

# Session 1 - Key Developments in Oil and Gas Trade With Asian Growth Markets

## 第一节：快速成长的亚洲市场的油气贸易发展趋势

### The Role of New Energy Policies and Technologies in Trade with Asia

## 亚洲油气贸易中新能源政策与科技发展所扮演角色

(Kamel Ben Naceur, Nomadia Energy Consulting)



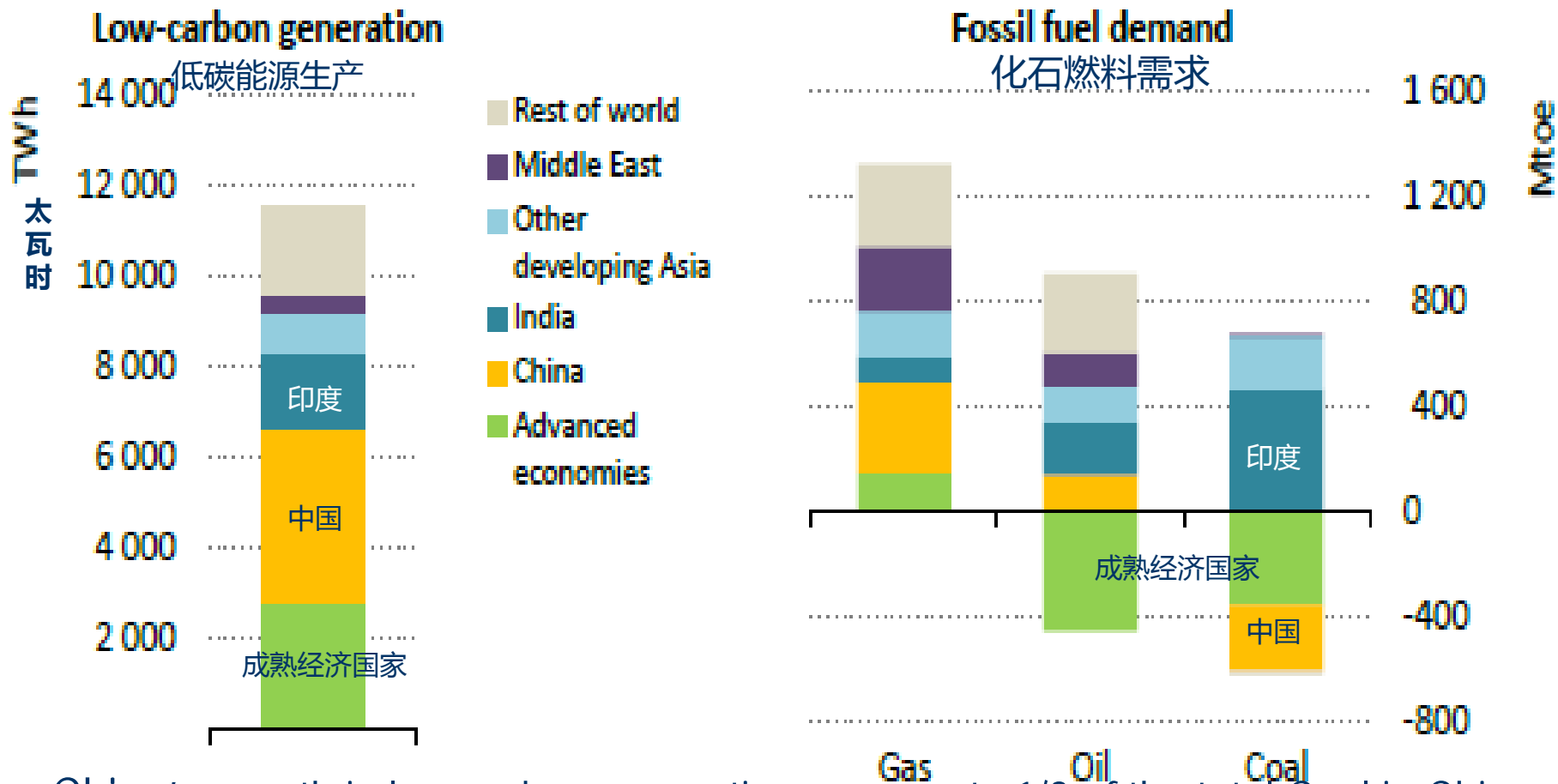
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- Global trends in energy demand/全球能源需求趋势
- Oil supply, demand trade and refining evolution/石油供需贸易以及炼化技术革新
- Gas trade evolution 石油/天然气贸易形式变革
- Electricity/Renewables/Nuclear电力/可再生能源/核能
- Decarbonization requirements/去碳化的环境法规要求

# Increase in Energy Demand (2017-2040)

## 全球能源需求增长(2017-2040)



China's growth in low-carbon generation represents 1/3 of the total Coal in China decrease while oil and natural gas expand/  
 中国在低碳能源的生产增长取代的就是原本煤炭能源的生产量，同时对于石油和天然气的需求仍持续增长

