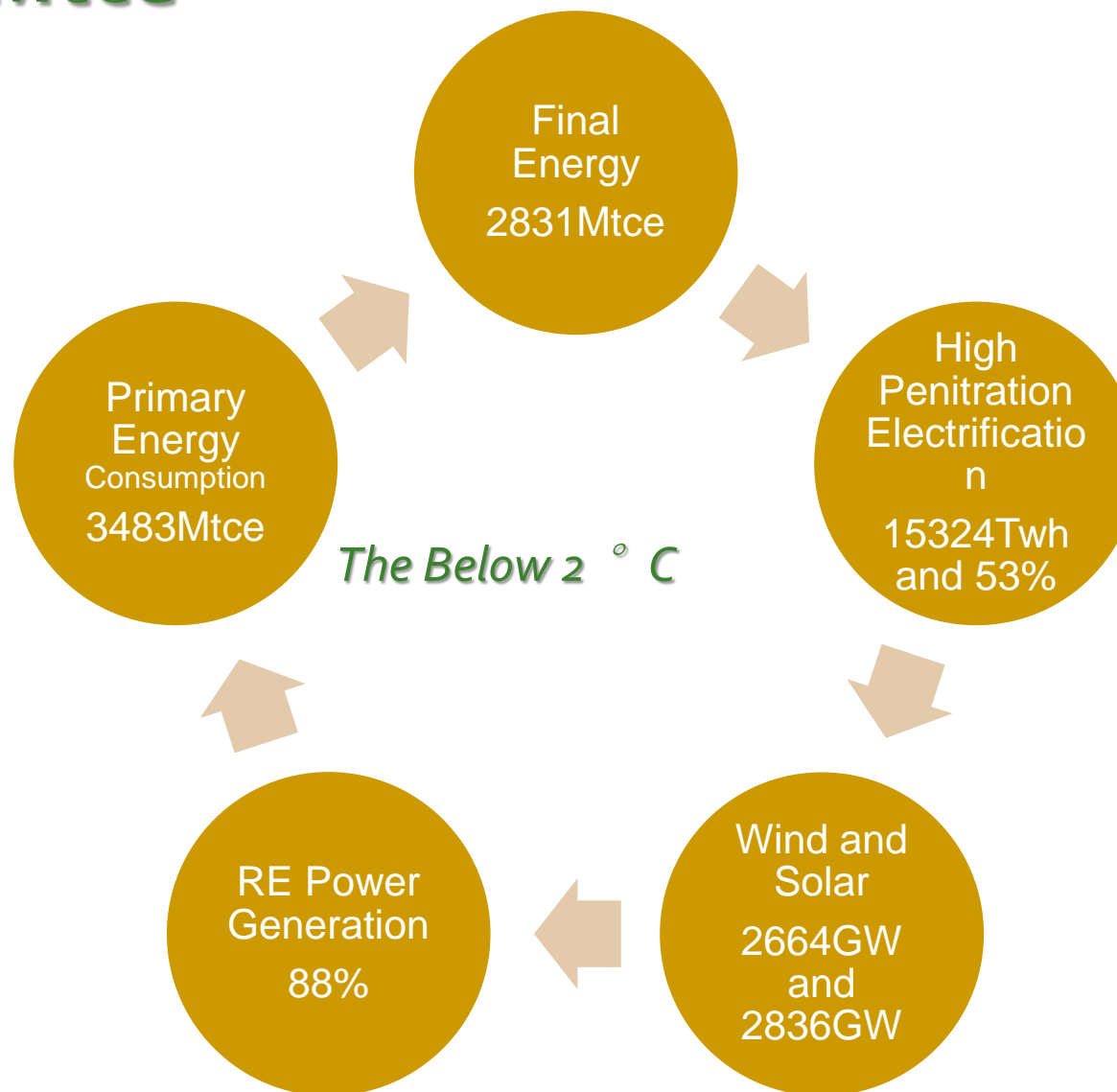


Electricity to GDP



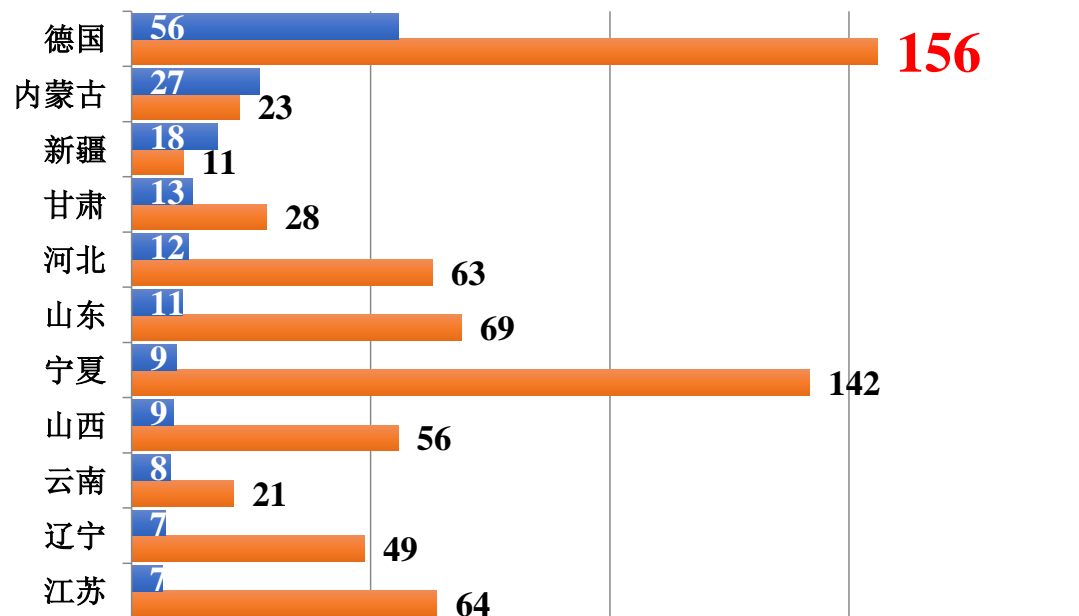


The Below 2 ° C: 3483Mtce

