

# 发展中大国 能源战略的低碳选择

## Energy Strategies towards Low Carbon for Developing Powers

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# 提 纲 Outline

一

- 发展中大国能源目标  
**Energy Targets of Developing Powers**

二

- 能源战略选择的难题  
**Challenge of Energy Strategy**

三

- 低碳选择的能源模式  
**Low Carbon Energy Mode**



# 国家追求什么能源目标？

## What do the countries pursue for energy?

- 更绿色：清洁环保、低碳零碳

**More Green: Clean and green, lower carbon to zero emissions**

- 更安全：供应充足、通道保证

**More Secure: Sufficient supply, guaranteed channel**

- 更方便：随时随地、就近便捷

**More Convenient: Accessible anytime anywhere without having to go far**

- 更高效：节能降本、能耗降低

**More Efficient: Energy saving, energy intensity decreasing**

- 更经济：技术创新、价格更低

**More Economical: Technological innovation, cost effective solutions**



# 发达国家还缺乏哪些？

## What do developed countries lack?

- 北美澳新：更低碳、更经济  
North America, Australia, New Zealand: Lower Carbon and more economical
- 欧洲日韩：更低碳、更安全、更经济  
Europe, Japan, South Korea: Lower carbon, more secure and more economical
- 中东：更清洁更低碳  
the Middle East: Cleaner and lower carbon
- 转型导向：气候变暖与低碳化  
Transition orientation: climate warming and low carbonization  
发达国家比较一致支持低碳化  
Developed countries support low carbonization more consistently
- 解决方案：大力发展可再生及低碳能源  
Solution: Vigorously develop the renewables and low-carbon energy  
需要更经济的可再生能源技术  
Need more cost effective renewable technologies



# 发展中国家缺乏哪些？

## What do developing countries lack?

- 中印巴等：安全性、方便、绿色、高效、经济性  
**China/India/Pakistan: Security, Convenience, Green, Efficiency, Economy**
- 资源型国家：方便、绿色、高效、经济性  
**Resource-based countries: Convenience, Green, Efficiency, Economy**
- 共性特点：  
**General Characteristics:**
  - 解决国家缺不缺的问题（安全性）  
**To address the problem of shortage (Security)**
  - 解决居民有没有的问题（普及率）  
**To address the problem of supply (Accessibility)**
  - 解决用得起的问题（经济性）  
**To address the problem of affordability (Economy)**
  - 解决能耗效率问题（高效）  
**To address the problem of energy intensity (Efficiency)**
  - 解决环保与低碳问题（绿色）  
**To address the problem of environmental-friendliness (Green)**
- 解决方案：更经济更快速更方便的清洁能源  
**Solution: Clean Energy being more economical, more rapid, and more convenient**
  - 更经济的分布式系统  
**More economical distributed energy system**



# 发展中大国缺乏哪些？

## What do developing powers lack?

- 中印巴等：安全性、方便、绿色、高效、经济性

**China/India/Pakistan: Security, Convenience, Green, Efficiency, Economy**

- 共性特点：

### **General Characteristics:**

对天然气强烈依赖（安全性）

**Great dependence on natural gas (Security)**

能源普及性低（普及率）

**Low energy accessibility (Accessibility)**

能源终端成本高（经济性）

**High end cost (Economy)**

单位能耗高（高效）

**High energy intensity (Efficiency)**

环保与碳排放严重（绿色）

**High carbon emission, require for environmental-friendliness (Green)**

- 解决方案：更经济更快速更方便的清洁能源

**Solution: More economical, more rapid, more convenient clean energy**

更经济的分布式系统

**More economical distributed energy system**



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# 战略目标是否冲突？

## Are there conflicts between the targets?

- 能源目标冲突：安全性、普及率、经济性、绿色  
Energy target conflict: security, accessibility, economy, green
- 目标选择排序：绿色（环保及排放）可能排在最后  
Target ranking: Green (environment and emissions) may be ranked last
- 经济目标冲突：经济增长与环保排放冲突严重  
Conflicts in economic goals: economic growth and environmental emissions are hard to balance



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# 中国如何选择？

## How does China make Choice?

- 优先选择：绿色（绿色发展、特别是环保）、能耗效率

**Priority: Green (green development, especially environmental protection), energy efficiency**

- 政策措施：各地区耗能指标、环保督查、政府责任落实、绿电证书、碳指标及交易

**Policy: Energy consumption mandatory amount for all districts, environmental supervision, and responsibility implement in all regions, certificate of green power, carbon regulations and trade market**

- 新能源：积极发展新能源及分布式系统

**Renewables: Actively develop renewables and distributed energy systems**

- 影响：环保大大改善，牺牲污染性中小企业及就业

**Impacts: Environment has greatly improved, polluting SMEs and their employment have been sacrificed**



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# 发达社会如何支持发展中大国？ How can developed societies support the developing powers?

- 目标：以更低的成本实现环保和低碳

**Target: Achieve green and low carbon at a lower cost**

- 措施：

**Measures:**

—低碳补贴：发达社会有义务承担低碳转型的成本

—**Low carbon subsidies: Developed societies are obligated to undertake the low carbon transition cost**

—技术输出：解禁并提供最好的相关技术低价转让

—**Technology Output: lifting the ban and providing the best relevant technology for low-cost transfer**

—装备进口：各方努力控制装备进口建设运维成本

—**Equipment import: all parties strive to control the costs of importing equipment, operation and maintenance**

—燃气市场：能否进口更便宜的天然气，而不是趁机涨价，增加低碳化的成本

—**Gas market: offer cheaper natural gas instead of taking advantages to raise the price so that the cost of low carbonization increases**

—模式示范：发达社会支持模式示范，并易于推广

—**Mode demonstration: developed societies support exemplary modes in order to generally apply to other areas.**



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谢谢！  
Thanks!

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