Zhangjiakou Energy Transformation Strategy 2050 (China)

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Federal Ministry
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based on a decision of the German Bundestag

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IRENA Innovation and Technology
17 September 2020| 5th APEC Workshop on Sustainable Cities, Tianjin

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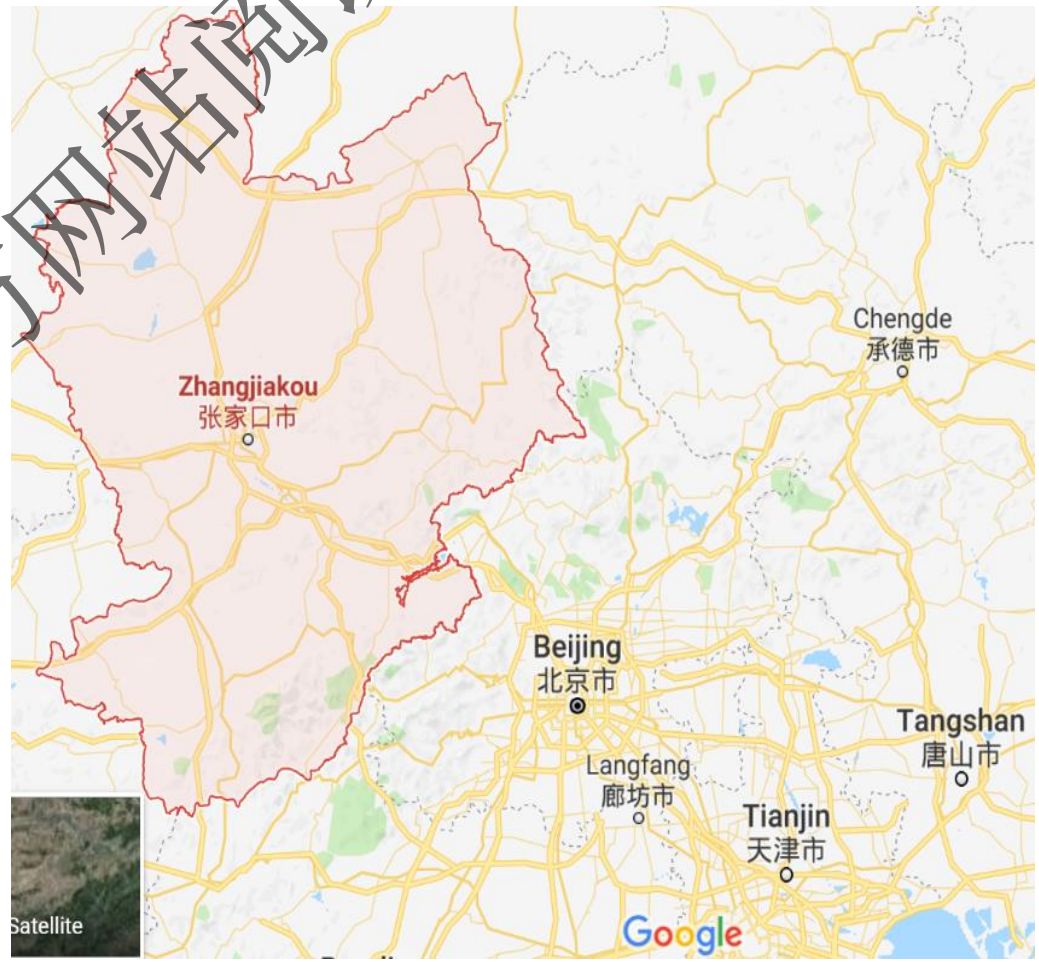
IRENA
International Renewable Energy Agency

A joint implementation of MoU between IRENA and Hebei Province

- A small but important city close to Beijing
  - 4.4 million inhabitants
  - 38,000 km2 (size of the Netherlands)
- The National Renewable Energy Demonstration Zone approved by the State Council of China – the first-of-this kind
- Low-carbon Winter Olympic 2022;
- Provision of low-carbon green energy to Jing-Jin-Ji region, particularly Beijing.



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China's first long-term urban energy transition strategy

Urban Energy Transition Strategy for Zhangjiakou city – a joint study

Long-term Urban Energy Planning

- Adopting GIS-based spatial planning tools and methods
- Developing stronger and flexible power grids for regional electricity exchange

