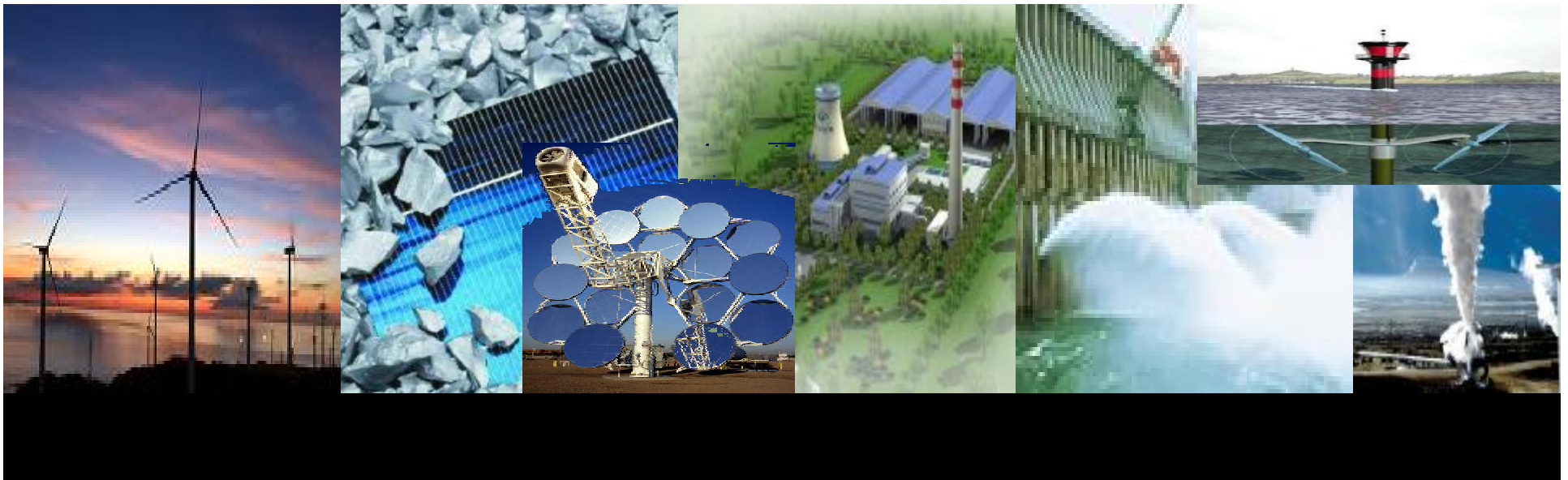


May/2010

Status and Prospects of China's Clean Energy

Mr. Ren Weimin

NDRC , China



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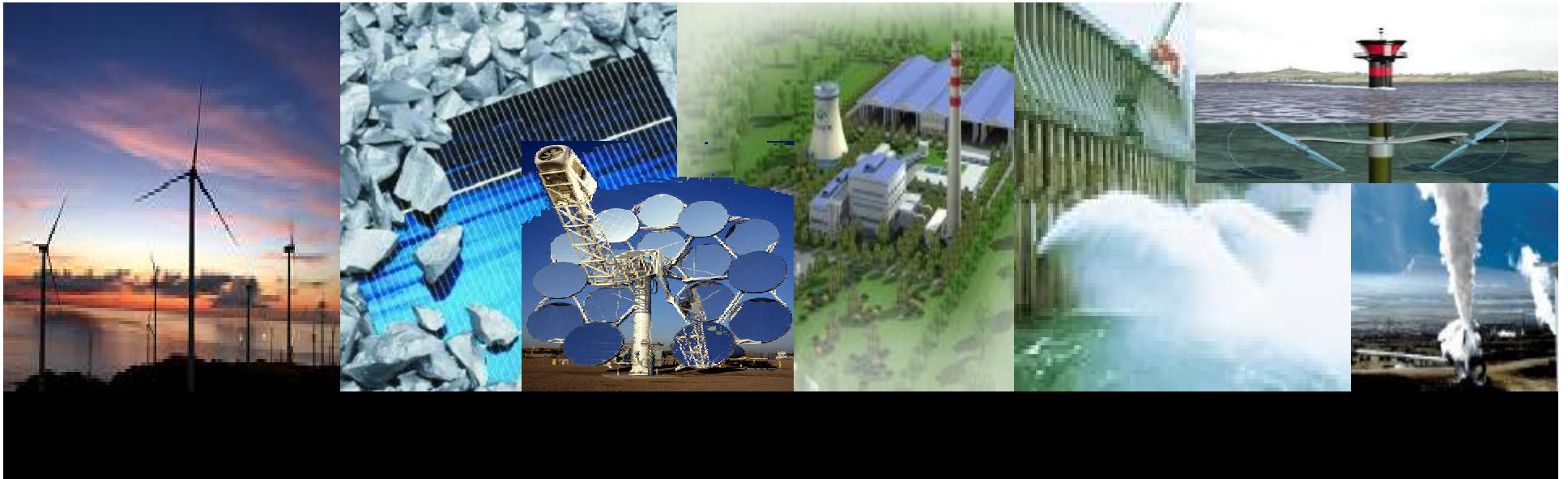
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Main Issues of RE Development in China

