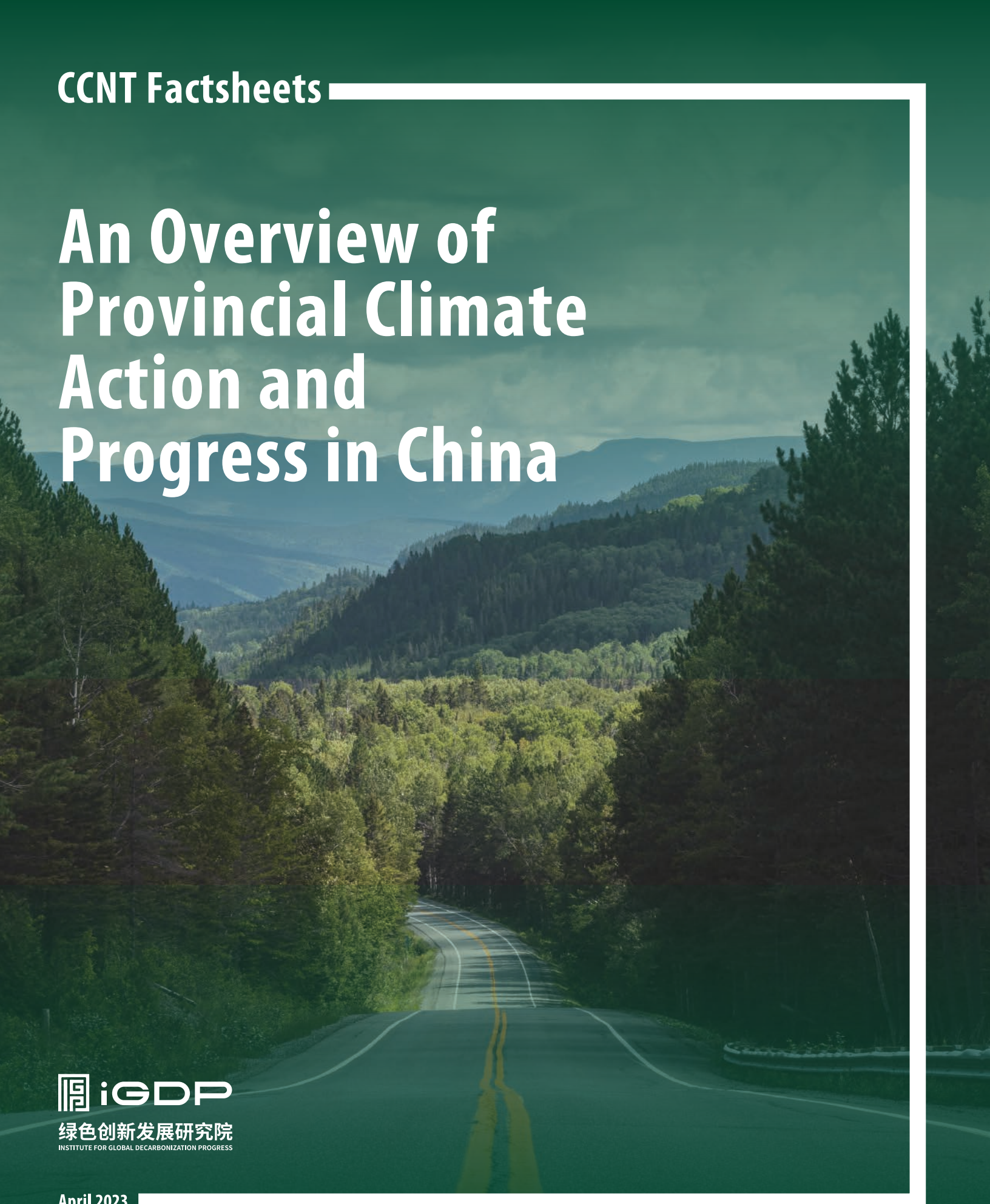
CCNT Factsheets

An Overview of Provincial Climate Action and Progress in China



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INSTITUTE FOR GLOBAL DECARBONIZATION PROGRESS

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The content of this report is based on the CCNT database, publicly available information and other vetted data and aims to facilitate discussion. The CCNT database assembles policy documents from the following publicly accessible sources:

- Government documents:
  - China's Nationally Determined Contribution
  - China's annual report on climate change policies and actions
  - Economic and social development plans, such as the 13th Five-Year Plan and related special plans for key sectors, such as energy, transportation, industry, etc.
- Provincial and municipal carbon peaking action plans and urban low-carbon development plans
  - National, provincial and municipal government websites

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Introduction

China's dual carbon goals have entered their third year. Meeting these goals will largely depend on robust action to implement climate policy in China's provinces. To deliver on its ambitious climate goals, China has established an '1+N' policy framework within which China's provincial regions are tasked with designing and implementing climate strategies.

The climate actions being taken by China's provincial regions vary due to vast differences in levels of economic development, energy supply structures, industrial structures, and resource endowments. Tracking all these actions is necessary to have an accurate picture of the changes on the ground that are driving progress toward China's national climate goals.

Drawing on the China Carbon Neutrality Tracker (CCNT), a policy database maintained by the Institute for Global Decarbonization Progress which tracks China's climate actions at all levels (national, provincial, municipal), this compendium of thirty factsheets provides an overview of provincial climate progress and plans. Each factsheet includes 1) the provincial region's basic information, such as GDP per capita, energy-related CO_2 emissions, and GDP ranking; 2) historical emissions trends and decoupling status; 3) 14th Five-Year Plan climate targets and ambition in each provincial region; 4) the implementation of climate actions in the 13th Five-Year Plan period; and 5) a list of the local policies driving climate action.

This report also provides a series of Figures and Tables that illustrate subnational carbon emission and mitigation trends, regional implementation capacity by tracking progress on subnational energy and climate goals between 2015-2020, and whether the policies currently in place will be sufficient to achieve subnational dual carbon goals.

Contents

Note: The provincial regions in this report refer to provincial administrative regions (PAR), including 23 provinces, 4 municipalities, 5 autonomous regions and 2 special administrative regions. Due to data availability, the data collection in this report does not include Tibet, Taiwan, Hong Kong and Macao, though they are also PAR.

Overview of Provincial Climate Actions and Progress in China

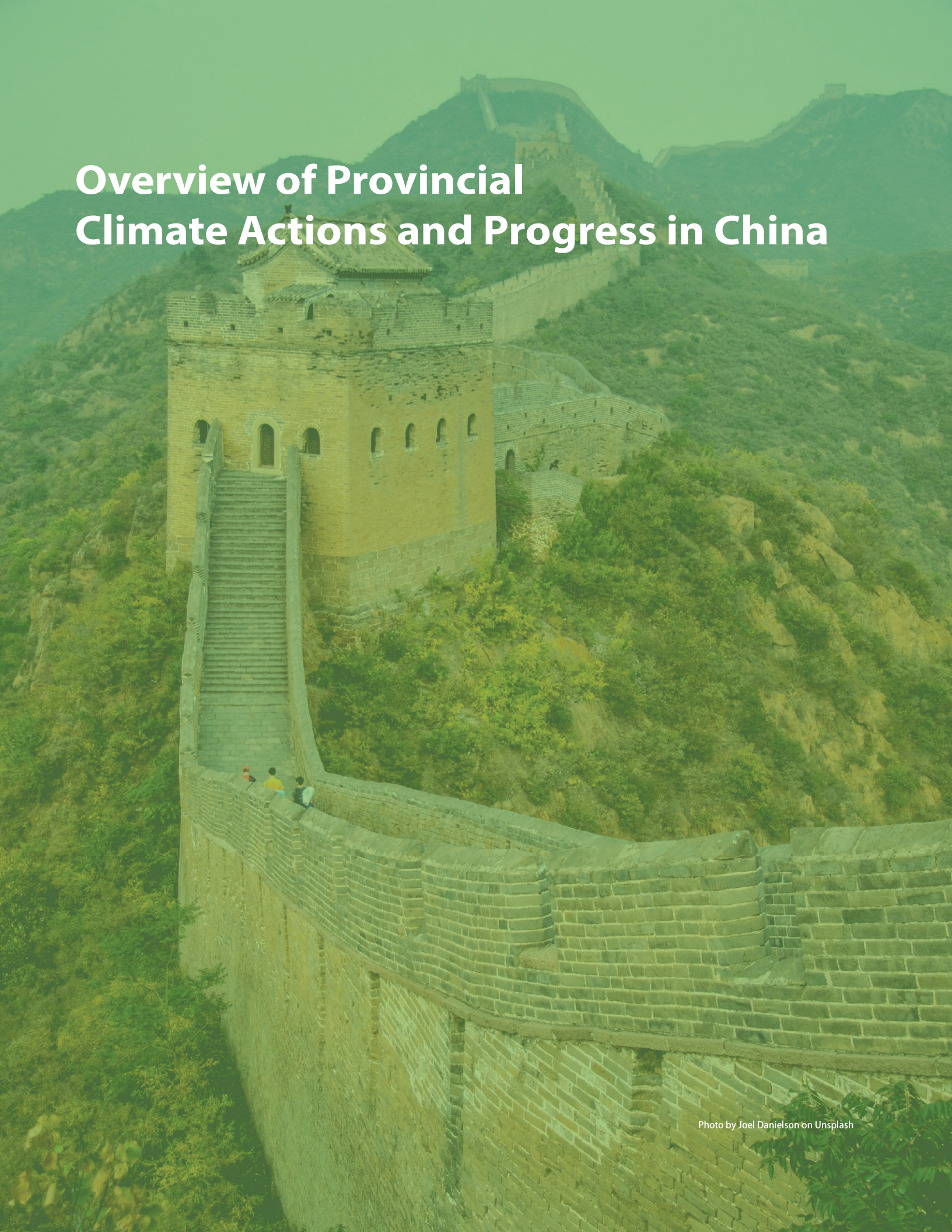


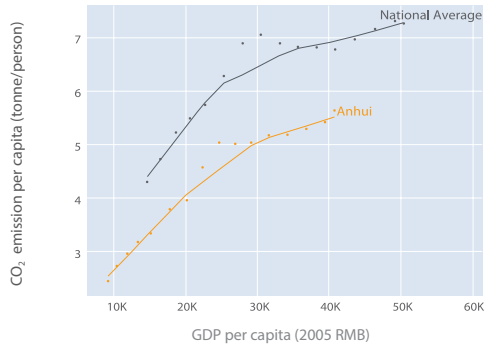
Photo by Joel Danielson on Unsplash

Anhui

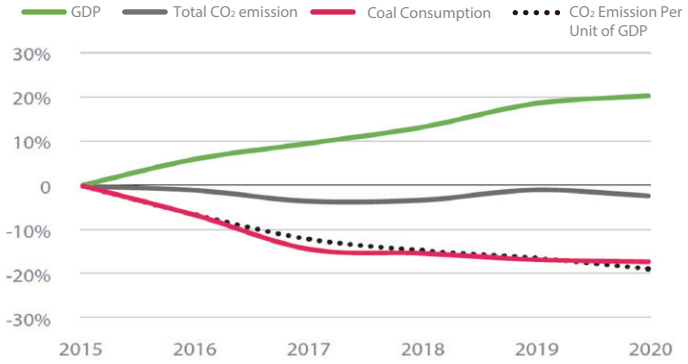
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
61.05	14	62411 (high income level)	11	14	5.6

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the province will ensure that the target of peaking carbon emissions before 2030 will be met on schedule.
Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 15.5%.

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 18180 MW (the increase ranks **19th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 17% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5% (equal to the national target).

Buildings

By 2025, all newly-constructed buildings in urban areas will meet green building standards, and the proportion of star-rated green buildings will reach 30% (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will be no less than 31.0% (the increase ranks **9th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  22.1% (18%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  11.9% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  7.3% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  6.5% (the increase ranks **3rd nationwide**)

- Coal power capacity addition

  7560 MW (the increase ranks **8th nationwide**)

- The installed capacity of renewable energy generation

  18372 MW (the increase ranks **10th nationwide**)

- Decrease of energy consumption intensity (%, 2019 vs. 2015)

  17.79% (16%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -17.21% (the decrease ranks **14th nationwide**)

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  40.2% (the increase ranks **8th nationwide**)

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  27% (the decrease ranks **27th nationwide**)

- Forest coverage change (percentage point, 2020 - 2015)

  1.22% (the increase ranks **15th nationwide**)

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  32.2% (the increase ranks **8th nationwide**)

Policy List (as of March 2023)

Action	Published by	Year	Sector
Notice Regarding the Implementation Plan of Financial Support for Carbon Peaking and Carbon Neutrality Work Issued by Anhui Provincial Department of Finance	Anhui Provincial Department of Finance	2023	"1+N" Policy Framework, Cross-sector Action
Technical Guidelines for Environmental Impact Assessment of Carbon Emissions of Construction Projects in Key Industries in Anhui Province (Trial Implementation)	Anhui Provincial Department of Ecology and Environment	2022	Industry
The 14th Five-Year Plan for Addressing Climate Change in Anhui Province	Anhui Provincial Department of Ecology and Environment	2023	Cross-sector Action
The Views of the Anhui Provincial Chinese Communist Party and People's Government of Anhui Province on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	Anhui Provincial Committee of CPC, People's Government of Anhui Province	2022	Cross-sector Action, "1+N" Policy Framework
Implementation Plan for Carbon Peaking in Anhui Province	Anhui Provincial People's Government	2022	Cross-sector Action, 1+N" Policy Framework
Implementation Plan for Carbon Peaking in the Industrial Sector in Anhui Province	Multiple departments	2022	Industry, "1+N" Policy Framework
Action Plan for Energy Saving and Carbon Reduction in Buildings in Anhui Province	People's Government of Anhui Province	2022	Building
New Energy Storage Development Plan (2022-2025) in Anhui Province	Anhui Provincial Energy Bureau	2022	Energy

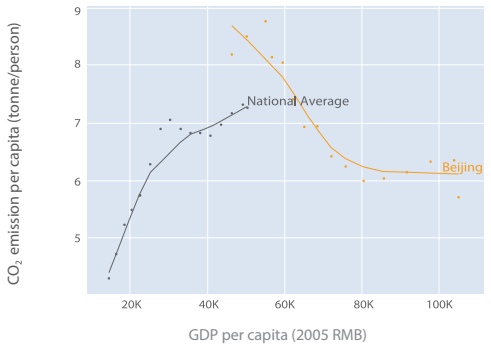
Action	Published by	Year	Sector
The 14th Five-Year Plan for Energy Development in Anhui Province	Anhui Provincial Development and Reform Commission, Anhui Provincial Energy Bureau	2022	Cross-sector Action
The 14th Five-Year Implementation Plan for Energy Conservation and Emissions Reduction in Anhui Province	People's Government of Anhui Province	2022	Cross-sector Action
Anhui Province 14th Five-Year Transport Development Plan	Anhui Provincial Department of Transportation	2021	Transport
Anhui Province 14th Five-Year Plan for Coal Industry Development	Anhui Provincial Development and Reform Commission, Anhui Provincial Energy Bureau	2022	Industry
Anhui Province 14th Five-Year Ecological and Environmental Protection Plan	Anhui Provincial Department of Economy and Information Technology, Anhui Provincial Development and Reform Commission	2022	Environment Protection
Implementation Plan of Anhui Province for Medium and Long-Term Development of Pumped Storage Energy (2021-2035)	Anhui Provincial Energy Bureau	2022	Energy
Anhui Province 14th Five-Year Automobile Industry High-Quality Development Plan	Anhui Provincial Development and Reform Commission, Anhui Provincial Department of Economy and Information Technology	2022	Transport
Anhui Province 14th Five-Year Construction Industry Development Plan	Anhui Provincial Department of Housing and Urban-Rural Development	2022	Building
Anhui Province 14th Five-Year Circular Economy Development Plan	Anhui Provincial Development and Reform Commission	2022	Cross-sector Action
Anhui Province 14th Five-Year Urban Housing Development Plan	Anhui Provincial Department of Housing and Urban-Rural Development	2022	Building
Anhui Province 14th Five-Year Prefabricated Building Development Plan	Anhui Provincial Department of Housing and Urban-Rural Development	2022	Building
Anhui Province 14th Five-Year Urban Municipal Infrastructure Construction Plan	Anhui Provincial Department of Housing and Urban-Rural Development	2022	City Planning
Anhui Province 14th Five-Year Housing and Urban-Rural Construction Science and Technology Development Plan	Anhui Provincial Department of Housing and Urban-Rural Development	2022	Building
Anhui Province 14th Five-Year Manufacturing High-quality Development (building a strong manufacturing province) Plan	Anhui Provincial Department of Economy and Information Technology	2022	Industry, Industry Restructuring
Anhui Province Interim Measures for the Administration of Third-Party Institutions for Compilation and Verification of Greenhouse Gas Emissions Reports	Anhui Provincial Department of Ecology and Environment	2021	Cross-sector Action
Detailed Rules for the Supervision of Power Operation of Anhui Provincial Department of Ecology and Environment	Anhui Provincial Department of Ecology and Environment	2021	Environment Protection
Regulations of Anhui Province on Energy Conservation	Standing Committee of Anhui Provincial People's Congress	2020	Energy

Beijing

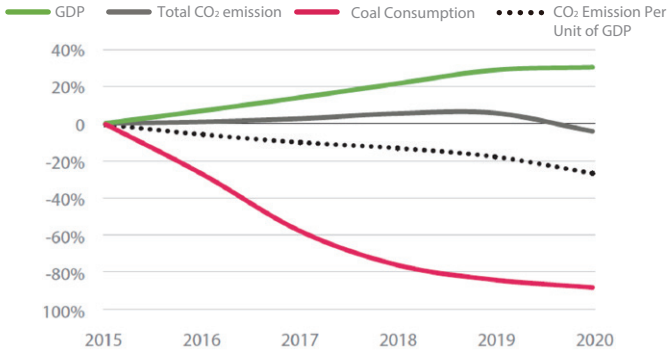
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
21.89	1.6	164158 (high income level)	13	1	5.7

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the target of peaking carbon emissions before 2030 will be achieved as scheduled.
Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources will reach 14.4%, and the proportion of coal consumption in primary energy consumption will be at 1.2% (the decrease ranks **4th nationwide**).

Power

By 2025, the installed capacity of renewable energy generation will increase by 2169 MW (the increase ranks **28th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 12% (below the national target).

Transportation

By 2025, the number of new energy vehicles as a proportion of commercial vehicles will reach 50%.

Buildings

By 2025, 5 million square meters of new ultra-low energy buildings will be constructed, and all new buildings in urban areas will meet green standards (above the national target).

Agriculture and Forestry

By 2025, forest coverage rate will reach 45% (the increase ranks **18th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  26% (20.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  4.6% decrease (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  11.55% (the decrease is above the national level)

- Coal power capacity addition (MW)

  N/A

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  N/A

- The installed capacity of renewable energy generation

  866 MW (the increase ranks **30th nationwide**)

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  24% (17%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -27.33% (the decrease ranks **5th nationwide**)

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  14.1% (the increase ranks **26th nationwide**)

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -14% (the decrease ranks **4th nationwide**)

- Forest coverage change (percentage point, 2020 - 2015)

  3% (the increase ranks **10th nationwide**)

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  0.9% (the increase ranks **27th nationwide**)

Policy List (as of March 2023)

Action	Published by	Year	Sector
Notice Regarding the Action Plan for Carbon Peaking in Municipal Enterprises from State-owned Assets Supervision and Administration Commission of Beijing Municipal People's Government	State-owned Assets Supervision and Administration Commission of Beijing Municipal People's Government	2022	1 + N Policy Framework
Work Plan for Energy Saving and Carbon Reduction in Civic Buildings in Beijing and the 14th Five-Year Plan for the Green Development of Civic Buildings	Beijing Leading Groups for Peaking Carbon Emissions and Achieving Carbon Neutrality	2022	Building
Plan for the Development of Hydrogen Refueling Stations for Vehicles with Hydrogen Energy Batteries in Beijing (2021-2025)	Beijing Municipal Urban Management Committee	2022	Transport
Implementation Plan for Carbon Peaking in Beijing	Beijing Municipal People's Government	2022	Cross-sector Action, 1 + N Policy Framework
Action Plan for the Reform and Opening-up Development of Green Finance in the "Two Regions" Construction	Beijing Local Financial Supervision Administration	2022	Green Economy
The 14th Five-Year Plan for the Construction and Management of Urban and Rural Environment in Beijing	Beijing Urban Management Commission	2022	Building
The 14th Five-Year Plan for the Development of New Energy Vehicle Charging and Switching Facilities in Beijing	Beijing Urban Management Commission	2022	Transport
The 14th Five-Year Plan of Addressing Climate Change and Energy Conservation in Beijing	Beijing Municipal Commission of Development and Reform	2022	Energy
The 14th Five-Year Plan for Low Carbon Pilot Work in Beijing	People's Government of Beijing City	2022	Cross-sector Action
The 14th Five-Year Plan for Electricity Development in Beijing	Beijing Urban Management Committee	2022	Energy

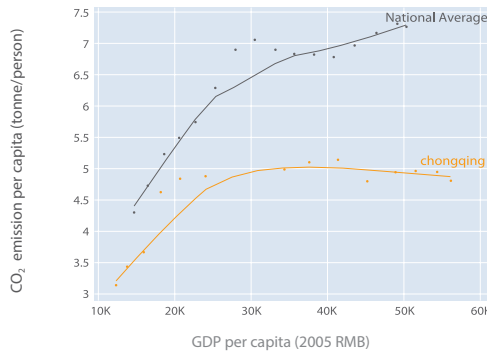
Action	Published by	Year	Sector
Beijing Energy Development in the Period of the 14th Five-Year Plan	Beijing Municipal People's Government	2022	Energy
Transportation Development and Construction plan of Beijing During the 14th Five-Year Plan Period	People's Government of Beijing Municipality	2022	Transport
Beijing 2022 Action Plan Regarding the Fight for Pollution Prevention and Control	Baoding Municipal People's Government	2022	Cross-sector Action
Beijing's Eco-environmental Protection Plan of the 14th Five-Year Plan Period	People's Government of Beijing City	2021	Cross-sector Action

Chongqing

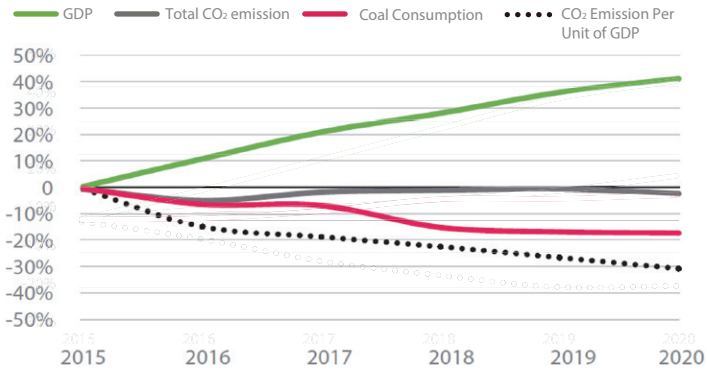
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
32.09	8.2	78294 (high income level)	16	8	4.8

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, carbon emissions will peak and then steadily decrease. By 2060, carbon neutrality will be reached.
Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources will reach 25%, and the proportion of coal consumption in primary energy consumption will be at 40.0% (the decrease ranks **11th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 2060 MW (the increase ranks **29th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 14.5% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 4% (below the national target).

Buildings

By 2025, 300,000 square meters of ultra-low energy and near-zero energy consumption buildings will be constructed, all newly-constructed buildings in urban areas will meet green building standards, and all buildings in green ecological urban districts will achieve at least one star according to the green building standard (equal to the national target).

Agriculture and Forestry

By 2025, the forest coverage rate will reach 57% (the increase ranks **1st nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  21.9% (19.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  6.4% decrease (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  3.3% (the increase ranks **17th nationwide**)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  4.8% (the decrease is above the national level)

- Coal power capacity addition

  3190 MW (the increase ranks **18th nationwide**)

- The installed capacity of renewable energy generation

  2672 MW (the increase ranks **26th nationwide**)

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  19.4% (16%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)
  -33% (the decrease ranks **1st nationwide**)

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  15% (the increase ranks **24th nationwide**)

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  13% (the decrease ranks **18th nationwide**)

- Forest coverage change (percentage point, 2020 - 2015)

  7.5% (the increase ranks **3rd nationwide**)

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  36.6% (the increase ranks **6th nationwide**)
  Policy List (as of March 2023)

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Green and Low-Carbon Leading Action to Promote Carbon Peaking in Public Institutions in Chongqing	Multiple departments	2023	Energy
Implementation Rules for the Construction of the Pilot Zones for the Reform and Innovations of Green Finance in Chongqing	General Office of Chongqing Municipal People's Government	2023	Green Economy
Implementation Plan for Carbon Peaking in the industrial Sector in Chongqing	Chongqing Economic and Information Technology Commission, Chongqing Municipal Development and Reform	2023	Industry
Implementation Plan for Carbon Peaking in the Urban and Rural Construction Sector in Chongqing	Chongqing Urban and Rural Construction Committee	2023	"1 + N" Policy Framework
The 14th Five-Year Implementation Plan for the Integrated Work of Energy Conservation and Emissions Reduction in Chongqing	Chongqing Municipal People's Government	2022	Cross-sector Action
The 14th Five-Year Plan for Energy Development in Chongqing (2021-2025)	General Office of Chongqing Municipal People's Government	2022	Energy
The Views of the People's Government of Chongqing Municipality on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	Chongqing Municipal People's Government	2022	"1 + N" Policy Framework

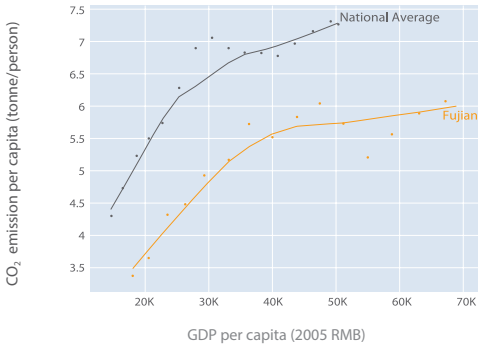
Action	Published by	Year	Sector
Notice Regarding the Action Plan for Deepening the High-quality and Green Development of the Manufacturing Industry (2022-2025), with the Goal of Achieving Carbon Peaking and Carbon Neutrality as the Leading Goal from the People's Government of Chongqing Municipality	Chongqing Municipal People's Government	2022	Industry, 1 + N Policy Framework
Chongqing "14th Five-year Plan" Electric Power Development Plan (2021-2025)	Chongqing Municipal People's Government	2022	Energy
Chongqing Green Buildings for the 14th Five-Year Plan	Chongqing Housing and Urban-Rural Development Commission	2021	Building
Chongqing's 14th Five-Year Plan on Climate Change (2021-2025)	Chongqing Ecology and Environment Bureau	2022	Cross-sector Action
Chongqing's Implementation Plan for Strict Energy Efficiency Constraints to Promote Energy Conservation and Carbon Reduction in Key Areas	Multiple departments	2022	Energy

Fujian

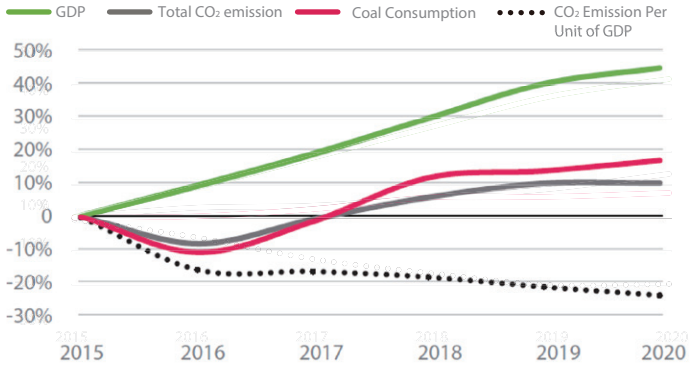
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
41.61	12.4	105106 (high income level)	7	4	6.1

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, a solid foundation will be laid for carbon peaking and carbon neutrality. By 2030, carbon emissions will peak and then steadily decrease. By 2060, carbon neutrality will be achieved.

Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 27.4%, and the proportion of coal consumption in primary energy consumption in the province will be at 48.2% (the decrease ranks **22nd nationwide).**

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 7120 MW (the increase ranks **25th nationwide).**

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 13.5% (equal to the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5% (equal to the national target).

Buildings

By 2025, all newly-constructed buildings in urban areas will meet green building standards (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 66.9% (the increase ranks **21st nationwide).**

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  20.0% (19.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  5.6% increase (the increase is below the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  1.6% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  3.2% (the increase ranks **18th nationwide)**

- Coal power capacity addition

  3840 MW (the increase ranks **17th nationwide)**

- The installed capacity of renewable energy generation

  5783 MW (the increase ranks **25th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  16.86% (16%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -24.3% (the decrease ranks **10th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  38.1% (the increase ranks **10th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  9% (the decrease ranks **15th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.85% (the increase ranks **1st nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  38.3% (the increase ranks **4th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Views of Fujian Provincial Development and Reform Commission on Accelerating the High-quality Development of Lithium New Energy and Related New Materials Industries	Fujian Provincial Development and Reform Commission	2022	Industry
Action Plan to Promote the Development of the Hydrogen Industry in Fujian Province (2022-2025)	Fujian Provincial Development and Reform Commission	2022	Energy
Notice Regarding the Implementation Plan for Promoting Green and High-quality Development of New Infrastructure such as Datacenters and 5G from Fujian Provincial Development and Reform Commission and Other 4 Institutions on Implementing the Requirements of Carbon Peaking and Carbon Neutrality Targets in Fujian Province	Multiple departments	2022	"1+N" Policy Framework, Cross-sector Action
Fujian Carbon Emission Quota Allocation Plan (2021)	Fujian Provincial Department of Ecology and Environment	2022	Green Economy
Implementation Views on High-quality Development of Steel Industry in Fujian Province	Multiple departments	2022	Industry
Action Plan for Promoting Green Economy Development in Fujian Province (2022-2025)	Fujian Provincial People's Government	2022	Green Economy
The Views of the Fujian Provincial Chinese Communist Party and People's Government of Fujian Province on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	Fujian Provincial Committee of CPC, Fujian Provincial People's Government	2022	Cross-sector Action, "1+N" Policy Framework

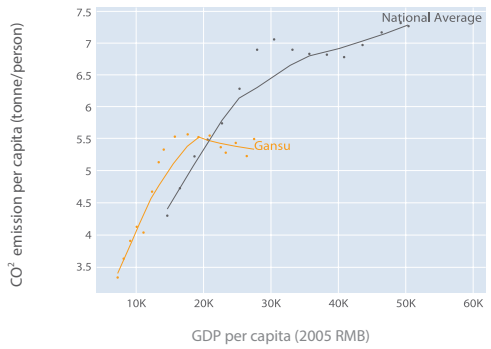
Action	Published by	Year	Sector
The 14th Five-Year Implementation Plan for the Integrated Work of Energy Conservation and Emissions Reduction in Fujian Province	Fujian Provincial People's Government	2022	Cross-sector Action
The 14th Five-Year Special Plan for Modern Comprehensive Transport System in Fujian Province	Fujian Provincial People's Government	2021	Transport
Fujian Province 14th Five-Year Development Plan for Architecture Industry	Fujian Provincial Department of Housing and Urban-Rural Development	2021	Building
Fujian Province 14th Five-Year Energy Development Planning	Fujian Provincial People's Government	2022	Energy
Fujian Province 14th Five-Year Ecological Province Construction Plan	Fujian Provincial People's Government	2022	Cross-sector Action
Fujian Province Development Plan for Alternative Fuel Vehicle (2022-2025)	Fujian Provincial People's Government	2022	Transport
Several Measures to Promote Industrial Energy-Saving, Decarbonization, and Integrated Utilization of Resource	Fujian Provincial Department of Industry and Information Technology, Fujian Provincial Department of Finance	2022	Industry
Fujian Province 14th Five-Year Modern Comprehensive Transportation System Special Plan	Fujian Provincial People's Government	2021	Transport
Fujian Province's "14th Five-Year Plan" Special Plan for Ecological and Environment Protection	Fujian Provincial People's Government	2021	Environment Protection

Gansu

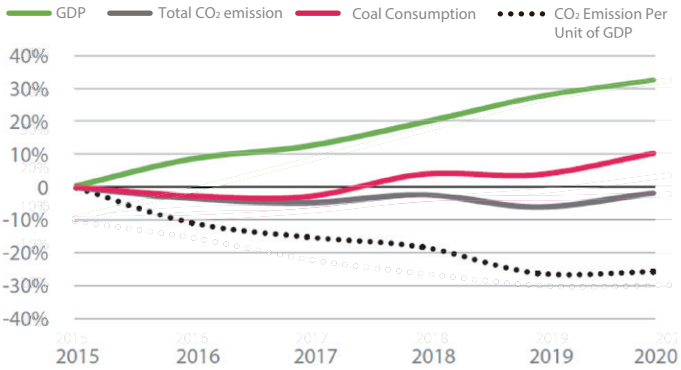
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
25.01	45.4	35848 (high income level)	27	30	5.5

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, a solid foundation will be laid for carbon peaking and carbon neutrality. By 2030, the province aims to achieve peak carbon emissions in line with national commitments. By 2060, carbon neutrality will be achieved, in line with national commitments.

Energy intensity reduction target: **12.5%** (below the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 30%, and the proportion of coal consumption in primary energy consumption in the province will be at 46.1% (the decrease ranks **6th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 56830 MW (the increase ranks **3rd nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 13.5% (equal to the national target), and CO2 emissions per unit of industrial value-added will fall by 18%.

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 4% (below the national target).

Buildings

By 2025, the renewable energy substitution rate in urban buildings will be 8% and all newly-constructed buildings in urban areas will meet green building standards (equal to the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 12.0% (the increase ranks **11th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  28% (17%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  1% decrease (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  7.5% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  7.5% (the increase ranks **2nd nationwide)**

- Coal power capacity addition

  6600 MW (the increase ranks **11th nationwide)**

- The installed capacity of renewable energy generation

  6104 MW (the increase ranks **23rd nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  14% (14%), equal to the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -4.9% (the decrease ranks **24th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  45% (the increase ranks **3rd nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  8% (the decrease ranks **14th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  -0.53% (the increase ranks **30th nationwide**)

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  4.7% (the increase ranks **23rd nationwide)**

Policy List (as of March 2023)

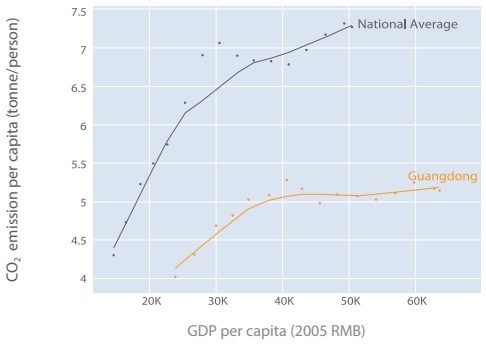
Action	Published by	Year	Sector
The 14th Five-Year Comprehensive Work Plan for Energy Saving and Emission Reduction in Gansu Province	People's Government of Gansu Province	2022	Cross-sector Action
The 14th Five-Year Plan for Industrial Green Development in Gansu Province	Gansu Provincial Department of Industry and Information Technology	2021	Industry
Outline of Gansu Province 14th Five-Year Plan for Housing and Urban-Rural Development	Gansu Provincial Department of Housing and Urban-Rural Development	2021	Building
Gansu Province 14th Five-Year Comprehensive Transport Development Plan	People's Government of Gansu Province	2021	Transport
Gansu Province 14th Five-Year Ecological and Environmental Protection Plan	People's Government of Gansu Province	2021	Environment Protection
Gansu Province 14th Five-Year Plan for Energy Development	People's Government of Gansu Province	2022	Energy
Implementation Opinions of Gansu Province on Deepening the Reform of Electricity Price Formation Mechanism to Promote High-Quality Socio-Economic Development	Multiple departments	2022	Cross-sector Action, Energy
Implementation Plan of Gansu Province for Tightening Energy Efficiency Constraints to Promote Energy Conservation and Carbon Emission Reduction in Key Areas	Multiple departments	2022	Industry
Implementation Plan of Gansu Province for the Development of Alternative Fuel Vehicle Industry	Multiple departments	2022	Transport
Gansu Green Building Action Implementation Plan	Multiple departments	2020	Building

Guangdong

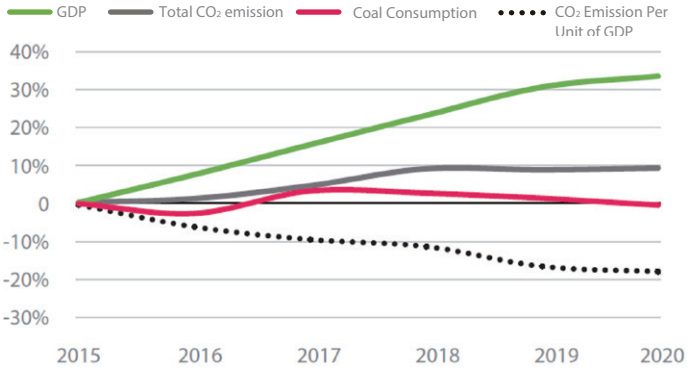
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
126.24	18	88521 (high income level)	1	7	5.1

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

Carbon emissions in regions, industries and enterprises facing favorable conditions will peak ahead of schedule by 2025, and carbon peaking will be achieved by 2030, with a steady decrease in emissions afterwards.

Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 32%, and the proportion of coal consumption in primary energy consumption in the province will be at 31% (the decrease ranks **15th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 40000 MW (the increase ranks **7th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 14.0% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 4% (below the national target).

Buildings

By 2025, 3 million square meters of ultra-low energy and near-zero energy consumption buildings will be constructed, the renewable energy substitution rate in urban buildings will be 8%, all newly-constructed buildings in urban areas will be built as green buildings, and the proportion of star-rated green buildings will reach 30% (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 58.9% (the increase ranks **20th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  22.4% (20.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  1.5% increase (the increase is below the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  7.3% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  5.4% (the increase ranks **7th nationwide)**

- Coal power capacity addition

  6320 MW (the increase ranks **14th nationwide)**

- The installed capacity of renewable energy generation

  15933 MW (the increase ranks **14th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  17.1% (17%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -14% (the decrease ranks **16th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  26.2% (the increase ranks **18th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  4% (the decrease ranks **13th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  -0.22% (the increase ranks **29th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  23.7% (the increase ranks **15th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in Guangdong Province	People's Government of Guangdong Province	2023	"1+N" Policy Framework
Guangdong Carbon Emission Quota Allocation Plan (2022)	Guangdong Provincial Department of Ecology and Environment	2022	Green Economy
Implementation Plan for Development of a Circular Economy in Guangdong Province (2022-2025)	Guangdong Provincial Development and Reform Commission	2022	Cross-sector Action
The 14th Five-Year Plan for Building Energy Conservation and Green Building Development in Guangdong Province	Guangdong Provincial Department of Housing and Urban-Rural Development	2022	Building
The 14th Five-Year Implementation Plan for Energy Conservation and Emission Reduction in Guangdong Province	People's Government of Guangdong Province	2022	Cross-sector Action
Catalogue of "Two High" Project Management in Guangdong Province (2022 Edition)	Guangdong Provincial Development and Reform Commission	2022	Energy
Action Plan for Accelerating the Construction of Fuel Cell Vehicle Demonstration City Clusters in Guangdong Province (2022-2025)	Multiple departments	2022	Cross-sector Action
Notice Regarding the Publication of Five Methodologies Including the Guangdong Forestry Carbon Sink and Carbon Generalized System of Preferences (Tan Pu Hui) (Revised Version 2022) from the Department of Ecological Environment of Guangdong Province	Guangdong Provincial Department of Ecology and Environment	2022	Agriculture Forestry and Land Use
The Views of the Guangdong Provincial Chinese Communist Party and People's Government of Guangdong Province on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	Guangdong Provincial Committee of CPC	2022	"1+N" Policy Framework

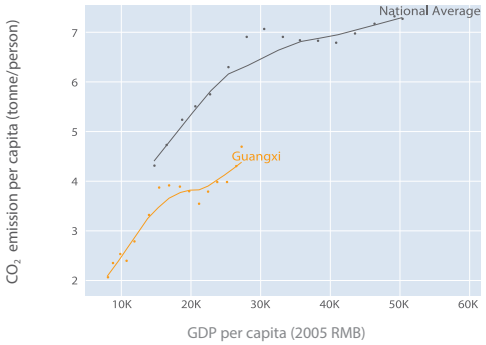
Action	Published by	Year	Sector
The 14th Five-Year Special Plan for Addressing Climate Change in Guangdong Province	Guangdong Provincial Department of Ecology and Environment	2022	Cross-sector Action
Implementation Plan for the Development of Green Finance to Support Carbon Peaking Actions in Guangdong Province	People's Government of Guangdong Province	2022	"1+N" Policy Framework
The 14th Five-Year Plan for Comprehensive Transport Service Development in Guangdong Province	Guangdong Provincial Department of Transportation	2021	Transport
Guangdong Province 14th Five-Year Plan for Forestry Protection and Development	Forestry Administration of Guangdong Province	2021	Agriculture Forestry and Land Use
Guangdong Province 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035	People's Government of Guangdong Province	2021	Cross-sector Action
Guangdong Province 14th Five-Year Plan for Ecological and Environmental Protection	Guangdong Provincial Department of Ecology and Environment	2021	Environment Protection
Guangdong Province Comprehensive 14th Five-Year Development Plan of the Transportation System	People's Government of Guangdong Province	2021	Transport
Guangdong Province 14th Five-Year Plan for Energy Development	Peoples Government of Guangdong Province	2022	Energy
Notice of the Guangdong Provincial Department of Ecology and Environment on Printing and Distributing the 'Guangdong Province Carbon Inclusive Trading Management Measures'	Guangdong Provincial Department of Ecology and Environment	2022	Green Economy
Notice of Guangdong Province on Doing a Good Job in the 2022 National Carbon Emissions Trading Market Enterprise Greenhouse Gas Emissions Report	Guangdong Provincial Department of Ecology and Environment	2022	Green Economy
Guangdong Province 14th Five-Year Plan for Domestic Waste Treatment	Guangdong Provincial Department of Housing and Urban-Rural Development, Guangdong Provincial Development and Reform Commission	2021	Waste
Guangdong 14th Five-Year Development Plan for Construction Industry	Guangdong Provincial Department of Housing and Urban-Rural Development	2021	Building
Guangdong Province 14th Five-Year" Development Plan of Water Transport	Guangdong Provincial Department of Transportation	2021	Transport
Implementation Opinions of the Guangdong Provincial People's Government on Accelerating the Establishment and Improvement of a Green, Low-Carbon and Circular Development Economic System	People's Government of Guangdong Province	2021	Cross-sector Action
Guangdong Province New Urbanization Plan (2021-2035)	People's Government of Guangdong Province	2021	Cross-sector Action
Guangdong Province 14th Five-Year Plan for the High-quality Development of the Manufacturing Industry in	People's Government of Guangdong Province	2021	Industry Restructuring, Industry
Regulations of Guangdong Province on Urban and Rural Domestic Waste Treatment	Standing Committee of Guangdong Provincial People's Congress	2020	Waste
14th Five-Year Plan of Ecological Civilization Construction in Guangdong Province	People's Government of Guangdong Province	2021	Environment Protection
14th Five-Year Plan of Marine Economic Development in Guangdong Province	People's Government of Guangdong Province	2021	Cross-sector Action

Guangxi

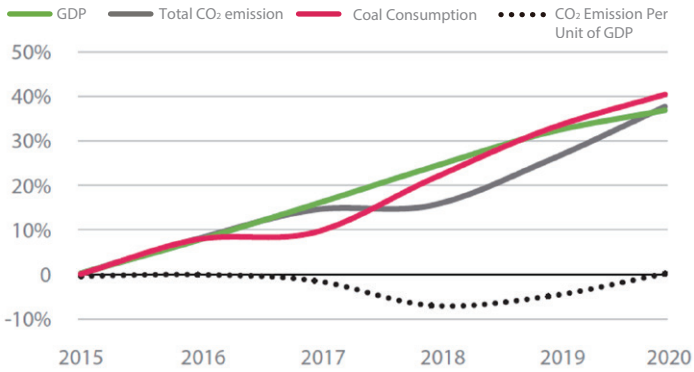
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
50.19	23.7	44237 (high income level)	19	28	4.7

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the target of peaking carbon emissions will be achieved in line with the nation. By 2060 carbon neutrality will be reached.

Energy intensity reduction target: **13%** (below the national target)

Energy

By 2025, the proportion of non-fossil energy consumption in primary energy consumption will reach more than 30%.

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 30920 MW (the increase ranks **10th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 15.8% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 6% (above the national target).

Buildings

By 2025, the renewable energy substitution rate in urban buildings will be 5%, all newly-constructed buildings in urban areas will be built as green buildings, and the proportion of star-rated green buildings will reach 30% (equal to the national target).

Agriculture and Forestry

By 2025, the forest coverage rate will reach 62.6% (the increase ranks **23rd nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  N/A (17%)
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  32.3% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  2.1% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  1% (the increase ranks **29th nationwide)**

- Coal power capacity addition

  4815 MW (the increase ranks **15th nationwide)**

- The installed capacity of renewable energy generation

  11081 MW (the increase ranks **19th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  15% (14%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  3% (the decrease ranks **26th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  51.6% (the increase ranks **26th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -19% (the decrease ranks **1st nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.26% (the increase ranks **25th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  29.2% (the increase ranks **11th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in Guangxi Zhuang Autonomous Region	People's Government of Guangxi Zhuang Autonomous Region	2023	"1+N" Policy Framework
The 14th Five-Year Plan for Building Energy Conservation and Green Building Development in Guangxi Province	Guangxi Zhuang Autonomous Region Department of Housing and Urban-Rural Development	2022	Building
The 14th Five-Year Implementation Plan for the Integrated Work of Energy Conservation and Emissions Reduction in Guangxi	People's Government of Guangxi Zhuang Autonomous Region	2022	Cross-sector Action
Implementation Plan for the Acceleration of the Transformation and Development of Rural Energy to Facilitate Rural Revitalization in Guangxi Province	Multiple departments	2022	Energy
The 14th Five-Year Plan for Energy Development in Guangxi Province	People's Government of Guangxi Zhuang Autonomous Region	2022	Energy
The 14th Five-Year Plan for Green Transportation Development in Guangxi Province	Guangxi Zhuang Autonomous Region Department of Transportation	2022	Transport
Guangxi Province 14th Five-Year Plan for Renewable Energy	Guangxi Zhuang Autonomous Region Development and Reform Commission	2022	Energy
Implementation Opinions of Guangxi Zhuang Autonomous Region on Reaching Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy	People's Government of Guangxi Zhuang Autonomous Region	2022	"1+N" Policy Framework
Guangxi Ecological and Environmental Protection 14th Five-Year Plan	People's Government of Guangxi Zhuang Autonomous Region	2021	Environment Protection

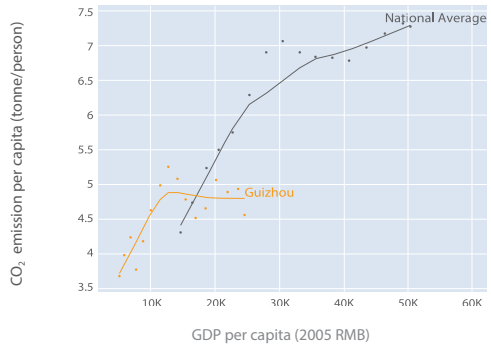
Action	Published by	Year	Sector
Guangxi Work Plan for Accelerating Comprehensive Utilization of Crop Straw (2021-2025)	People's Government of Guangxi Zhuang Autonomous Region	2021	Cross-sector Action
Guangxi 14th Five-Year Plan for the Development of the New Energy Vehicle Industry	People's Government of Guangxi Zhuang Autonomous Region	2021	Industry
Guangxi Comprehensive Transportation Development 14th Five-Year Plan	People's Government of Guangxi Zhuang Autonomous Region	2021	Transport
The 14th Five-Year Plan for the Development of Forestry and Grassland in Guangxi Zhuang Autonomous Region	Forestry Administration of Guangxi Zhuang Autonomous Region	2021	Cross-sector Action

Guizhou

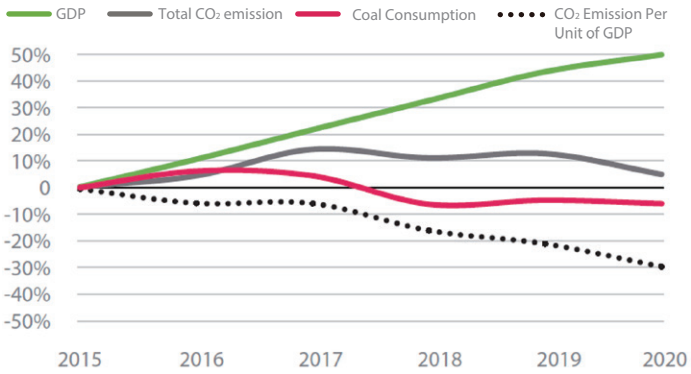
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
38.58	17.6	46355 (high income level)	20	27	4.6

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

During the 14th Five-Year Plan, the foundations for achievement of peak carbon will be laid. During the 15th Five-Year Plan Guizhou province will ensure the peaking of carbon emissions before 2030, in line with national commitments.
Energy intensity reduction target: **13%** (below the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 21.6%, and the proportion of coal consumption in primary energy consumption in the province will be at 70% (the decrease ranks 23rd nationwide).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 25430 MW (the increase ranks **13th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 15.0% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 4% (below the national target).

Buildings

By 2025, the renewable energy substitution rate in urban buildings will be 8% and all newly-constructed buildings in urban areas will meet green building standards (equal to the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 64.0% (the increase ranks **4th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  N/A (18%)
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  0.9% increase (the increase is below the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  4.4% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  4.1% (the increase ranks **13th nationwide**)

- Coal power capacity addition

  6560 MW (the increase ranks **12th nationwide**)

- The installed capacity of renewable energy generation

  15630 MW (the increase ranks **15th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  24.3% (14%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -30.42% (the decrease ranks **3rd nationwide**)

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  11.2% (the increase ranks **29th nationwide**)

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  29% (the decrease ranks **29th nationwide**)

- Forest coverage change (percentage point, 2020 - 2015)

  11.51% (the increase ranks **1st nationwide**)

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  28.4% (the increase ranks **12th nationwide**)

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Promoting Strategic Adjustment of Coal Industrial Structure in Guizhou Province	People's Government of Guizhou Province	2022	Industry
Implementation Plan for Carbon Peaking in the Energy Sector of Guizhou Province	Guizhou Provincial Energy Bureau, Guizhou Provincial Development and Reform Commission	2023	"1+N" Policy Framework
Implementation Plan for Accelerating Green Consumption in Guizhou Province	Multiple departments	2022	Cross-sector Action
Implementation Plan for Carbon Peaking in Guizhou Province	Guizhou Provincial Committee of CPC, People's Government of Guizhou Province	2022	"1+N" Policy Framework
The 14th Five-Year Plan for Transportation Development in Guizhou Province	Guizhou Provincial Department of Transportation	2022	Transport
The 14th Five-Year Plan for Hydrogen Industry Development in Guizhou Province	Multiple departments	2022	Energy
The 14th Five-Year Plan for Highway Construction in Guizhou Province	Guizhou Provincial Department of Transportation	2021	Transport
The 14th Five-Year Plan for New Energy Vehicle Industry Development in Guizhou Province	Guizhou Provincial Department of Industry and Information Technology	2021	Transport
Guizhou Province 14th Five-Year Plan for Construction Technology and Green Building Development Plan	Guizhou Provincial Department of Housing and Urban-Rural Development	2022	Building

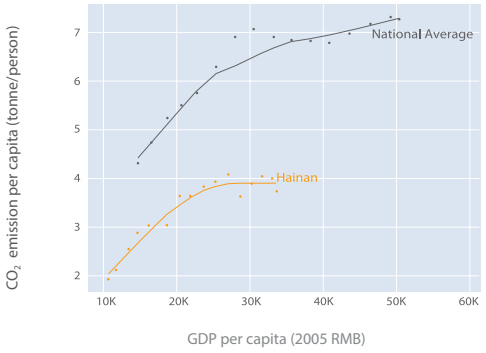
Action	Published by	Year	Sector
Guizhou Province 14th Five-Year Ecological and Environmental Protection Plan	Guizhou Provincial Department of Ecology and Environment, Guizhou Provincial Development and Reform Commission	2022	Environment Protection
Guizhou Province 14th Five-Year Plan for Energy and Technology Innovation Development	Energy Bureau of Guizhou Province, Guizhou Provincial Department of Science and Technology	2022	Energy
Guizhou Province 14th Five-Year Plan for New Energy and Sustainable Energy Development	Energy Bureau of Guizhou Province, Guizhou Provincial Development and Reform Commission	2022	Cross-sector Action
Guizhou Province 14th Five-Year Transportation Energy Conservation and Environmental Protection Development Plan	Guizhou Provincial Department of Transportation	2021	Transport

Hainan

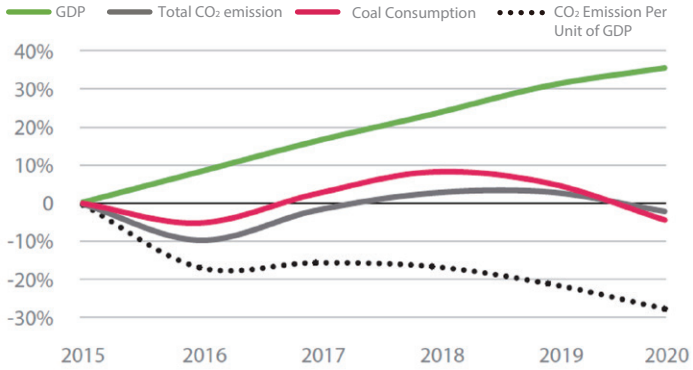
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
10.12	3.5	55438 (high income level)	28	18	3.7

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, a solid foundation will be laid for achieving peak carbon. By 2030, the goal of peaking carbon emissions before 2030 will be reached.
Energy intensity reduction target: fulfill the national requirement

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 22%, and the proportion of coal consumption in primary energy consumption in the province will be at 18% (the decrease ranks **1st nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 5000 MW (the increase ranks **26th nationwide**).

