



The Electric Power System

- China -



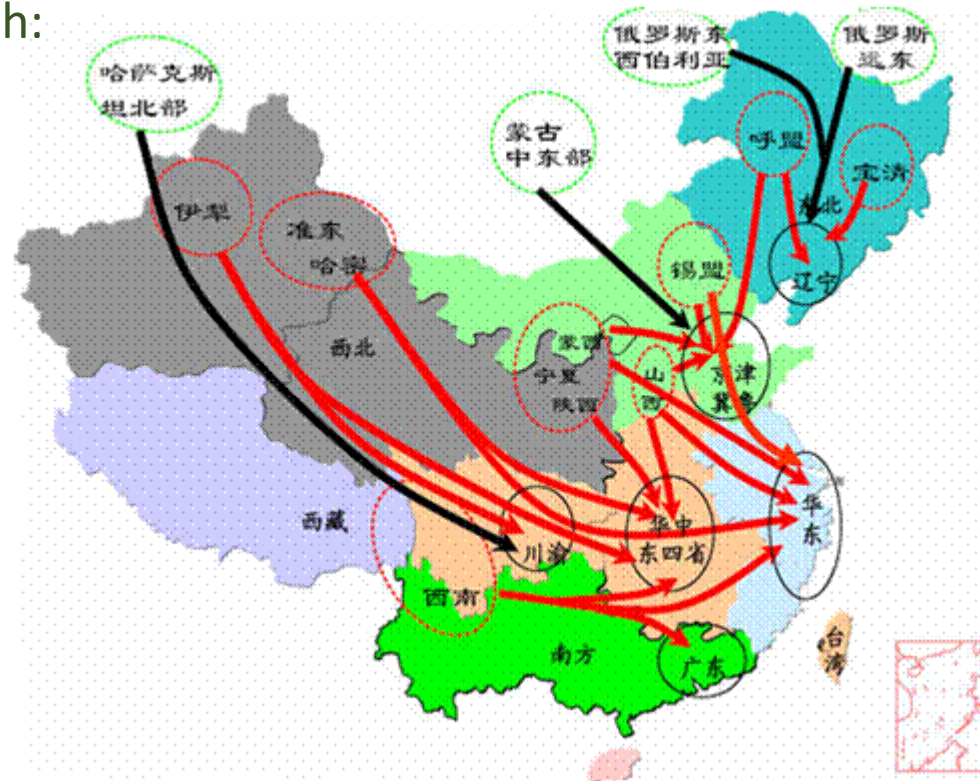
Basic facts

- ❑ Area: 9 634 060 km²
- ❑ Population: 1 367 820 000(2014)
- ❑ Number of TSOs: 2
- ❑ Numbe of DSOs: 2
- ❑ Peak load: 658GW (2014)
- ❑ Average interruption of electricity(2013):
3.66h for urban area and 8.30h for rural area

Global map of the grid and of its interconnections

□ Interconnectors with:

- Mongolia;
- Russia;
- Kazakhstan;
- Kirghizia;
- Southeast Asia.



Grid facts and characteristics

	Voltage Level	Total length	Responsibility
Ultra High Voltage	more than 1000kV	572 000 km (220kV-and- above)	TSO
Extra High Voltage	330 kV to 1000kV		TSO
High Voltage	20 kV to 330 kV		TSO
Medium Voltage	1 kV to 20 kV		DSO
Low Voltage	below than 1kV		DSO

Map of the high voltage grid



Information on TSO(s)

- ❑ Name: SGCC(State Grid Corporation of China)
- ❑ Network length (km): 1 095 000(110kV-and-above)
- ❑ Served area (km²): 8 477 972
- ❑ Annual transmitted energy (TWh): 3469.4
- ❑ website: <http://www.sgcc.com.cn/>