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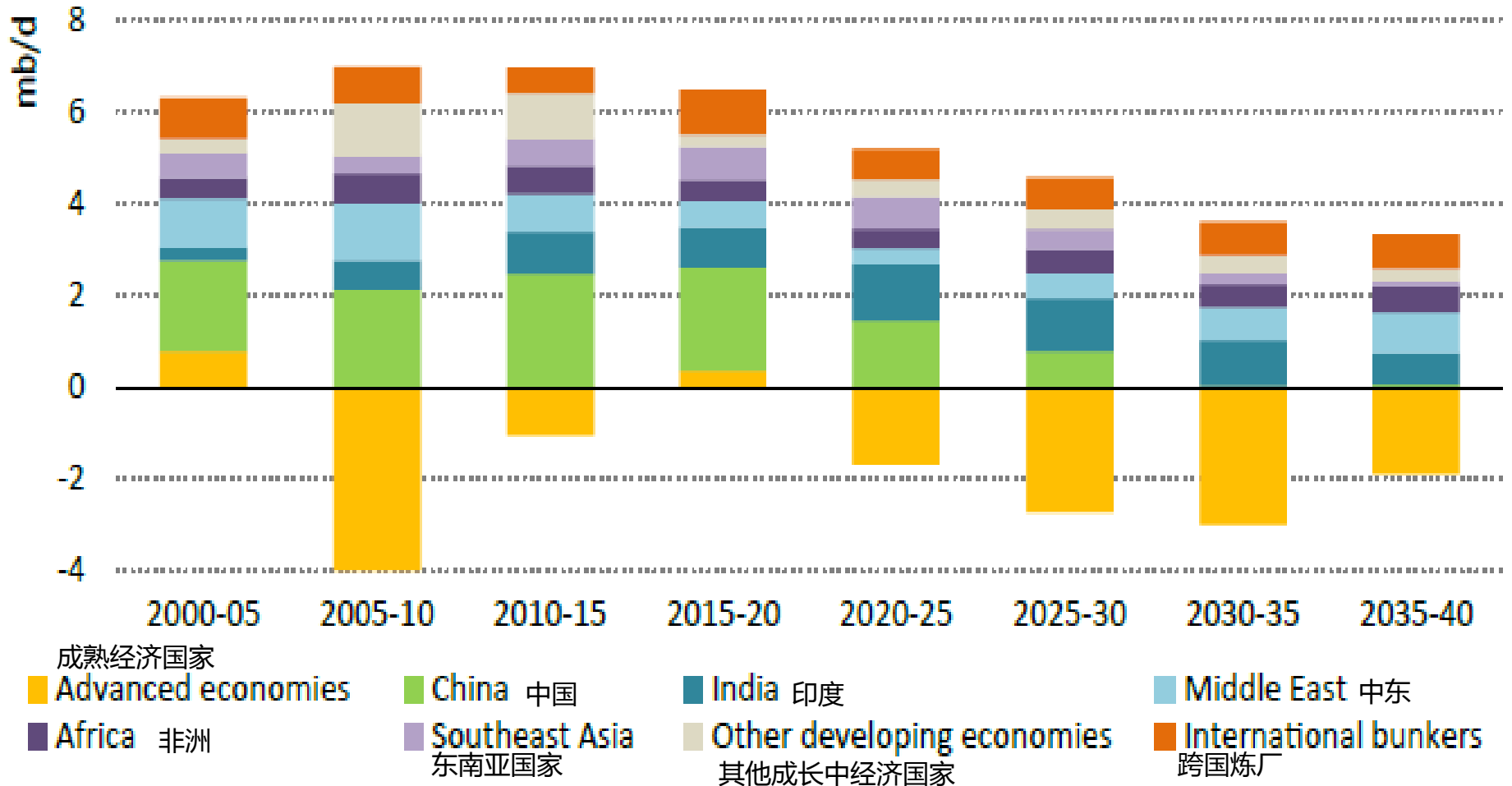
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# Oil Demand Increase: 2000-2040

全球石油需求增长(2000-2040)



Oil demand increase shifts from China (2000-2030) to India (2010-2040)

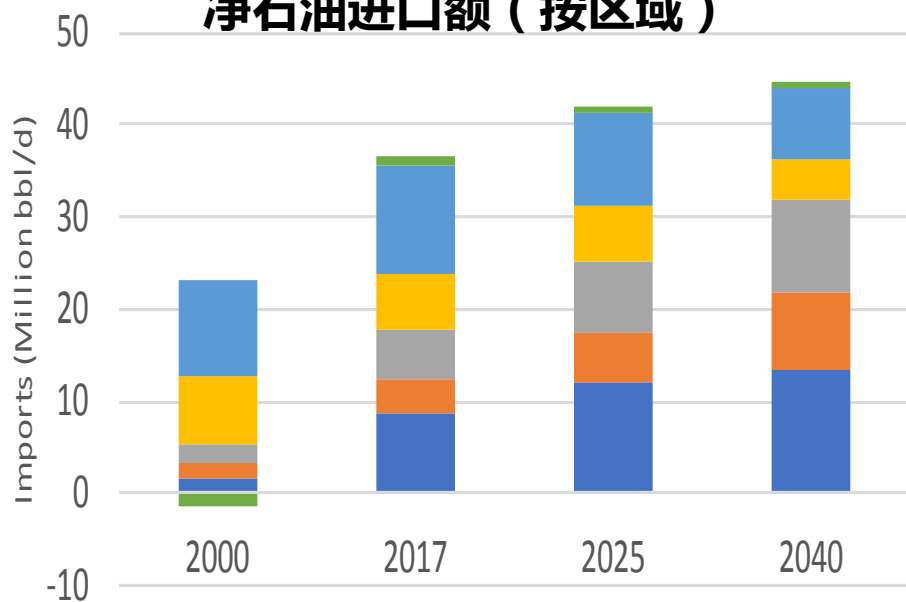
全球对于石油需求主导国家从中国(2000-2030)改为印度(2010-2040)