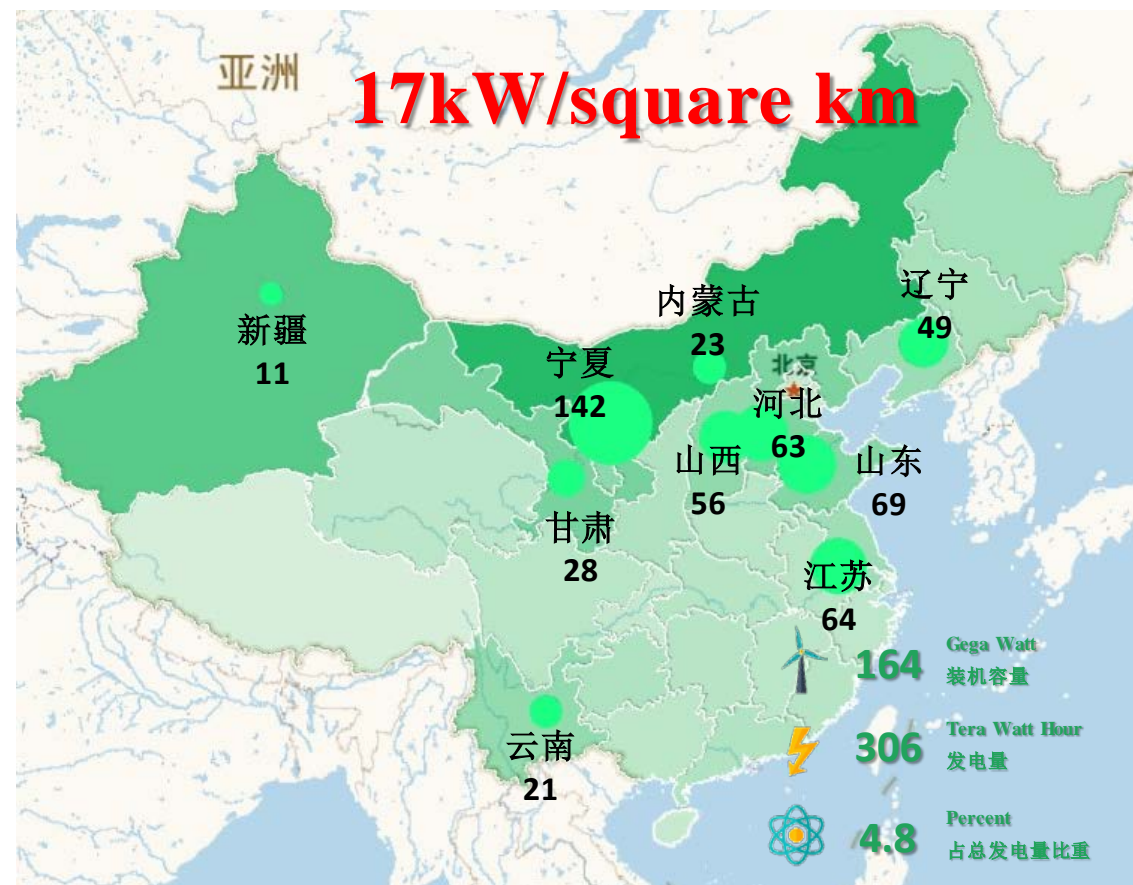


The Stated Policy: 3724Mtce

Wind Power For China and Germany