6

Main Policy Suggestions of RE Development in China

1. China's development of society and economy is facing the increasing pressure on energy demand



China's Increasing Pressure on Energy Demand

Development is a long-lasting mission for China



2020

To establish a well-off society



2035

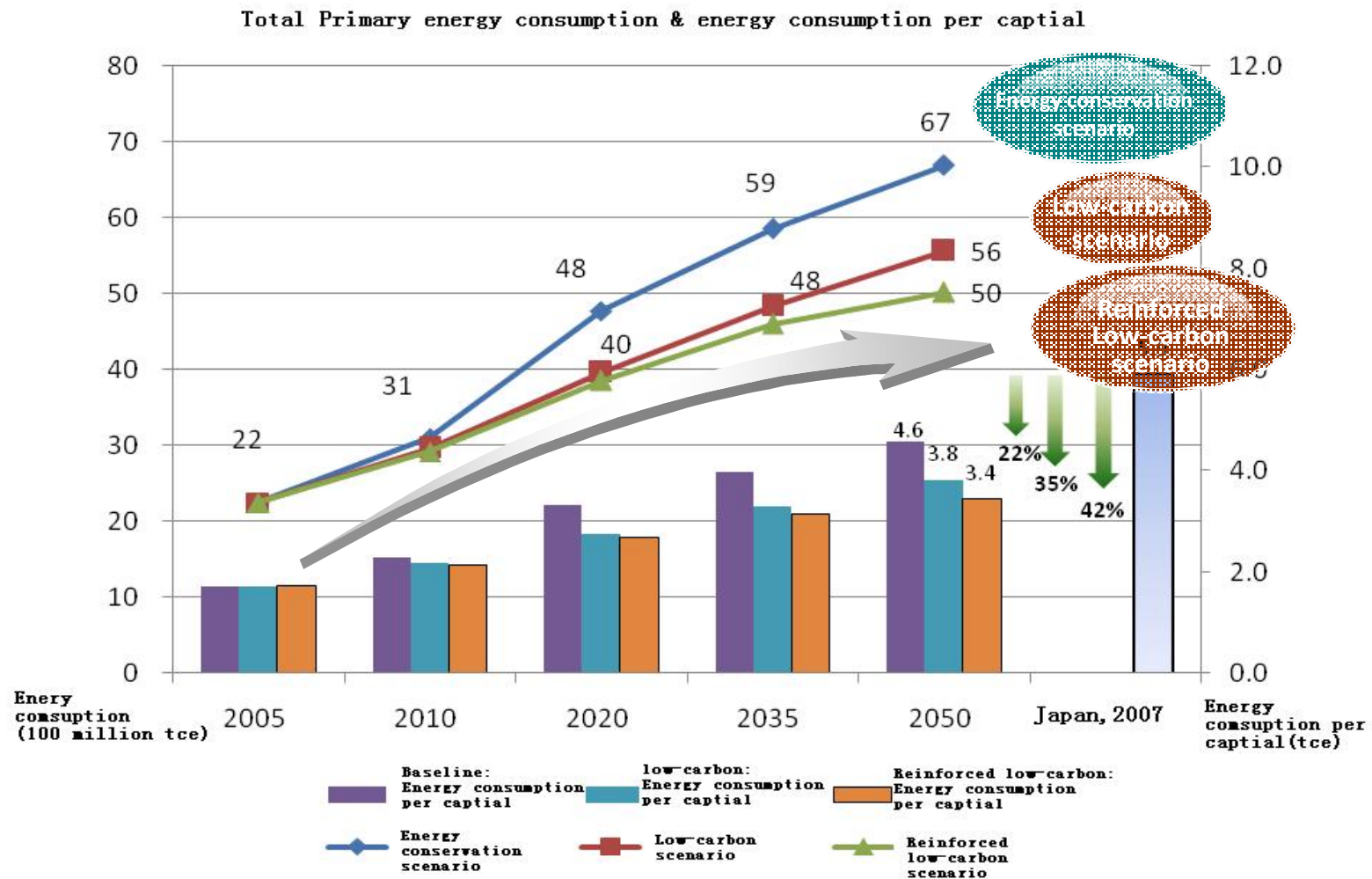
Achieving preliminary industrialization



2050

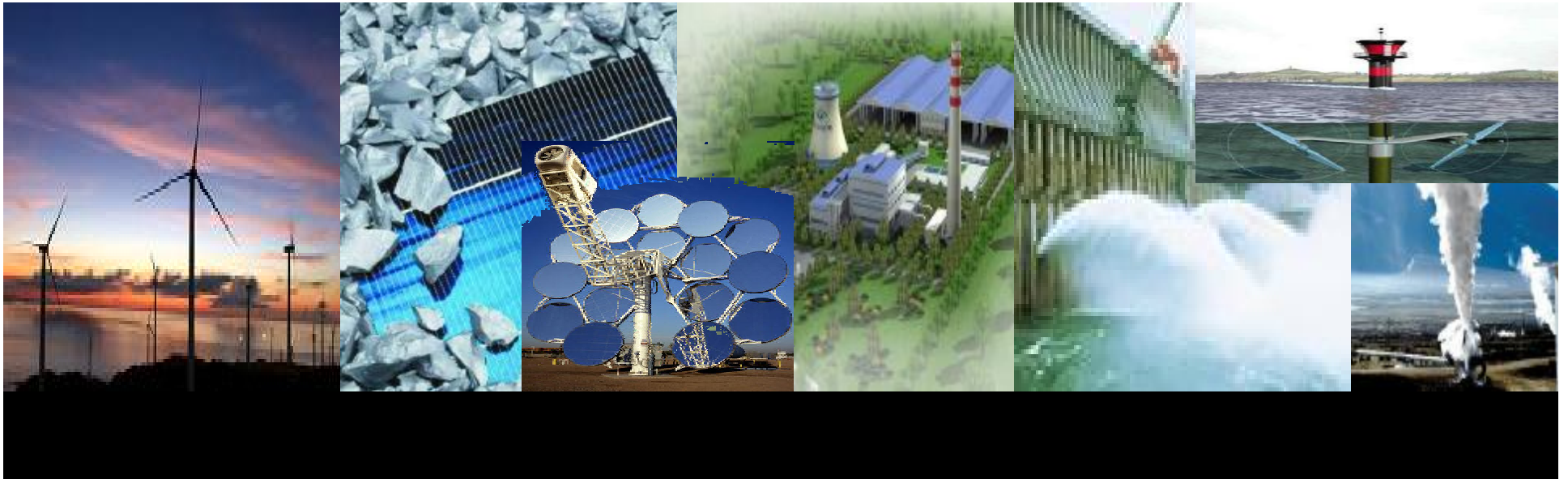
A moderately developed country

China's Energy Demand Forecasting

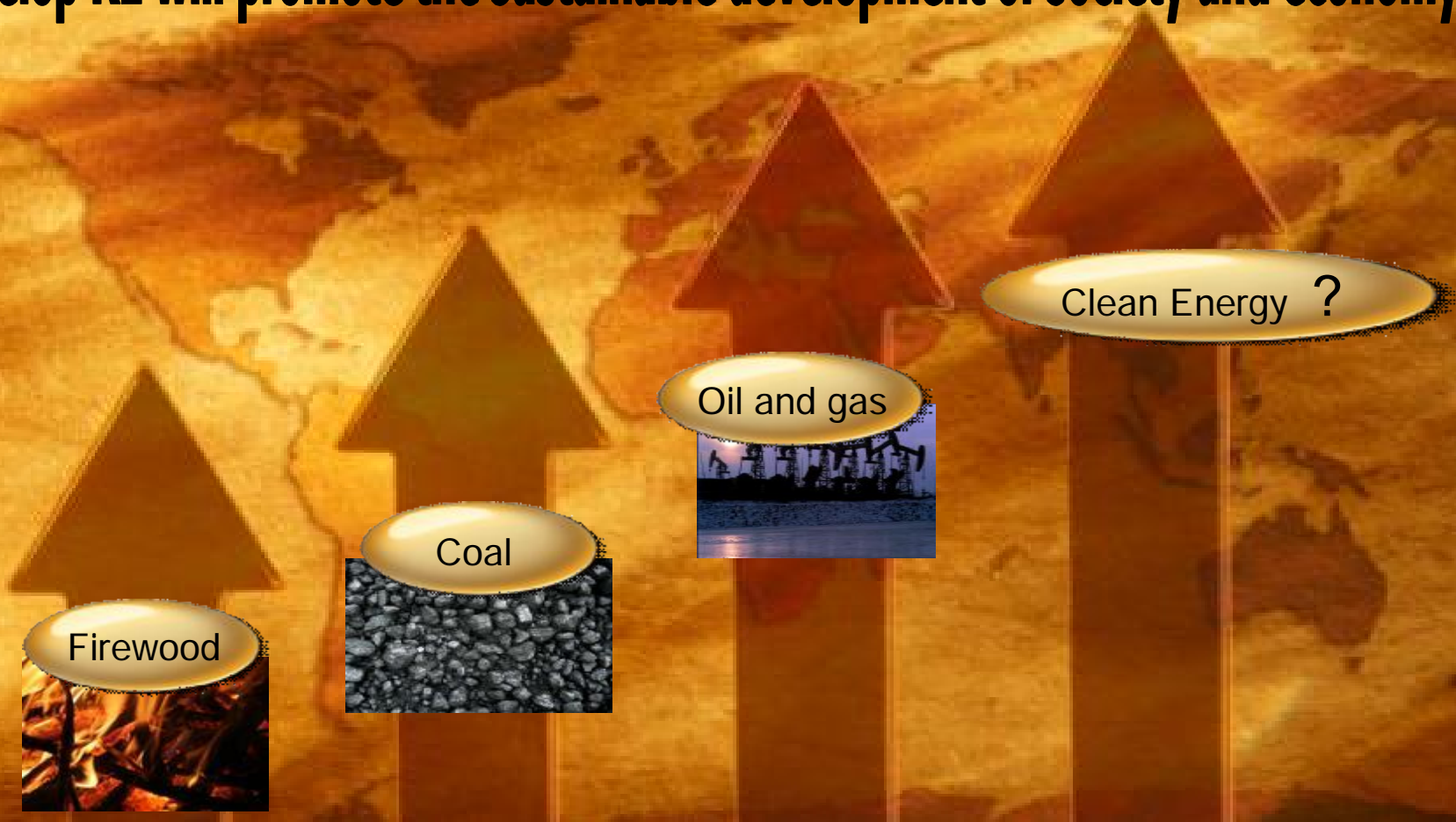


2. Developing Clean Energy

is the inevitable choice **in China**

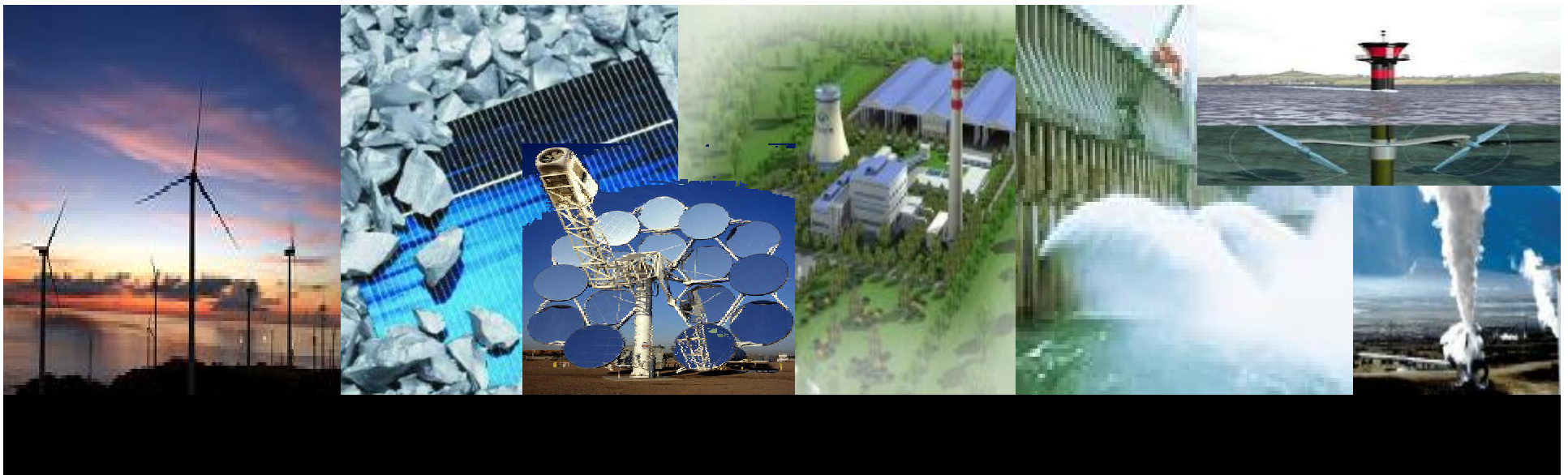


To develop RE will promote the sustainable development of society and economy



In 21 century, worldwide energy utilization will appear a new transformation , seeing from the current development trade, **Renewable Energy** is the most realistic choice.

Renewable Energy has the feature of wide distribution of resources, large potential, small environmental pollution, sustainable use. To develop the renewable energy including **Wind Energy, Solar Energy, Biomass Energy, Hydro Energy, Geothermal Energy, Ocean Energy** is China's **inevitable choice** of **sustainable energy strategy** !



China's RE Development—Resources

Category		National amount of available resource	(100million tce)
Solar energy		1700billion tce	17000
Wind energy		1000 GW	8
Hydro energy		Economic available exploit capacity of 400GW/ technical available exploit capacity of 540GW	4.8 ~ 6.4
Biogas	Biomass power	0.3billion tone straw +0.3billion tone forestry waste	1.5 + 2.0 = 3.5
	Liquid fuel	50 million tone	0.5
	Biogas	80 billion m ³	0.6
	Total		4.6
Geothermal energy		3.3 billion tce	33

China has abundant **RE resources** , which can support RE to become into the **leading energy**

To develop RE, and to offset the emission from high carbon energy as many as possible, it will effectively reduce greenhouse gas emissions growth.



Renewable Energy will contribute **10%** of GHG emissions in 2030.



“The development of **wind, solar, nuclear** and other clean energy and new energy, will become a new growth point of economic development, which is the main direction of **energy restructuring**, and also the important measure to respond climate change, to **ensure** energy security”.