# Evolution of Oil Trade (2000-2040)

## 全球石油贸易分布变革(2000-2040)

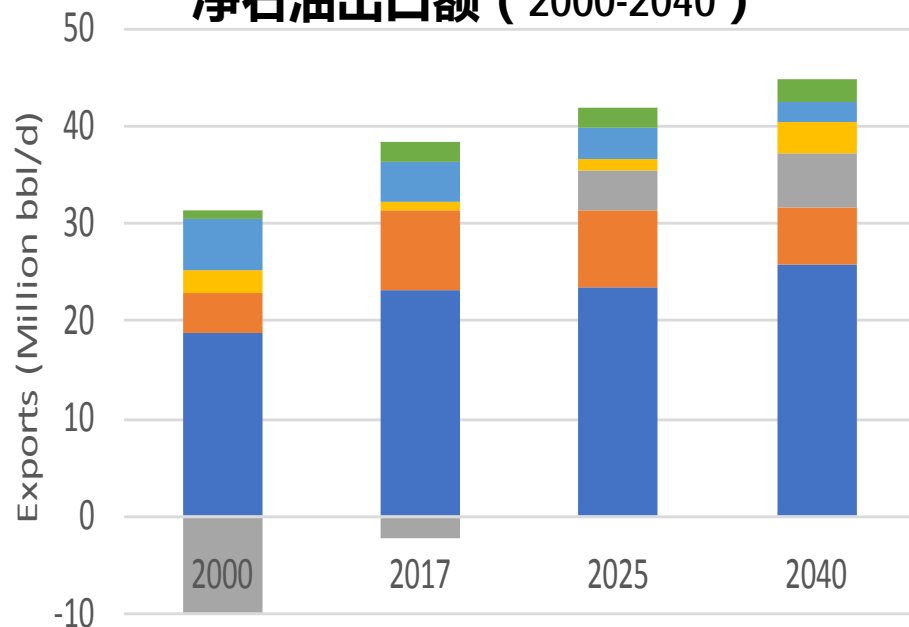
### Net Imports of Oil by Region

净石油进口额 (按区域)



### Oil Net Exports (2000-2040)

净石油出口额 (2000-2040)



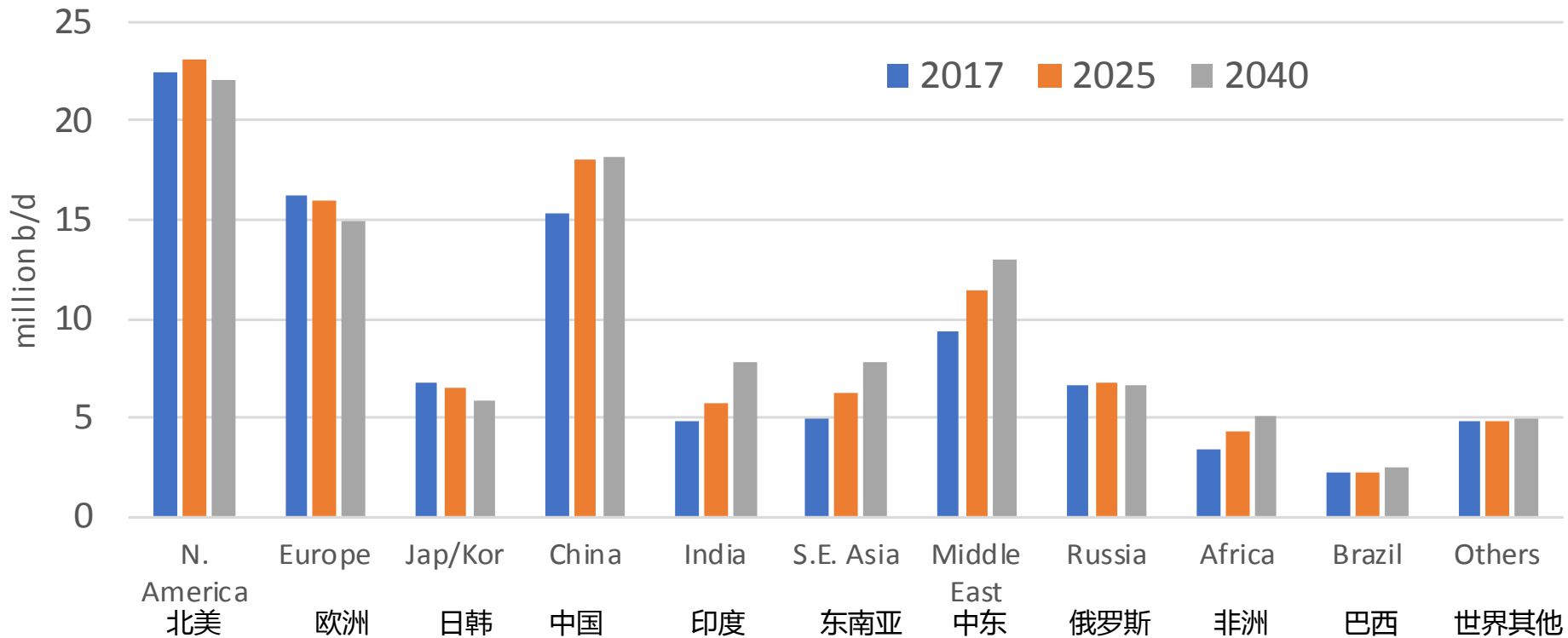
■ China 中国 ■ India 印度 ■ Other AsPac 其他亚太区 ■ Jap/Kor 日韩 ■ EU 欧洲 ■ RoW 世界其他