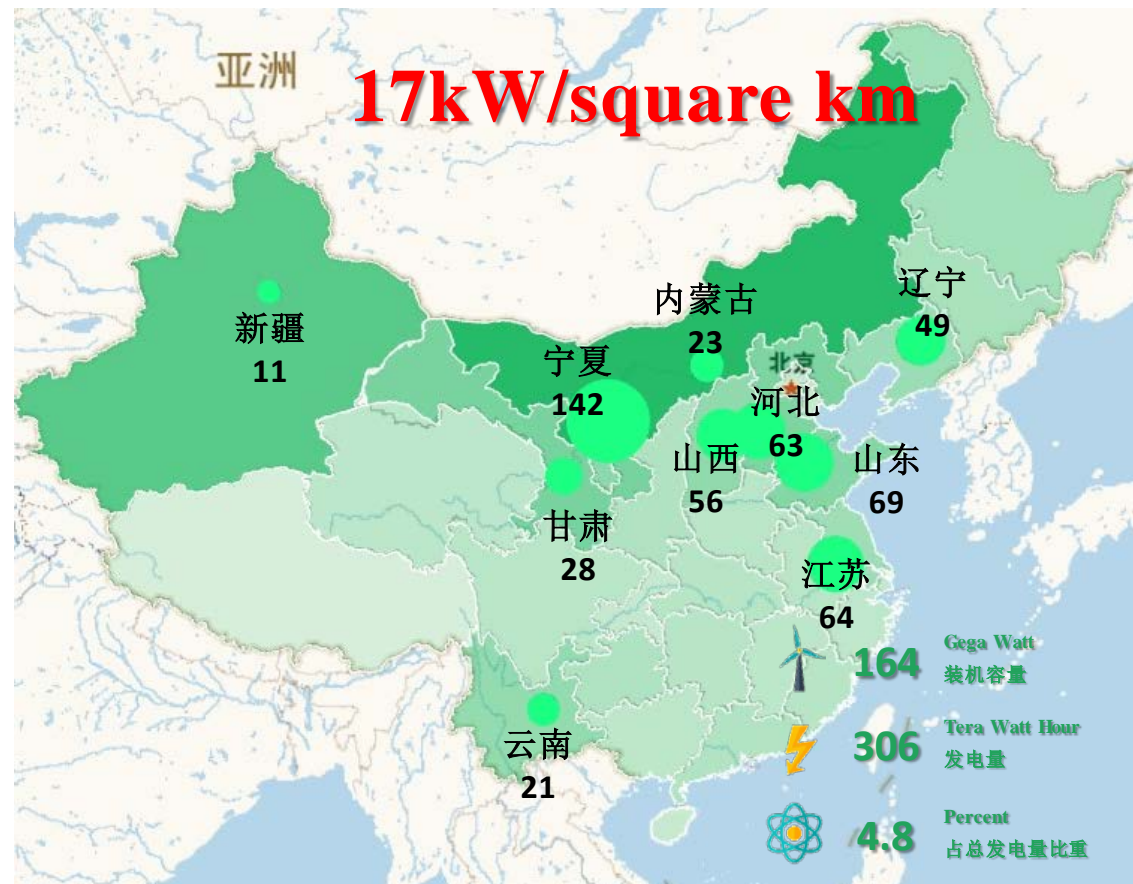
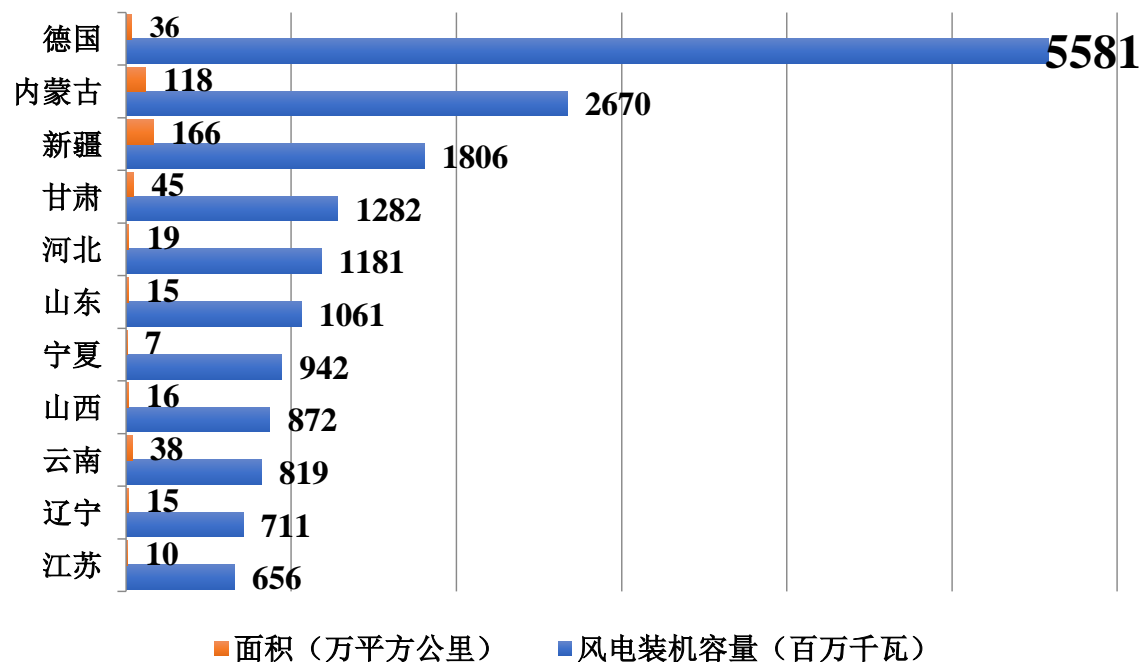
■ 风电装机容量 (百万千瓦) ■ 每平方公里装机容量 (千瓦/平方公里)



In Germany, per square km installed 156kW by the end of 2017, and in China, per square km installed 17kW, which was the Germany's 11%.