- - Mr. Wu Bangguo

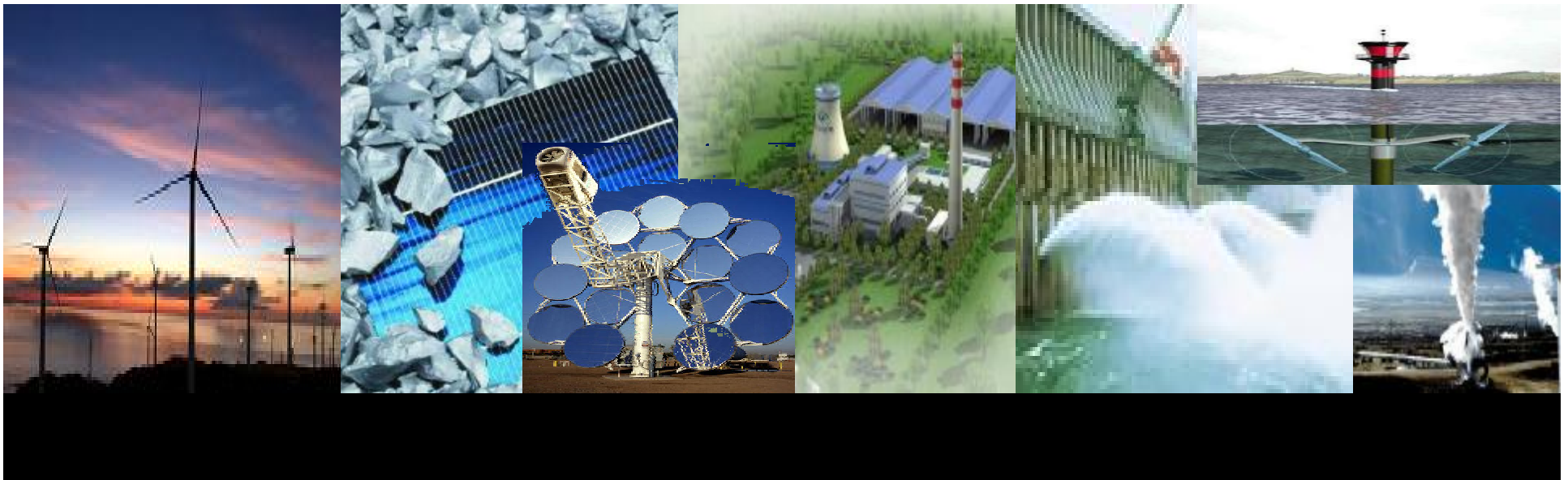


“China will develop **Renewable Energy and Nuclear Energy** , to achieve non-fossil energy accounting for **15%** of primary energy consumption in **2020**”.

- - Chairman Hu Jintao

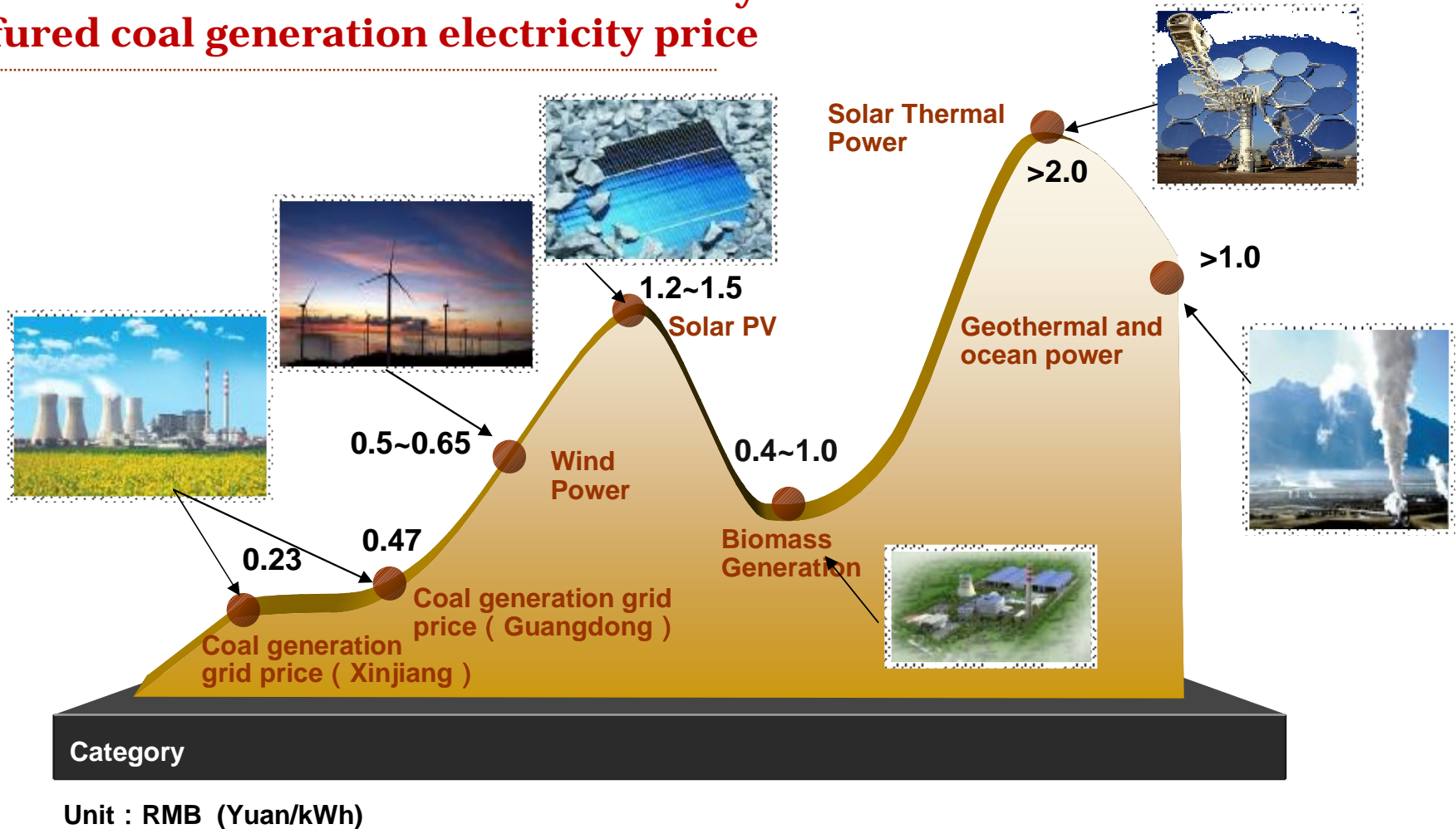
3. China's Target

**of “Non-Fossil Energy Accounting for 15%
of Primary Energy Consumption in 2020”**

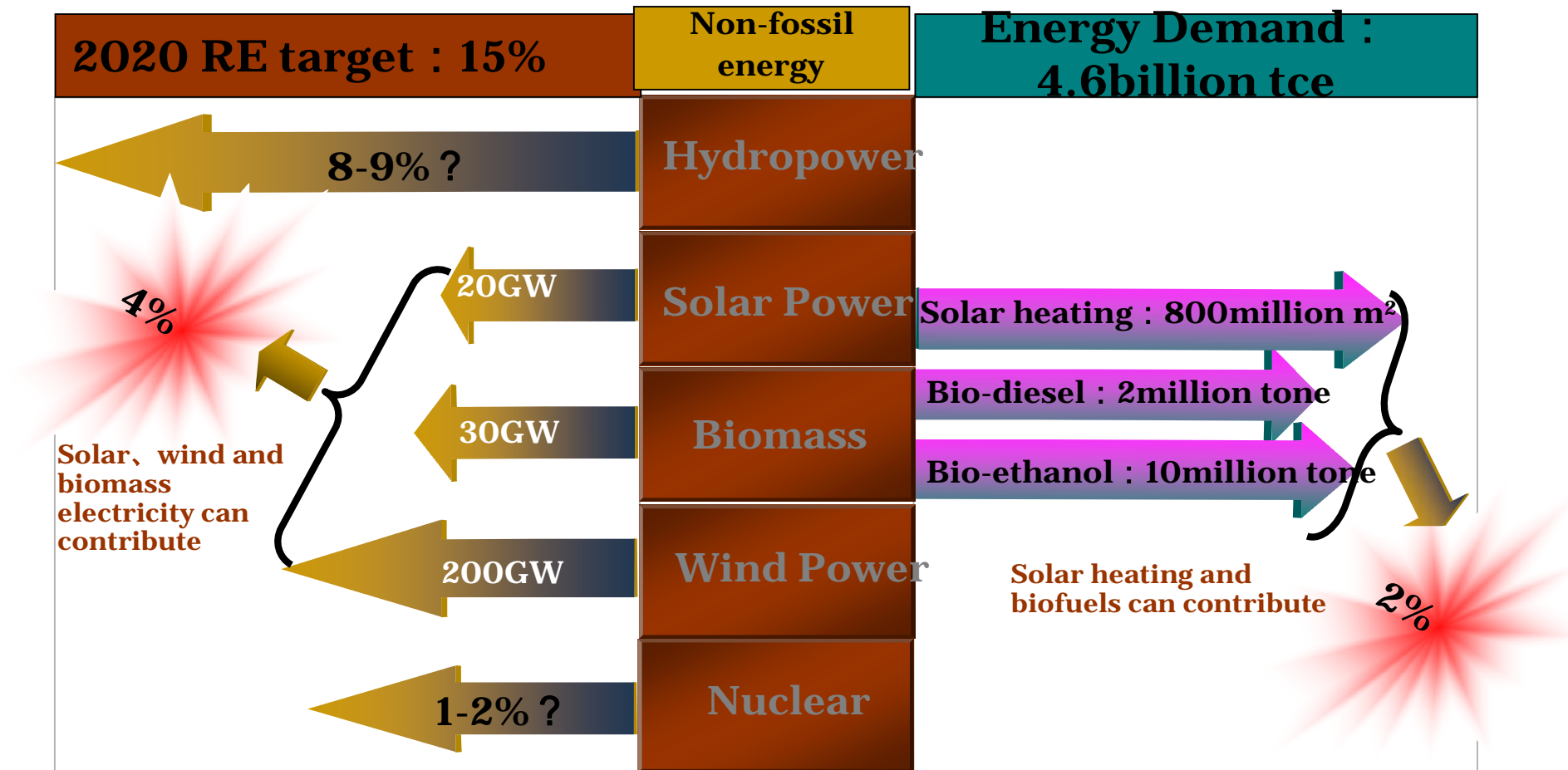


Renewable Electricity Cost in China

Comparison between renewable Electricity Cost and desulfured coal generation electricity price