■ Middle East 中东 ■ Russia 俄罗斯 ■ N. America 北美区 ■ S. America 南美区 ■ Africa 非洲 ■ Caspian 里海区

# Evolution of Refining Capacity (2017-2040)

## 全球炼油产能变革(2017-2040)

### Refining Capacity



By 2040, more than 50% of the world's oil refining capacity will be East of Suez, with the largest increases in the M. East, China, India and S.E. Asia

到2040年时全球石油炼化产能将有一半以上集中在苏伊士运河以东，其中最大增长来自于中东、中国、印度以及东南亚

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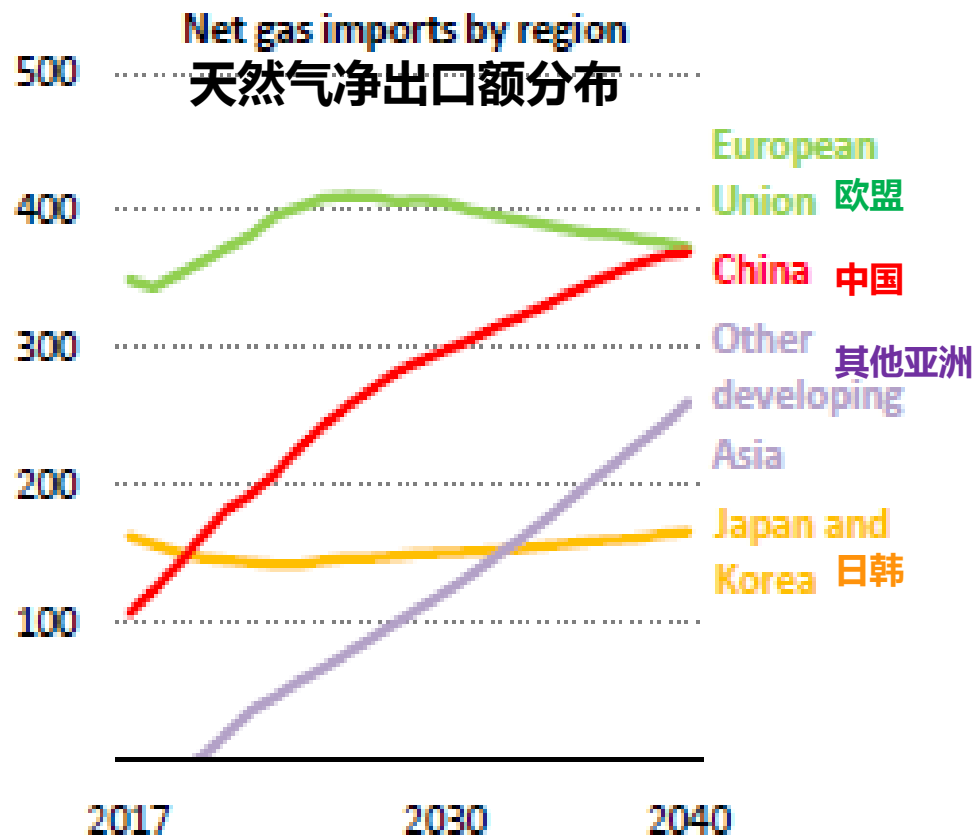
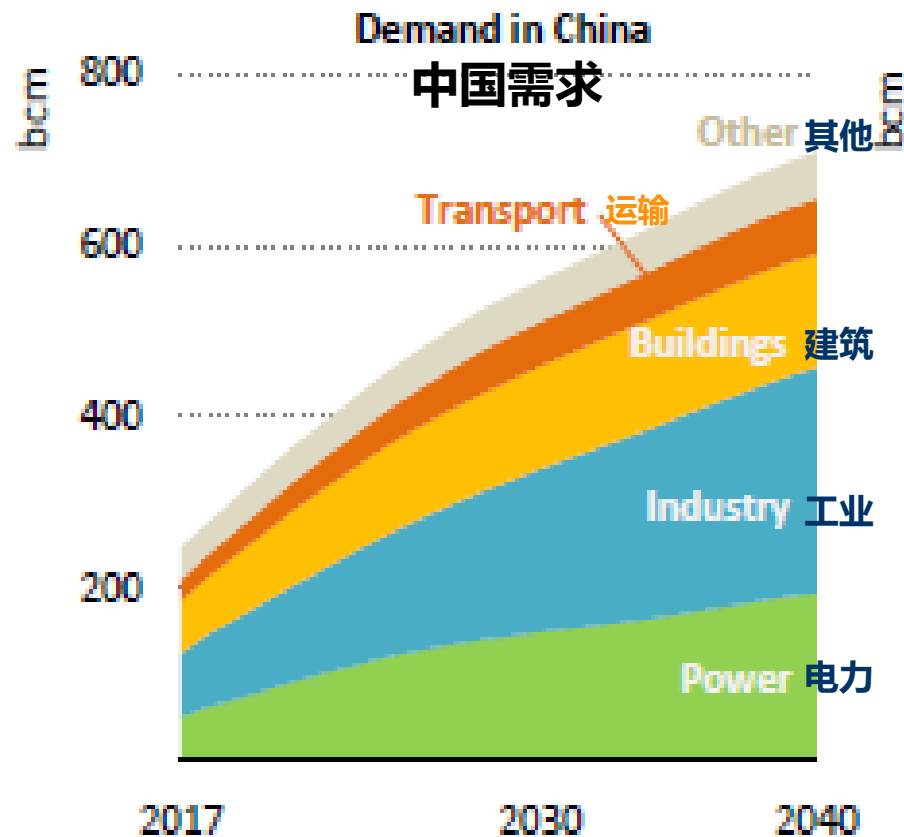
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# Natural Gas Demand and Trade Expansion in China