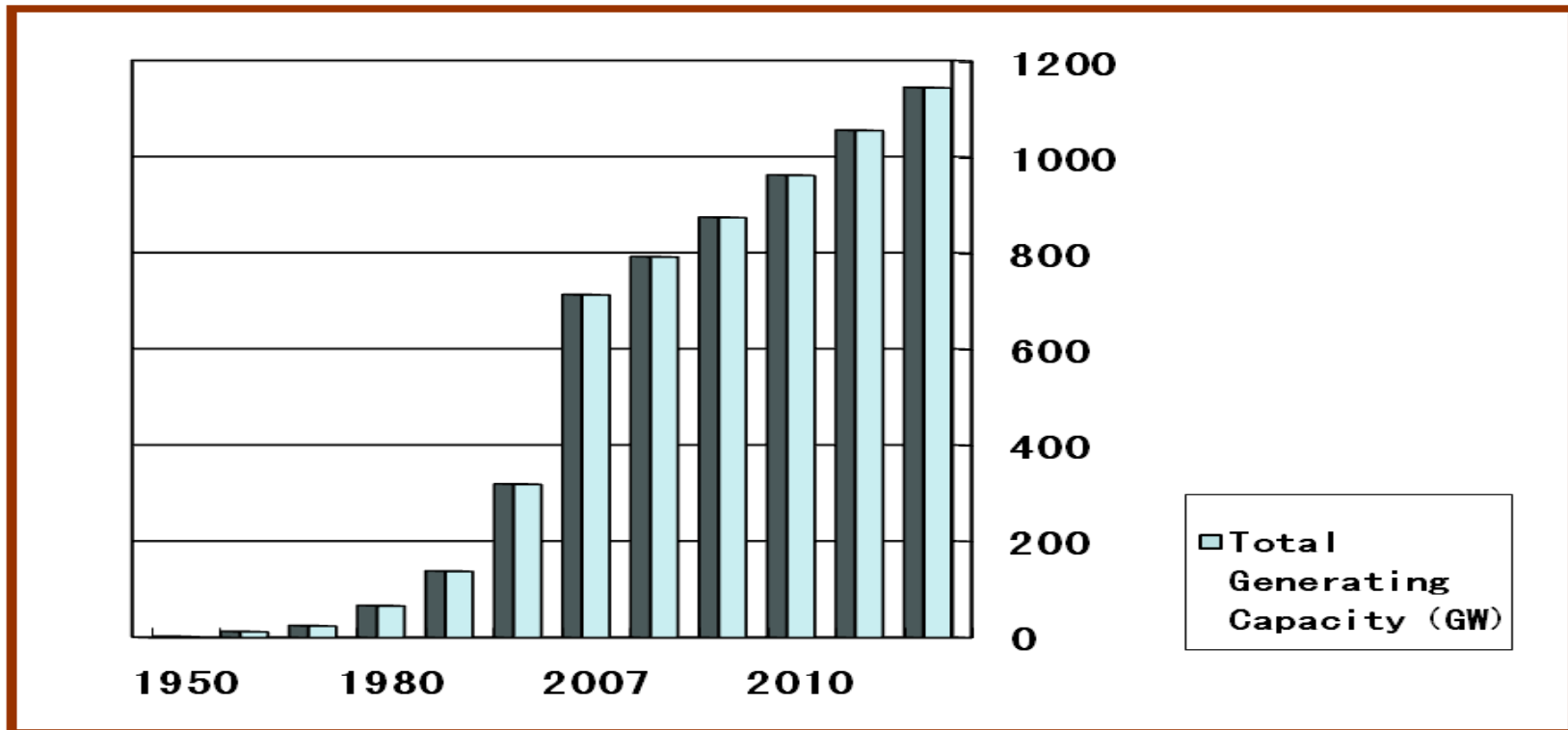
国家电网公司
STATE GRID
CORPORATION OF CHINA

Information on TSO(s)

- ❑ Name: CSG(China Southern Power Grid Co.,Ltd.)
- ❑ Network length (km): 76 688(220kV-and-above)
- ❑ Served area (km²): 1 000 000
- ❑ Annual transmitted energy (TWh): 523.9
- ❑ website: <http://www.csg.cn/>