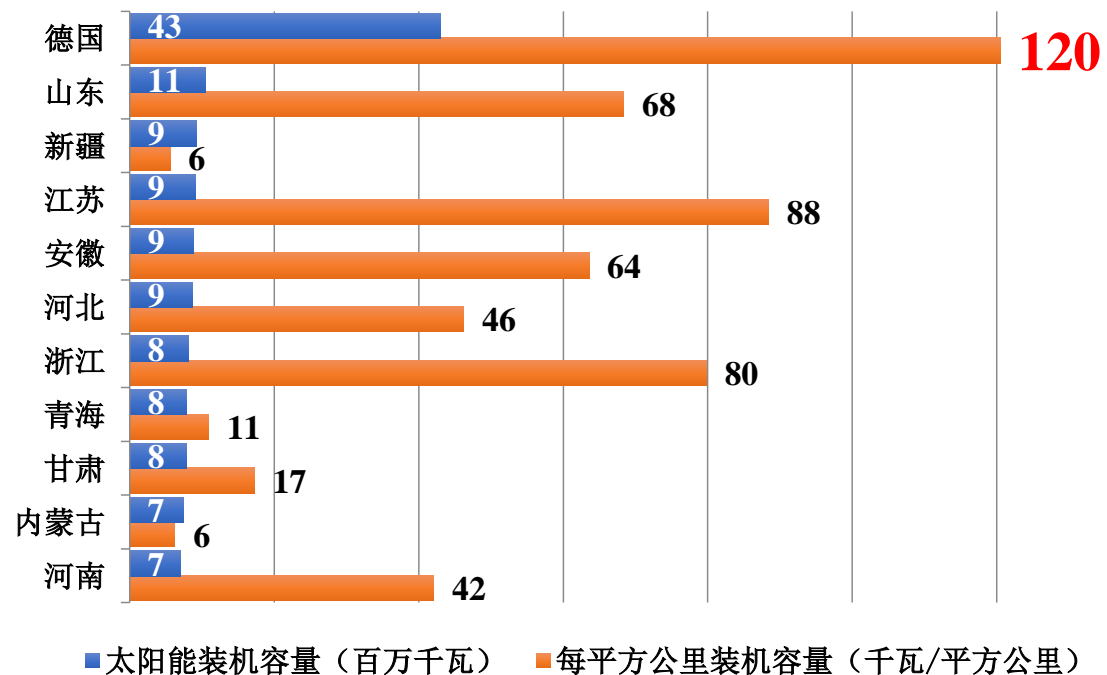


Wind Power For China and Germany (Total Installed Capacity)



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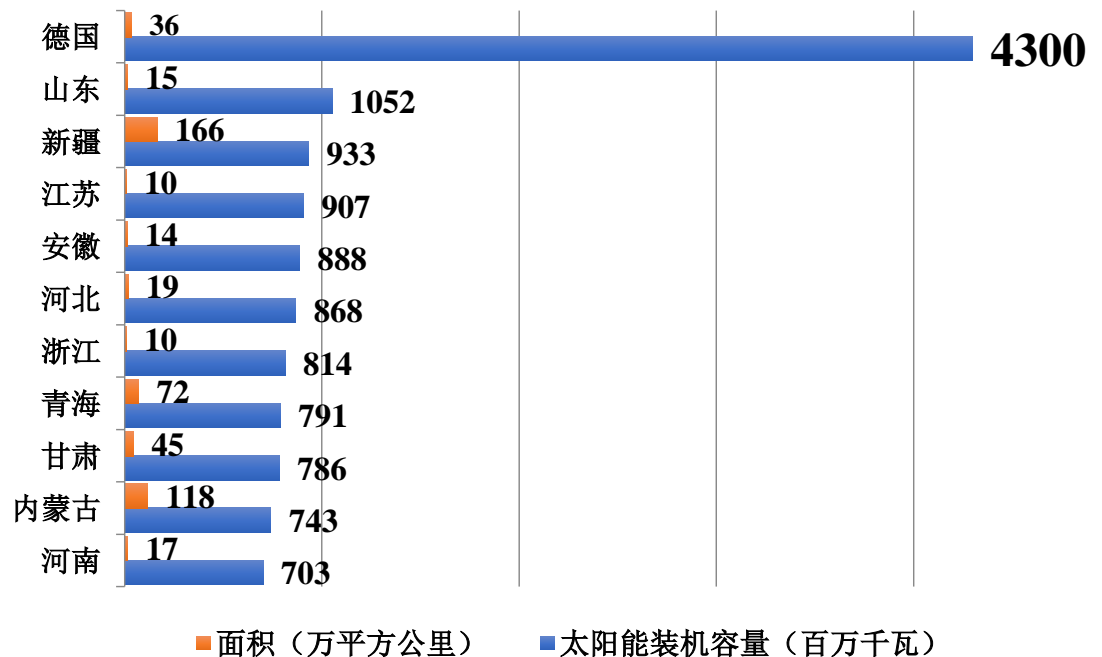
Solar PV For China and Germany



In Germany, per square km installed 120kW by the end of 2017, and in China, per square km installed 14kW, which was the Germany's 11.7%.