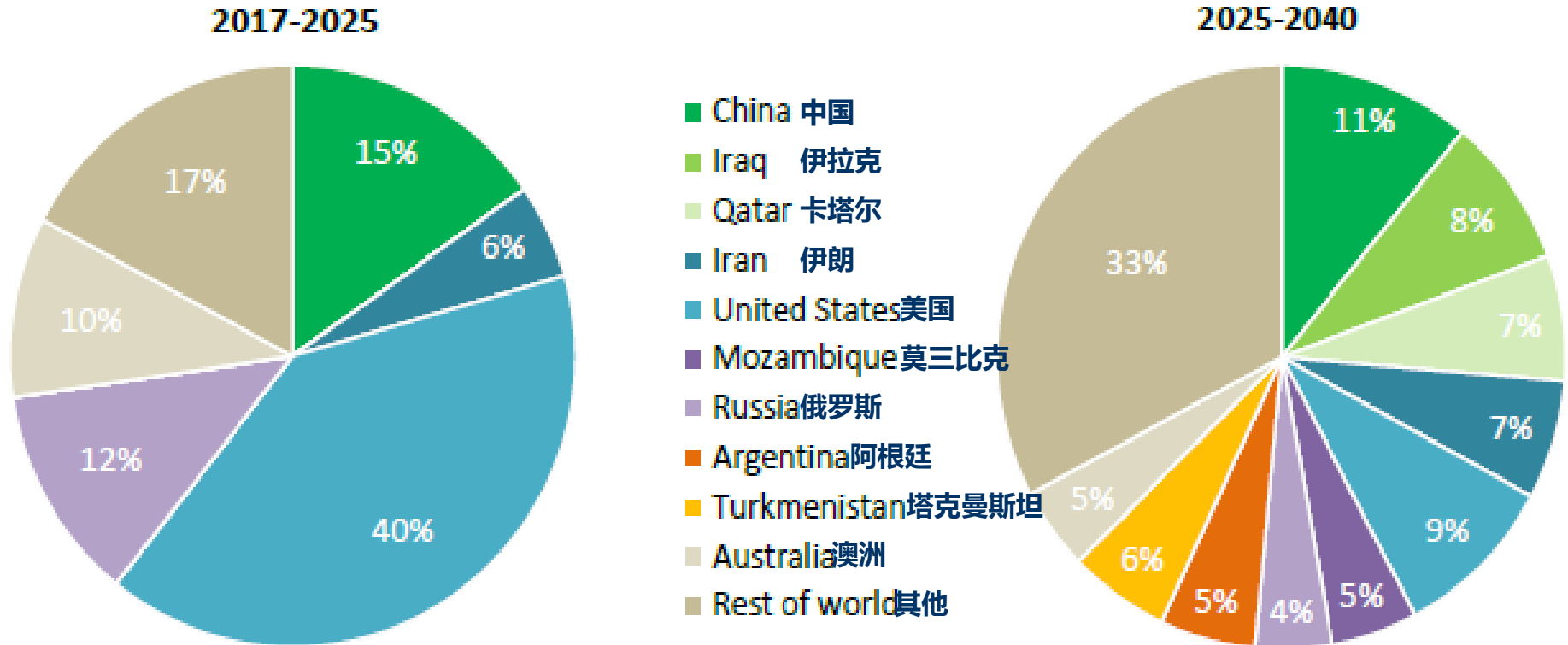
## 全球天然气需求变化以及中国天然气贸易扩张



- Demand for natural gas increases in all sectors in China, specially in power & industry  
中国各产业对于天然气需求上升，尤其是电力与工业用气方面
- China's net gas imports will reach EU's level by 2040  
到2040年时，中国天然气净进口额将赶上欧盟地区进口量
- Natural gas in China's energy mix increases from 6% today in 15% in 2040  
到2040年，天然气在中国能源构成比重将自6%上升至15%

# Natural Gas Production Expansion (2017-2040)

## 全球天然气产能扩张变革(2017-2040)



- China will see the second largest gas production (200 bcm), after the United States, becoming one of the top-5 largest gas producers  
中国将成为全球第二大天然气生产国，并成为全球最大天然气生产地区之一，第一大为美国
- Half of the natural gas production increase in China is associated with unconventional  
近一半的天然气生产量的增长是来自于页岩气新科技相关的产能