Industry

Promote the green and low-carbon transformation of traditional industries, implement comprehensive utilization of energy resources, and promote the transformation of existing manufacturing industries to intelligent, green and service-oriented.

Transportation

By 2025, all added or replaced public sector vehicles will use clean energy, and the province will ban the sale of gasoline-fueled automobiles by 2030 (the first nationwide).

Buildings

By 2025, 100,000 square meters of ultra-low energy buildings will be constructed, and green buildings will make up 80% of new urban construction (below the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 62.1% (the increase ranks **27th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2019 vs. 2015)

  24% (12%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  8.5% decrease (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  8.8% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  13.1% (the increase ranks **1st nationwide)**

- Coal power capacity addition

  -516 MW

- Installed capacity of renewable energy generation

  2176 MW (the increase ranks **28th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  12.1% (10%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -20.37% (the decrease ranks **11th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  43.8% (the increase ranks **5th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  1% (the increase ranks **11th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.1% (the increase ranks **27th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  47.9% (the increase ranks **2nd nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
The 14th Five-Year Comprehensive Work Plan for Energy Saving and Emissions Reduction in Hainan Province	Hainan Provincial People's Government	2023	Cross-sector Action
Guidance on Industrial Structure Adjustment in Hunan Province during the 14th Five-Year Plan Period	Hainan Provincial Development and Reform Commission	2021	Industry
The Views of Hainan Province on the Promotion of Distributed Photovoltaic Power Generation Through Trial Programs	Hainan Provincial Development and Reform Commission	2021	Energy
Notice Regarding the Work of Concentrated Photovoltaic Power Generation on Flat-rate Internet Access Projects in Hainan Province in 2022	Hainan Provincial Development and Reform Commission	2022	Energy
The Comprehensive Reform Plan for Energy in Hainan Province	Leading Group for Advancing Hainan's Comprehensively Deepening Reform and Opening-up	2020	Energy
The 14th Five-Year Plan for Development of High-tech Industries in Hainan Province	Hainan Provincial People's Government	2021	Industry Restructuring
The 14th Five-Year Plan for Energy and Resource Conservation in Public Institutions in Hainan Province	Hainan Provincial Government Office Administration	2021	Energy
The 14th Five-Year Plan for Development of Marine Economy in Hainan Province	Department of Natural Resources and Planning of Hainan Province	2021	Industry Restructuring
The 14th Five-Year Plan for Transportation Development (Highway and Waterway) in Hainan Province	Hainan Provincial Department of Transportation	2022	Transport

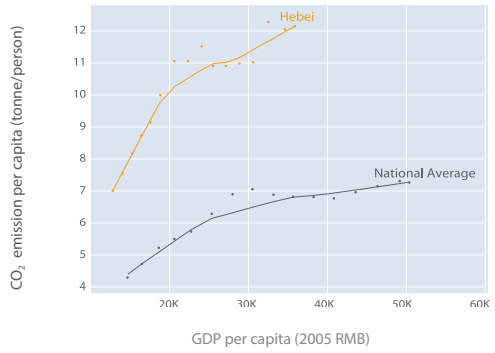
Action	Published by	Year	Sector
The 14th Five-Year Plan for Green Buildings (Prefabricated Buildings) in Hainan Province (2021-2025)	Hainan Provincial Department of Housing and Urban-Rural Development	2021	Building
Implementation Plan for Carbon Peaking in Hainan Province	Hainan Provincial People's Government	2022	"1+N" Policy Framework
The 14th Five-Year Plan for Comprehensive Transportation in Hebei Province	Hainan Provincial People's Government	2021	Transport
The 14th Five-Year Plan for Ecological and Environmental Protection in Hainan Province	Hainan Provincial People's Government	2021	Environment Protection
Several Views of Hainan Province on the Further Promotion of High-quality Green Development of Assembled Buildings	Hainan Provincial People's Government	2022	Building

Hebei

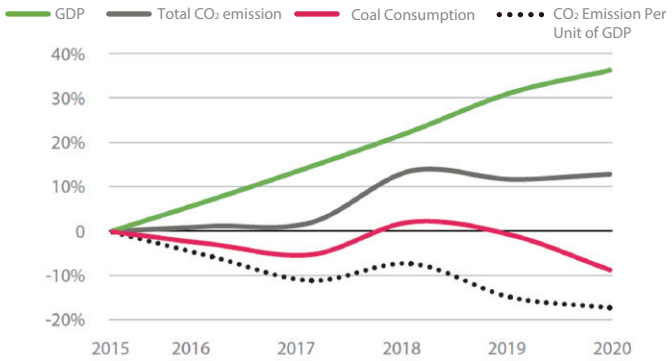
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
74.64	18.9	48302 (high income level)	12	26	12.1

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the province will ensure that peak carbon emissions will be reached before 2030. By 2060, carbon neutrality will be achieved.

Energy intensity reduction targe: **14.5%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 13%, and the proportion of coal consumption in primary energy consumption in the province will be at 67% (the decrease ranks **5th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 52360 MW (the increase ranks **4th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 16.5% (above the national target), and CO2 emissions per unit of industrial value-added will fall by 19.0%.

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, all newly-constructed buildings in urban areas will be green buildings (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 36.5% (the increase ranks **6th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  25% (20.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  11.3% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  8.3% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  4.8% (the increase ranks **10th nationwide)**

- Coal power capacity addition

  8370 MW (the increase ranks **6th nationwide)**

- The installed capacity of renewable energy generation

  32893 MW (the increase ranks **2nd nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  N/A (17%)
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -2.98% (the decrease ranks **25th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  36.1% (the increase ranks **11th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -17% (the decrease ranks **2nd nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  4% (the increase ranks **5th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  21.7% (the increase ranks **17th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in the Housing and Urban-Rural Sector in Hebei Province	Hebei Provincial Department of Housing and Urban-Rural Development	2023	"1+N" Policy Framework
Notice Regarding the Implementation Plan for Carbon Peaking in Hebei Province Issued by the People's Government of Hebei Province	Hebei Provincial People's Government	2022	"1+N" Policy Framework
The 14th Five-Year Plan for Highway Development in Hebei Province	Hebei Provincial Department of Transportation	2022	Transport
The 14th Five-Year Plan for Housing and Urban-Rural Construction in Hebei Province	Hebei Provincial Department of Housing and Urban-Rural Development	2021	Building
The 14th Five-Year Plan for New Construction Industrialization in Hebei Province	Hebei Provincial Department of Housing and Urban-Rural Development	2021	Building
The 14th Five-Year Plan for Agricultural and Rural Ecological Protection in Hebei Province	Hebei Provincial Department of Ecology and Environment	2022	Environment Protection
Several Measures on Accelerating the High-Quality Development of Steel Industry in Hebei Province	Multiple departments	2022	Industry
The 14th Five-Year Plan for Ecological and Environmental Monitoring in Hebei Province	Hebei Provincial Department of Ecology and Environment	2022	Environment Protection
The 14th Five-Year Plan for Modern Comprehensive Transport System and Hub Economic Development in Hebei Province	Hebei People's Government	2022	Transport

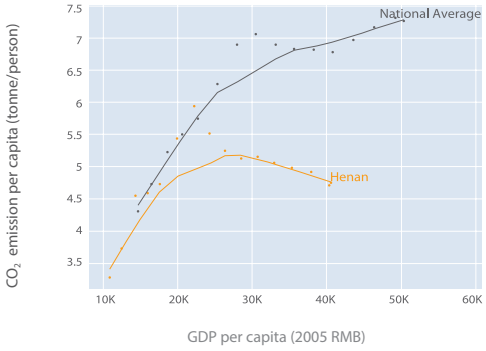
Action	Published by	Year	Sector
Hebei Province 14th Five-Year Energy Conservation and Emission Reduction Comprehensive Implementation Plan	Hebei People's Government	2022	Cross-sector Action
Implementation Opinions of the Hebei Provincial Development and Reform Commission on Further Improving the Coal Market Price Formation Mechanism	Hebei Provincial Development and Reform Commission	2022	Energy
Hebei Province 14th Five-Year Hydrogen Industry Development Plan	Hebei Provincial Development and Reform Commission	2021	Energy
Hebei Province 14th Five-Year New Energy Storage Development Plan	Hebei Provincial Development and Reform Commission	2022	Energy
Implementation Opinion on Promoting Provincial Geothermal Energy Development and Utilization	Multiple departments	2022	Energy, Cross-sector Action
Implementation Plan of Hebei Province for Promoting Green Consumption	Multiple departments	2022	Cross-sector Action
Implementation Plan of Hebei Province for Tightening Energy Efficiency Constraints to Promote Energy Conservation and Carbon Emission Reduction in Key Areas	Multiple departments	2022	Industry
Hebei Province 14th Five-Year Building "Zero-Waste City" Work Plan	Hebei People's Government	2022	Waste
Notice by the Hebei Province Energy Bureau on Issuing the Guidelines for Building Rooftop Distributed Photovoltaic System	Energy Bureau of Hebei Province	2022	Energy, Building
Hebei Province 14th Five-Year Plan for Ecological and Environmental Protection Notice on Implementing Opinions on Promoting High-quality Development and Doing a Good Job in Carbon Neutralization	Hebei People's Government	2022	Environment Protection
Hebei Province 14th Five-Year Industrial Green Development Plan	Hebei Provincial Department of Industry and Information Technology	2021	Industry
Hebei Province Opinions on Completely, Accurately and Comprehensively Implementing the New Development Concept and Doing a Good Job in Carbon Neutralization	Hebei People's Government	2022	"1+N" Policy Framework

Henan

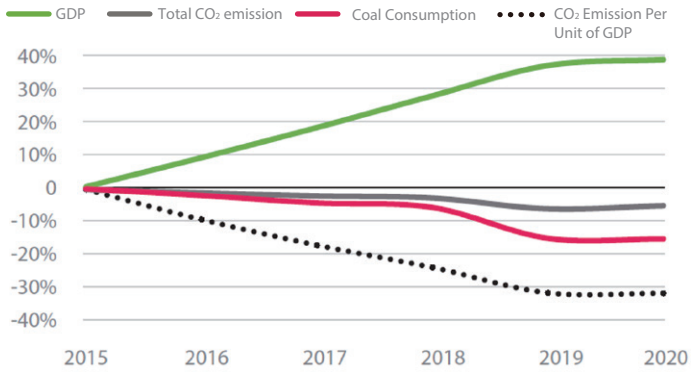
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
99.41	16.7	54691 (high income level)	5	20	4.7

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, high-quality development and carbon peaking will be on a firm foundation. By **2030**, carbon peaking will be achieved. Looking ahead to 2035, total carbon emissions will peak and then steadily decline.
Energy intensity reduction target: **14.5%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 16.2%, and the proportion of coal consumption in primary energy consumption in the province will be at 60% (the decrease ranks **8th nationwide)**.

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 20000 MW (the increase ranks **17th nationwide)**.

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 18.0% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 4%, relative to 2020 (below the national target).

Buildings

By 2025, all newly constructed buildings in urban areas will meet green building standards, and the proportion of star rated green buildings will be no less than 30% (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 26.0% (the increase ranks **8th nationwide)**.

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  28% (19.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  7.9% decrease (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  8.8% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  6.1% (the increase ranks **6th nationwide)**

- Coal power capacity addition

  6410 MW (the increase ranks **13th nationwide)**

- The installed capacity of renewable energy generation

  26250 MW (the increase ranks **4th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  25% (16%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -26.15% (the decrease ranks **6th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  32.7% (the increase ranks **13th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  17% (the decrease ranks **21st nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  1.45% (the increase ranks **14th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  23.7% (the increase ranks **16th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
The Three-Year Action Plan for Green, Low Carbon and High-quality Development of Manufacturing Industry in Henan Province (2023-2025)	People's Government of Henan Province	2023	Industry
Implementation Plan for Carbon Peaking in Henan Province	Henan Provincial Committee of CPC, People's Government of Henan Province	2023	"1+N" Policy Framework
Notice Regarding the Issuance of Henan Province 2023-2024 Key Areas of Energy Saving and Carbon Reduction Transformation Implementation Plan	Henan Provincial Development and Reform Commission	2023	Industry
Implementation Plan for Carbon Peaking Pilot Construction in Henan Province	Henan Provincial Development and Reform Commission	2022	"1+N" Policy Framework
Implementation Plan for Accelerating the Construction of Charging Infrastructure along Highways in Henan Province	Multiple departments	2022	Transport
Notice Regarding the Medium and Long-Term Plan for the Development of Hydrogen Energy Industry in Henan Province (2022-2035) and the Work Plan for the Plan and Construction of the Zhengbian Luopu Hydrogen Corridor from the Office of the People's Government of Henan Province	People's Government of Henan Province	2022	Energy
The 14th Five-Year Implementation Plan for the Integrated Work of Energy Conservation and Emissions Reduction in Henan Province	People's Government of Henan Province	2022	Cross-sector Action

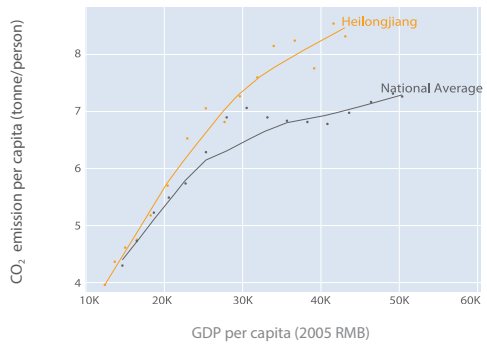
Action	Published by	Year	Sector
Guidance on Further Accelerating the Development of New Energy Vehicle Industry in Henan Province	People's Government of Henan Province	2022	Transport
The 14th Five-Year Plan for Modern Comprehensive Transport System and Hub Economic Development in Henan Province	People's Government of Henan Province	2022	Transport
Henan Province 14th Five-Year Plan for Urban Renewal and Urban and Rural Habitat Construction Plan	People's Government of Henan Province	2022	Building
Henan Province 14th Five-Year Plan for Ecological and Environmental Protection and Ecological Economy Development	People's Government of Henan Province	2022	Environment Protection
Henan Province Energy Compensated Usage and Trading Trial Program	People's Government of Henan Province	2022	Green Economy
Notice by the People's Government of Henan Province of Issuing Henan Province 14th Five-Year Plan on Developing High-Quality Manufacturing Industry and Modern Service Industry	People's Government of Henan Province	2022	Industry Restructuring, Industry
Notice on Issuing the Major Tasks and Names of the 2022 Henan Province Key Projects	Henan Provincial Development and Reform Commission	2022	Industry
Henan Province 14th Five-Year Plan on a Modern Energy System and Carbon Peaking and Carbon Neutrality	People's Government of Henan Province	2021	"1+N" Policy Framework
Notice on Strengthening Energy Consumption and Coal Index Guarantee to Support the Construction of Major Projects	Henan Provincial Development and Reform Commission	2022	Energy
Henan Province Action Plan for Accelerating the Quality Improvement and Development of Traditional Industries and Other Three Plans	People's Government of Henan Province	2022	Industry
Henan Green Building Evaluation Standard	Henan Province Department of Housing and Urban Rural Construction	2020	Building

Heilongjiang

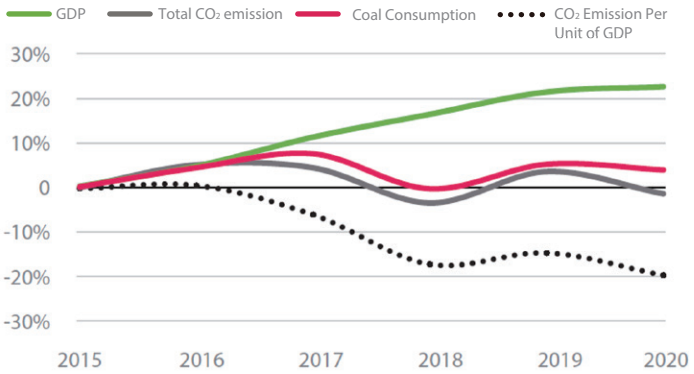
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
31.71	47.3	43432 (high income level)	25	29	8.3

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, green, low-carbon development in a circular economy will be underway, laying a solid foundation for carbon peaking.
By **2030,** the goal of peaking carbon emissions can be achieved.
Energy intensity reduction target: **15%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 15.0%, and the proportion of coal consumption in primary energy consumption in the province will be at 60.0% (the decrease ranks **7th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 15500 MW (the increase ranks **23rd nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 10% (above the national target).

Transportation

Implement the low-carbon proportion of commercial vehicles and ships per unit of transport turnover.

Buildings

By 2025, the newly-built and renovated surface area will be 10 million square meters, and all newly-constructed buildings in urban areas will meet green building standards (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 47.3% (the increase ranks **25th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  20.5% (17%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  9.6% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  1.5% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  3.4% (the increase ranks **16th nationwide)**

- Coal power capacity addition

  2460 MW (the increase ranks **20th nationwide)**

- Installed capacity of renewable energy generation

  5914 MW (the increase ranks **24th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  N/A (15%)
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  10.73% (the decrease ranks **29th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  11.2% (the increase ranks **28th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  10% (the decrease ranks **16th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.53% (the decrease ranks **22nd nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  5.9% (the increase ranks **22nd nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in the Industrial Sector of Heilongjiang Province	Multiple departments	2022	"1+N" Policy Framework
Implementation Plan for Carbon Peaking in the Urban and Rural Construction Sector in Heilongjiang Province	Heilongjiang Provincial Department of Housing and Urban-Rural Development, Heilongjiang Provincial Development and Reform Commission	2022	"1+N" Policy Framework
Implementation Plan for Carbon Peaking in Heilongjiang Province	Heilongjiang Provincial People's Government	2022	"1+N" Policy Framework
Guidance on Tax Collection Policy for Carbon Peaking and Carbon Neutrality in Heilongjiang Province	Heilongjiang Provincial Tax Service, State Taxation Administration	2022	"1+N" Policy Framework
The 14th Five-Year Plan for Highway and Waterway Transportation Development in Heilongjiang Province	Heilongjiang Provincial Department of Transportation	2021	Transport
The 14th Five-Year Plan for Urban Housing Development in Heilongjiang Province	Heilongjiang Provincial Department of Housing and Urban-Rural Development	2021	Building
The 14th Five-Year Plan for Building Industry Development in Heilongjiang Province	Heilongjiang Provincial Department of Housing and Urban-Rural Development	2021	Building
The 14th Five-Year Plan for Industrial Energy Saving and Green Development in Heilongjiang Province	Heilongjiang Provincial Department of Industry and Information Technology	2021	Industry
Implementation Plan of Heilongjiang Province to Establish a Sound Green and Low Carbon Cycle Development Economic System	Heilongjiang Provincial People's Government	2022	Green Economy

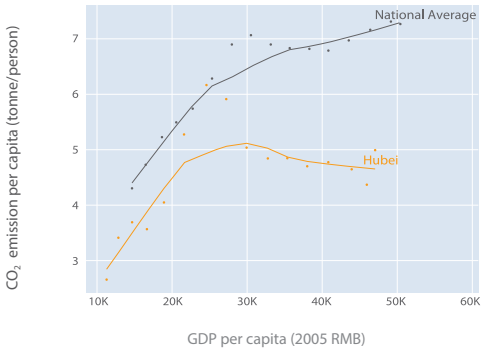
Action	Published by	Year	Sector
Heilongjiang Province 14th Five-Year Comprehensive Transport Development Plan	Heilongjiang Provincial People's Government	2022	Transport
Heilongjiang Province 14th Five-Year Ecological and Environmental Protection Plan	Heilongjiang Provincial People's Government	2021	Environment Protection
Implementation Plan of Heilongjiang Province on the 14th Five-Year Energy Conservation and Emission Reduction	Heilongjiang Provincial People's Government	2022	Cross-sector Action
Heilongjiang Province 14th Five-Year Comprehensive Transportation System Development Plan	Heilongjiang Provincial People's Government	2021	Transport

Hubei

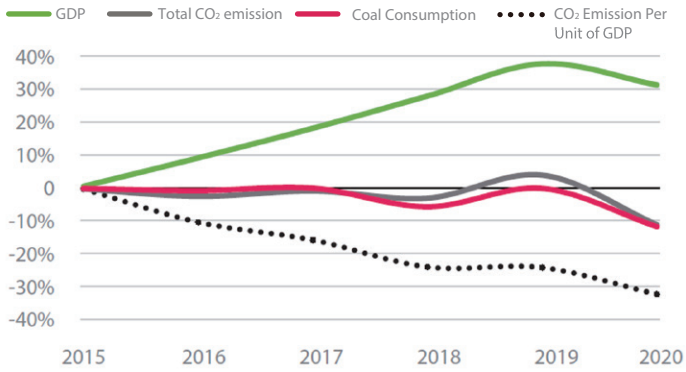
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
57.45	18.6	73687 (high income level)	8	9	4.4

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

Carbon emissions from local cities will follow an orderly path toward a peak. By 2035, total carbon emissions will peak and then steadily decline.

Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 20.0%, and the proportion of coal consumption in primary energy consumption in the province will be at 51.0% (the decrease ranks **18th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 20000 MW (the increase ranks **17th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 18% (equal to the national target).

Transportation

By 2025, the carbon emissions intensity per unit of transport turnover will decline by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, all newly-constructed buildings in urban areas will meet green building standards, and the proportion of star rated green buildings will reach 20% (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 42.5% (the increase ranks **14th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  24.5% (19.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  9.8% increase (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  7.7% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  4.4% (the increase ranks **12th nationwide)**

- Coal power capacity addition

  4570 MW (the increase ranks **16th nationwide)**

- The installed capacity of renewable energy generation

  11672 MW (the increase ranks **18th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  18% (16%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -20.03% (the decrease ranks **12th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  29% (the increase ranks **16th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  20% (the decrease ranks **23rd nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.8% (the decrease ranks **20th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  20.8% (the increase ranks **18th nationwide)**

Policy List (as of March 2023)

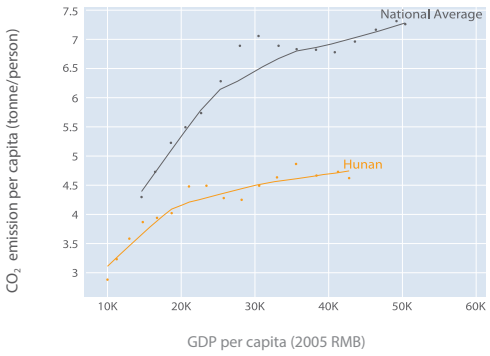
Action	Published by	Year	Sector
Technology Innovation Action Plan for Carbon Peaking and Carbon Neutrality in Hubei Province	Hubei Provincial Department of Science and Technology	2022	"1+N" Policy Framework
Implementation Plan for the Synthesis of Pollution and Carbon Emissions Reduction in Hubei Province	Multiple departments	2022	Cross-sector Action
The 14th Five-Year Plan for Addressing Climate Change in Hubei Province	Hubei Provincial Department of Ecology and Environment	2022	Cross-sector Action
The 14th Five-Year Plan for Water Transportation Development in Hubei Province	Hubei Provincial Department of Transportation	2022	Transport
Implementation Opinions of Hubei Province 14th Five-Year Plan for Housing and Urban-Rural Development	Hubei Provincial Department of Housing and Urban-Rural Development	2021	Building
Hubei Province 14th Five-Year Plan for Energy Development	People's Government of Hubei Province	2022	Energy
Hubei Province 14th Five-Year Plan for Ecological and Environmental Protection	Hubei Provincial Department of Ecology and Environment	2021	Environment Protection
Hubei Province Comprehensive Transportation Development 14th Five-Year Plan	People's Government of Hubei Province	2021	Transport
Measures for the Administration of Municipal Domestic Waste Disposal Charges in Hubei Province	Multiple departments	2021	Waste
Implementation Plan of Green Building Action in Hubei Province	Hubei Provincial Department of Housing and Urban-Rural Development	2020	Building

Hunan

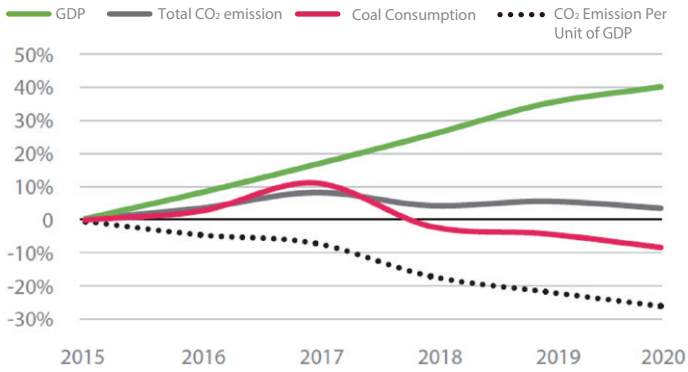
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
66.45	21.2	62537 (high income level)	9	13	4.6

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the target of peaking carbon emissions will be achieved.
Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 22.0%, and the proportion of coal consumption in primary energy consumption in the province will be at 52.0% (the decrease ranks **16th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 14400 MW (the increase ranks **24th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 14.5% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transported turnover will be cut by 3% relative to 2020 (below the national target)

Buildings

By 2025, one million square meters of ultra-low energy buildings will have been constructed, the proportion of newly added renewable energy in said construction area will exceed 16%, all newly-constructed buildings in urban areas will meet green building standards, and the proportion of star rated green buildings will be no less than 10% (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will be no less than 59.0% (the increase ranks **27th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  19.8% (18%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  3.1% increase (the increase is below the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  4.9% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  3.1% (the increase ranks **20th nationwide)**