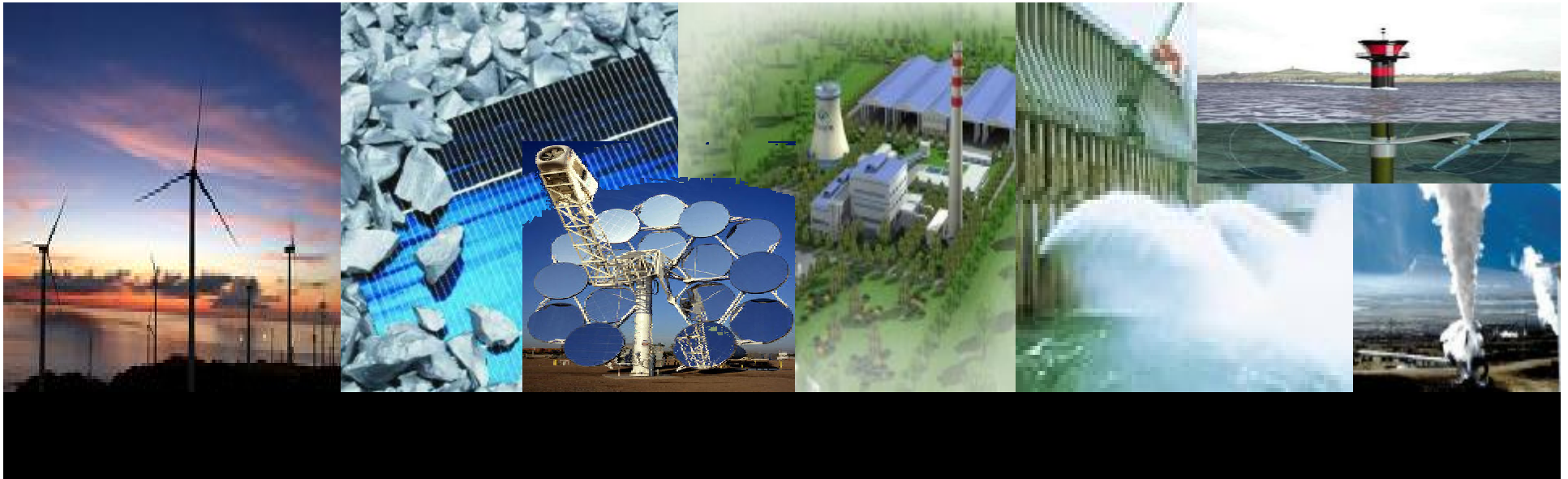


Non-fossil energy accounting for 15% of primary energy consumption in 2020



4.China's

Current Situation of RE Development



Sustainable development of China's RE

《The People's Republic of China
Renewable Energy Law amendment》

26/12/2009

In 2008 , Annual utilization of renewable
energy consumption totaled 250 million tce,
accounting for about 8.6% of total energy
consumption.

2008

《Mid and long-term
development plan for RE Law》
2007

《Renewable Energy Law》
went into effect
Since Jan. 2006



Feb. 2005

In 2009 , Annual utilization of
renewable energy consumption
totaled 260 million tce,
accounting for about 8.3% of
total energy consumption.

Fast growth of
economy and
comprehensive
national strength

Enhanced
technology and
equipment
manufacturing

Opening up and
development of
private economy

Policy support

Well-established basic condition of RE development

Wind Energy

- Accumulated installed capacity ranks second in the world
 - In 2009, China's increased installed capacity ranks first;

China in 2009 (exclude Taiwan)

10129 increased installed wind turbines generators , with capacity of 13803.2MW , up 124% over the same period of last year ;

21581 accumulated installed wind turbines generators , with capacity of 25805.3MW , accumulated rise of 114% ;

- About 80 wind turbine manufacture enterprises ,
- The local manufactories of 1.5 MW acco

Into scale-up
development
phase

Wind turbine
manufacturing
capacity greatly
improved

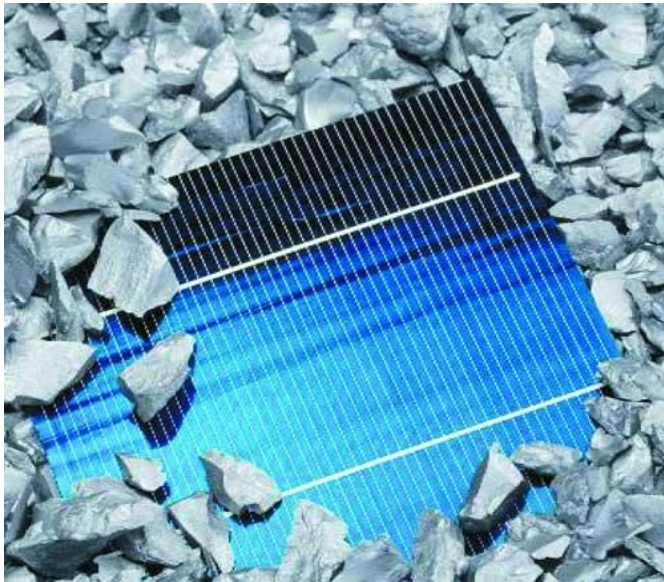
Component
matched capacity
greatly enhanced

Wind turbine
industrial brand
appears

Dabancheng Wind Farm, Xinjiang

Solar Energy

Solar PV power



§The production of PV panel ranks first globally

§ total production of 2009 reaches 4 GW

§10 manufactories from China in the global first 30

§By 2009 , total national installed PV generation capacity of 300MW.

Solar thermal power



§The consumer and annual production of Solar water heater all rank first globally

§ The production capacity in 2009 reached 30 million m²

§ By 2009 , total amount of national solar water heater with 145 million m²

Solar thermal utilization



Biomass

Geothermal power like of scale up development condition
Ocean power at the laboratory stage



§Variety of biomass energy resources, technology roadmap, and product forms

§ By the end of 2009 , national annual production of biogas over 14 billion m³, providing quality living fuel for about 80 million rural people

§Annual production of bio-ethanol reaches 1.65 million tons

§National installed capacity of biomass power generation about 3.24 GW

§Energy production capacity of biodiesel reaches to 0.5 million tons

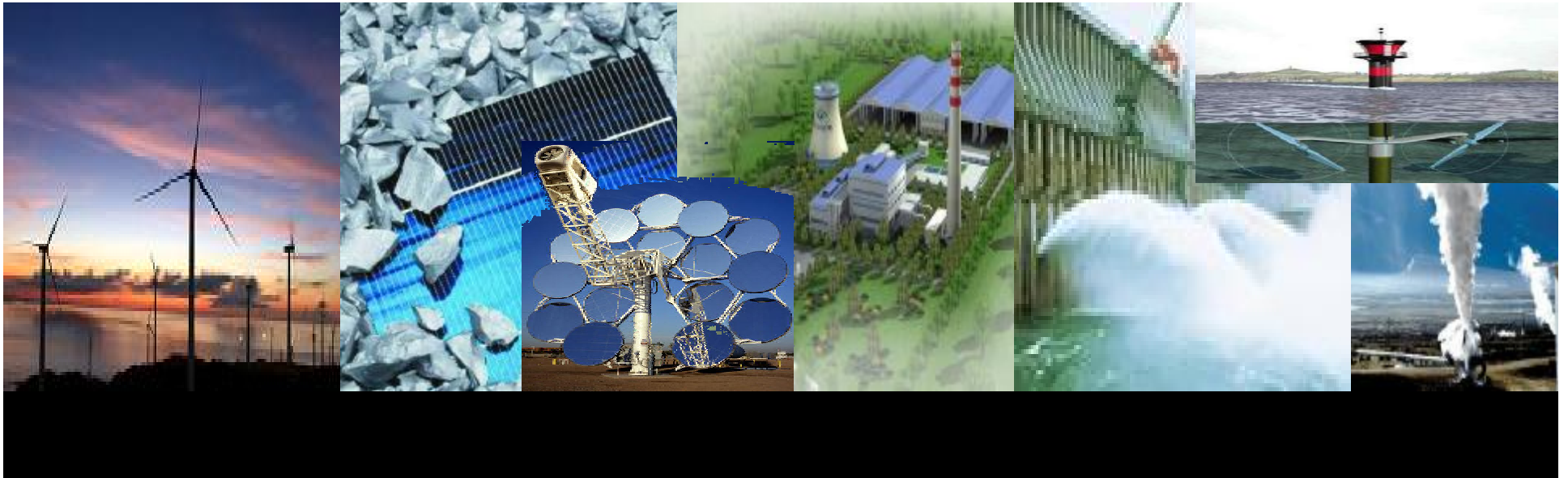
§Heat utilization of geothermal energy developed faster, up about 10% yearly

§ By the end of 2008 , geothermal heating area of 30 million m², supplying hot water for about 600,000 residents