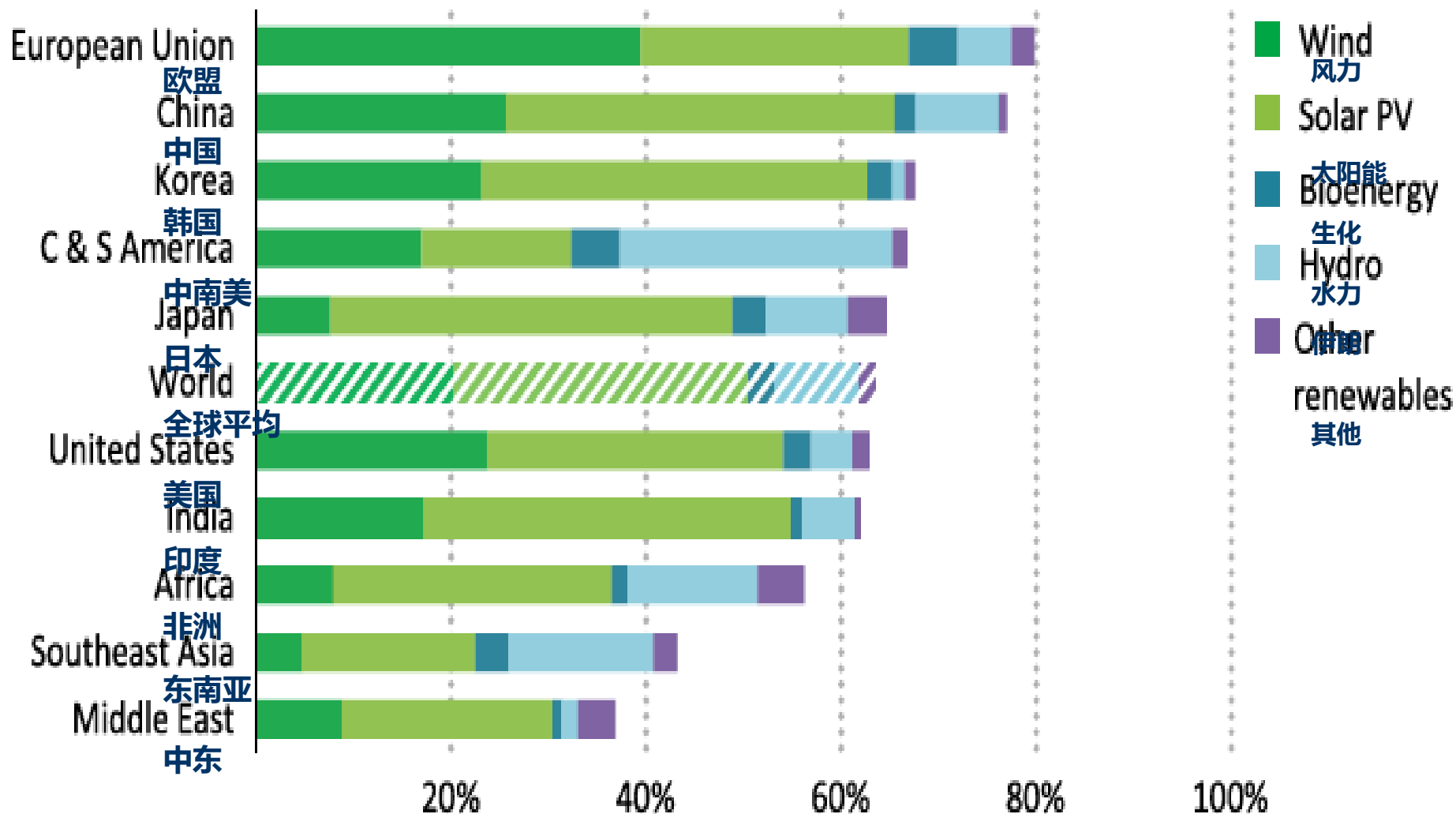
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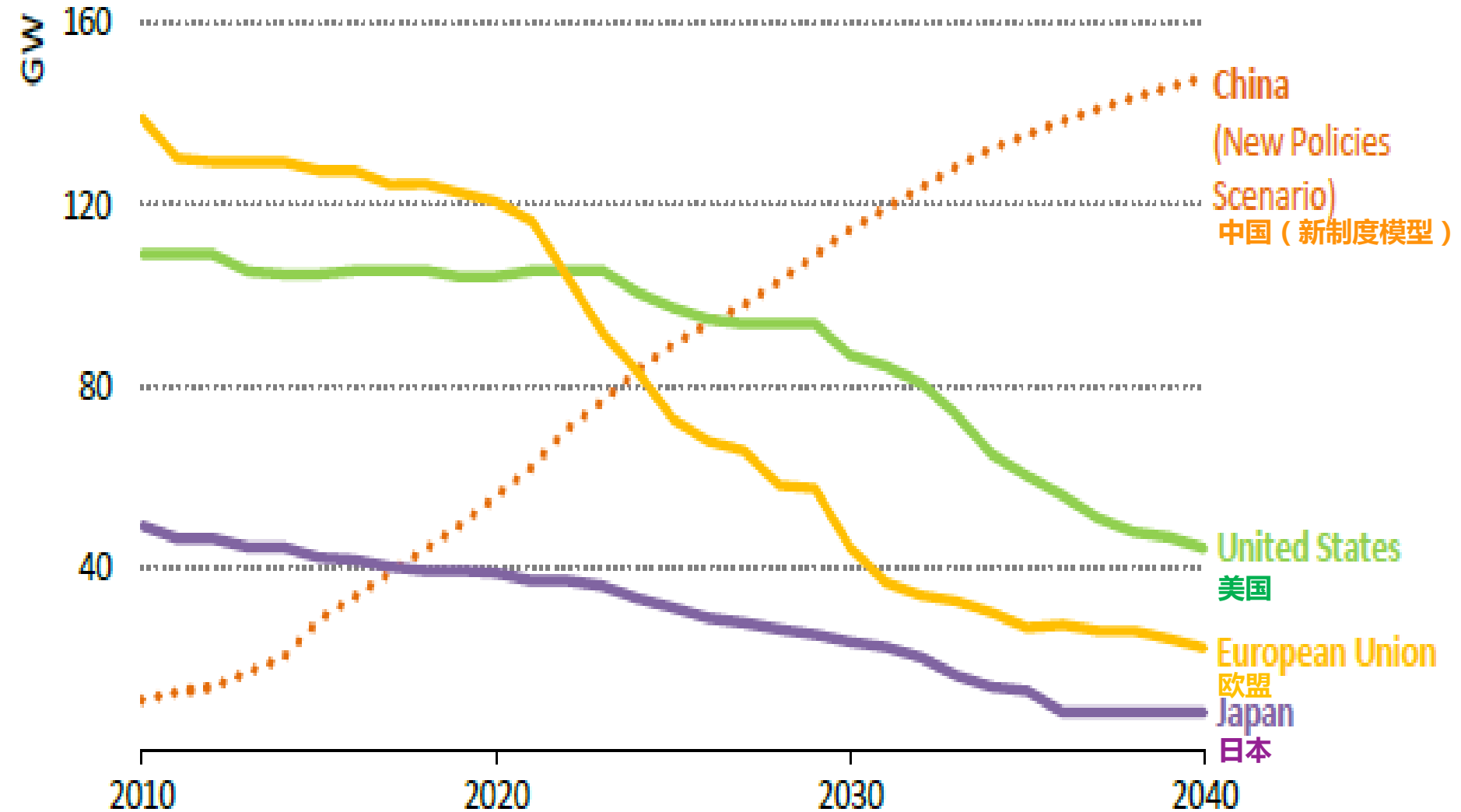
# Electricity Generation Expansion by Type