- Coal power capacity addition

  303 MW (the increase ranks **27th nationwide)**

- The installed capacity of renewable energy generation

  9510 MW (the increase ranks **20th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  19.4% (16%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -25.67% (the decrease ranks **8th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  35.3% (the increase ranks **12th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  22% (the decrease ranks **24th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.39% (the decrease ranks **23rd nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  24.3% (the increase ranks **14th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in the Industrial Sector in Hunan Province	Hunan Provincial Department of Industry and Information Technology	2022	"1+N" Policy Framework
Action Plan for Capacity Improvement of Power Support in Hunan Province (2022-2025)	Hunan Provincial Development and Reform Commission	2022	Energy
Implementation Plan for Carbon Peaking and Carbon Neutrality with the Support of Science and Technology in Hunan (2022-2030)	Hunan Provincial Science and Technology Department	2022	"1+N" Policy Framework
Implementation Plan for Carbon Peaking in Hunan Province	Hunan Provincial People's Government	2022	"1+N" Policy Framework
Implementation Plan for the Achievement of Carbon Peaking in Hunan Province Through the Promotion of Green and Low-Carbon Transformation of the Energy Sector	Hunan Provincial Development and Reform Commission	2022	"1+N" Policy Framework
The 14th Five-Year Implementation Plan for the Integrated Work of Energy Conservation and Emissions Reduction in Hunan Province	Hunan Provincial People's Government	2022	Cross-sector Action
The 14th Five-Year Plan for Transportation Development (Highway, Waterway) in Hunan Province	Hunan Provincial Department of Transportation	2022	Transport
The 14th Five-Year Plan for Renewable Energy Development in Hunan Province	Hunan Provincial Development and Reform Commission	2022	Energy
Hunan Province Electricity, Calculation, and Technology Innovation Capacity Supporting Plan (2022-2025)	Hunan Provincial People's Government	2022	Cross-sector Action
Hunan Province 14th Five-Year Plan for Modern Integrated Transportation System and Hub Economic Development	Hunan Provincial People's Government	2021	Environment Protection

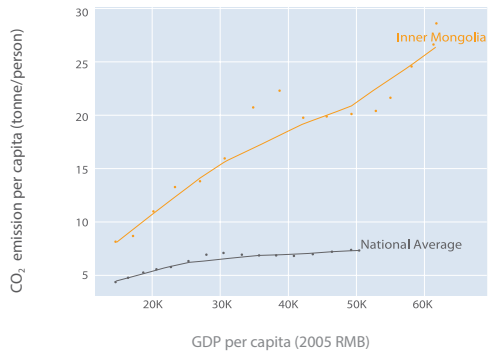
Action	Published by	Year	Sector
Hunan Province Manufacture Industry Green Low Carbon Transformation Action Plan (2022-2025)	Hunan Provincial Department of Industry and Information Technology	2022	Industry
Several Policies in Hunan Province for Promoting Stable Growth of Industrial Economy	Hunan Provincial People's Government	2021	Industry, Cross-sector Action
Implementation Opinions of the Hunan Province on Comprehensively and Accurately Implementing Carbon Peak and Carbon Neutrality	Hunan Provincial Committee of CPC, Hunan Provincial People's Government	2022	"1+N" Policy Framework
Implementation Plan for Deepening Chang-Zhu-Tan Financial Reform (2021-2023)	Hunan Provincial People's Government	2021	Green Economy
Hunan Province 14th Five-Year Modern Comprehensive Transportation System Development Plan	Hunan Provincial People's Government	2021	Transport

Inner Mongolia

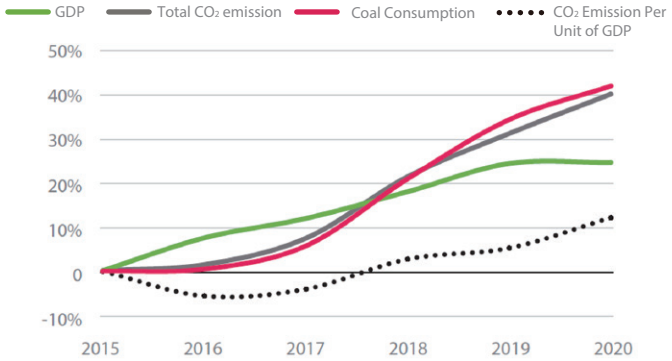
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
24.03	118.3	71640 (high income level)	22	11	28.6

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

The targets of carbon peaking by 2030 and carbon neutrality by 2060 can be achieved.
Energy intensity reduction target: **15.5%** (above the national target)

|Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources will reach 18.0%, and the proportion of coal consumption in primary energy consumption in the province will be at 75.0% (the decrease ranks **12th nationwide**).

|Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 83770 MW (the increase ranks **1st nationwide**).

|Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 20.0% (above the national target).

|Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 4%, relative to 2020 (below the national target).

|Buildings

By 2025, the renewable energy substitution rate in urban buildings will be 30%, all newly-constructed buildings in urban areas will be built as green buildings, and the proportion of star-rated green buildings will reach 30% (equal to the national target).

|Agriculture and Forestry

By 2025, the forest coverage rate will reach 23.5% (the increase ranks **17th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  -13.9% (17%), below the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  42.5% increase (the increase is above the national level)

- Decrease of coal consumption (percentage point, 2020 - 2015)

  0.9% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  2.7% (the increase ranks **23rd nationwide)**

- Coal power capacity addition

  20850 MW (the increase ranks **2nd nationwide)**

- The installed capacity of renewable energy generation

  21459 MW (the increase ranks **7thnationwide)**

  .

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  N/A (14%)
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  18.97% increase (the increase ranks **30thnationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  5.9% (the increase ranks **30th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  15% (the decrease ranks **19th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  1.5% (the increase ranks **12th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  19.6% (the increase ranks **19th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for the Development of Cold Chain Logistics in Inner Mongolia Autonomous Region	Inner Mongolia Autonomous Region People's Government	2022	Transport
Several Policies for Supporting the Development of New Energy Storage in Inner Mongolia Autonomous Region (2022-2025)	Inner Mongolia Autonomous Region People's Government	2022	Energy
Implementation Plan for the Promotion of Green Development in Urban and Rural Development in the Inner Mongolia Autonomous Region	Inner Mongolia Autonomous Region People's Government	2022	"1+N" Policy Framework
Implementation Plan for Carbon Peaking in Inner Mongolia Autonomous Region	Inner Mongolia Autonomous Region People's Government, Inner Mongolia Autonomous Region Committee of CPC	2022	"1+N" Policy Framework
The 14th Five-Year Plan for Addressing Climate Change in Inner Mongolia Autonomous Region	Inner Mongolia Autonomous Region People's Government	2021	Cross-sector Action
Notice Regarding the Improvement of Dual Control Policies on Energy Consumption Intensity and Total Amount to Guarantee " Progress in Stability" and High-quality Development Issued by the Development and Reform Commission of Inner Mongolia Autonomous Region	Development and Reform Commission of Inner Mongolia	2022	Energy
The Views of Inner Mongolia Autonomous Region on Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the work of Carbon Peaking and Carbon Neutrality	Inner Mongolia Autonomous Region People's Government, Inner Mongolia Autonomous Region Committee of CPC	2022	Cross-sector Action, "1+N" Policy Framework

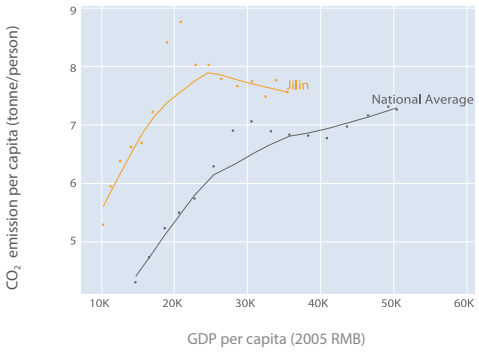
Action	Published by	Year	Sector
Inner Mongolia Autonomous Region 14th Five-Year Plan for Highway and Water Transportation Development	Department of Transportation of Inner Mongolia Autonomous Region	2021	Transport
Inner Mongolia Autonomous Region 14th Five-Year Plan for Housing and Urban-Rural Development	Department of Housing and Urban-Rural Development of Inner Mongolia Autonomous Region	2021	Building
Implementation Plan of the Inner Mongolia Autonomous Region on the 14th Five-Year Energy Conservation and Emission Reduction	Inner Mongolia Autonomous Region People's Government	2022	Cross-sector Action
Inner Mongolia Autonomous Region 14th Five-Year Plan for Renewable Energy Development	Energy Bureau of Inner Mongolia Autonomous Region	2022	Energy
Inner Mongolia Autonomous Region 14th Five-Year Plan for Energy Technology Innovation Development	Energy Bureau of Inner Mongolia Autonomous Region	2022	Energy
Inner Mongolia Autonomous Region 14th Five-Year Oil and Gas Development Plan	Energy Bureau of Inner Mongolia Autonomous Region	2022	Energy
Inner Mongolia Autonomous Region 14th Five-Year Electricity Development Plan	Energy Bureau of Inner Mongolia Autonomous Region	2022	Energy
Inner Mongolia Autonomous Region 14th Give-year Energy Development Plan	Inner Mongolia Autonomous Region People's Government	2022	Energy
Opinions of the People's Government of the Inner Mongolia Autonomous Region on Promoting High-End, Intellectualized, and Green Manufacturing Industry Development	Inner Mongolia Autonomous Region People's Government	2022	Industry
Policy List of the Inner Mongolia Autonomous Region on Promoting High-End, Intellectualized, and Green Manufacturing Industry	Inner Mongolia Autonomous Region Department of Industry and Information Technology	2022	Industry
Inner Mongolia Autonomous Region 14th Five-Year Plan for the Development of Coal Industry	Energy Bureau of Inner Mongolia Autonomous Region	2022	Industry
Inner Mongolia Autonomous Region 14th Five-Year Energy Conservation Plan	Inner Mongolia Autonomous Region People's Government	2022	Cross-sector Action
Inner Mongolia Autonomous Region Promotes Thermal Power Flexibility Transformation to Promote Market-Based Consumption of New Energy Implementation Rules (for Trial Implementation)	Energy Bureau of Inner Mongolia Autonomous Region	2021	Energy
Action Plan for Energy Conservation, Consumption Reduction and Flexibility Transformation of Coal Power in Inner Mongolia Autonomous Region (2021-2023)	Energy Bureau of Inner Mongolia Autonomous Region	2021	Energy
14th Five-Year Plan of Ecological Environment Protection in Inner Mongolia Autonomous Region	Inner Mongolia Autonomous Region People's Government	2021	Environment Protection

Jilin

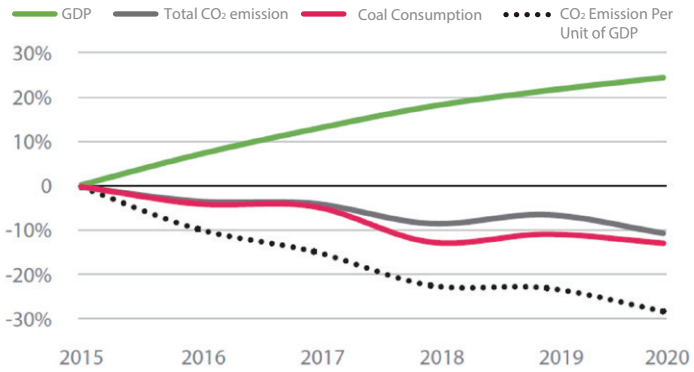
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
23.99	18.7	50561 (high income level)	26	25	7.6

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the goal of peaking carbon emissions can be achieved.
Energy intensity reduction target: **15%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 17.7%, and the proportion of coal consumption in primary energy consumption in the province will be at 59.7% (the decrease ranks **21st nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 20850 MW (the increase ranks **16th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 13.5% (equal to the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of converted turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, all newly-constructed buildings in urban areas will be built as green buildings (equal to the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 45.8% (the increase ranks **10th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  25.2% (18%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  2.9% decrease (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  8.6% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  6.1% (the increase ranks **5th nationwide)**

- Coal power capacity addition

  318 MW (the increase ranks **26th nationwide)**

- The installed capacity of renewable energy generation

  6298 MW (the increase ranks **22nd nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  16.96% (15%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -27.37% (the decrease ranks **4th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  15.5% (the increase ranks **22nd nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  25% (the decrease ranks **26th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)
  1.14% (the increase ranks **17th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  3.1% (the increase ranks **25th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
The 14th Five-Year Implementation Plan for the Construction of a Zero-waste City in Jilin Province	Jilin Provincial Department of Ecology and Environment	2023	Waste
Strategic Plan for High-quality Development of New Energy Industry in Jilin Province (2022-2030)	People's Government of Jilin Province	2022	Energy
Notice Regarding the Promotion on the Construction of a Zero-Waste City Issued by the Department of Ecology and Environment of Jilin Province	Jilin Provincial Department of Ecology and Environment	2022	Waste
The Views of the Jilin Provincial Chinese Communist Party and People's Government of Jilin Province on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	Jilin Provincial Committee of CPC, People's Government of Jilin Province	2021	"1+N" Policy Framework
Medium and Long-term Development Plan of "Hydrogen-powered Jilin" (2021-2035)	People's Government of Jilin Province	2022	Energy
The 14th Five-Year Implementation Plan for the Integrated Work of Energy Conservation and Emissions Reduction in Jilin Province	People's Government of Jilin Province	2022	Cross-sector Action
The 14th Five-Year Plan for Energy Development in Jilin Province	People's Government of Jilin Province	2022	Energy
Implementation Plan for Carbon Peaking in Jilin Province	People's Government of Jilin Province	2022	"1+N" Policy Framework
The 14th Five-Year Plan for Highway and Waterway Transportation Development in Jilin Province	Jilin Provincial Department of Transportation	2022	Transport

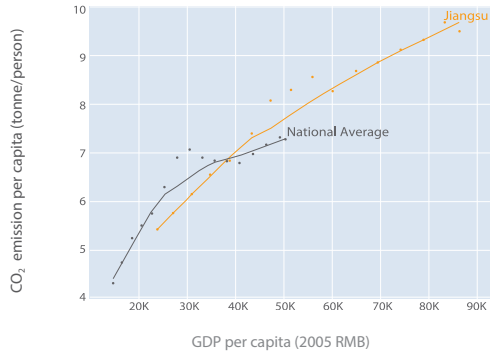
Action	Published by	Year	Sector
Several Measures of Jilin Provincial Department of Ecological Environment to Provide Comprehensive and Precise Services for High-Quality Economic Development	Jilin Provincial Department of Ecology and Environment	2022	Environment Protection
Action Plan for Promoting Steady Growth of Industrial Economy in Jilin Province	People's Government of Jilin Province	2022	Industry
The 14th Five-Year Plan for Industrial Development in Jilin Province	People's Government of Jilin Province	2021	Industry
Implementation Plan of Jilin Province for All-Scale Coordination to Promote Livestock and Poultry Manure Resource Utilization	People's Government of Jilin Province	2022	Waste
Jilin Province 14th Five-Year Plan for Natural Resource Protection and Utilization	People's Government of Jilin Province	2022	Cross-sector Action
Notice of the Jilin Energy Bureau on Supporting Small and Medium-Sized Enterprises to Build Self-Generated Distributed Photovoltaic Power Generation Projects	Jilin Provincial Energy Bureau	2022	Energy
Jilin Province 14th Five-Year Plan for Housing and Urban-Rural Development	People's Government of Jilin Province	2022	Building
Jilin Province 14th Five-Year Plan for Ecological and Environmental Protection	People's Government of Jilin Province	2021	Environment Protection

Jiangsu

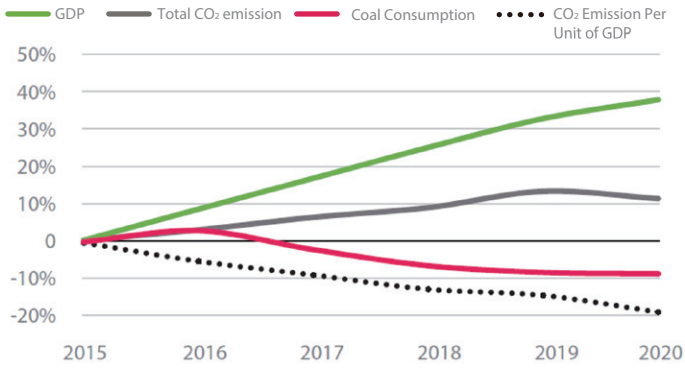
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
84.77	10.3	121333 (high income level)	2	3	9.5

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, carbon dioxide emissions will peak and decline steadily, laying the groundwork for carbon neutrality. By **2060**, carbon neutrality will be reached as scheduled.

Energy intensity reduction target: **15%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 18.0%, and the proportion of coal consumption in primary energy consumption in the province will be at 50.0% (the decrease ranks **13th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 30690 MW (the increase ranks **11th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 17.0% (above the national target), and CO2 emissions per unit of industrial value-added will fall by 20.0%.

Transportation

By 2025, the energy intensity of commercial trucks, cargo vessels, port production and social vehicles will decrease by 2.8%, 2.7%, 3% and 3.2%, respectively, compared to projections from 2020.

Buildings

By 2025, 5 million square meters of ultra-low energy construction will be completed, the renewable energy replacement rate in urban buildings will reach 8%, and all newly-constructed buildings in urban areas will be built as green buildings (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 24.1% (the increase ranks **23rd nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2019 vs. 2015)

  24% (20.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  9.5% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  10.1% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  2.7% (the increase ranks **21st nationwide)**

- Coal power capacity addition

  7110 MW (the increase ranks **10th nationwide)**

- The installed capacity of renewable energy generation

  26790 MW (the increase ranks **3rd nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  20% (17%), above the national target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -14.78% (the decrease ranks **15th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  44.4% (the increase ranks **4th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  15% (the decrease ranks **20th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  1.5% (the increase ranks **13th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  26% (the increase ranks **13th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for the Synthesis of Pollution and Carbon Emissions Reduction in Jiangsu Province	Multiple departments	2023	Cross-sector Action
Implementation Plan for Carbon Peaking in the Industrial Sector and Key Industries of Jiangsu Province	Multiple departments	2023	"1+N" Policy Framework
Measures for the Management of Special Funds for Carbon Peaking and Carbon Neutrality Technology Innovation in Jiangsu Province (Provisional)	Jiangsu Provincial Department of Finance, Jiangsu Provincial Department of Science and Technology	2022	"1+N" Policy Framework,
Implementation Views on Promoting High-quality Development for Carbon Peaking and Carbon Neutrality Work	Jiangsu Provincial Committee of CPC, People's Government of Jiangsu Province	2022	"1+N" Policy Framework
The 14th Five-Year Implementation Plan for New Energy Storage Development in Jiangsu Province	Jiangsu Provincial Development and Reform Commission	2022	Energy
The 14th Five-Year Plan for the Development of Comprehensive Transport Services in Jiangsu Province	Jiangsu Provincial Department of Transportation	2021	Transport
The 14th Five-Year Plan for Highway Development in Jiangsu Province	Jiangsu Provincial Department of Transportation	2021	Transport
The 14th Five-Year Special Plan for Renewable Energy Development in Jiangsu Province	Jiangsu Provincial Development and Reform Commission	2022	Energy
The 14th Five-Year Plan for Green Transportation Development in Jiangsu Province	Jiangsu Provincial Department of Transportation	2021	Transport

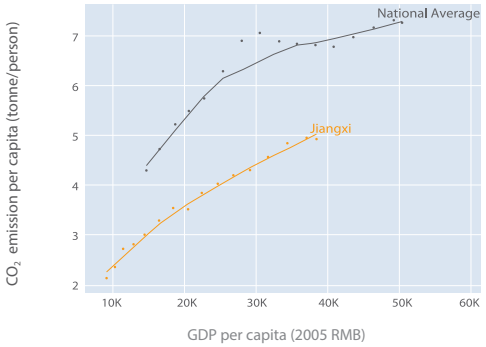
Action	Published by	Year	Sector
Jiangsu Province 14th Five-Year Green Construction and High-Quality Development Plan	Jiangsu Provincial Department of Housing and Urban-Rural Development	2021	Building
Implementation Plan of Jiangsu Province to Promote Green Consumption	Jiangsu Provincial Development and Reform Commission	2022	Cross-sector Action
Jiangsu Province Action Plan for Energy-Saving Technology Reform in Industrial Fields (2022-2025)	Jiangsu Provincial Department of Industry and Information Technology	2022	Industry
Implementation Opinions of Jiangsu Province for 14th Five-Year Society Energy Conservation Plan	People's Government of Jiangsu Province	2021	Cross-sector Action
Implementation Opinions of Jiangsu Provincial Government on Accelerating the Establishment of All Green, Low Carbon, and Circular Development Economic System	People's Government of Jiangsu Province	2022	Cross-sector Action, Green Economy
Opinions on Further Promoting Green Certification and Low Carbon Circular Development	Jiangsu Provincial Market Supervision Administration	2022	Cross-sector Action, Green Economy
Jiangsu Province 14th Five-Year Plan on Alternative Fuel Vehicle Industry	People's Government of Jiangsu Province	2021	Transport
Jiangsu Province 14th Five-Year Plan for Addressing Climate Change	Jiangsu Provincial Department of Ecology and Environment	2022	Cross-sector Action
Work Plan of the Jiangsu Provincial Department of Ecology and Environment Promoting Carbon Peak and Carbon Neutrality in 2022	Jiangsu Provincial Department of Ecology and Environment	2022	Environment Protection
Notice on Implementing Opinions on Promoting High-quality Development and Doing a Good Job in Carbon Neutralization	People's Government of Jiangsu Province	2022	"1+N" Policy Framework
Notice on the Guiding Opinions on Vigorously Developing Green Finance	Jiangsu Provincial Development and Reform Commission	2021	Green Economy
Work Plan for the Construction of a "Waste-Free City" in Jiangsu Province	People's Government of Jiangsu Province	2022	Waste
Jiangsu Province 14th Five-Year Ecological and Environmental Protection Plan	People's Government of Jiangsu Province	2021	Environment Protection

Jiangxi

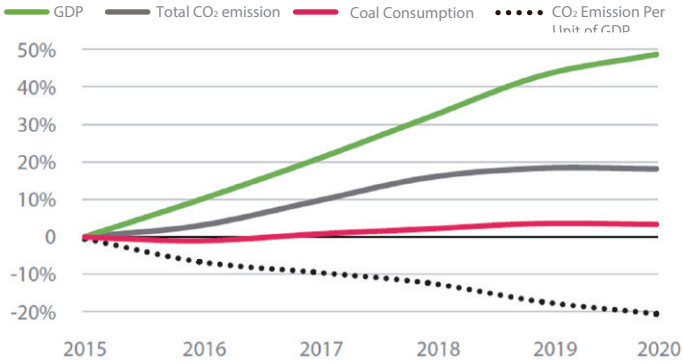
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
45.19	16.7	57065 (high income level)	15	17	4.9

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, carbon emissions will reach the peak, achieving the carbon peak target in tandem with the country; and by **2035**, carbon emissions will show a steady decline.

Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 18.3%, and the proportion of coal consumption in primary energy consumption in the province will be at 56.9% (the decrease ranks **9th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 18140 MW (the increase ranks **20th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 12.0% (below the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, half a million square meters of ultra-low energy and near-zero energy consumption buildings will be constructed, the renewable energy replacement rate in urban buildings will reach 8%, and all newly-constructed buildings in urban areas will be built as green buildings (equal to the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will remain stable.

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  22.4% (19.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  17.6% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  4.2% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  1.6% (the increase ranks **28th nationwide)**

- Coal power capacity addition

  3012 MW (the increase ranks **19th nationwide)**

- The installed capacity of renewable energy generation

  14018 MW (the increase ranks **17th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  18.3% (16%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  -13.41% (the decrease ranks **17th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  58.8% (the increase ranks **1st nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  23% (the decrease ranks **25th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0% (the increase ranks **28th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  59% (the increase ranks **1st nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Green Finance Development Plan in Jiangxi Province (2022-2025)	Jiangxi Provincial Bureau of Local Financial Regulation and Supervision	2022	Green Economy
Medium and Long-Term Plan for the Development of Hydrogen Energy Industry in Jiangxi Province (2023-2035)	Jiangxi Provincial Development and Reform Commission, Jiangxi Provincial Energy Bureau	2023	Energy
Implementation Plan for Carbon Peaking and Carbon Neutrality with the Support of Science and Technology in Jiangxi	Joint release by multiple departments	2022	"1+N" Policy Framework
The Three-Year Action Plan for the Overall Promotion of Rooftop Photovoltaic Construction in Development Zones in Jiangxi Province (2022-2024)	Jiangxi Provincial Development and Reform Commission	2022	Building, Industry
Implementation Plan on Deepening the Reform of the Price Mechanism to Support Carbon Peaking and Carbon Neutrality	Jiangxi Provincial Development and Reform Commission	2022	"1+N" Policy Framework
Announcement of Jiangxi Province Carbon Peaking and Carbon Neutrality Work Leading Group Office on the First Batch of Carbon Peaking Pilots in Jiangxi Province	Jiangxi Provincial Development and Reform Commission	2022	"1+N" Policy Framework
Guidance on the Development of Photovoltaic and Wind Power Project in Jiangxi Province (2022)	Jiangxi Provincial Development and Reform Commission, Jiangxi Provincial Energy Bureau	2022	Energy
Implementation Plan for Carbon Peaking in the Industrial Sector in Jiangxi Province	Multiple departments	2022	"1+N" Policy Framework
The 14th Five-Year Plan for Green Development of Industry in Jiangxi Province	Jiangxi Provincial Department of Industry and Information Technology	2021	Industry

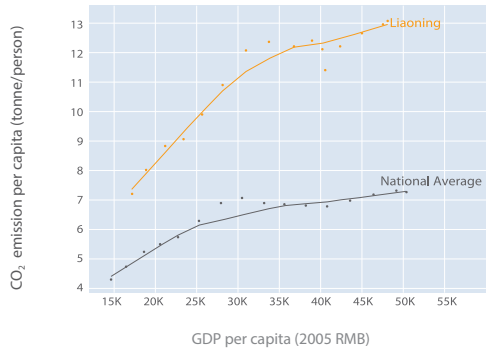
Action	Published by	Year	Sector
Implementation Plan for Carbon Emission Reduction and Sequestration in Agriculture and Rural Areas in Jiangxi Province	Jiangxi Provincial Department of Agriculture and Rural Affairs, Jiangxi Provincial Development and Reform Commission	2022	Agriculture Forestry and Land Use
The 14th Five-Year Plan for Building Energy Efficiency and Green Building Development in the Field of Housing and Urban-Rural Construction in Jiangxi Province	Jiangxi Provincial Department of Housing and Urban-Rural Development	2022	Building
Measures for the Management of Financial Funds for Carbon Peaking and Carbon Neutrality in Jiangxi Province	Jiangxi Provincial Department of Finance, Jiangxi Provincial Development and Reform Commission	2022	"1+N" Policy Framework
Implementation Plan for Carbon Peaking in Jiangxi Province	People's Government of Jiangxi Province	2022	"1+N" Policy Framework
The 14th Five-Year Comprehensive Work Plan for Energy Saving and Emission Reduction in Jiangxi Province	People's Government of Jiangxi Province	2022	Cross-sector Action
The 14th Five-Year Plan for Green Transportation Development in Jiangxi Province	Jiangxi Provincial Department of Transportation	2022	Transport
Jiangxi Province 14th Five-Year Plan for Housing and Urban-Rural Development	Jiangxi Provincial Department of Housing and Urban-Rural Development	2021	Building
Jiangxi Province Regulations on the Management of Solid Waste	Jiangxi Provincial Department of Housing and Urban-Rural Development	2021	Waste
Jiangxi Province 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035	People's Government of Jiangxi Province	2021	Cross-sector Action
Jiangxi Province 14th Five-Year Plan for High-Quality Manufacturing Industry Development	People's Government of Jiangxi Province	2021	Industry, Industry Restructuring
Jiangxi Province 14th Ecology and Environment Conservation Plan	People's Government of Jiangxi Province	2021	Environment Protection
Jiangxi Province 14th Energy Development Plan	People's Government of Jiangxi Province	2022	Energy
Implementation Opinions of Jiangxi Province on Reaching Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy	Jiangxi Provincial Committee of CPC, Peoples Government of Jiangxi Province	2022	"1+N" Policy Framework
Jiangxi Province 14th Five-Year Plan for Climate Change	Jiangxi Provincial Development and Reform Commission	2022	Cross-sector Action
Jiangxi Province 14th Five-Year Comprehensive Transportation System Development Plan	People's Government of Jiangxi Province	2021	Transport
Measures for Energy Saving of Civil Buildings and Promoting the Development of Green Buildings in Jiangxi Province	Jiangxi Provincial Department of Housing and Urban-Rural Development	2021	Building

Liaoning

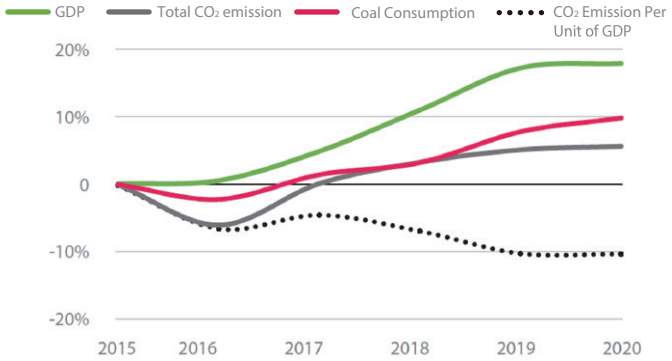
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
42.55	14.8	58629 (high income level)	17	15	13.1

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, growth in carbon dioxide emissions in key sectors and industries will be brought under control, laying the foundation for the carbon peaking target. By 2030, carbon emissions peaking can be achieved.

