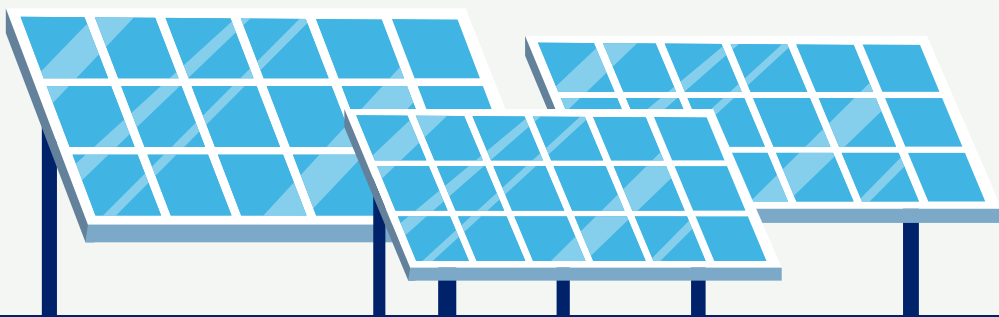


# Collaborative Mechanism for Carbon Reduction, Pollution Reduction, Green Expansion and Growth

## We focused on

- analyzing China's power system and its ongoing low-carbon transition, and
- exploring the electrification of China's industrial heating.



## We found

- A high percentage of carbon-free electricity in the energy mix delivers emissions reduction and decarbonization benefits while maintaining a highly reliable and resilient grid.
- **Energy storage and transmissions between regions** are critical for a smooth transition to a clean grid.
- Industrial heat pumps are the most efficient and cost-effective way to provide low-temperature (160°C and below) heating for many industries.
- Thermal batteries can provide heat at temperatures up to 1,700°C, operate on or off the grid, and provide grid balancing benefits.

## We recommend



set clear targets for the power sector:

- solar and wind installations to reach 2,400 gigawatts by 2030 and 6,000 gigawatts by 2040.
- reduce the carbon emission intensity of the power grid by 25% by 2030 and 65% by 2040 compared to 2020.



improve the use of industrial heat pumps:

- establish pilot projects in selected cities or industrial parks to **develop industrial heat pump efficiency**.
- set gradually stricter energy efficiency and carbon emission standards for industries to promote the use of high-efficiency equipment.



tighten China's air quality standards to improve decarbonization in key sectors and promote the low-carbon transition in the power sector,



support research, development, and market supply of thermal batteries.