## 全球发电能源类型扩张趋势



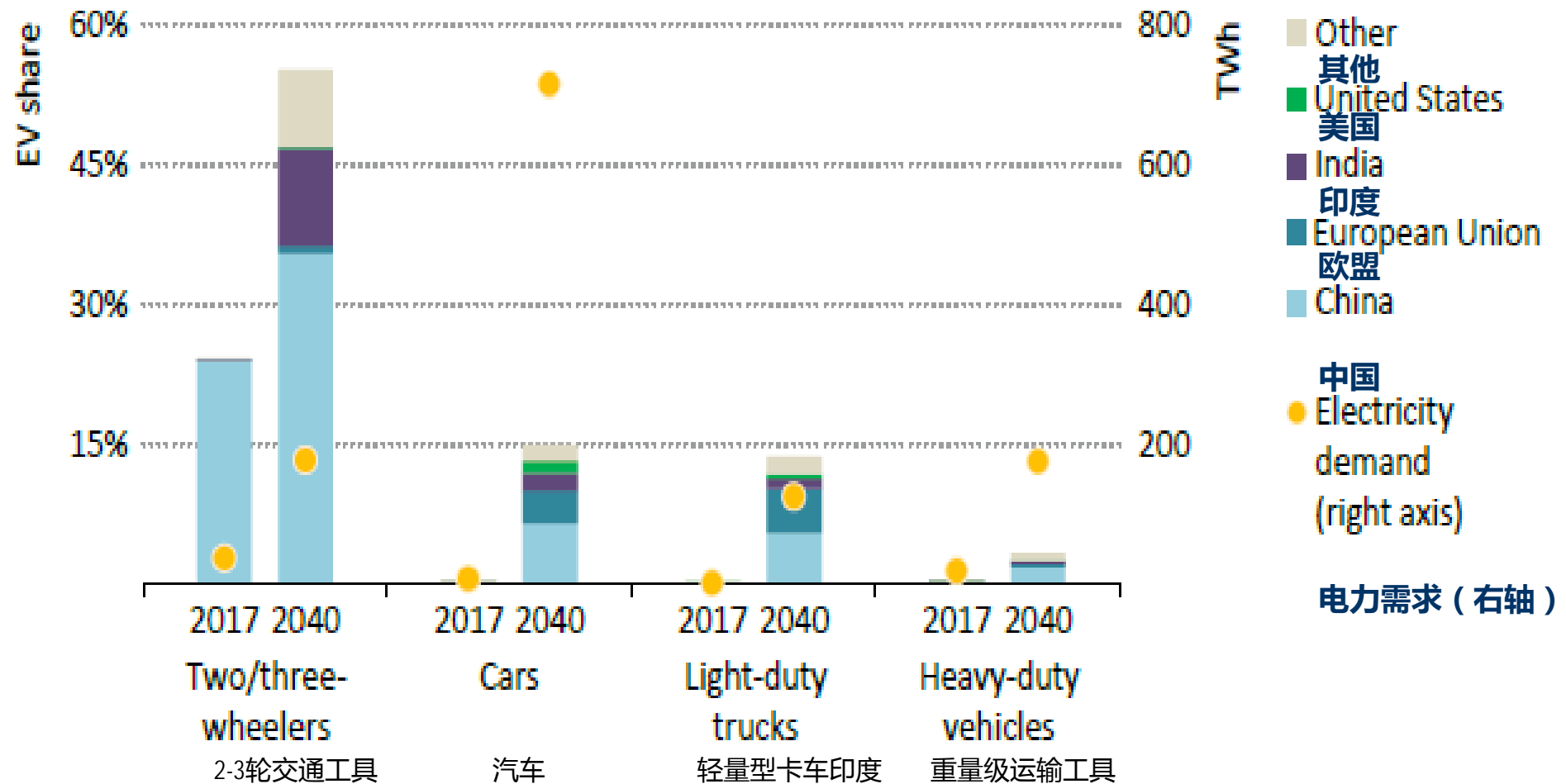
# Nuclear Capacity Evolution (2010-2040)