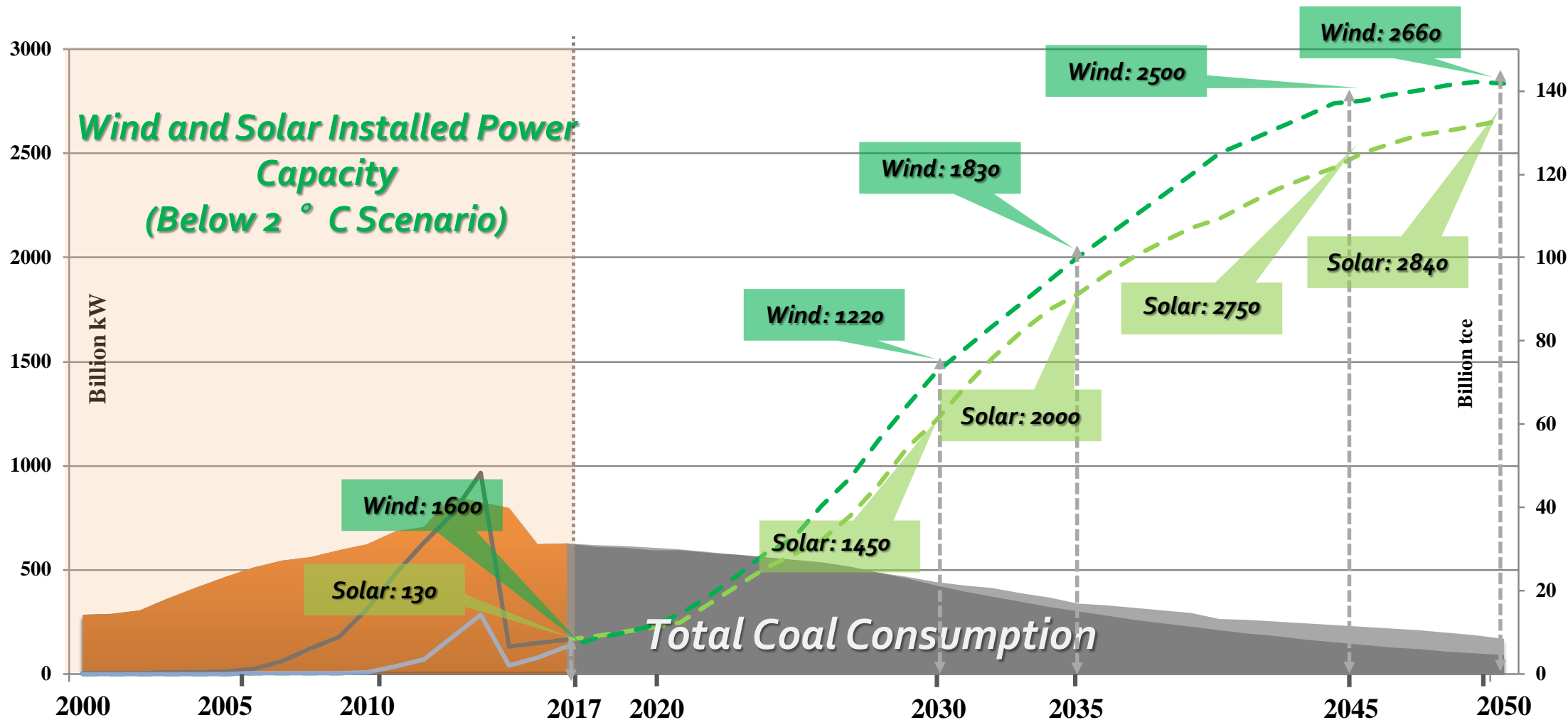
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Power System Revolution: Wind power and solar power as the backbone





*Thank you
for your
attention 😊*