Diversification of end-use applications of renewables through hydrogen

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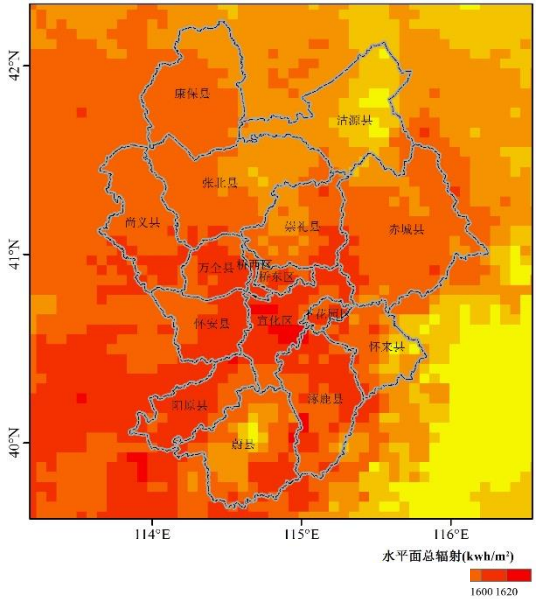
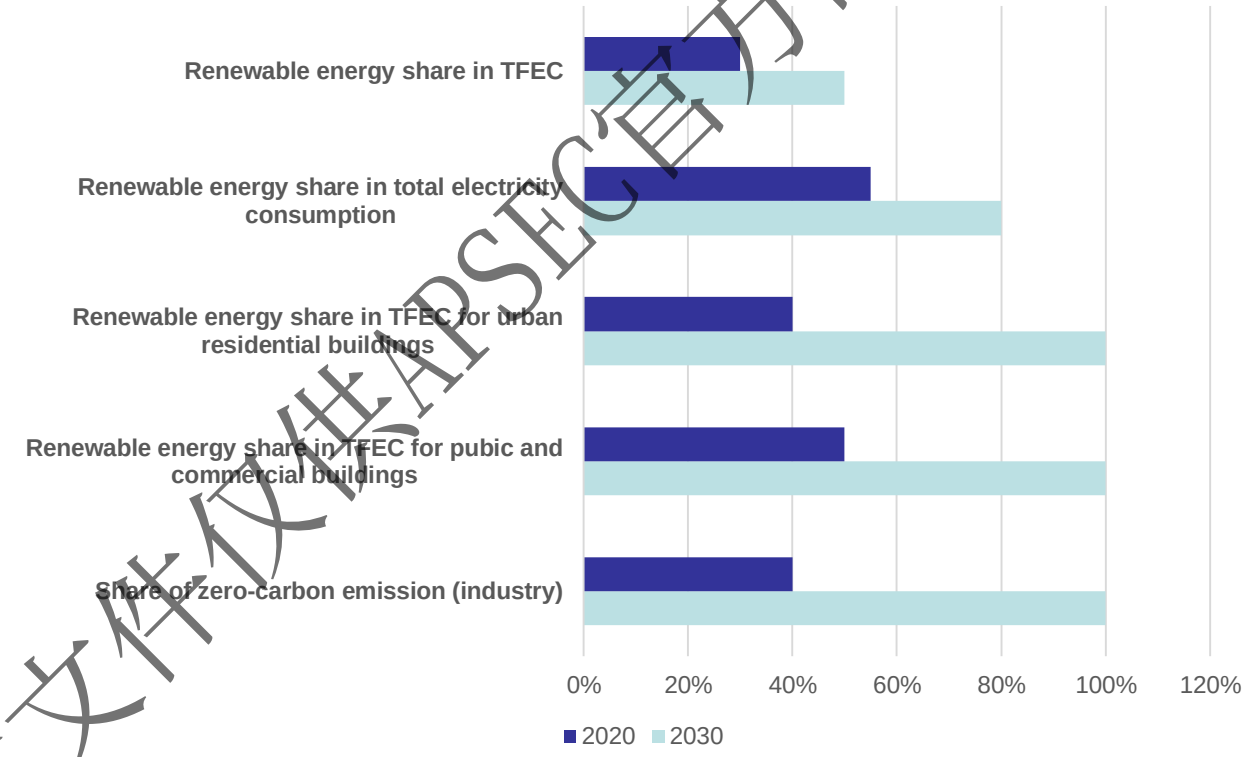
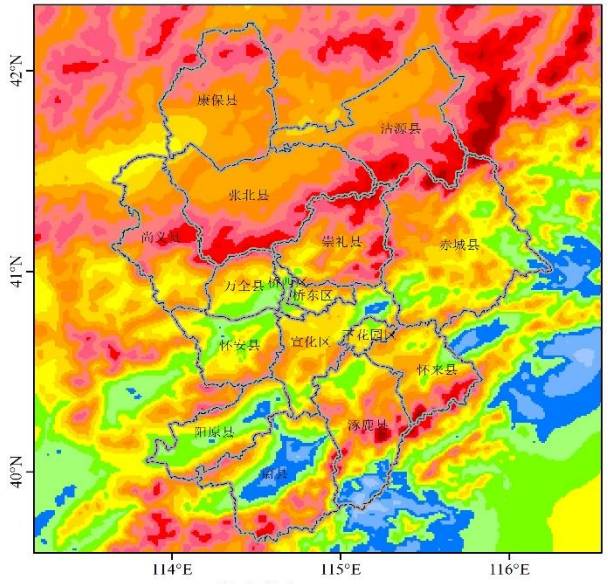
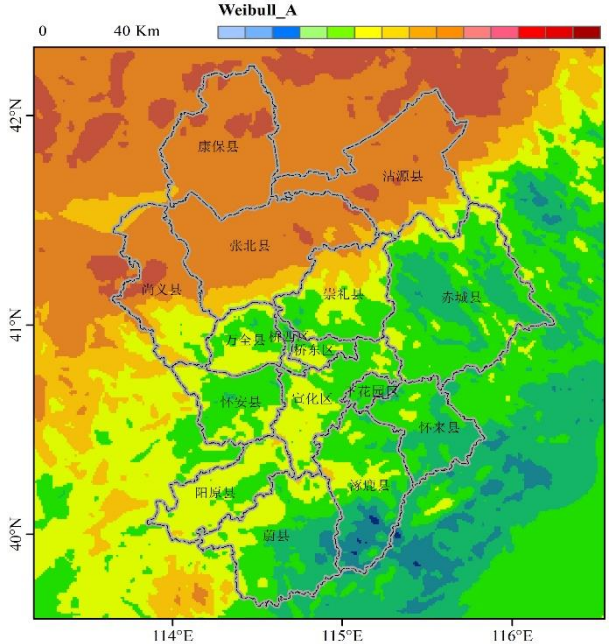
RE resource potential and the short-term targets set