Energy intensity reduction target: **14.5%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 13.7%, and the proportion of coal consumption in primary energy consumption in the province will be at 51.0% (the decrease ranks **17th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 23190 MW (the increase ranks **15th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 14.5% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 4%, relative to 2020 (below the national target).

Buildings

By 2025, all newly-constructed buildings in urban areas will be built as green buildings (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 42.5% (the increase ranks **14th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2019 vs. 2015)

  11.6% (18%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  7.9% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  3.7% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  2.2% (the increase ranks **26th nationwide)**

- Coal power capacity addition

  8075 MW (the increase ranks **7th nationwide)**

- The installed capacity of renewable energy generation

  7743 MW (the increase ranks **21st nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  10.4% (15%), below the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  3.41% (the decrease ranks **17th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  15.5% (the increase ranks **23rd nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  4% (the decrease ranks **12th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  1.1% (the increase ranks **18th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  8.5% (the increase ranks **21st nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Accelerating the Construction of a Strong Clean Energy Province in Liaoning	People's Government of Liaoning Province	2022	Energy
Implementation Plan for Carbon Peaking in Liaoning Province	People's Government of Liaoning Province	2022	"1+N" Policy Framework
Hydrogen Energy Industry Development Plan in Liaoning Province (2021-2025)	Liaoning Provincial Development and Reform Commission	2022	Energy
The 14th Five-Year Plan for Energy Development in Liaoning Province	People's Government of Liaoning Province	2022	Energy
The 14th Five-Year Comprehensive Work Plan for Energy Saving and Emissions Reduction in Liaoning Province	People's Government of Liaoning Province	2022	Cross-sector Action
2022 Working Plan of Liaoning Provincial Department of Science and Technology for Ecological and Environmental Protection	Liaoning Provincial Department of Science and Technology	2022	Environment Protection
The 14th Five-Year Plan for Forestry and Grassland Development in Liaoning Province	People's Government of Liaoning Province	2022	Agriculture Forestry and Land Use
The 14th Five-Year Plan for Comprehensive Transport Development in Liaoning Province	People's Government of Liaoning Province	2022	Transport
Liaoning Province 14th Five-Year Plan for Scientific Innovation	People's Government of Liaoning Province	2022	Cross-sector Action
Liaoning Province 14th Five-Year Plan for High-Quality Urban-Rural Development	People's Government of Liaoning Province	2021	City Planning
Liaoning Province 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035	People's Government of Liaoning Province	2021	Cross-sector Action

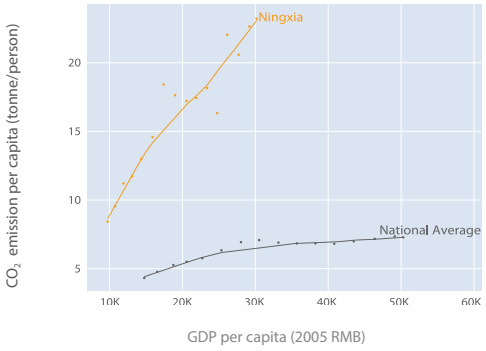
Action	Published by	Year	Sector
Liaoning Province 14th Five-Year Ecological and Environmental Protection Plan	People's Government of Liaoning Province	2022	Environment Protection
Liaoning Province 14th Five-Year Ecological and Economic Development Plan	People's Government of Liaoning Province	2022	Cross-sector Action

Ningxia

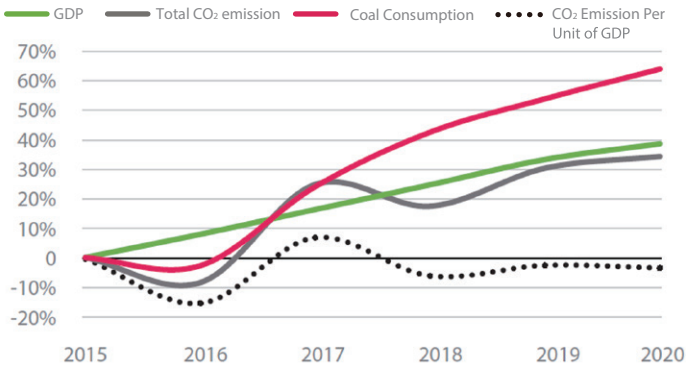
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
7.21	6.6	55021 (high income level)	29	19	23.2

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, a solid foundation will be laid for carbon peaking and carbon neutrality. By 2030, the province aims to achieve peak carbon emissions. By 2035, carbon emissions will begin to steadily decline.
Energy intensity reduction target: **15%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources will reach 15.0%.

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 24260 MW (the increase ranks **14th nationwide)**.

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 18.0% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, all new buildings in urban areas will meet green construction standards (equal to the national target).

Agriculture and Forestry

By 2025, the forest coverage rate will reach 20.0% (the increase ranks **2nd nationwide)**.

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2019 vs. 2015)

  14.8% (17%), below the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  27.8% increase (the increase is below the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  0.5% increase (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  2.7% (the increase ranks **21st nationwide)**

- Coal power capacity addition

  12230 MW (the increase ranks **5th nationwide)**

- The installed capacity of renewable energy generation

  14485 MW (the increase ranks **16th nationwide)**

- Decrease of energy consumption intensity (%, 2019 vs. 2015)

  7.22% (14%), below the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  7.37% increase (the increase ranks **22nd nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  22.2% (the increase ranks **21st nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -16% (the decrease ranks **3rd nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  2% (the increase ranks **11th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  -9% (the increase ranks **29th nationwide)**

Policy List (as of March 2023)

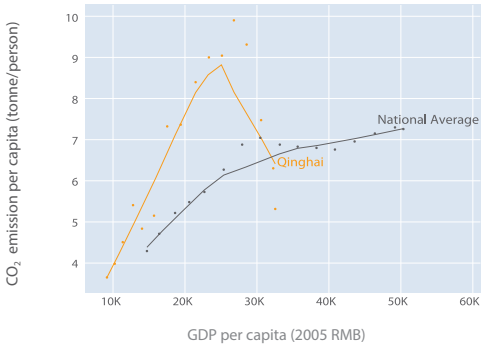
Action	Published by	Year	Sector
Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in the Urban and Rural Construction Sector in Ningxia Hui Autonomous Region	Ningxia Hui Autonomous Region Department of Housing and Urban-Rural Development, Ningxia Hui Autonomous Region Development and Reform Commission	2023	"1+N" Policy Framework
The 14th Five-Year Plan for Renewable Energy Development in Ningxia Hui Autonomous Region	Ningxia Hui Autonomous Region Development and Reform Commission	2022	Energy
Implementation Plan for Carbon Peaking in Ningxia Hui Autonomous Region	Ningxia Hui Autonomous Region Committee of CPC, People's Government of Ningxia Hui Autonomous Region	2022	"1+N" Policy Framework
Implementation Plan for Carbon Peaking and Carbon Neutrality with the Support of Science and Technology in Ningxia Hui Autonomous Region	Ningxia Hui Autonomous Region Department of Science and Technology	2021	"1+N" Policy Framework
The 14th Five-Year Plan for Energy Development in Ningxia Hui Autonomous Region	People's Government of Ningxia Hui Autonomous Region	2022	Energy
The 14th Five-Year Plan for Transportation Development in Ningxia Hui Autonomous Region	Ningxia Hui Autonomous Region Department of Transportation	2021	Transport
Ningxia Hui Autonomous Region 14th Five-Year Plan for Ecological and Environmental Protection	People's Government of Ningxia Hui Autonomous Region	2021	Environment Protection
Ningxia Hui Autonomous Region 14th Five-Year Plan for Climate Change	Ningxia Hui Autonomous Region Department of Ecology and Environment	2021	Cross-sector Action

Qinghai

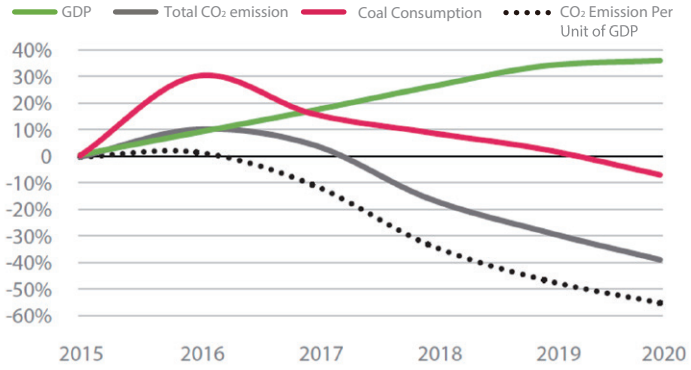
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
5.93	72.2	50845 (high income level)	30	24	5.3

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, a solid foundation will be laid for carbon peaking and carbon neutrality. By **2030**, the province aims to achieve peak carbon emissions in line with national commitments. By 2060, economic and social development will be fully decarbonized and the goal of carbon neutrality will be achieved.

Energy intensity reduction target: **12.5%** (below the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 52.5%.

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 38070 MW (the increase ranks **9th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 12.5% (below the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 4%, relative to 2020 (below the national target).

Buildings

By 2025, all new buildings in urban areas will meet green construction standards (equal to the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 8.0% (the increase ranks **14th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  43% (12%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  41.1% decrease (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  4.5% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  2.7% (the increase ranks **24th nationwide)**

- Coal power capacity addition

  1600 MW (the increase ranks **22nd nationwide)**

- The installed capacity of renewable energy generation

  18603 MW (the increase ranks **9th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  24% (10%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  30.6% decrease (the decrease ranks 2nd nationwide)

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  31.7% (the increase ranks **14th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  46% (the decrease ranks **30th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  1.2% (the increase ranks **16th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  37.5% (the increase ranks **5th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in Qinghai Province	People's Government of Qinghai Province	2022	"1+N" Policy Framework
The 14th Five-Year Implementation Plan for Energy Saving and Emission Reduction in Qinghai Province	People's Government of Qinghai Province	2022	Cross-sector Action
Implementation Views of the CPC Qinghai Provincial Committee and People's Government of Qinghai Province on Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	Qinghai Provincial Committee of CPC, People's Government of Qinghai Province	2022	"1+N" Policy Framework
Qinghai Province Implements the National New Energy Vehicle Industry Development Plan (2021-2035)	People's Government of Qinghai Province	2021	Transport
The 14th Five-Year Plan for Transportation Development in Qinghai Province	Qinghai Provincial Department of Transportation	2022	Transport
Qinghai Province 14th Five-Year Plan for Housing and Urban-Rural Development	People's Government of Qinghai Province	2021	Building
Qinghai Province 14th Five-Year Plan for Energy Development Plan	Qinghai Provincial Energy Bureau	2022	Energy
Qinghai Province 14th Five-Year Plan Ecological Environment Protection Plan	People's Government of Qinghai Province	2021	Environment Protection
Qinghai Province's Measures to Address Climate Change	People's Government of Qinghai Province	2020	Cross-sector Action

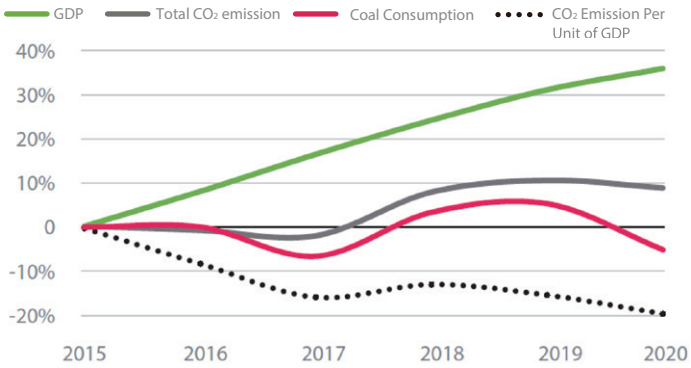
Shandong

Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
101.65	15.7	71825 (high income level)	3	10	9.5

Carbon Peaking Trend

Historical Emission Trend

Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, carbon emissions from some industrial sectors will peak. By **2030**, the province's goal of peaking carbon emissions will be reached. By 2035, carbon emissions will be in steady decline.
Energy intensity reduction target: **15.5%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources will reach 13%, and the proportion of coal consumption in primary energy consumption will be at 60% (the decrease ranks **10th nationwide)**.

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 41710 MW (the increase ranks **6th nationwide)**.

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 17.0% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, ultra-low energy building demonstration projects with a combined surface area of no less than 5 million square meters will have been proposed, the renewable energy substitution rate in urban buildings will be 10%, and all newly-constructed buildings in urban areas will be built as green buildings (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will be steadily increasing.

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  22.7% (20.5%), below the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  5.8% increase (the increase is below the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

- 9.67% (the decrease is above the national level)

  Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  3.9% (the increase ranks **15th nationwide)**

- Coal power capacity addition

  20151 MW (the increase ranks **3rd nationwide)**

- The installed capacity of renewable energy generation

  34251 MW (the increase ranks **1st nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  19% (17%), above the national target
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  5.38% increase (the increase ranks **28th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  38.9% (the increase ranks **9th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -12% (the decrease ranks **5th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  3.4% (the increase ranks **7th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  17.9% (the increase ranks **20th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Action Plan for the Development of New Energy Storage Engineering in Shandong Province	Shandong Provincial Energy Bureau	2023	Energy
Notice Regarding the Guidance of Shandong Provincial Energy Bureau on the Issuance of the Energy Work of the Province in 2023	Shandong Provincial Energy Bureau	2023	Energy
Implementation Plan for Carbon Peaking in Shandong Province	People's Government of Shandong Province	2022	"1+N" Policy Framework
Notice Regarding Matters Relating to the Policy on Industrial and Commercial Time-of-use(TOU) Tariff Issued by the Development and Reform Commission of Shandong Province	Shandong Provincial Development and Reform Commission	2022	Energy
The 14th Five-Year Implementation Plan for the Work of Energy Conservation and Emissions Reduction in Shandong	People's Government of Shandong Province	2022	Cross-sector Action
The 14th Five-Year Plan for the Development of Energy Conservation and Environmental Protection in Transportation in Shandong Province	Shandong Provincial Department of Transportation	2021	Transport
Notice Regarding the Construction of Database of Shandong Provincial Soil Pollution Prevention and Control Fund Projects	Multiple departments	2022	Cross-sector Action
The 14th Five-Year Action Plan for Ecological and Environmental Protection in Agricultural and Rural Aeras in Shandong Province	Multiple departments	2022	Environment Protection
Implementation Plan for Guidance of Control and Supervision of Agricultural Nonpoint Source Pollution in Shandong Province (Trial Implementation)	Shandong Provincial Department of Ecology and Environment, Shandong Provincial Department of Agriculture and Rural Affairs	2022	Agriculture Forestry and Land Use, Environment Protection

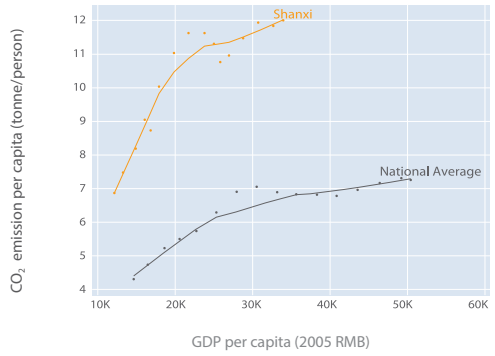
Action	Published by	Year	Sector
Implementation Plan for the Transformation of Ultra-low Emission in Cement Industry in Shandong Province, Implementation Plan for the Transformation of Ultra-low Emission in the Coking Industry in Shandong Province	Multiple departments	2022	Industry
The 14th Five-Year Plan for Comprehensive Transport Development in Shandong Province	People's Government of Shandong Province	2021	Transport
Shandong Province 14th Five-Year Plan for the Development of Building Energy Efficiency and Green Building	Multiple departments	2022	Building
Shandong Province 14th Five-Year Energy Development Plan	People's Government of Shandong Province	2021	Energy
Alternative Measures for Carbon Emission Reduction of High Energy Consumption and High Emission Construction Projects in Shandong Province (Trial)	Shandong Provincial Department of Ecology and Environment, Shandong Provincial Development and Reform Commission	2022	Energy, Industry
Action Plan of Shandong Province for 2022 Green and Low Carbon Transformation	People's Government of Shandong Province	2022	Cross-sector Action
Shandong Province 14th Five-Year Plan for Cold-Chain Logistics Development	People's Government of Shandong Province	2022	Transport
Shandong Province 14th Five-Year Plan for Addressing Climate Change	Shandong Provincial Department of Ecology and Environment	2022	Cross-sector Action
Shandong Province 14th Five-Year Green, Low Carbon, Circular Development Plan	Shandong Provincial Development and Reform Commission	2022	Cross-sector Action
Shandong Province 14th Five-Year Ecological and Environmental Protection Industry Development Plan	Multiple departments	2021	Industry
Notice on Resolutely Curbing the Blind Development of "Two High" Projects and Promoting High-quality Allocation and Utilization of Energy Resources	People's Government of Shandong Province	2022	Cross-sector Action
The 14th Five-Year Plan for Energy Science and Technology Innovation in Shandong Province	Multiple departments	2021	Energy
Shandong Province 14th Five-Year Ecological and Environmental Protection Plan	People's Government of Shandong Province	2021	Environment Protection
Action Plan for Comprehensive Control of Air Pollution in Autumn and Winter 2021-2022 in Shandong Province	Multiple departments	2021	Cross-sector Action
Measures of Shandong Province for the Administration of Green Building Evaluation Signs	Shandong Provincial Department of Housing and Urban-Rural Development	2021	Building
Alternative Measures for Carbon Emission Reduction of High Energy Consumption and High Emission Construction Projects in Shandong Province (Trial)	Multiple departments	2021	Industry

Shanxi

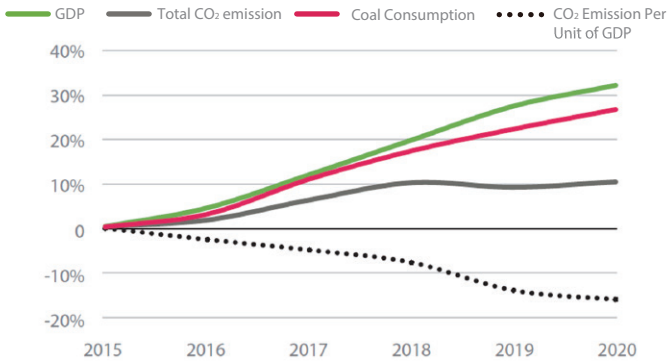
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
34.9	15.6	51051 (high income level)	21	23	12

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the province aims to achieve peak carbon emissions while safeguarding national energy security.
Energy intensity reduction target: Fulfill the national requirement

|Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 12%.

|Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 47170 MW (the increase ranks **5th nationwide)**.

|Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 15.0% (above the national target).

|Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

|Buildings

By 2025, the renewable energy substitution rate in urban buildings will be 8%, all newly-constructed buildings in urban areas will be built as green buildings, and the proportion of star-rated green buildings will reach 30% (equal to the national target).

|Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 26% (the increase ranks **5th nationwide)**.

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  18% (18%), equal to the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  11.4% increase (the increase is above the national level)

- Decrease of coal consumption (percentage point, 2020 - 2015)

  9% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  4.5% (the increase ranks **11th nationwide)**

- Coal power capacity addition

  7460 MW (the increase ranks **9th nationwide)**

- The installed capacity of renewable energy generation

  25354 MW (the increase ranks **5th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  15.3% (15%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  18.48% decrease (the decrease ranks 13th nationwide)

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  13.7% (the increase ranks **27th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -9% (the decrease ranks **7th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.6% (the increase ranks **21st nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  3.9% (the increase ranks **24th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for the Synthesis of Pollution and Carbon Emissions Reduction in Shanxi Province	Multiple departments	2023	Cross-sector Action
Implementation Views of the People's Government of Shanxi Province and Shanxi Provincial Committee on Full, Accurate and Comprehensive Implementation of the New Development Philosophy for Carbon Peaking and Carbon Neutrality Work	Shanxi Provincial Committee of CPC, Peoples Government of Shanxi Province	2023	Cross-sector Action, "1+N" Policy Framework
Implementation Plan for Carbon Peaking in Shanxi Province	People's Government of Shanxi Province	2023	Cross-sector Action, "1+N" Policy Framework
The 14th Five-Year Implementation Plan for Energy Saving and Emission Reduction in Shanxi Province	People's Government of Shanxi Province	2022	Cross-sector Action
Regulations on the Promotion of Clean and Efficient Utilization of Coal in Shanxi Province	Standing Committee of Shanxi Provincial People's Congress	2022	Energy
Medium and Long-Term Plan for the Development of Hydrogen Energy Industry in Shanxi Province (2022-2035)	Multiple departments	2022	Energy
The 14th Five-Year Plan for Renewable Energy Development in Shanxi Province	Shanxi Provincial Development and Reform Commission, Shanxi Provincial Energy Bureau	2022	Energy
The 14th Five-Year Implementation Plan for Promoting High-quality Development of Resource-based Regions in Shanxi Province	People's Government of Shanxi Province	2022	Cross-sector Action

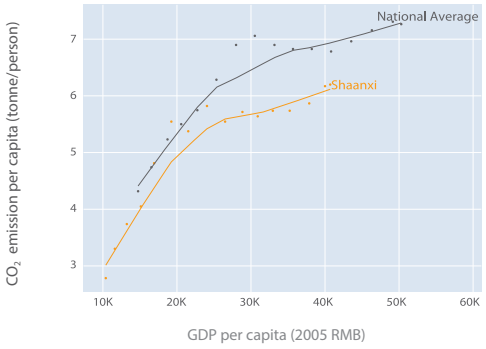
Action	Published by	Year	Sector
Notice Regarding the Implementation Views on Improving the Institutional Mechanisms and Measures for Green and Low-carbon Energy Transition from the Development and Reform Commission of Shanxi Province and the Shanxi Provincial Energy Bureau	Shanxi Provincial Development and Reform Commission, Shanxi Provincial Energy Bureau	2022	Energy
Work Plan to Promote the Development of the Hydrogen Industry in Shanxi Province	Shanxi Provincial Development and Reform Commission, Shanxi Provincial Department of Industry and Information Technology	2022	Energy
The 14th Five-Year Comprehensive Plan for Industrial Resources Utilization Development in Shanxi Province	Shanxi Provincial Department of Industry and Information Technology	2022	Industry
The 14th Five-Year Plan for Green Transportation Development in Shanxi Province	Shanxi Provincial Department of Transportation	2022	Transport
The 14th Five-Year Plan for Building Energy Conservation, Green Buildings and Technology Standards in Shanxi Province	Shanxi Provincial Department of Housing and Urban-Rural Development	2022	Building
Implementation Opinions on Accelerating the Establishment and Improvement of a Green and Low-Carbon Circular Development Economic System in Shanxi Province	People's Government of Shanxi Province	2022	Green Economy
Implementation Plan for Near-Zero Carbon Emission Demonstration Project Construction in Shanxi Province	Shanxi Provincial Department of Ecology and Environment, Shanxi Provincial Department of Finance	2022	Cross-sector Action
The 14th Five-Year Plan of Shanxi Province: Ecological Protection, Ecological Civilization and Ecological Economic Development in "Two Mountains, Seven Rivers and One Watershed"	People's Government of Shanxi Province	2021	Cross-sector Action
Shanxi Province 14th Five-Year Modern Comprehensive Transport Development Plan	People's Government of Shanxi Province	2021	Transport
Shanxi Province 14th Five-Year Ecological and Environmental Protection Plan	Shanxi Provincial Department of Ecology and Environment, Shanxi Provincial Development and Reform Commission	2022	Environment Protection
Opinions of the General Office of Shanxi Provincial People's Government on the Promotion of Sustainable Coal Mining	People's Government of Shanxi Province	2022	Energy
Implementation Plan of Shanxi Province for Promoting Green Consumption	Multiple departments	2022	Cross-sector Action
Shanxi Province 14th Five-Year Clean Production Implementation Plan	Shanxi Provincial Development and Reform Commission	2022	Cross-sector Action

Shaanxi

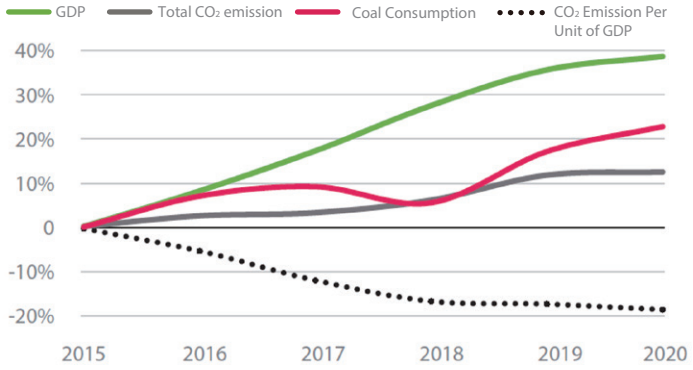
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
39.55	20.6	65867 (high income level)	14	12	6.2

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, a solid foundation will be laid for achieving carbon peaking and carbon neutrality. By **2030**, carbon emissions will peak and then steadily decline. By 2060, carbon neutrality will be achieved.
Energy intensity reduction target: **13.5%** (equal to the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 16%.