Development of generating capacity



Installed capacity with reference to primary resources

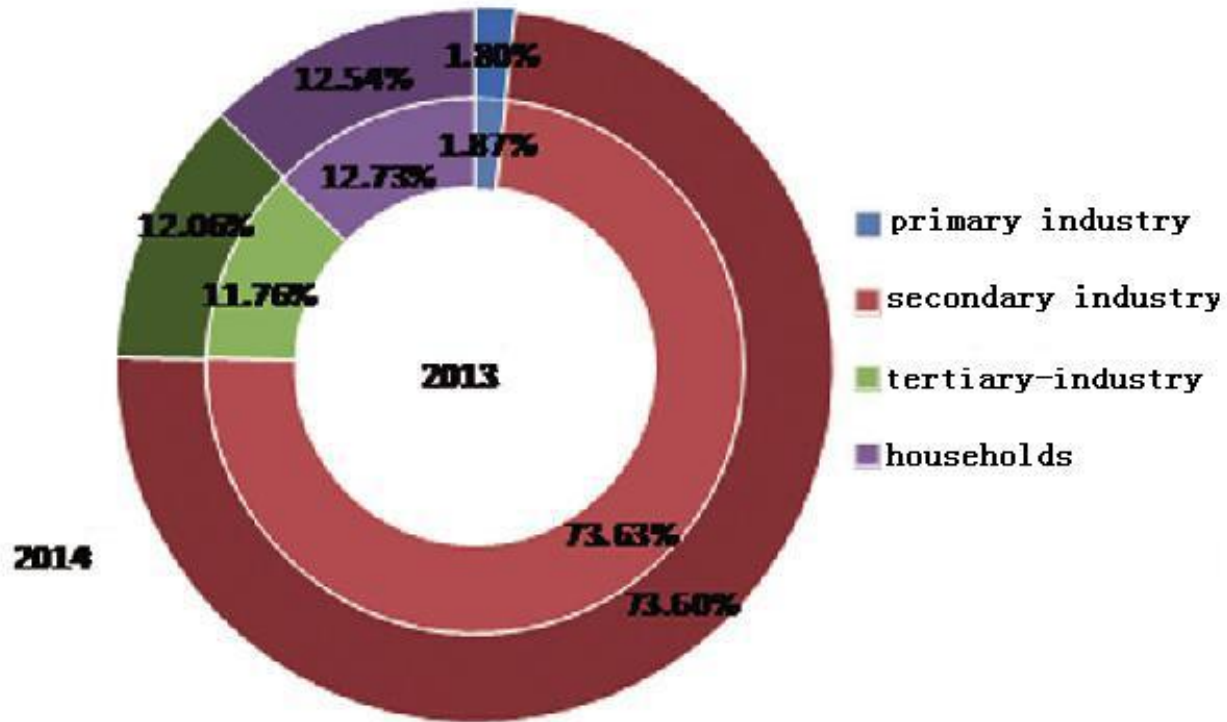
- Installed capacities (GW), 2014
 - Thermal 915.69
 - Hydro power 301.83
 - Nuclear 19.88
 - Solar power 26.52
 - Wind power 95.81
 - Others 5.03