全球核能产能扩张变革(2010-2040)



# Transport: China Leads the Electrification

## 运输：中国引领全球运输工具能源电气化



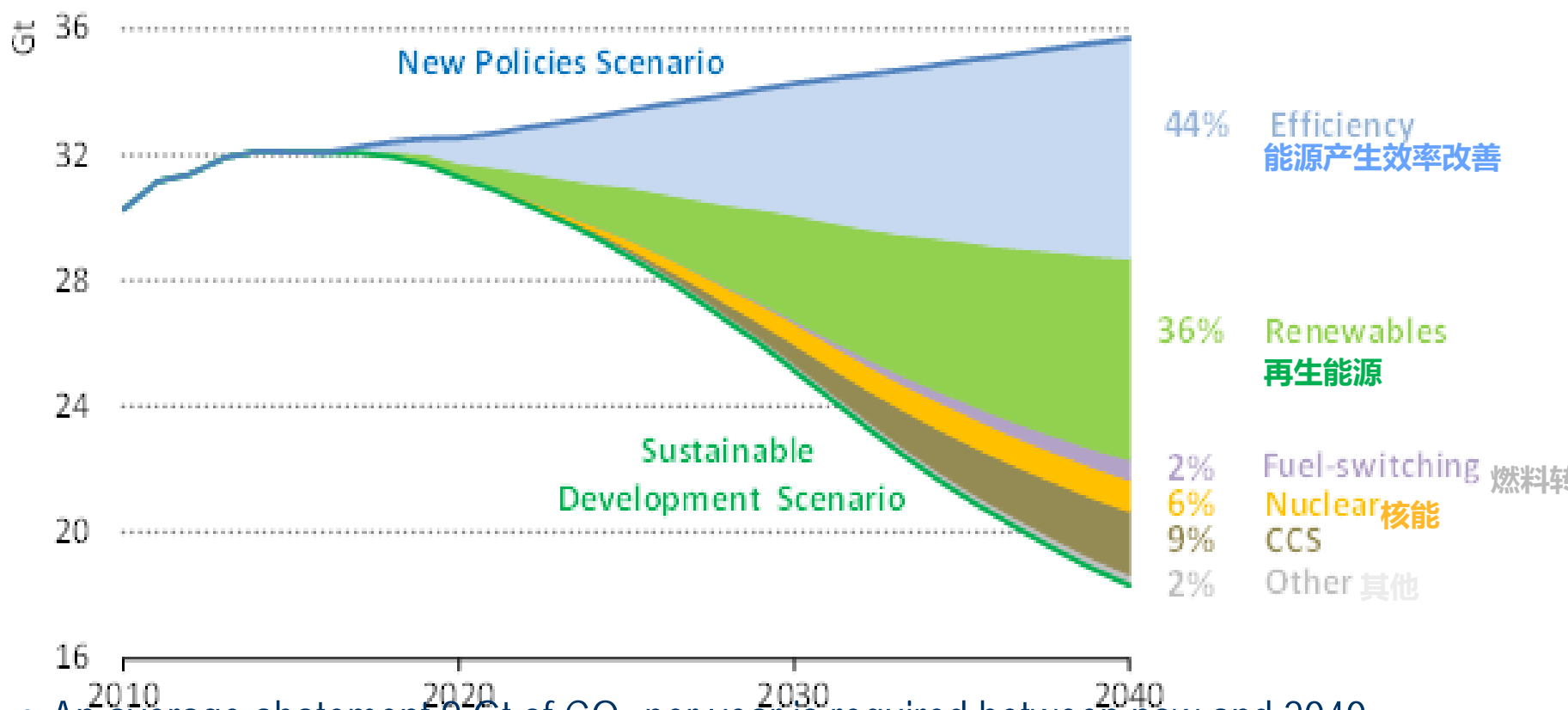
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# Decarbonization requirements for a sustainable scenario

## 永续生存环境中对于去碳化的要求



- An average abatement 9 Gt of CO<sub>2</sub> per year is required between now and 2040  
至2040年前，需每年降低90亿吨的二氧化碳排放量
- The main 3 decarbonization wedges represent nearly 90% of the requirement  
9成以上达成永续生存要求的去碳化改革主要集中在3种减碳排放工具
- Collaboration on carbon markets and regional trade  
碳排放市场以及区域交易功能上的合作



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