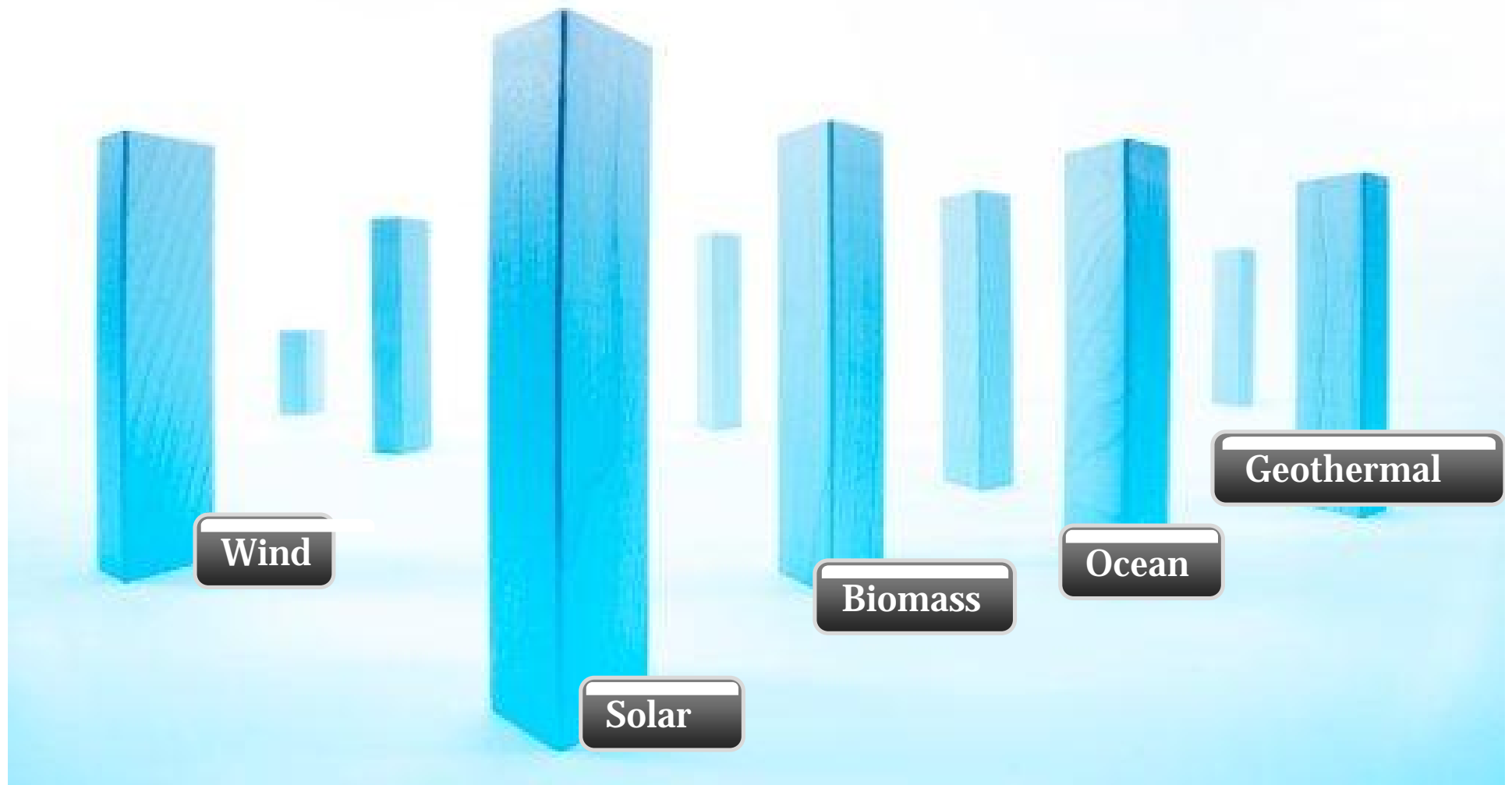
Other RE

5.China's

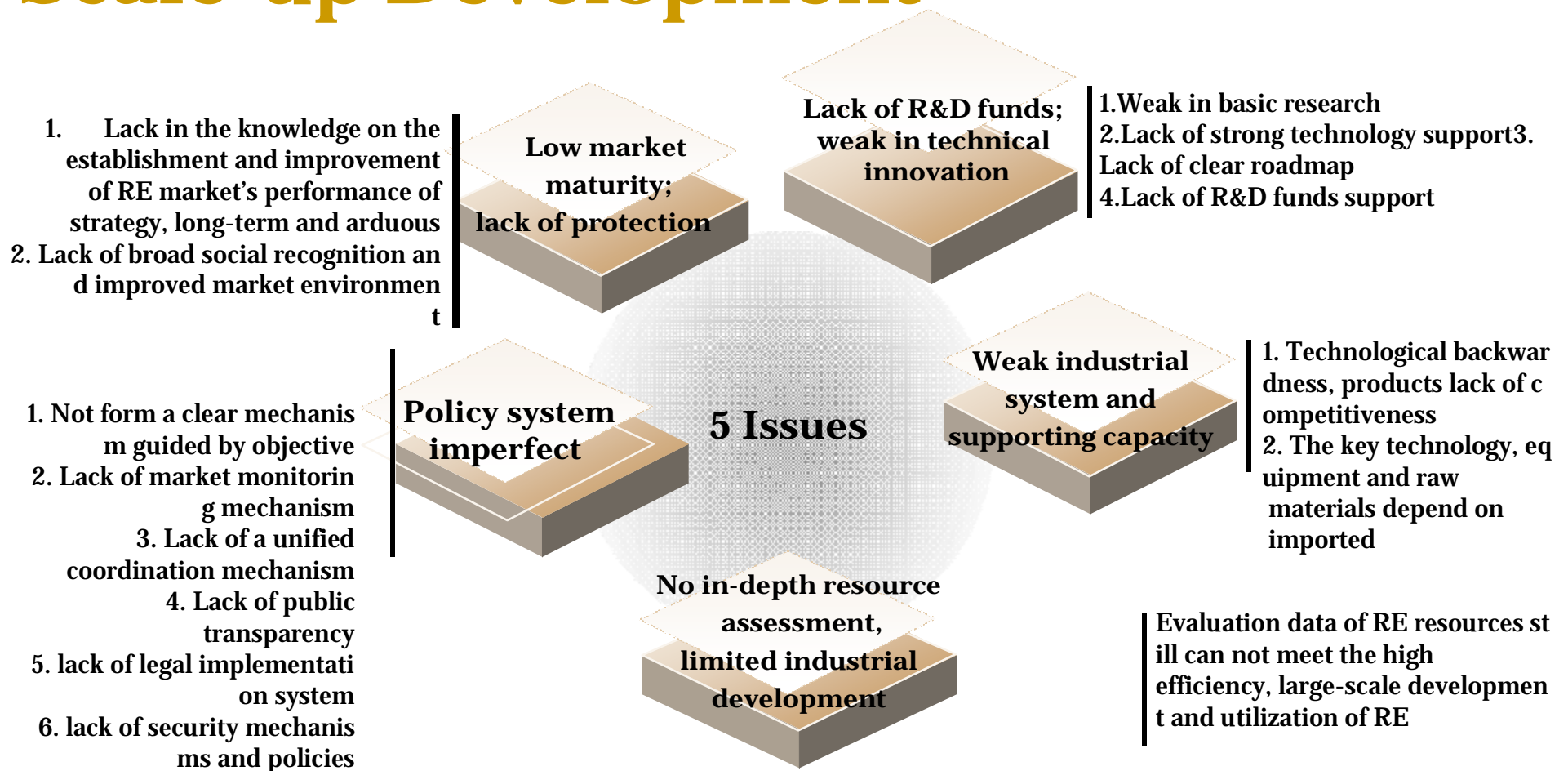
Mainly Issues of RE Development



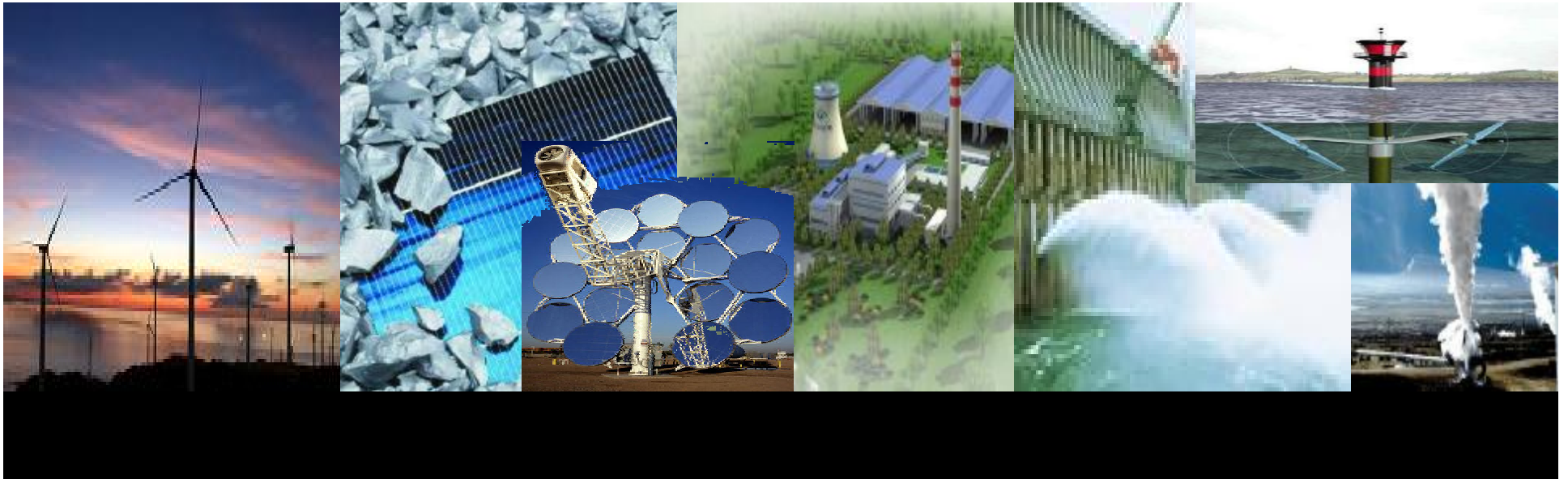
High Cost, Weak Market Competition – Main Issues