Energy production with reference to primary resources

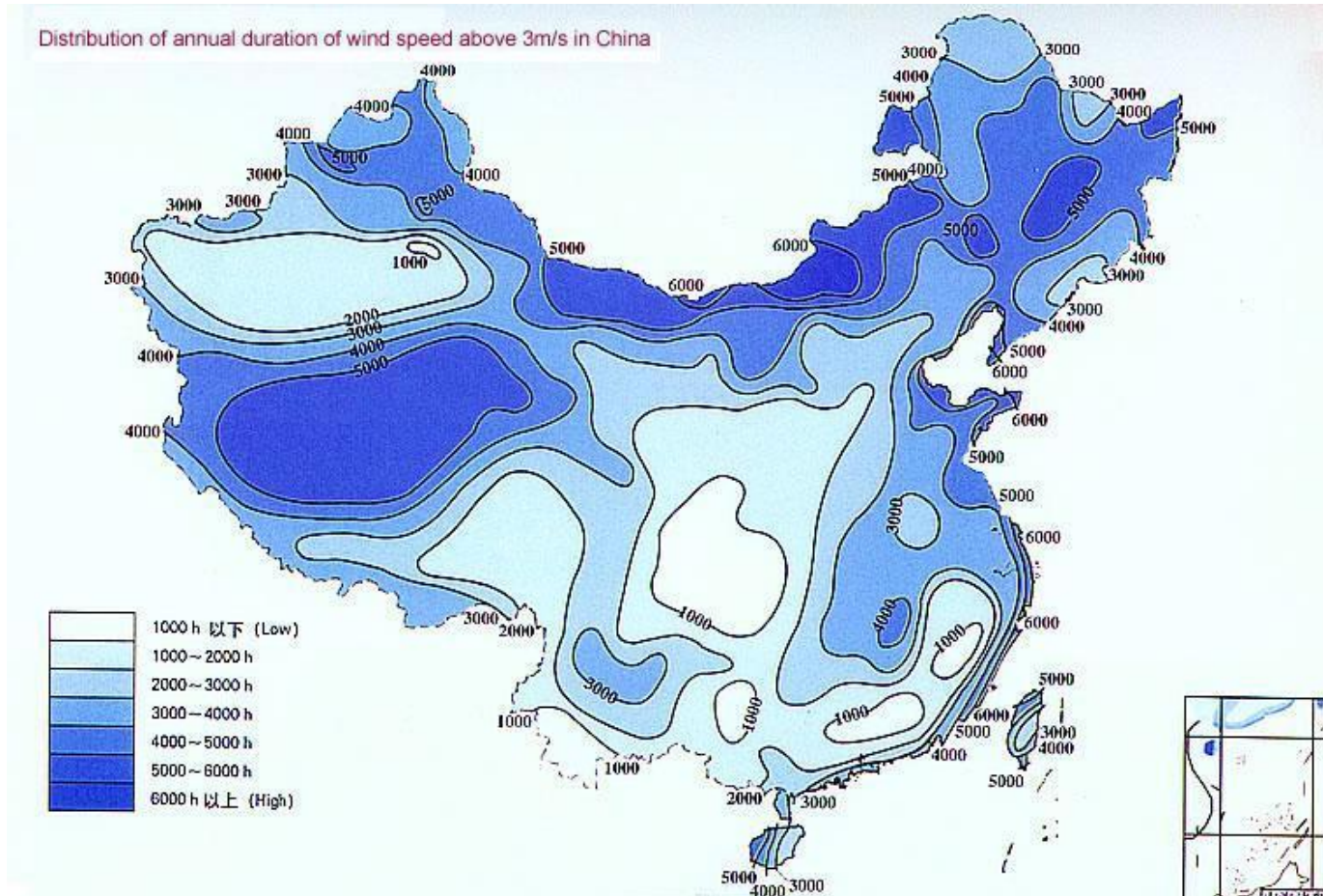
□ Electricity generated (TWh), year

- Thermal 4173.1
- Hydro power 10661
- Nuclear 126.2
- Solar power 23.1
- Wind power 156.3
- Others 1.1

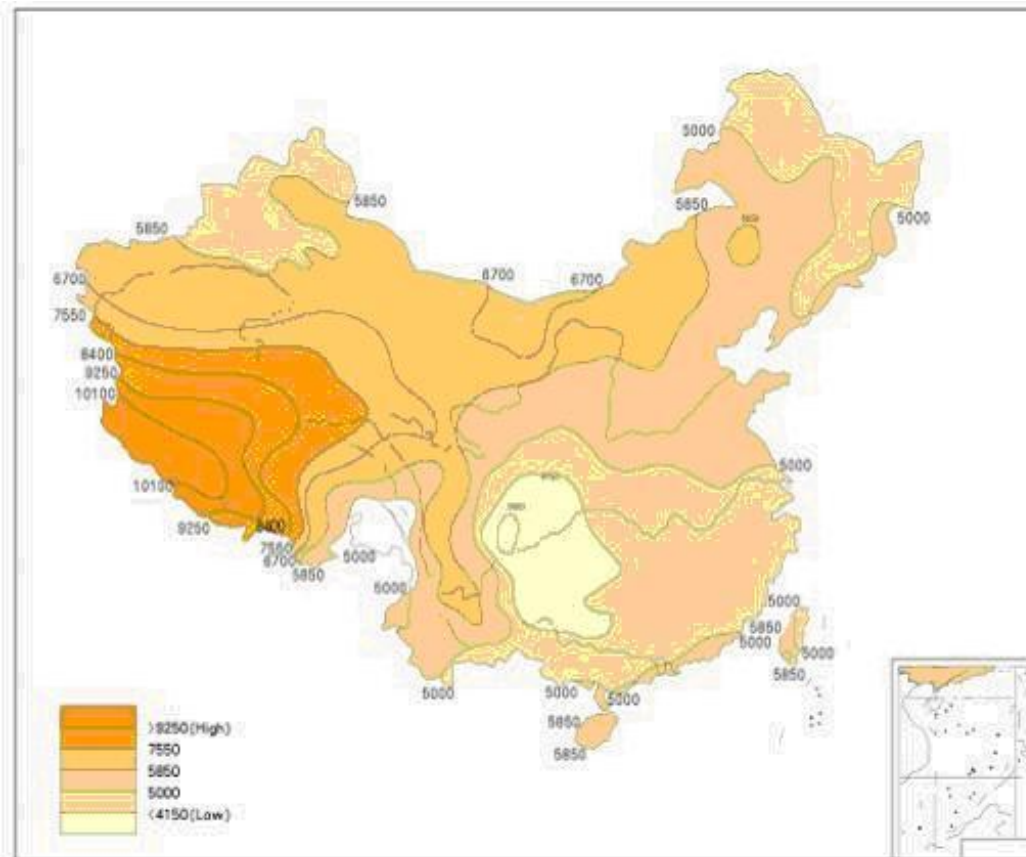
Consumption per customer groups



Location of RES-wind power



Location of RES-solar energy



Distribution of solar energy in China(MJ/m²)



Power balance in 2014

- ❑ Generation (TWh): 5431.64
- ❑ Consumption (TWh): 5420.41
- ❑ Imports (TWh): 7.44
- ❑ Exports (TWh): 18.67
- ❑ Losses (TWh): 314.07