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 38680 MW (the increase ranks **8th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 12.0% (below the national target), and CO2 emissions per unit of industrial value-added will fall by 16.0%.

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, one million square meters of new ultra-low energy buildings will have been constructed, and all new buildings in urban areas will meet green building standards (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 46.5% (the increase ranks **22nd nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  20.8% (18%), below the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  9.7% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  2.64% increase (the increase is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  3.2% (the increase ranks **18th nationwide)**

- Coal power capacity addition

  18720 MW (the increase ranks **4th nationwide)**

- The installed capacity of renewable energy generation

  19607 MW (the increase ranks **8th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  15.2% (15%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  6.76% decrease (the decrease ranks **23rd nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  30.4% (the increase ranks **15th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -6% (the decrease ranks **10th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  3.3% (the increase ranks **8th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  2.3% (the increase ranks **26th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in the Industrial Sector in Shaanxi Province	Multiple departments	2023	"1+N" Policy Framework
Notice Regarding the Implementation Plan for Carbon Peaking Issued by the People's Government of Shaanxi Province	Shaanxi Provincial People's Government	2022	"1+N" Policy Framework
The 14th Five-Year Implementation Plan for the Integrated Work of Energy Conservation and Emissions Reduction in Shaanxi Province	Shaanxi Provincial People's Government	2023	Cross-sector Action
Implementation Plan for Energy Conservation and Carbon Reduction in Key Areas of High Energy-consuming Industries in Shanxi Province	Multiple departments	2022	Industry
The Views of the Shaanxi Provincial Chinese Communist Party and People's Government of Shaanxi Province on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	Shaanxi Provincial Committee of CPC, Shaanxi Provincial People's Government	2022	"1+N" Policy Framework
Shanxi Province 14th Five-Year Comprehensive Transport Service Development Plan	Shaanxi Provincial Department of Transportation	2021	Transport
Shaanxi Province 14th Five-Year Plan for Housing and Urban-Rural Development	Shaanxi Provincial Department of Housing and Urban-Rural Development	2021	Building
Shaanxi Province 14th Five-Year Manufacture Industry High-Quality Development Plan	Shaanxi Provincial People's Government	2021	Industry, Industry Restructuring

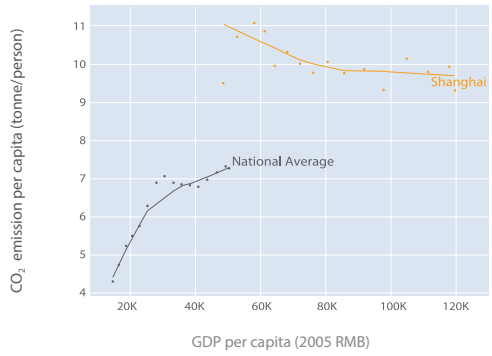
Action	Published by	Year	Sector
Shaanxi Province 14th Five-Year Ecological and Environmental Protection Plan	Shaanxi Provincial People's Government	2021	Environment Protection
Notice of Shaanxi Province on Further Strengthening Industrial Energy Saving and Carbon Reduction in 2022	Shaanxi Provincial Department of Industry and Information Technology	2022	Industry

Shanghai

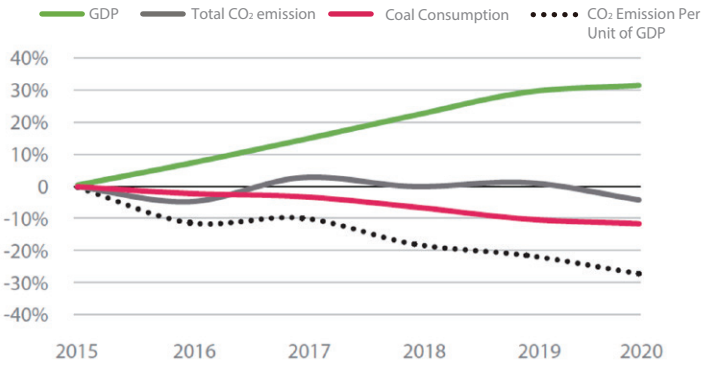
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
24.88	0.7	156803 (high income level)	10	2	9.3

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



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*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the province will ensure that peak carbon emissions are achieved before 2030.
Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources will reach 20.0%, and the proportion of coal consumption in primary energy consumption will be at 30.0% (the decrease ranks **19th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 4500 MW (the increase ranks **27th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 14.0% (above the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, the surface area of proposed construction projects which hit ultra-low emissions standards will be no less than 8 million square meters, the renewable energy replacement rate will hit 10% in urban buildings, and all newly-constructed buildings in urban areas will meet green building standards (above the national target).

Agriculture and Forestry

By 2025, the forest coverage rate will reach 19.5% (the increase ranks **7th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  N/A (20.5%)
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  5.7% decrease (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  6% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  4% (the increase ranks **14th nationwide)**

- Coal power capacity addition

  10 MW (the increase ranks **28th nationwide)**

- The installed capacity of renewable energy generation

  1548 MW (the increase ranks **29th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  22.7% (17%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  25.11% decrease (the decrease ranks **9th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  14.2% (the increase ranks **25th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -6% (the decrease ranks **9th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  3.46% (the increase ranks **6th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  39.9% (the increase ranks **3rd nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Establishing the Standard Measurement System for Carbon Peaking and Carbon Neutrality in Shanghai	Multiple departments	2023	"1+N" Policy Framework
Implementation Plan for the Synthesis of Pollution and Carbon Emissions Reduction in Shanghai	Municipal Shanghai Bureau of Ecology and Environment	2023	Cross-sector Action
Implementation Plan of Carbon Peaking in Yangpu District, Shanghai	Shanghai Yangpu District People's Government	2022	"1+N" Policy Framework
The 14th Five-Year Action Plan for Promoting Green Finance Development Services for the Carbon Peaking and Carbon Neutrality Strategy in the Banking and Insurance Industry in Shanghai	Shanghai Banking and Insurance Regulatory Bureau	2022	Green Economy
Implementation Plan for Promoting Carbon Peaking and Carbon Neutrality Pilot Demonstration Construction in Key Regions and Parks in Shanghai	Shanghai Municipal Development and Reform Commission	2022	Industry
Implementation Plan for Carbon Peaking in the New Infrastructure Sector in Shanghai	Shanghai Municipal Commission of Economy and Information Technology Shanghai Municipal Development	2022	Industry, Building
Implementation Plan for Carbon Peaking in the Industrial Sector in Shanghai	Multiple departments	2022	"1+N" Policy Framework
Work Plan for the Construction of Carbon Generalized System of Preferences (Tan Pu Hui) in Shanghai	Multiple departments	2022	Green Economy
Measures for Supporting Special Funds for Renewable Energy and New Energy Development in Shanghai	Shanghai Municipal Development and Reform Commission	2022	Green Economy

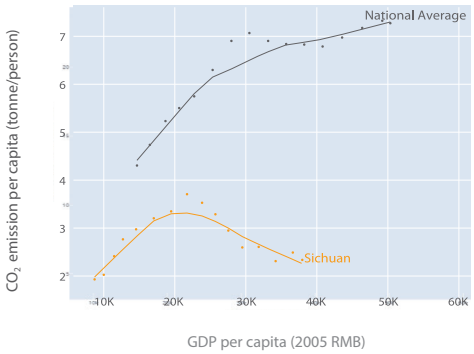
Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in Jiading District	Jiading District People's Government of Shanghai	2022	"1+N" Policy Framework
Implementation Plan for Promoting the Development of Multiple Modes of Transport, Optimizing and Adjusting the Transport Structure in Shanghai	General Office of Shanghai Municipal People's Government	2022	Transport
The 14th Five-Year Implementation Plan for the Integrated Work of Energy Conservation and Emissions Reduction in Shanghai	Shanghai Municipal People's Government	2022	Cross-sector Action
Implementation Plan for Carbon Peaking and Carbon Neutrality with the Support of Science and Technology in Shanghai	Shanghai Science and Technology Commission	2022	"1+N" Policy Framework
Several Policies on Supporting the High-quality Development of Hydrogen Energy Industry in China (Shanghai) Pilot Free Trade Zone Lin-gang Special Aera	Shanghai Municipal Development and Reform Commission	2022	Energy
Implementation Plan for Carbon Peaking in Energy and Electricity in Shanghai	Shanghai Municipal Development and Reform Commission	2022	"1+N" Policy Framework
Implementation Plan for Carbon Peaking in Shanghai	Shanghai Municipal People's Government	2022	"1+N" Policy Framework
Action Plan for Promoting Green and Low-carbon Industries by Targeting New Tracks in Shanghai (2022-2025)	General Office of Shanghai Municipal People's Government	2022	"1+N" Policy Framework
Shanghai 14th Five-Year Plan for Resource Conservation and Circular Economy Development	Shanghai Municipal People's Government	2022	Waste
Shanghai Implementation Opinions on Accelerating the Building of an International Green Financial Hub to Serve the Goal of Carbon Peaking and Achieving Carbon Neutrality	General Office of Shanghai Municipal People's Government	2021	"1+N" Policy Framework
Shanghai 14th Five-Year Plan for Green Buildings	Shanghai Municipal Housing and Urban-Rural Development Management Committee	2022	Building
Plan for Low Carbon Environmental Development of Shanghai's Public Structures	Shanghai Municipal People's Government	2022	Building
Measures of Shanghai Municipality on Special Fund Support for Renewable Energy and New Energy Development	Shanghai Municipal Development and Reform Commission	2020	Energy

Sichuan

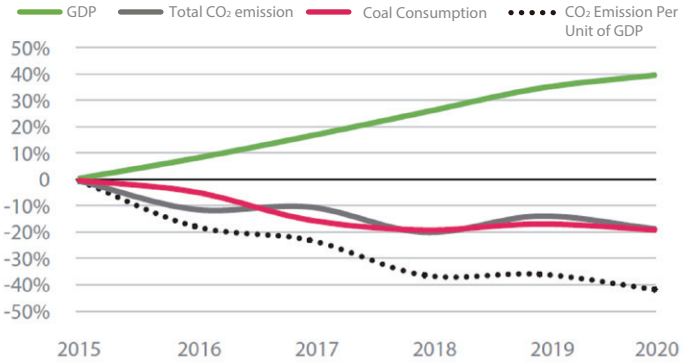
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
83.71	48.6	58009 (high income level)	6	16	2.3

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, a solid foundation will be laid for carbon peaking and neutrality. By 2030, carbon emissions will peak and then steadily decline. By 2060, carbon neutrality will be reached.
Energy intensity reduction target: **14%** (above the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 41.5%, and the proportion of coal consumption in primary energy consumption in the province will be at 25.0% (the decrease ranks **14th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 15960 MW (the increase ranks **22nd nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 14.0% (above the national target), and CO2 emissions per unit of industrial value-added will fall by 19.5%.

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will continue to decrease relative to 2020.

Buildings

By 2025, all new buildings in urban areas will meet green construction standards (above the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 43.0% (the increase ranks **3rd nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Cumulative decrease of carbon emission intensity (%, 2020 vs. 2015)

  29.9% (19.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  20.7% decrease (the decrease is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  10.9% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  6.3% (the increase ranks **4th nationwide)**

- Coal power capacity addition

  1295 MW (the increase ranks **25th nationwide)**

- The installed capacity of renewable energy generation

  17344 MW (the increase ranks **11th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  17.4% (16%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  25.7% decrease (the decrease ranks **7th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  40.5% (the increase ranks **7th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  18% (the decrease ranks **22nd nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  4% (the increase ranks **4th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  35.1% (the increase ranks **7th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Implementation Plan for Carbon Peaking in the Energy Sector in Sichuan Province	Sichuan Provincial Development and Reform Commission, Sichuan Provincial Energy Bureau	2023	"1+N" Policy Framework
Implementation Plan for Carbon Peaking in Sichuan Province	People's Government of Sichuan Province	2023	"1+N" Policy Framework
Electrical Energy Substitute Promotion Plan in Sichuan Province	Multiple departments	2022	Energy
Action Plan for the Improvement of Carbon Market Capacity in Sichuan Province	Sichuan Provincial Department of Ecology and Environment	2022	Green Economy
The 14th Five-Year Comprehensive Work Plan for Energy Saving and Emission s Reduction in Sichuan Province	People's Government of Sichuan Province	2022	Cross-sector Action
The 14th Five-Year Plan for Industrial Green Development in Sichuan Province	Sichuan Provincial Department of Economy and Information Technology	2022	Industry
Sichuan Province 14th Five-Year Construction Industry Development Plan	Sichuan Provincial Department of Housing and Urban-Rural Development	2021	Building
Sichuan Province Forestry and Grass Carbon Sink Development Promotion Plan (2022-2025)	Sichuan Provincial Forestry Administration	2022	Agriculture Forestry and Land Use
Sichuan Province Medium and Long-Term Plan for Domestic Waste Incineration for Power Generation (Revised in 2022)	Sichuan Provincial Development and Reform Commission	2022	Waste
Sichuan Province 14th Five-Year Power Development Plan	Sichuan Provincial Development and Reform Commission, Sichuan Provincial Energy Bureau	2022	Energy
Sichuan Province 14th Five-Year Plan for Sustainable Energy Development	Sichuan Provincial Development and Reform Commission, Sichuan Provincial Energy Bureau	2022	Energy

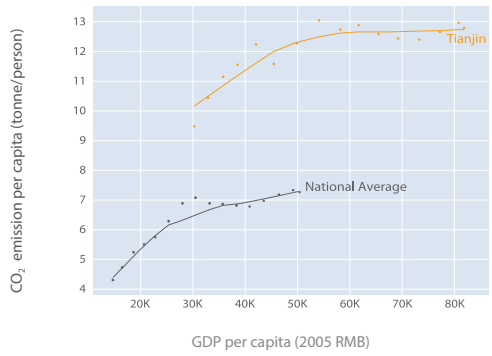
Action	Published by	Year	Sector
Notice by the Sichuan Provincial Department of Ecology and Environment and the Sichuan Provincial Department of Economy and Information Technology of Conducting the Pilot Program of Building Near Zero Carbon Emission Park	Sichuan Provincial Department of Ecology and Environment, Sichuan Provincial Department of Economy and Information Technology	2022	Industry
Sichuan Province 14th Five-Year Energy Development Plan	People's Government of Sichuan Province	2022	Energy
Sichuan Province 14th Five-Year Plan for Modern Logistics Development	Sichuan Provincial Development and Reform Commission, Sichuan Provincial Department of Transportation	2021	Transport
Sichuan Province 14th Five-Year Plan for Building Water-Saving Society	Multiple departments	2022	Cross-sector Action
Implementation Opinions of the Sichuan Provincial Committee of CPC and People's Government of Sichuan on Reaching Carbon Dioxide Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy	Sichuan Provincial Committee of CPC, People's Government of Sichuan Province	2022	"1+N" Policy Framework
Chengdu-Chongqing Shuangcheng Economic Circle's Carbon Neutrality Joint Action Plan	People's Government of Sichuan Province, People's Government of Chongqing	2022	"1+N" Policy Framework
Ecological and Environmental Protection Planning of Shuangcheng Economic Circle in Chengdu-Chongqing Region	Joint release by multiple departments	2022	Environment Protection
Sichuan Province 14th Five-Year Plan for Ecological and Environmental Protection	People's Government of Sichuan Province	2022	Environment Protection
Sichuan Province 14th Five-Year Comprehensive Transportation Development Plan	People's Government of Sichuan Province	2021	Transport
Implementation Plan of Green Building Creation Action in Sichuan Province	Multiple departments	2020	Building
Sichuan Provincial Committee of the Communist Party of China's Decision on Promoting the High-quality Development of Green and Low-carbon Advantageous Industries under the Guidance of Achieving Carbon Dioxide Peaking and Carbon Neutrality	Sichuan Provincial Committee of CPC	2021	"1+N" Policy Framework

Tianjin

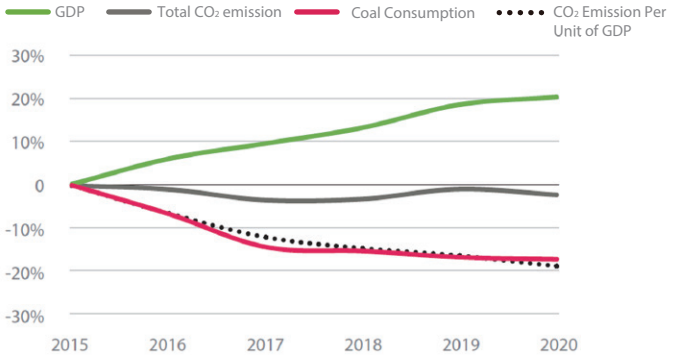
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
13.87	1.2	101068 (high income level)	23	5	12.8

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2030, the target of peaking carbon emissions before 2030 will be achieved as scheduled.
Energy intensity reduction target: **14.5%** (above the national target)

|Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources will reach 11.7%, and the proportion of coal consumption in primary energy consumption will be at 28.0% (the decrease ranks **3rd nationwide**).

|Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 1.96 million kilowatts (the increase ranks **30th nationwide**).

|Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 15.0% (above the national target).

|Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

|Buildings

By 2025, the renewable energy substitution rate in urban buildings will be 8%, all newly-constructed buildings in urban areas will be built as green buildings, and the proportion of star-rated green buildings will reach 30% (equal to the national target).

|Agriculture and Forestry

By 2025, the forest coverage rate will reach 13.6% (the increase ranks **13th nationwide**)

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  23% (20.5%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  1.2% increase (the increase is below the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  6.7% (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  5% (the increase ranks **9th nationwide)**

- Coal power capacity addition

  1553 MW (the increase ranks **23rd nationwide)**

- The installed capacity of renewable energy generation

  2278 MW (the increase ranks **27th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  19.1% (17%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  9.2% decrease (the decrease ranks **20th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  25.7% (the increase ranks **19th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  11% (the decrease ranks **17th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  3.1% (the increase ranks **9th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  32.1% (the increase ranks **9th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
The 14th Five-Year Plan for the Development of Comprehensive Transport Services in Tianjin	Tianjin Municipal Transportation Commission	2022	Transport
Implementation Plan for Carbon Peaking in Industrial Sector in Tianjin	Tianjin Municipal Bureau of Industry and Information Technology, Tianjin Municipal Development and Reform Commission	2022	Industry
Implementation Plan for the Synthesis of Pollution and Carbon Reduction in Tianjin	Tianjin Municipal Bureau of Ecology and Environment	2022	Cross-sector Action
Implementation Plan for the Construction of a Recycling System for Waste and Used Materials in Tianjin	Tianjin Municipal People's Government	2022	Waste
Implementation Views of the Financial Support for Carbon Peaking and Carbon Neutrality Work in Tianjin	Tianjin Municipal Finance Bureau	2022	Green Economy
Notice Regarding the 2022 Arrangement of Carbon Emission Quota in Tianjin from Municipal Bureau of Ecology and Environment	Tianjin Bureau of Ecology and Environment	2022	Green Economy
The 14th Five-Year Plan for Renewable Energy Development in Tianjin	Tianjin Municipal Development and Reform Commission	2022	Energy

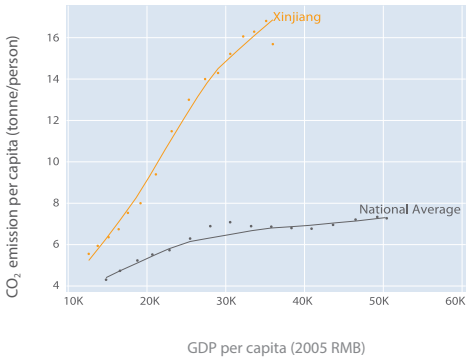
Action	Published by	Year	Sector
The 14th Five-Year Plan for Energy Development in Tianjin	Tianjin Municipal Development and Reform Commission	2022	Energy
Implementation Plan of People's Government of Tianjin Municipality for Carbon Peaking in Tianjin	Tianjin Municipal People's Government	2022	Cross-sector Action, 1 + N Policy Framework
The 14th Five-Year Plan for the Highway Development of Tianjin	Tianjin Municipal Transportation Commission	2022	Transport
Work Plan for Green Power Trading in Tianjin	Tianjin Municipal Bureau of Industry and Information Technology	2022	Energy, 1 + N Policy Framework
Implementation plan of Energy conservation and Emission Reduction in Tianjin during the 14th Five-year Plan period	Tianjin Municipal People's Government	2022	Energy
Tianjin eco-environmental protection "14th Five-year plan"	General Office of Tianjin Municipal People's Government	2022	Climate Adaption
High Quality Development of Tianjin Industry in the 14th Five-Year Plan	General Office of Tianjin Municipal People's Government	2021	Industry
The Comprehensive Plan for Tianjin Transportation Under the 14th Five-Year Plan	General Office of Tianjin Municipal People's Government	2021	Transport
Tianjin Green Building Development in the Fourteen Five Plan	Tianjin Municipal Housing and Urban-Rural Development Committee	2021	Building
Plan of Tianjin City to Accelerate the Establishment of a Green Economic System	Tianjin Municipal People's Government	2022	Green Economy

Xinjiang

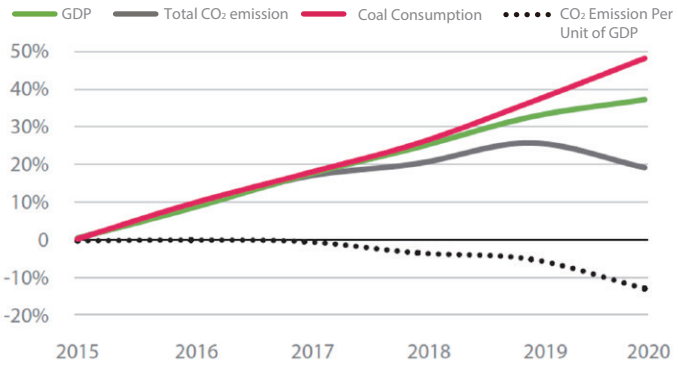
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
25.9	166	53606 (high income level)	24	21	15.7

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

The province will develop an action plan to achieve peak carbon emissions while improving greenhouse gas emissions control and reducing carbon emissions intensity.

Energy intensity reduction target: **14.5%** (equal to the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources will reach 18% (below the national target).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 60050 MW (the increase ranks **2th nationwide**).

Industry

N/A

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, all newly-constructed buildings in urban areas will meet green building standards (above the national target).

Agriculture and Forestry

By 2025, the forest coverage rate will reach 5.1% (the increase ranks **26th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2019 vs. 2015)

  11% (12%), below the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  9.8% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  1.8% increase (the decrease is below the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  5.1% (the increase ranks **8th nationwide)**

Coal power capacity addition

- 23065 MW (the increase ranks **1st nationwide)**

- The installed capacity of renewable energy generation

  17233 MW (the increase ranks **21st nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  10% (10%), equal to the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  9.9% decrease (the decrease ranks **18th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  43% (the increase ranks **6th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  11% decrease (the decrease ranks **6th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.3% (the increase ranks **24th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  -11.74% (the increase ranks **1st nationwide)**

Policy List (as of March 2023)

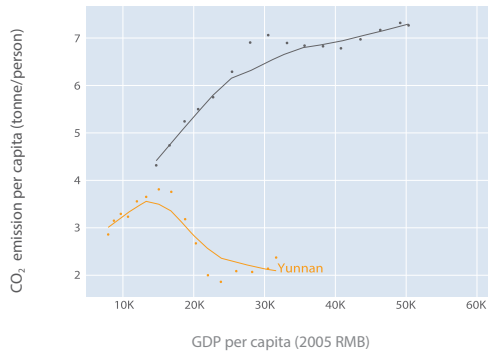
Action	Published by	Year	Sector
Implementation Plan for Carbon Emission Reduction and Sequestration in Agriculture and Rural Areas of Xinjiang Uygur Autonomous Region (2022-2030)	Xinjiang Uygur Autonomous Region Development and Reform Commission, Xinjiang Uygur Autonomous Region Department of Agriculture and Rural Affairs	2023	Agriculture Forestry and Land Use
Implementation Plan for Carbon Peaking in the Urban and Rural Sector in Xinjiang Uygur Autonomous Region	Xinjiang Uygur Autonomous Region Department of Housing and Urban-Rural Development, Xinjiang Uygur Autonomous Region Development and Reform Commission	2023	"1+N" Policy Framework
Guidance on Further Accelerating the Promotion and Application of New Energy Vehicles and Industrial Development in Xinjiang Autonomous Region	People's Government of the Xinjiang Uygur Autonomous Region	2022	Transport
Xinjiang Uygur Autonomous Region 14th Five-Year Plan for Housing and Urban-Rural Development	Xinjiang Uygur Autonomous Region Department of Housing and Urban-Rural Development	2022	Building
Xinjiang 14th Five-Year Ecological and Environmental Protection Plan	People's Government of the Xinjiang Uygur Autonomous Region	2022	Environment Protection
Notice of Xinjiang Uygur Autonomous Region on the Pilot Project of Interest Subsidies Support for the New Energy Projects and Energy Saving and Carbon Reduction Projects	Multiple departments	2022	Energy
Notice of the Autonomous Region Development and Reform Commission on Issuing the Reforming Plan for Further Deepening Coal-Fired Power On-grid Tariff Marketization	Xinjiang Uygur Autonomous Region Development and Reform Commission	2022	Energy
Measures for the Implementation of the Energy Conservation Law of the People's Republic of China in Xinjiang Uygur Autonomous Region	Xinjiang Uygur Autonomous Region Development and Reform Commission	2020	Energy

Yunnan

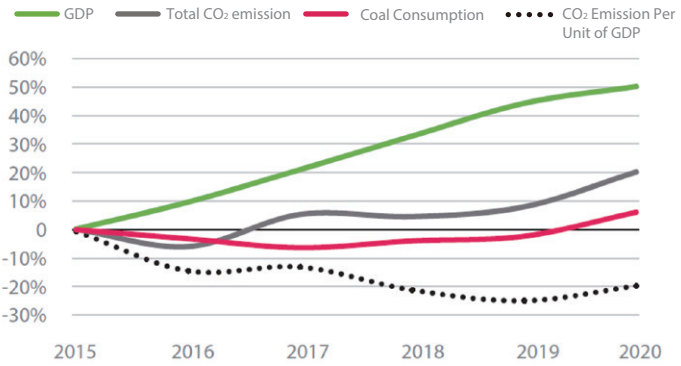
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
47.22	39	52047 (high income level)	18	22	2.4

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, the province will create favorable conditions for achieving peak carbon. By 2030, the province aims to achieve peak carbon emissions in line with national commitments.