Five Issues of RE industrialization & Scale-up Development



6. Main Policy Suggestions of RE Development in China

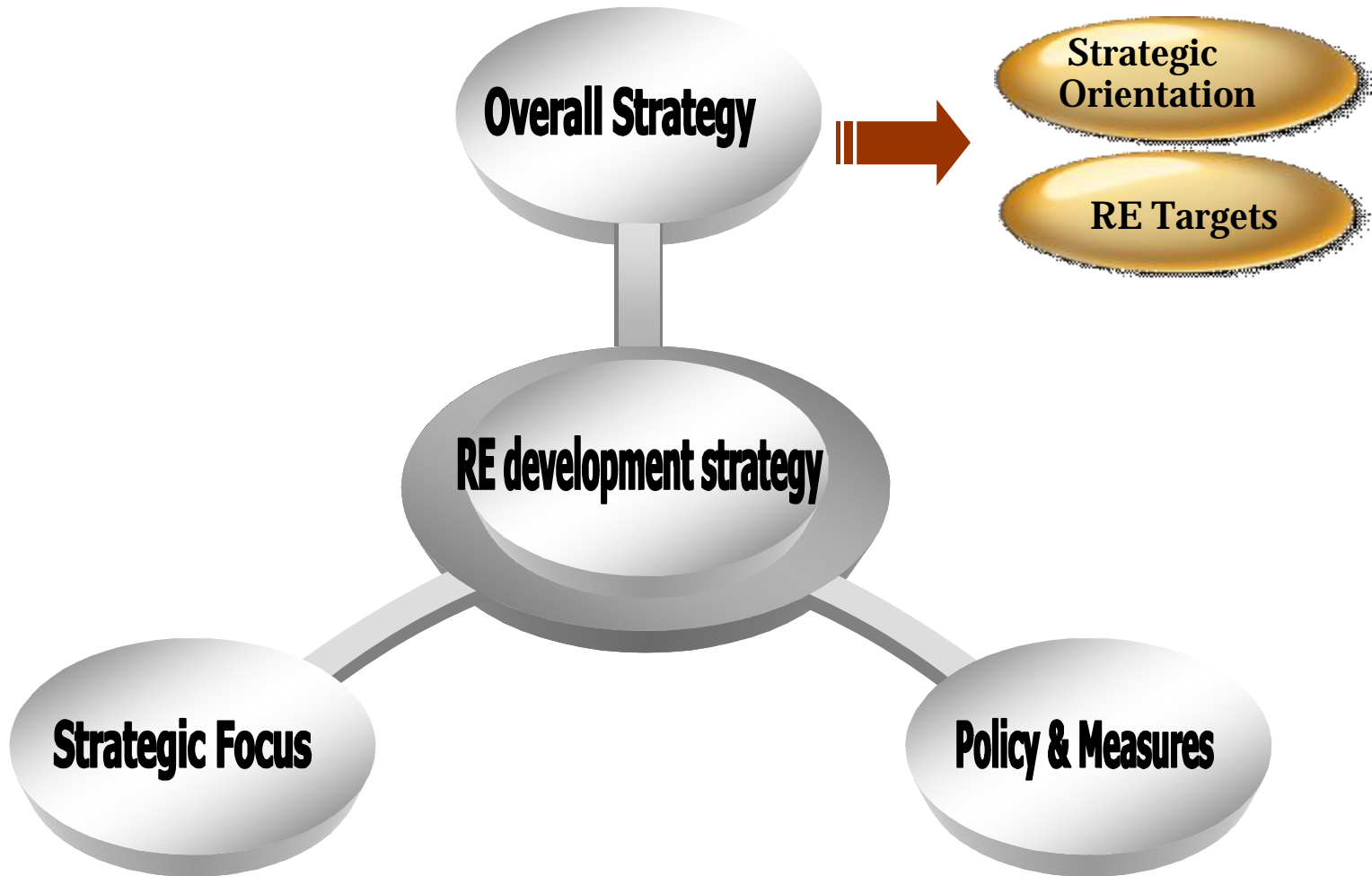


Global financial crisis brings the opportunity for RE industry's leap-forward development