- Installed capacity: 8.8GW wind and 3.5GW solar as of June 2018
- Renewable energy potential: 30GW solar (left) and 40GW wind (right)









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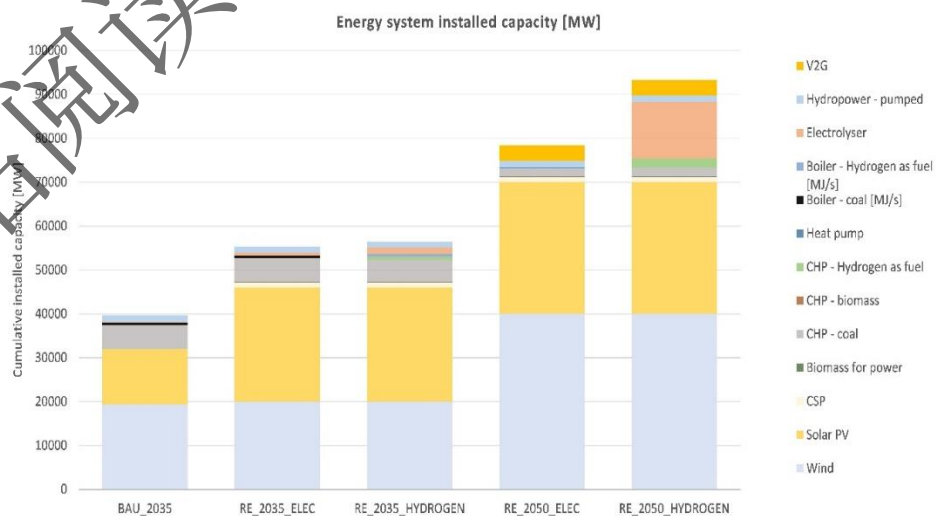
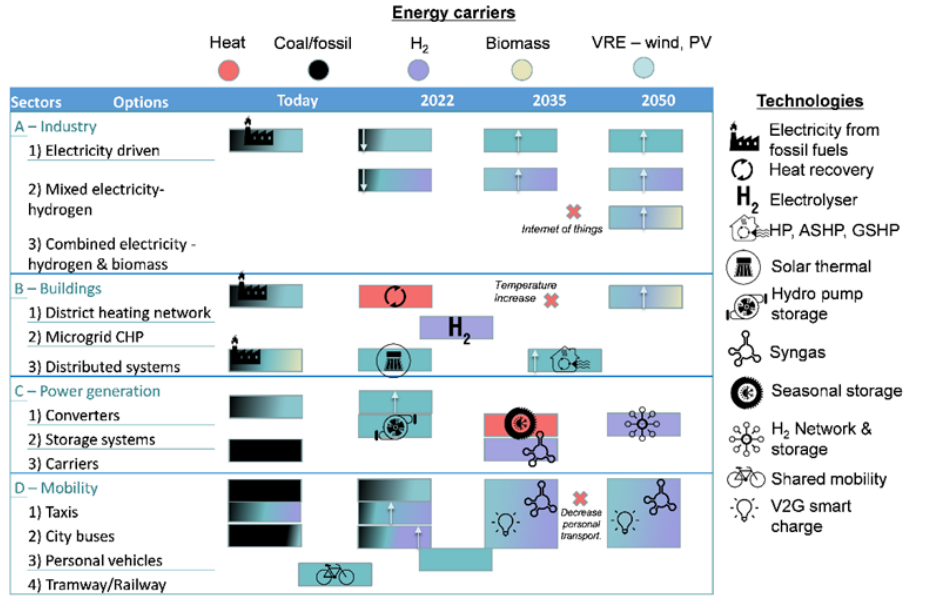
Strategic pathways towards carbon-constrained future

- **Energy efficiency** improvements – industrial and building sectors in particular;
- **Strategic energy planning** – relocation energy intensive industries against geographical matching with RE supply/potentials
- **District heating** with renewables as a measure for phaseout of coal use, while **diversifying** RE applications being critical for achieving high-shares of RE use
- **Electrification and RE hydrogen** are important technological pathways for being near-carbon free by 2050 with different cost profiles





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