Energy intensity reduction target: **13%** (below the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 46.0%, and the proportion of coal consumption in primary energy consumption in the province will be at 34.0% (the decrease ranks **20th nationwide**).

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 25900 MW (the increase ranks **12th nationwide**).

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 13.5% (equal to the national target).

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2020 (equal to the national target).

Buildings

By 2025, all newly-constructed buildings in urban areas will meet green building standards (equal to the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 65.7% (the increase ranks **12th nationwide**).

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2020 vs. 2015)

  24.7% (18%), above the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)

  19.1% increase (the increase is above the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  9.9% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  2% (the increase ranks **27th nationwide)**

- Coal power capacity addition

  1780 MW (the increase ranks **21st nationwide)**

- The installed capacity of renewable energy generation

  22749 MW (the increase ranks **6th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  14.56% (14%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption(%, 2020 vs. 2015)

  7.8% decrease (the decrease ranks **21st nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  24.8% (the increase ranks **20th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  27% (the decrease ranks **28th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  9.3% (the increase ranks **2nd nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  29.8% (the increase ranks **10th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
The Three-Year Action Plan for the Development of Intelligent Photovoltaic Power Station Equipment Industry in Yunnan Province (2022-2024)	Multiple departments	2022	Industry
The Views of the Yunnan Provincial Chinese Communist Party and People's Government of Yunnan Province on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	Yunnan Provincial Committee of CPC, Yunnan Provincial People's Government	2022	"1+N" Policy Framework
Implementation Plan for Carbon Peaking in Yunnan Province	Yunnan Provincial People's Government	2022	"1+N" Policy Framework
Plan for Addressing Climate Change in Yunnan Province (2021-2025)	Yunnan Provincial Department of Ecology and Environment	2022	Cross-sector Action
The 14th Five-Year Plan for Highway Development in Yunnan Province	Yunnan Provincial Department of Transportation	2022	Transport
The 14th Five-Year Plan for Waterway Transportation Development in Yunnan Province	Yunnan Provincial Department of Transportation	2022	Transport
The 14th Five-Year Plan for Railway Development in Yunnan Province	Yunnan Provincial Department of Transportation	2022	Transport
The Three-Year Action for Industrial Strengthening in Yunnan Province (2022-2024)	Yunnan Provincial Committee of CPC, Yunnan Provincial People's Government	2022	Industry
Master Plan for Major Projects of Important Ecosystem Protection and Restoration in Yunnan Province (2021-2035)	Yunnan Provincial Development and Reform Commission	2021	Environment Protection

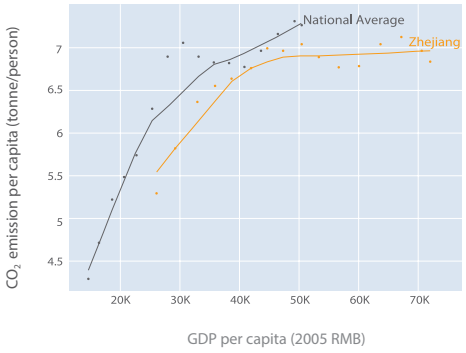
Action	Published by	Year	Sector
New Energy Vehicle Industry Development Plan in Yunnan Province (2021 - 2025)	Yunnan Provincial Department of Industry and Information Technology	2021	Transport
Notice of Yunnan Province on the Issuance of the Three-Year Action and Supporting Policies and Measures for the Development of Photovoltaic Industry	Yunnan Provincial Development and Reform Commission, Yunnan Provincial Department of Industry and Information Technology	2022	Industry
Notice of Yunnan Province on the Issuance of the Three-Year Action and Supporting Policies and Measures for the Development of Green Aluminum Industry	Yunnan Provincial Development and Reform Commission, Yunnan Provincial Department of Industry and Information Technology	2022	Industry
The 14th Five-Year Plan for Industrial Green Development in Yunnan Province	Yunnan Provincial Department of Industry and Information Technology	2021	Industry
Yunnan Province 14th Five-Year Construction Industry Development Plan	Yunnan Provincial Department of Housing and Urban-Rural Development	2021	Building
Yunnan Province 14th Five-Year Ecological and Environmental Protection Plan	Yunnan Provincial Department of Ecology and Environment	2022	Environment Protection
Implementation Plan of Yunnan Province on the 14th Five-Year Energy Conservation and Emission Reduction	Yunnan Provincial People's Government	2022	Cross-sector Action
Yunnan Province Pioneer Ecological Civilization Development Plan	Yunnan Provincial People's Government, Yunnan Provincial Committee of CPC	2022	Environment Protection
Yunnan Province Three-Year Action Plan for New Energy Battery Industry Development (2022-2024)	Yunnan Provincial People's Government	2022	Energy
Implementation Plan for the Yunnan Province 14th Five-Year Plan for Comprehensive Utilization of Crop Straw	Yunnan Provincial Department of Agriculture and Rural Affairs	2022	Agriculture Forestry and Land Use
Yunnan Province 14th Five-Year Plan for Urban Garbage Classification and Treatment Infrastructure Construction	Yunnan Provincial Department of Housing and Urban-Rural Development, Yunnan Provincial Development and Reform Commission	2021	Waste
Outline of the Yunnan Province 14th Five-Year Plan for Housing and Urban-Rural Construction	Yunnan Provincial Department of Housing and Urban-Rural Development	2022	Building
Yunnan Province 14th Five-Year Plan on Sustainable Prefabricated Building Development	Multiple departments	2021	Building
Yunnan Province 14th Five-Year Green Transportation Plan	Yunnan Provincial Department of Transportation	2022	Transport
Yunnan Province 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035	Yunnan Provincial People's Government	2021	Cross-sector Action
Yunnan Province 14th Five-Year Integrated Transportation Development Plan	Yunnan Provincial People's Government	2022	Transport
Implementation Opinions of the People's Government of Yunnan Province on Facilitating the Exit of Backward and Low-Efficiency Productions	Yunnan Provincial People's Government	2022	Industry Restructuring, Industry
Notice by the People's Government of Yunnan Province on the Implementations of Several Policies on Accelerating Photovoltaic Power System Development	Yunnan Provincial People's Government	2022	Energy
Yunnan Province Action Plan on Accelerating the Establishment of All Green, Low Carbon, and Circular Development Economic System	Yunnan Provincial People's Government	2022	Green Economy

Zhejiang

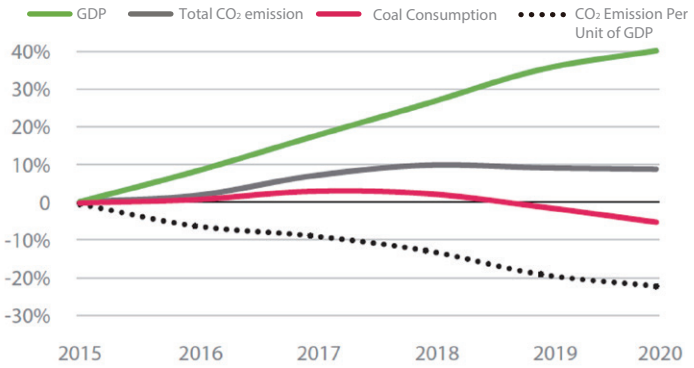
Population (million, 2020)	Area (million ha)	GDP per capita (RMB, in 2020)	GDP ranking (in 2020)	GDP per capita ranking (in 2020)	Energy-related carbon emission (ton CO_2/capita, 2020)
64.68	10.2	100738 (high income level)	4	6	6.8

Carbon Peaking Trend

Historical Emission Trend



Decoupling Status*



Data source: Provincial regions' GDP (2020 constant price) was calculated by iGDP based on data from National Bureau of Statistics. Energy-related CO_2 emissions data was calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Coal consumption data comes from total energy available for consumption, National Bureau of Statistics.

*LI Xindi & YANG Li. (2022). Decoupling process of economic growth and carbon emissions in Chinese provincial areas. Working paper. Beijing. iGDP.

Climate actions: 14th Five-Year Plan targets and ambitions

By 2025, carbon emissions in some industries will peak ahead of schedule. By 2030, carbon emissions will peak and then steadily decline. By 2060, carbon neutrality targets will be achieved successfully.
Energy intensity reduction target: **14.5%** (equal to the national target)

Energy

By 2025, the proportion of primary energy consumption from non-fossil fuel sources in the province will reach 24.0%, and the proportion of coal consumption in primary energy consumption in the province will be at 31.3% (the decrease ranks **2nd nationwide).**

Power

By 2025, the installed capacity of wind and photovoltaic power generation will increase by 16880 MW (the increase ranks **21st nationwide)**.

Industry

Compared to 2020, by 2025, energy consumption per unit of added value for industrial enterprises above the designated size will drop by 16.0% (above the national target), and CO2 emissions per unit of industrial value-added will fall significantly

Transportation

By 2025, the carbon emissions intensity of commercial vehicles per unit of transport turnover will be cut by 5%, relative to 2019.

Buildings

By 2025, the renewable energy replacement rate in urban buildings will reach 8%, and all newly-constructed buildings in urban areas will meet green building standards (equal to the national target).

Agriculture and Forestry

By 2025, the province's forest coverage rate will reach 61.5% (the increase ranks **19th nationwide)**.

Climate actions: 13th Five-Year Plan implementation

- Decrease of carbon emission intensity (%, 2019 vs. 2015)

  18.5% (20.5%), below the target set by the central government
  Note: policy target value in brackets

- Change in per capita energy-related carbon emissions (%, 2020 vs. 2015)
  1% increase (the increase is below the national level)

- Decrease of coal consumption share (percentage point, 2020 - 2015)

  13% (the decrease is above the national level)

- Change in the share of non-fossil energy (percentage point, 2020 - 2015)

  2.3% (the increase ranks **25th nationwide)**

Coal power capacity addition

- 1320 MW (the increase ranks **24th nationwide)**

The installed capacity of renewable energy generation

- 16854 MW (the increase ranks **13th nationwide)**

- Decrease of energy consumption intensity (%, 2020 vs. 2015)

  17.3% (17%), above the target set by the central government
  Note: policy target value in brackets

- Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)

  9.6% decrease (the decrease ranks **19th nationwide)**

- Increase of per capita building energy consumption (%, 2020 vs. 2015)

  28.5% (the increase ranks **17th nationwide)**

- Change of per capita transportation energy consumption (%, 2020 vs. 2015)

  -8% (the decrease ranks **8th nationwide)**

- Forest coverage change (percentage point, 2020 - 2015)

  0.2% (the increase ranks **26th nationwide)**

- Change of per capita municipal solid waste generation (%, 2020 vs. 2015)

  0.3% (the increase ranks **28th nationwide)**

Policy List (as of March 2023)

Action	Published by	Year	Sector
Action Plan for Accelerating the Development of New Energy Vehicle Industry in Zhejiang Province	Multiple departments	2023	Industry
Implementation Plan for the Construction of the Synthesis of Pollution and Carbon Emission Reduction Innovative Zone in Zhejiang Province	Multiple departments	2022	Cross-sector Action
Technology Innovation Action Plan for Carbon Peaking and Carbon Neutrality in Zhejiang Province	Zhejiang Provincial Committee of CPC	2021	"1+N" Policy Framework
The Views of the Zhejiang Provincial Chinese Communist Party and People's Government of Zhejiang Province on the Full, Accurate and Comprehensive Implementation of the New Development Philosophy in the Work of Carbon Peaking and Carbon Neutrality	People's Government of Zhejiang Province, Zhejiang Provincial Committee of CPC	2022	"1+N" Policy Framework
The 14th Five-Year Comprehensive Work Plan for Energy Saving and Emission Reduction in Zhejiang Province	People's Government of Zhejiang Province	2022	Cross-sector Action
The 14th Five-Year Plan for Water Transportation Development in Zhejiang Province	Zhejiang Provincial Department of Transportation	2021	Transport
The 14th Five-Year Plan for Highway Development in Zhejiang Province	Zhejiang Provincial Department of Transportation	2021	Transport
Implementation Views of Zhejiang Provincial Department of Finance on Supporting Carbon Peaking and Carbon Neutrality Work	Zhejiang Provincial Department of Finance	2022	"1+N" Policy Framework

Action	Published by	Year	Sector
The 14th Five-Year Plan for New Energy Vehicle Industry Development in Zhejiang Province	Zhejiang Provincial Development and Reform Commission	2021	Transport
The 14th Five-Year Plan for Comprehensive Transport Development in Zhejiang Province	People's Government of Zhejiang Province	2021	Transport
Zhejiang Province 14th Five-Year Plan for Housing and Urban-Rural Development	Zhejiang Provincial Development and Reform Commission	2021	Building
Zhejiang Province 14th Five-Year New Energy Storage Development Plan	Zhejiang Provincial Development and Reform Commission, Zhejiang Provincial Energy Bureau	2022	Energy
Zhejiang Province 14th Five-Year Plan for Energy Conservation and Energy Allocation Optimization	Zhejiang Provincial Development and Reform Commission, Zhejiang Provincial Energy Bureau	2021	Cross-sector Action
Zhejiang Province 14th Five-Year Plan for Coal, Oil and Gas	Zhejiang Provincial Development and Reform Commission, Zhejiang Provincial Energy Bureau	2021	Energy
Zhejiang Province 14th Five-Year Plan for Soil, Groundwater and Agricultural and Rural Pollution Prevention and Control	Multiple departments	2021	Environment Protection
Implementation Opinions of Zhejiang Province to Accelerate the Application of New Energy Storage	Zhejiang Provincial Development and Reform Commission, Zhejiang Provincial Energy Bureau	2021	Energy
Zhejiang Province 14th Five-Year Plan for Sustainable Energy Development	Zhejiang Provincial Development and Reform Commission, Zhejiang Provincial Energy Bureau	2021	Energy
Zhejiang Province 14th Five-Year Plan for Energy Development	People's Government of Zhejiang Province	2022	Energy
Zhejiang Province Green and Low-Carbon Factory Construction Evaluation Guidelines (2022 Edition)	Zhejiang Provincial Department of Economy and Information Technology	2022	Industry
Zhejiang Province Green and Low-Carbon Industrial Park Construction Evaluation Guidelines (2022 Edition)	Zhejiang Provincial Department of Economy and Information Technology	2022	Industry
Zhejiang Province 14th Five-Year Plan for Climate Change	Zhejiang Provincial Development and Reform Commission, Zhejiang Provincial Department of Ecology and Environment	2021	Cross-sector Action
Support Zhejiang Province to Explore and Innovate, and Build a Provincial Example of Financial Promotion for Common Prosperity	People's Government of Zhejiang Province	2021	Cross-sector Action
Opinions of Zhejiang Provincial People's Government on Accelerating the Establishment and Perfection of Green and Low-carbon Circular Development Economic System	People's Government of Zhejiang Province	2021	Cross-sector Action
Regulations of Zhejiang Province on Green Building	Standing Committee of Zhejiang Provincial People's Congress	2020	Building
Measures of Zhejiang Province for Implementing the Energy Conservation Law of the People's Republic of China	Zhejiang Provincial Development and Reform Commission	2021	Energy
14th Five-Year Plan of Zhejiang Province to Address Climate Change	Zhejiang Provincial Development and Reform Commission	2021	Cross-sector Action

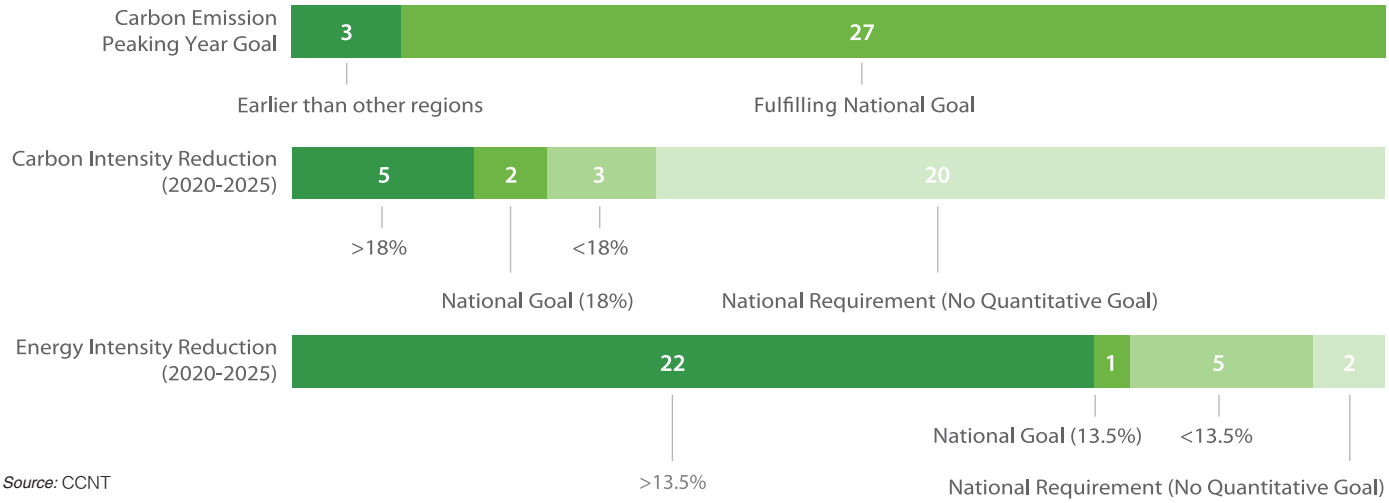
Overview of Provincial Climate Actions

Photo by Joel Danielson on Unsplash

Summary of the Climate Actions of China's Provincial Regions

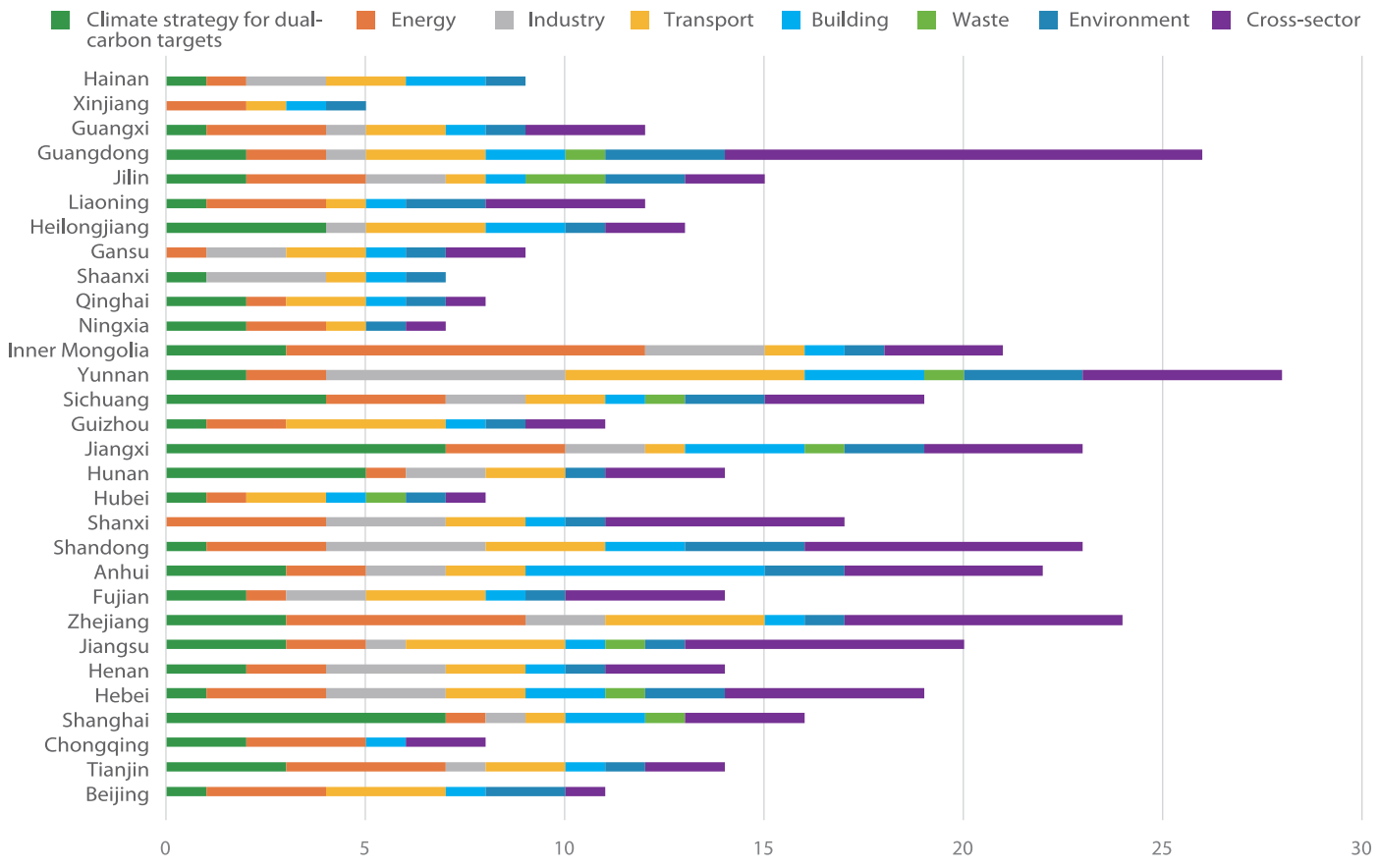
Provincial Climate Goals and Actions

FIGURE 1. Overarching climate goals by provincial region



Source: CCNT

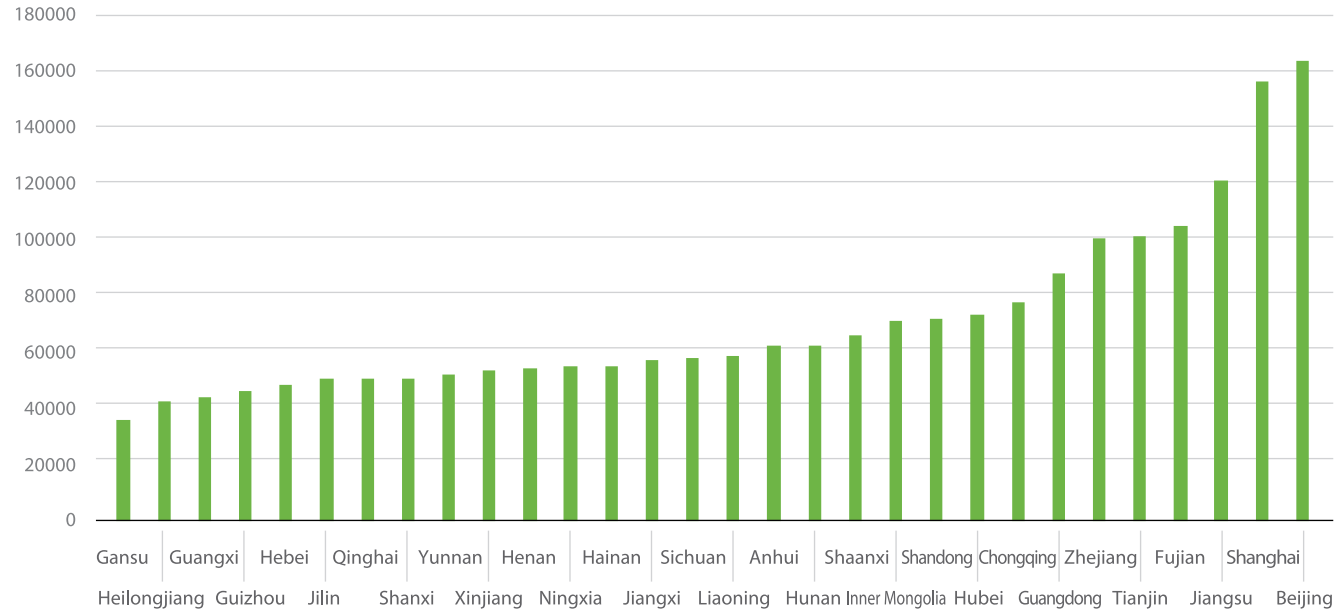
FIGURE 2. Subnational climate plans by provincial region (2021-2022)