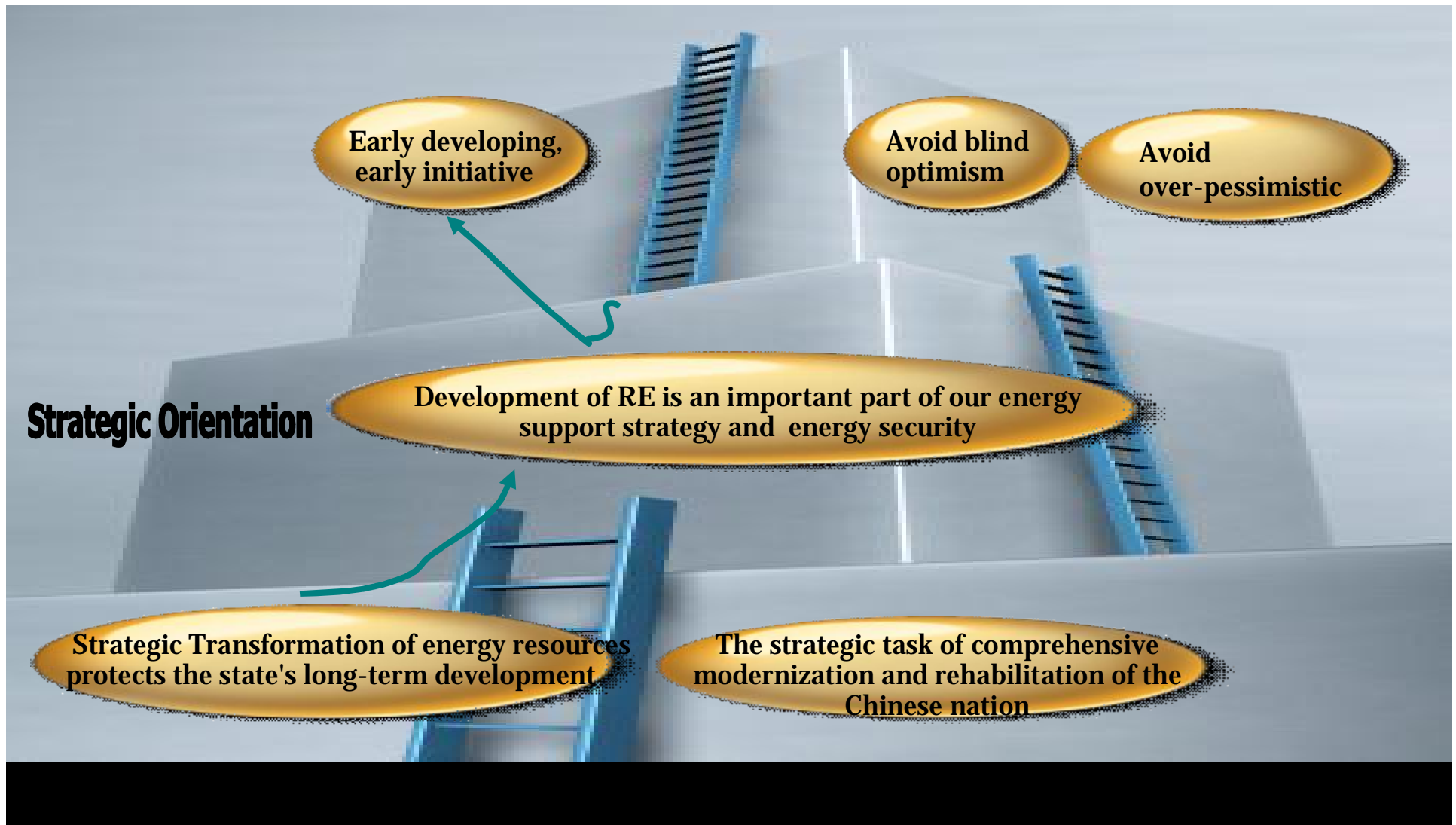




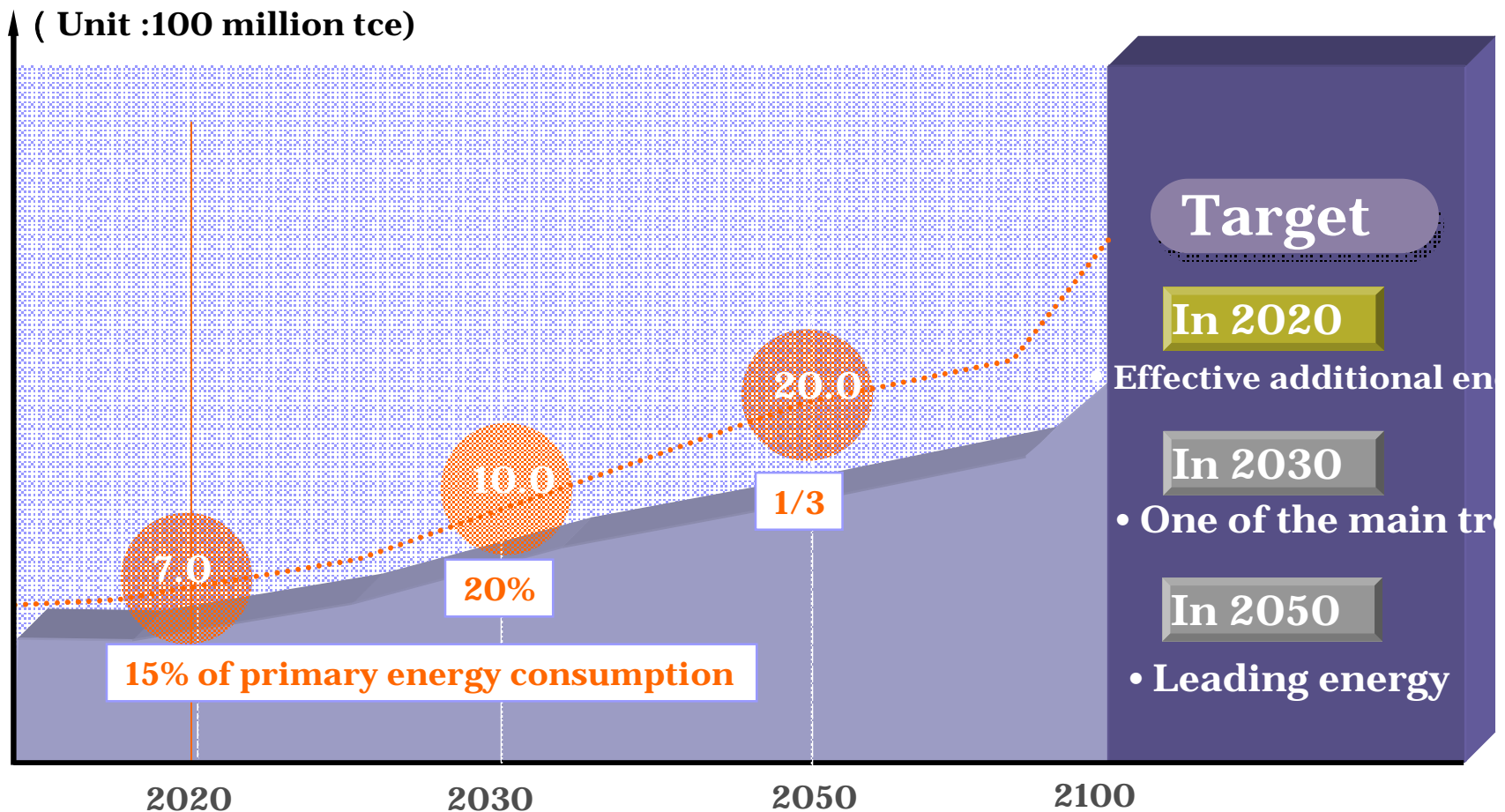
China's RE Development Strategy



Overall Strategy of RE Development —Strategic Orientation



Overall Strategy of RE Development—Target



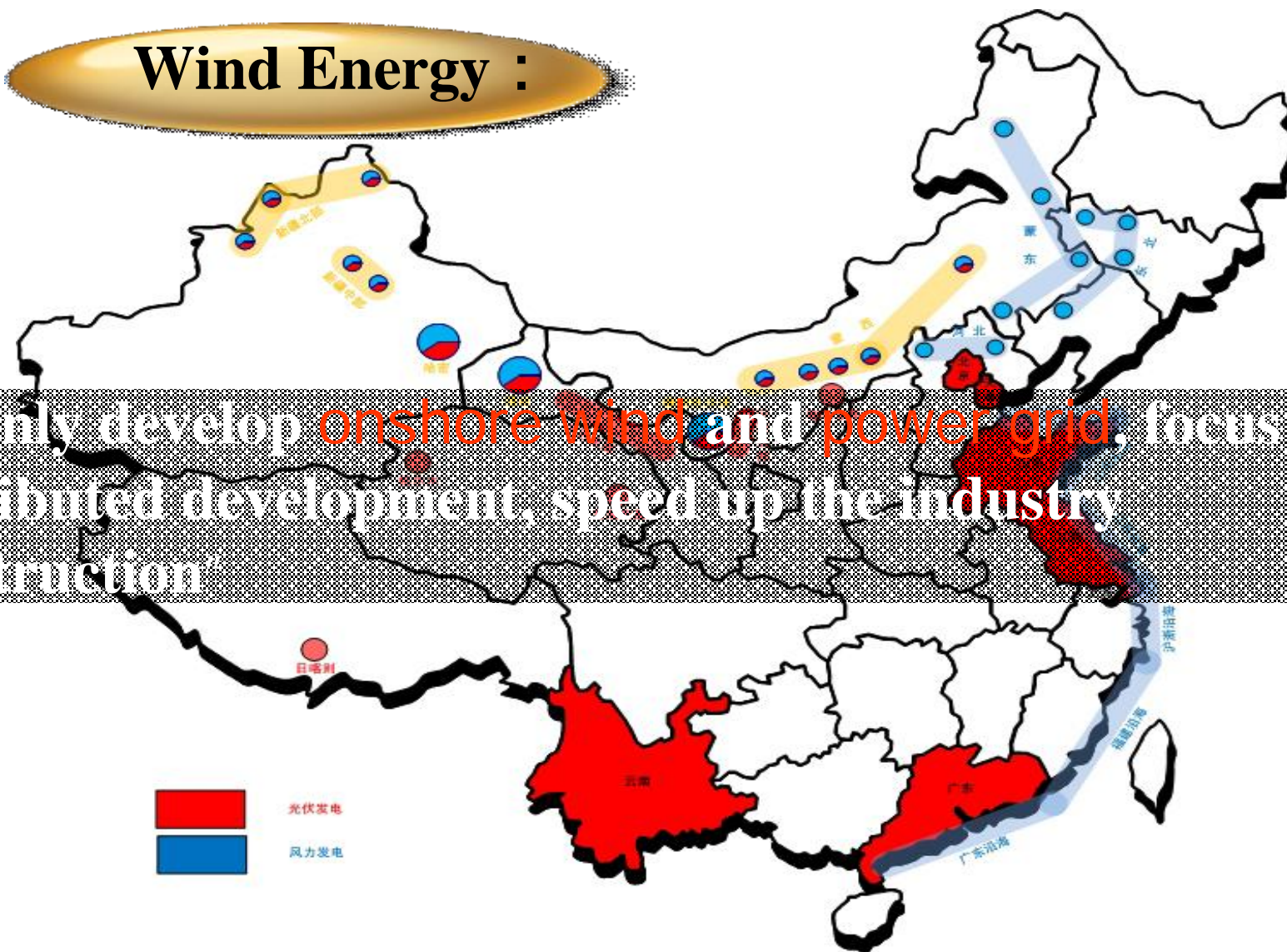


China's RE Development Strategy



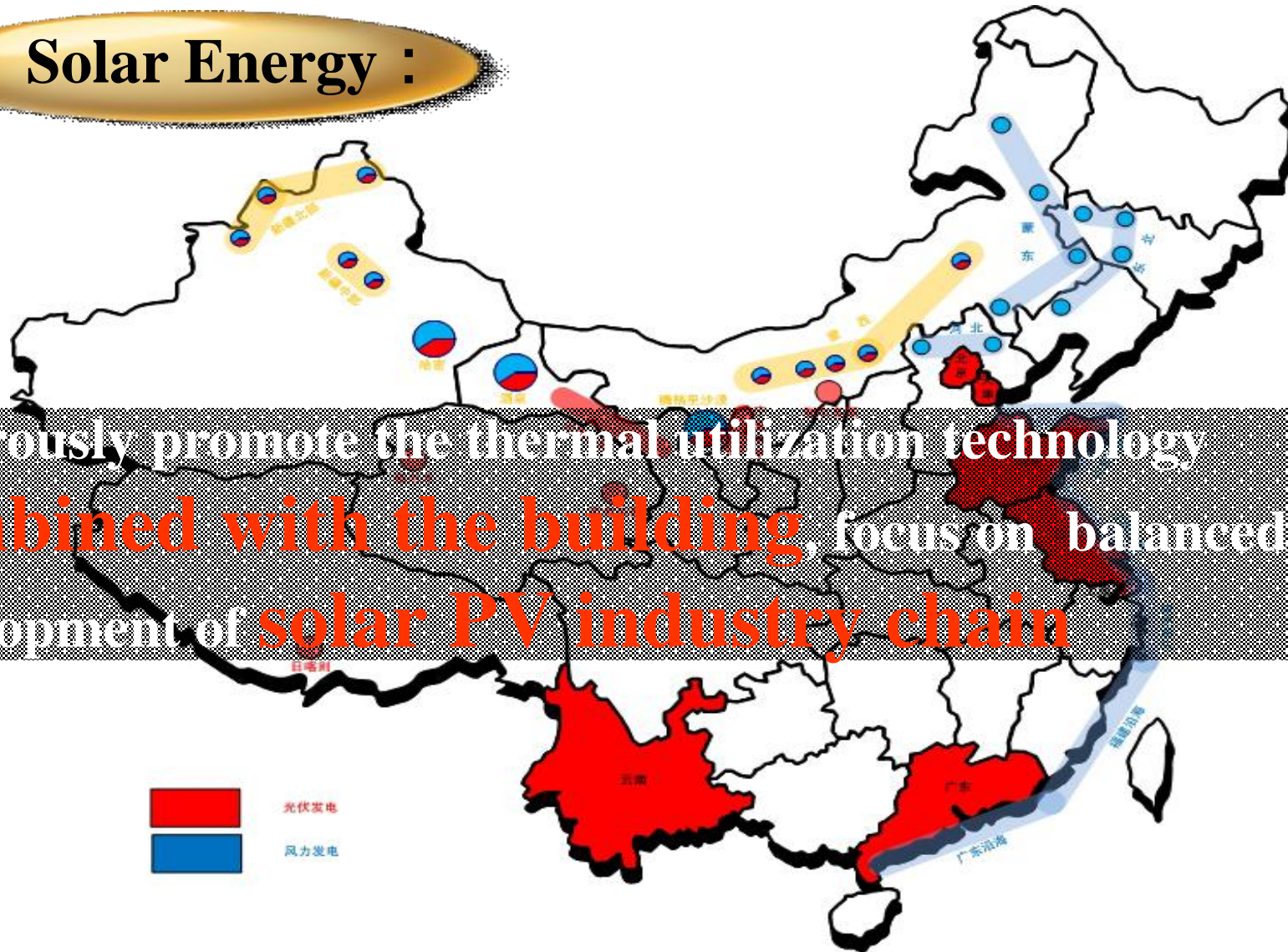
Wind Energy :

"Mainly develop onshore wind and power grid, focus on distributed development, speed up the industry construction"



Solar Energy :

Vigorously promote the thermal utilization technology
combined with the building, focus on balanced
development of **solar PV industry chain**

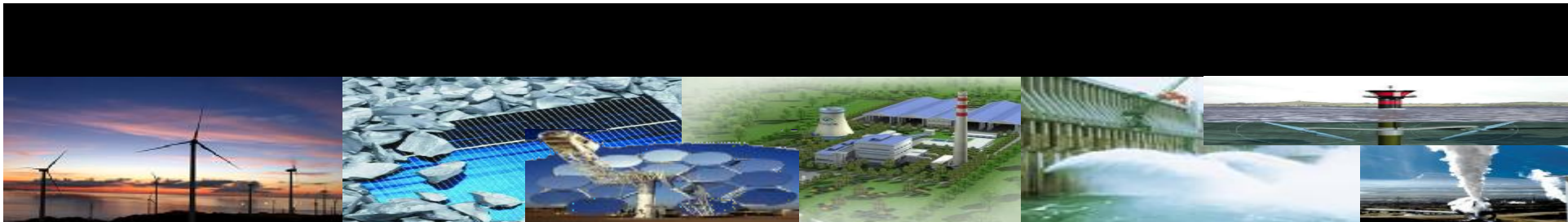


Biomass :

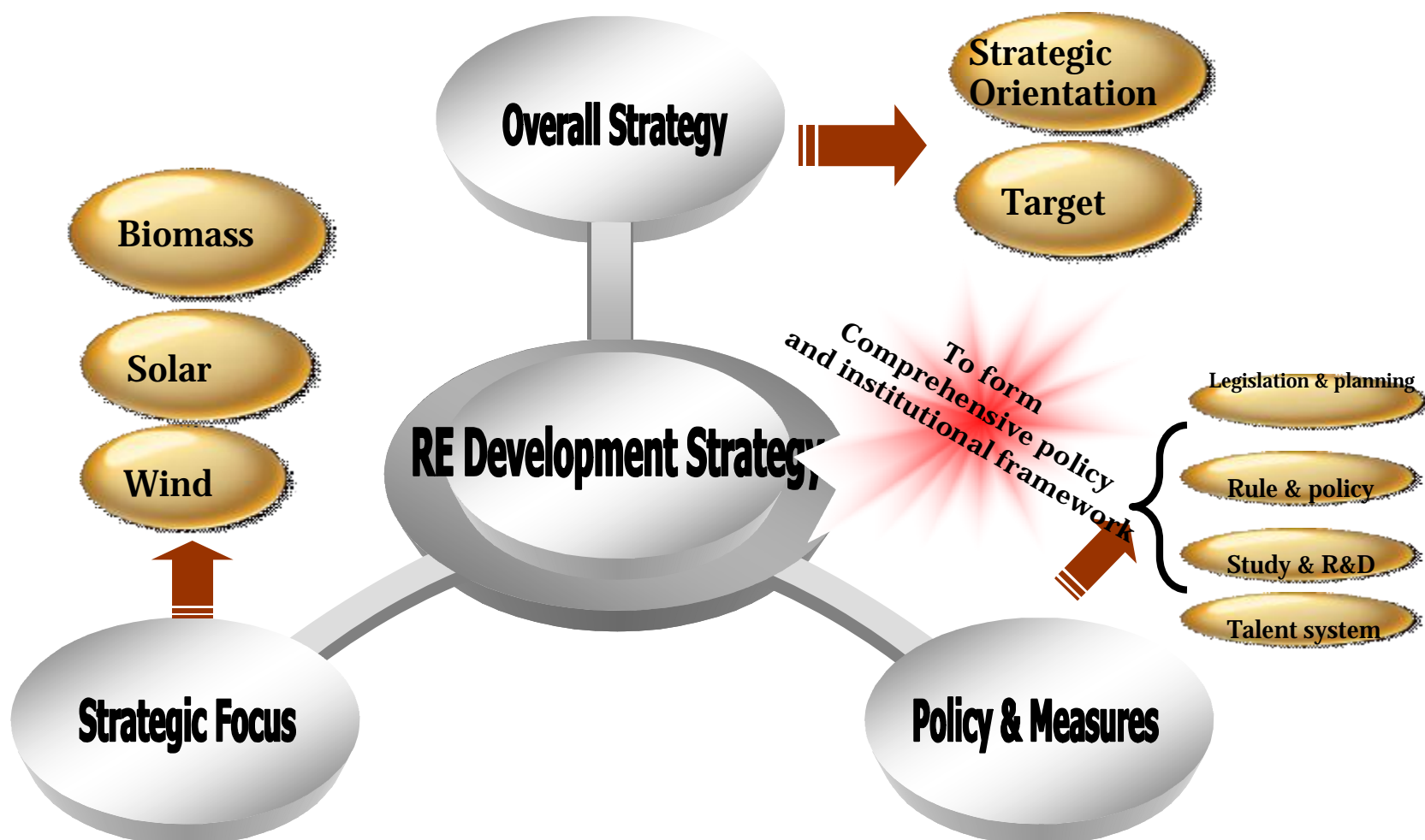
Non-grain liquid fuels and bio-based products
alternative to petroleum-based should be the
strategic focus

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甘薯
木薯
甜高粱

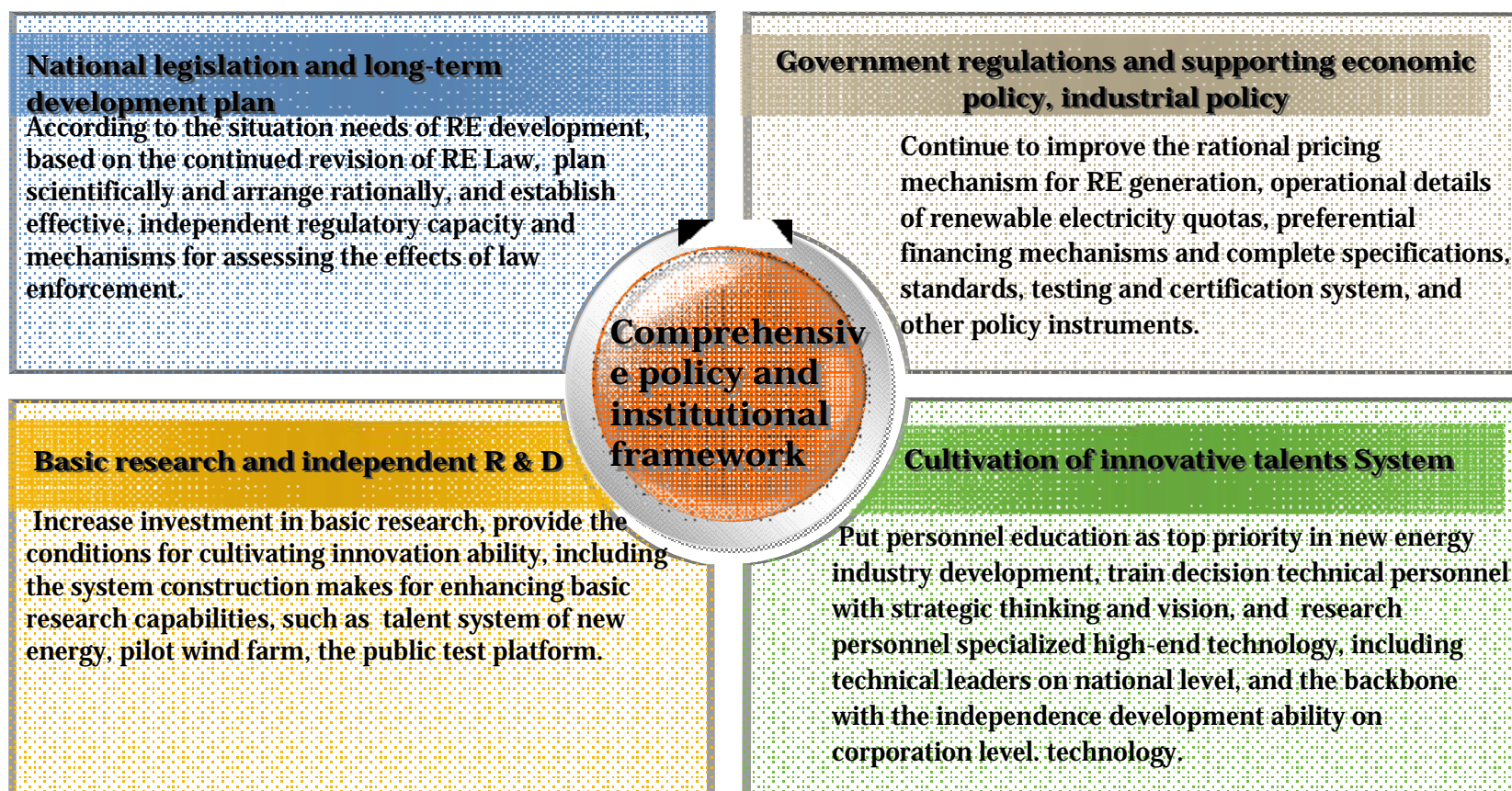
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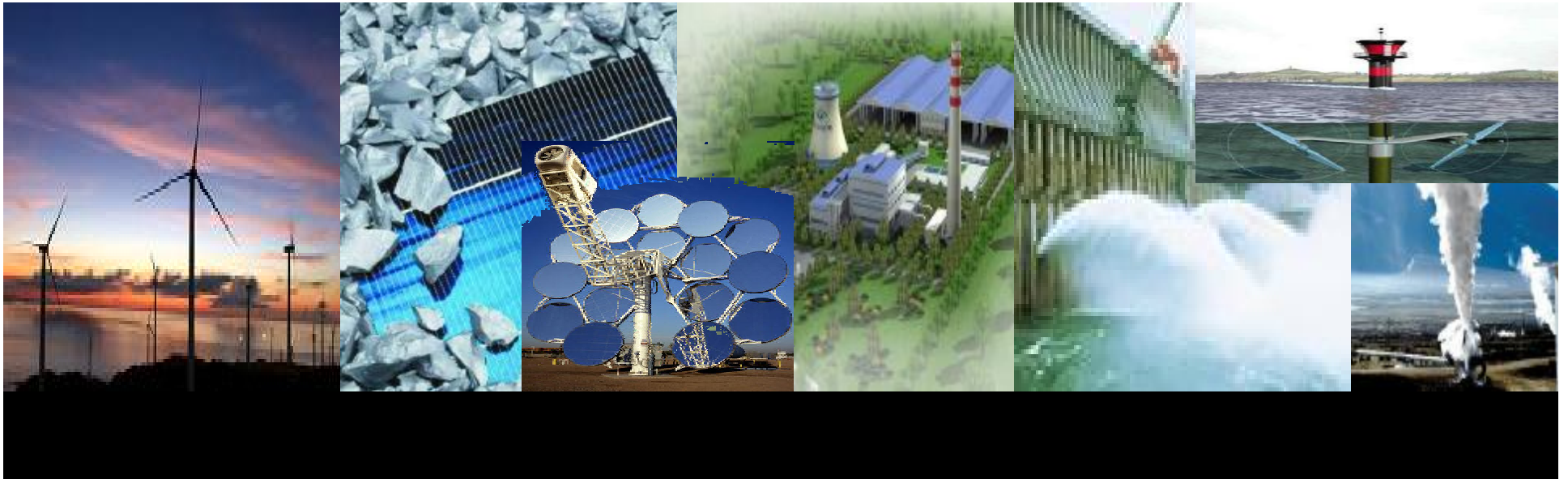
China's RE Development Strategy



Overall Strategy of RE Development—Policy



Thank you!





Building the 21st Century: U.S. - China Cooperation on Science, Technology, and Innovation

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Washington, DC

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