Source: CCNT

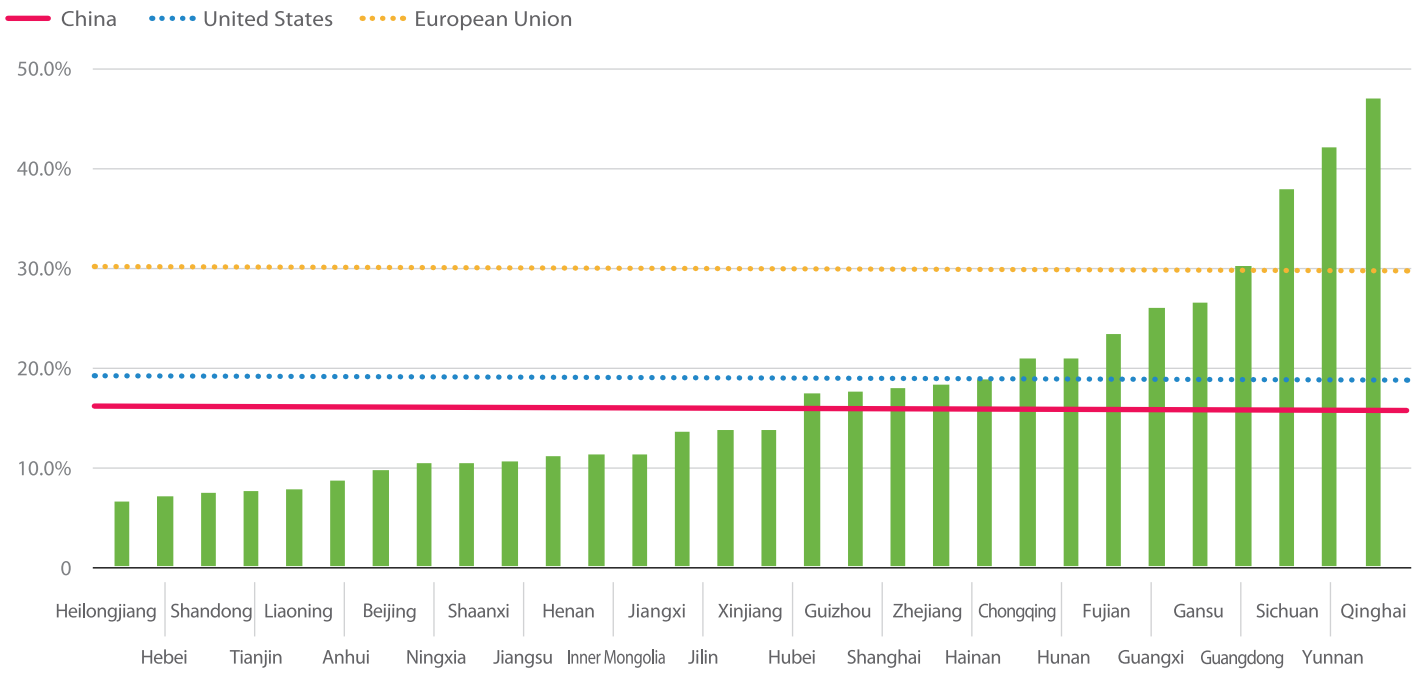
Provincial Development Progress and Differences

FIGURE 3. Per capita GDP by provincial region (RMB/cap, 2020 price)



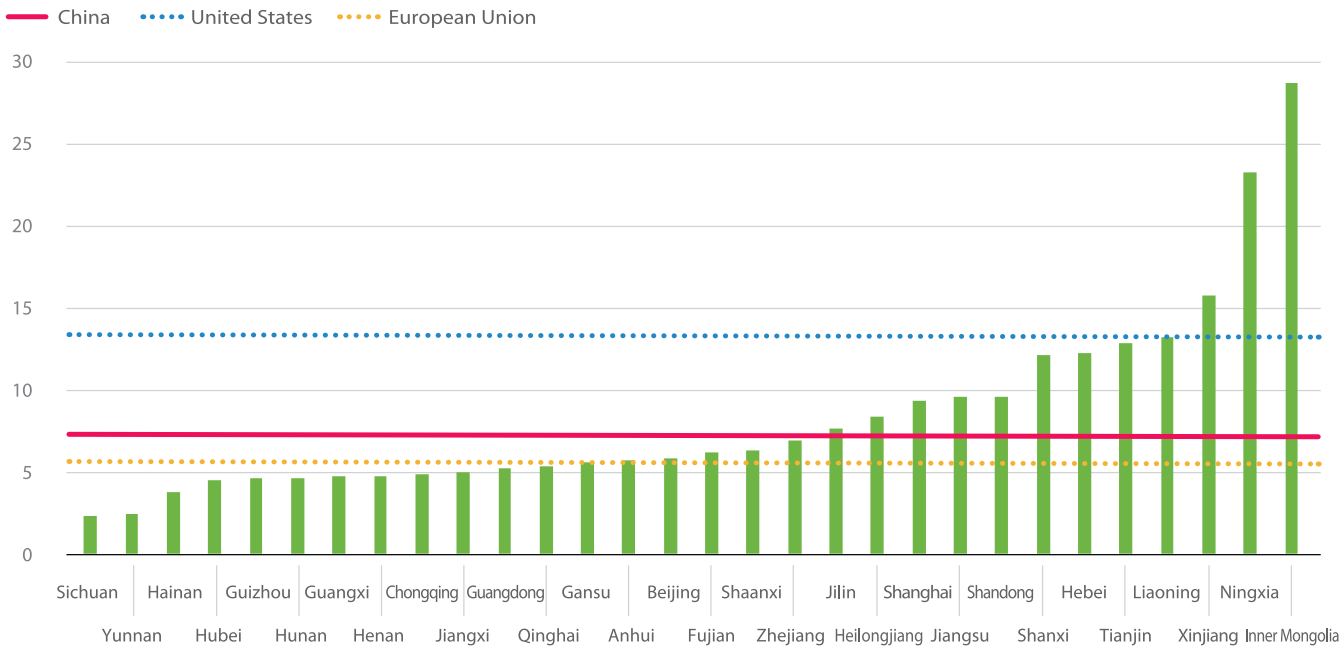
Source: iGDP calculations

FIGURE 4. Non-fossil fuel share in primary energy consumption (%, 2020)



Source: Energy Development Plan during the 14th FYP, Ecological and Environmental Protection Plan during the 14th FYP and statistical yearbook of each provincial region, and BP Statistical Review of World Energy 2022

FIGURE 5. Per capita CO_2 emission by provincial region (tCO_2/capita, 2020)



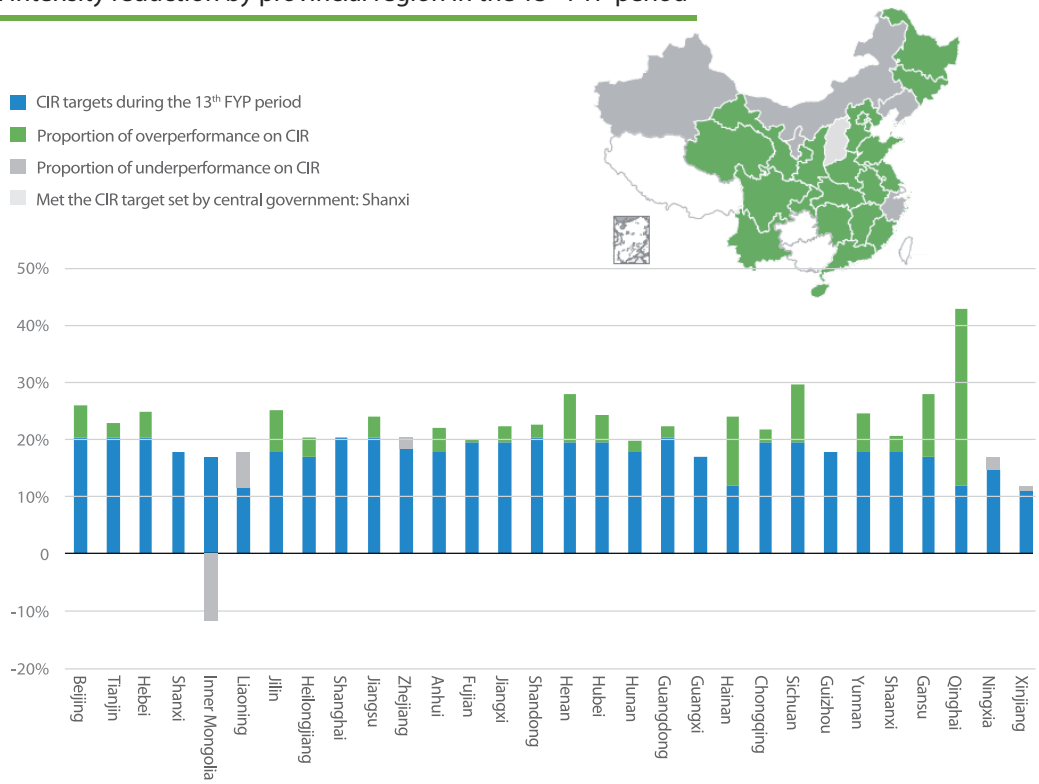
Source: Population data comes from National Bureau of Statistics.Energy-related CO_2 emissions data is calculated by iGDP based on provincial energy balance sheets from China Energy Statistical Yearbook (electricity import and export emissions accounted for). Energy and process CO_2 emisons data of the US and EU comes from IEA and population data comes from the World Bank.

FIGURE 6. Carbon intensity by provincial region (tCO_2/10,000 RMB, 2020)

Source: Provincial regions' GDP comes from the Nationa Bureau of Statstics.Energy-related CO_2 emisions data is calculated by iGDP based on provincial energy balance sheets from the China Energy Statistical Yearbook (electricity import and export emissions accounted for).

Mitigation Performance in the 13th FYP Period

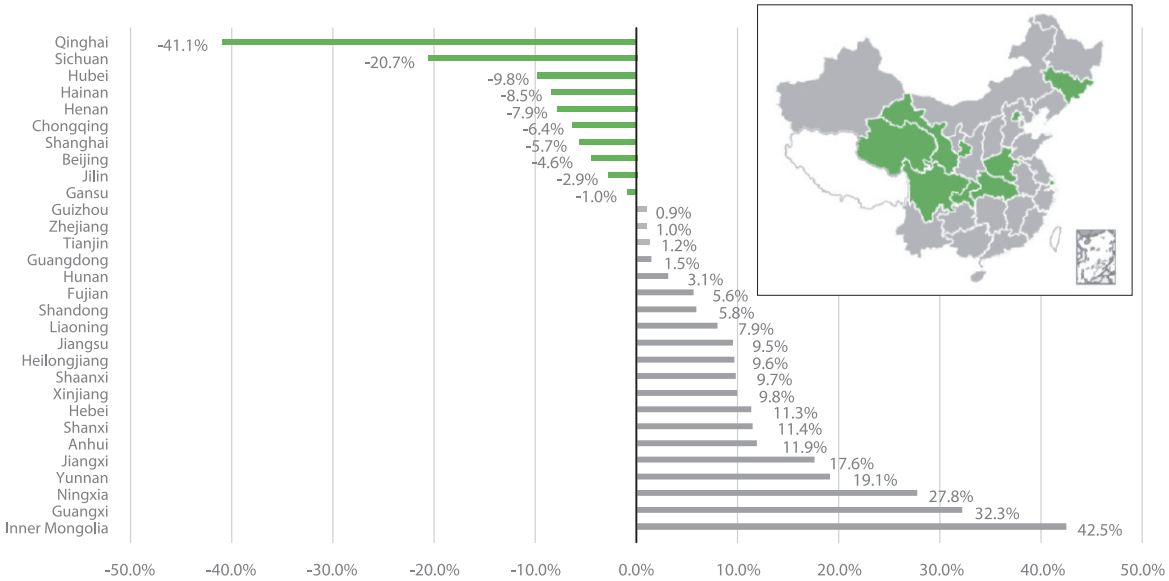
FIGURE 7. Carbon intensity reduction by provincial region in the 13th FYP period



Note: 1.Carbon intensity reduction rates for Shangha, Guanax and Guizhou by 2020 (during the 13th FYP period) are not publicdly available
2.Carbon intensity reduction rates for liaoning, Jiangsu,Hainan, Zhejiang, Ningxia and Xinjang compare 2019 and 2015 rates.

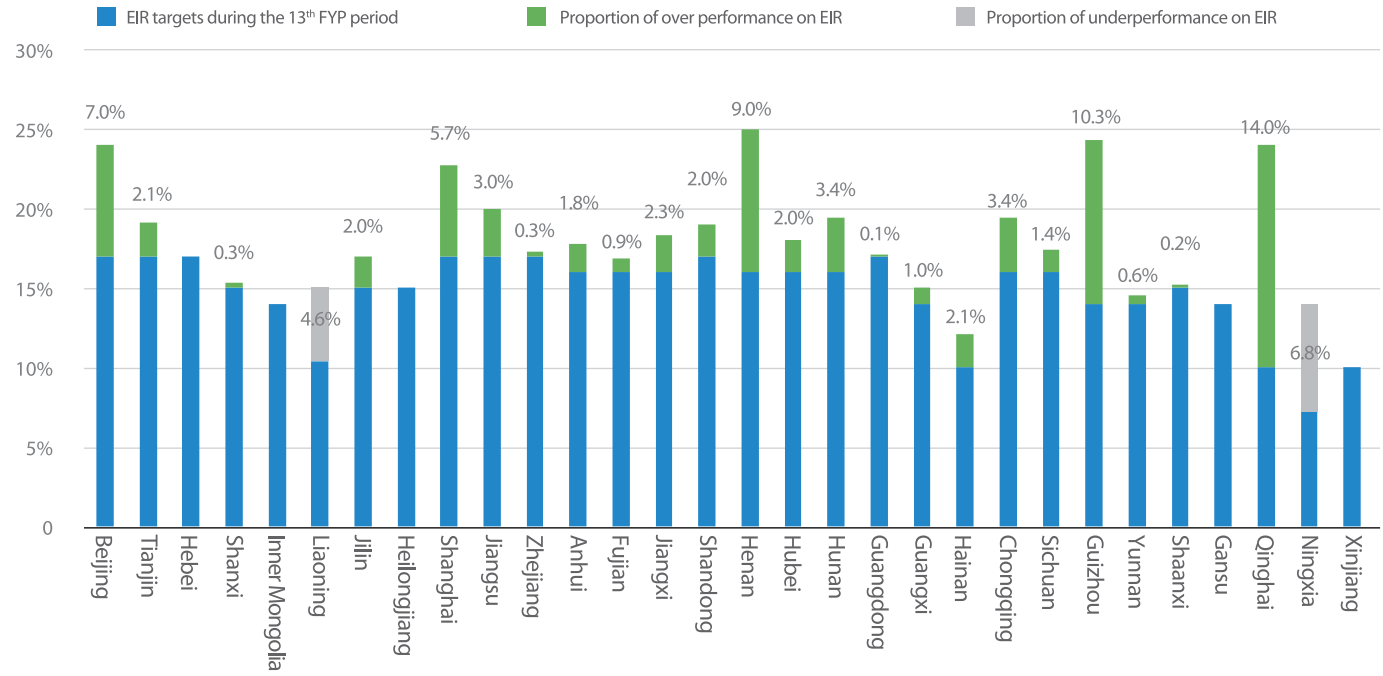
Source: Ecological and Environmental Protection Plan during the 14th FYP of each provincial region, Addressing Cimate Change Plan during the 14th FYP of each provincial region

FIGURE 8. Reduction in per capita carbon emissions (2020 vs. 2015)



Source: Populaton data comes from the National Bureau of Statistics Energy−related CO_2 emissions data is calculated by iGDP based on provincial energy balance sheets from the China Energy Statistical Yearbook (electricity import and export emissions accounted for).

FIGURE 9. Energy intensity reduction in the 13th FYP period, targets vs. actual

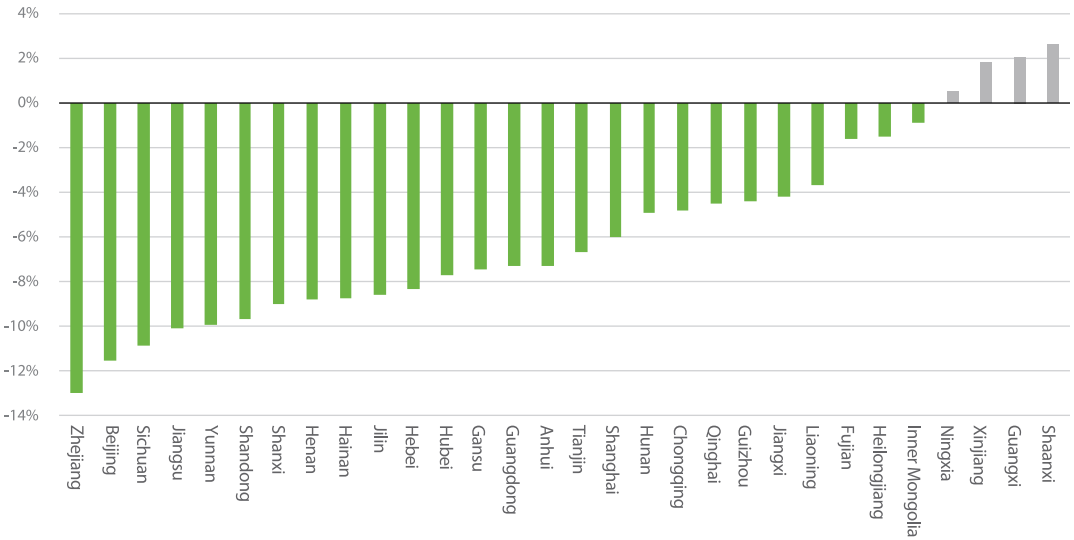


Note: 1. Energy intensity reduction rates for Hebei, Inner Mongolia and Heilongjiang by 2020 (during the 13th FYP period) are not publicly available while Gansu and Xinjiang met their EIR targets set by the central government.

2. Energy intensity reduction rates for Ningxia and Anhui compare 2019 and 2015 rates.

Source: Ecological and Environmental Protection Plan during the 14th FYP of each provincial region, Addressing Climate Change Plan during the 14th FYP of each provincial region.

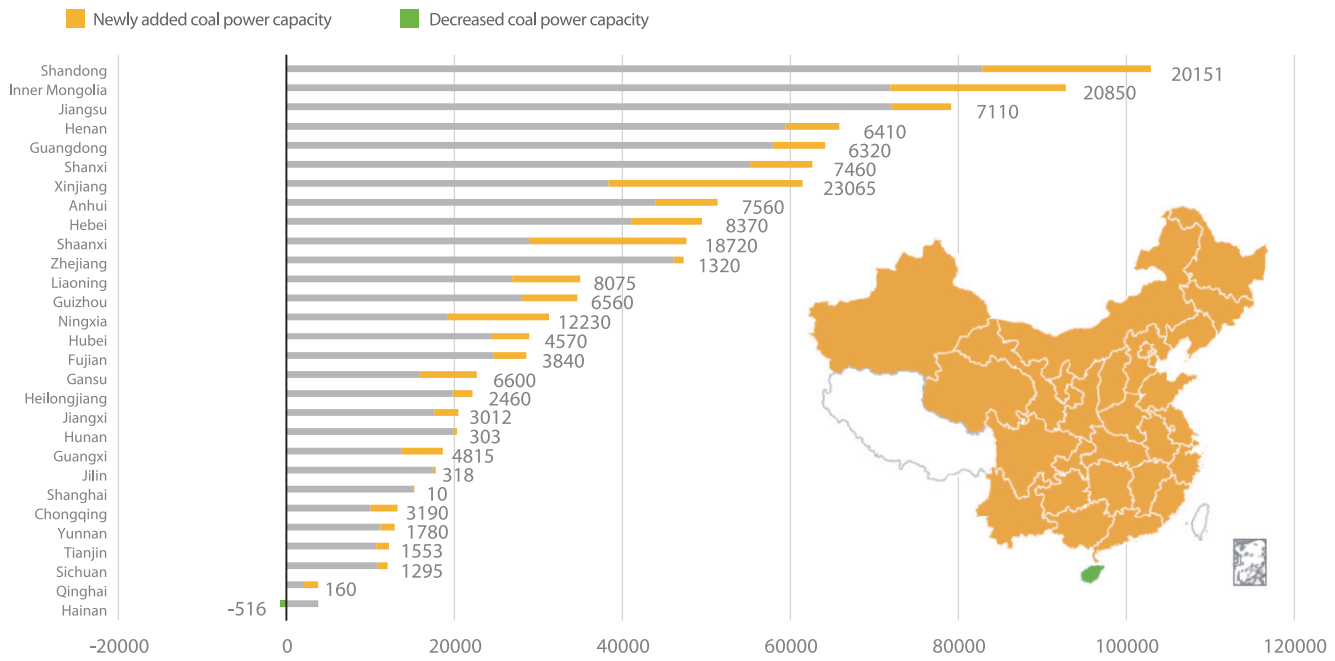
FIGURE 10. Coal consumption share reduction in the 13th FYP period (%)



Note: Due to data availablity the proportion of coa consumption used for Shanx province at the beginning of the 13th FYP is the proportion in 2014 ather than in 2015, while the data of Shanxi, Guizhou and Heilongjiang at the end is the proposed target by the plan rather than the actual value.

fource: Energy Development Plan during the 14th FYP and statistcal yearbook of each provincial region, Shanx Province GHG Emision Control Plan during the 13th FYP and Shanxi Province Comprehensive Energy Development Plan during the 13th FYP

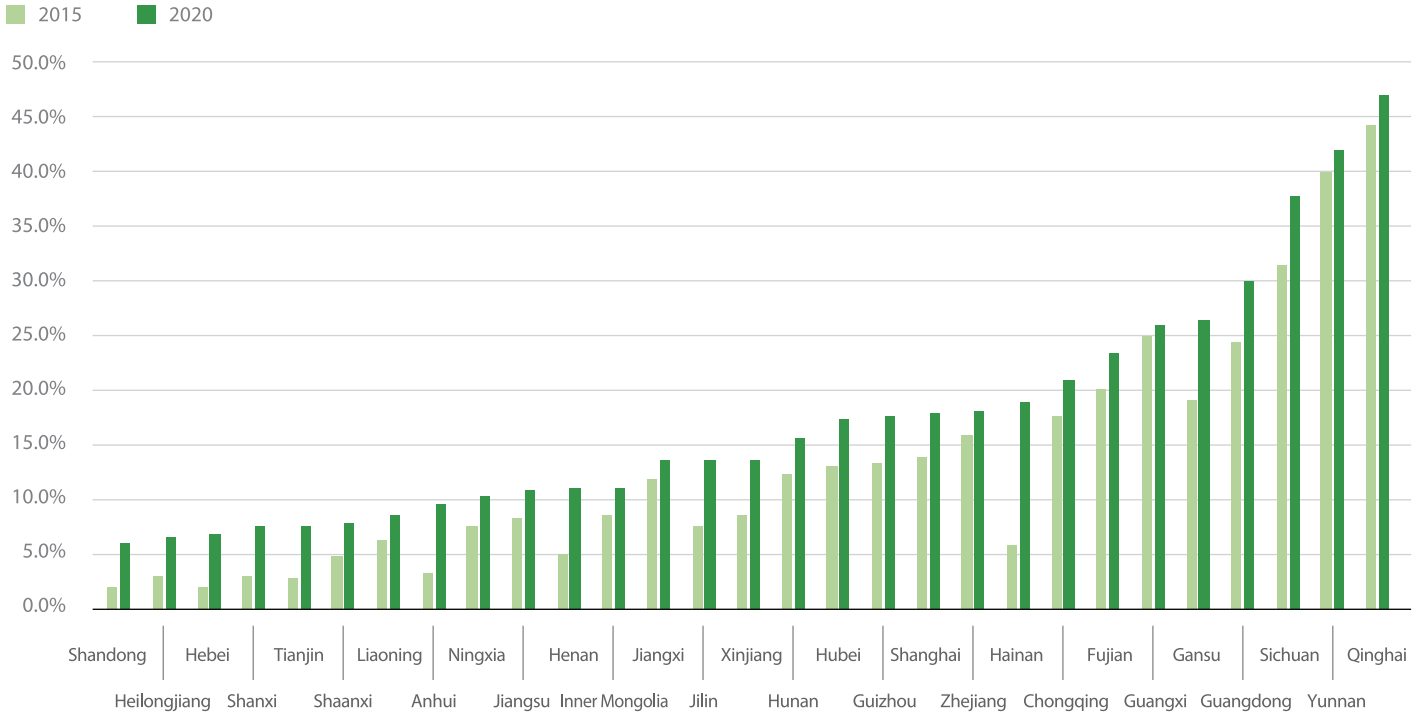
FIGURE 11. Newly added coal power capacity by provincial region in the 13th FYP period (MW)



Note: Data from Beijing is not included due to data unavailability

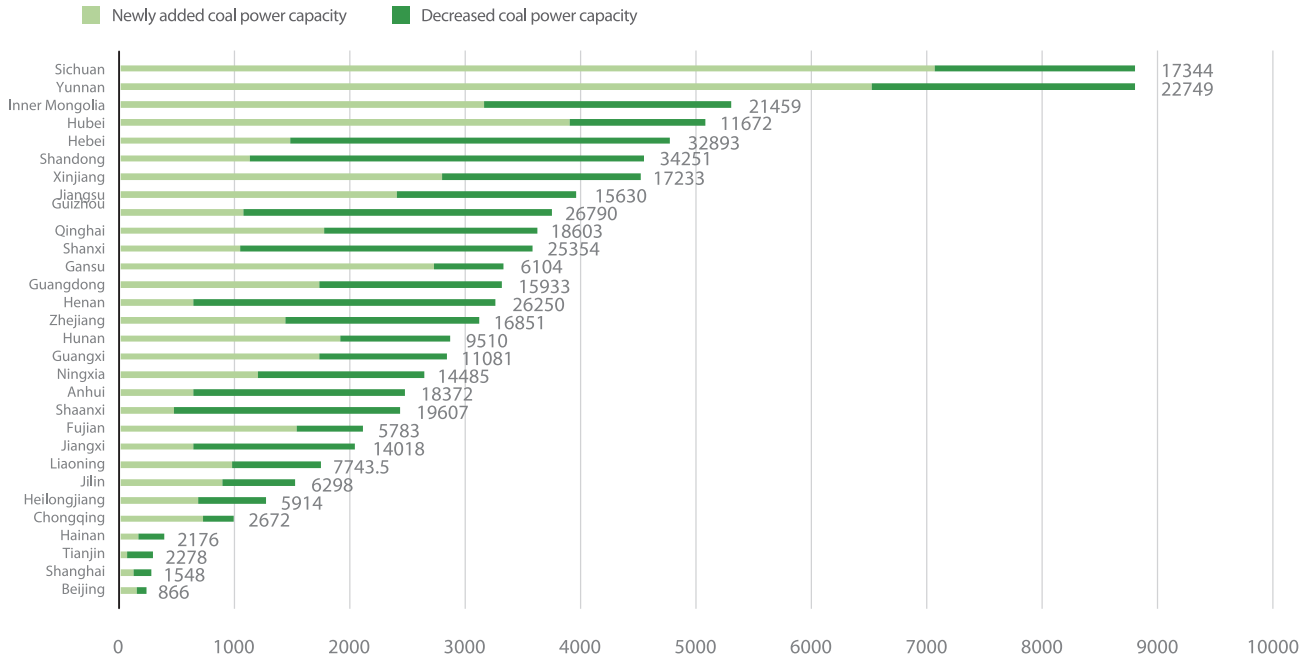
Source: Energy Development Plan during the 13th and 14th FYP of each provincial region

FIGURE 12. Non-fossil fuel share (%, 2020 vs. 2015)



Source: Energy Development Plan during the 13th and 14th FYP of each provincial region, Ecological and Environment Protection Plan during the 13th and 14th FYP of each provincial region and statistical yearbook of each provincial region. The 2020 non-fossil fuel share of Heilongjiang is the proposed target by its FYP rather than actual value.

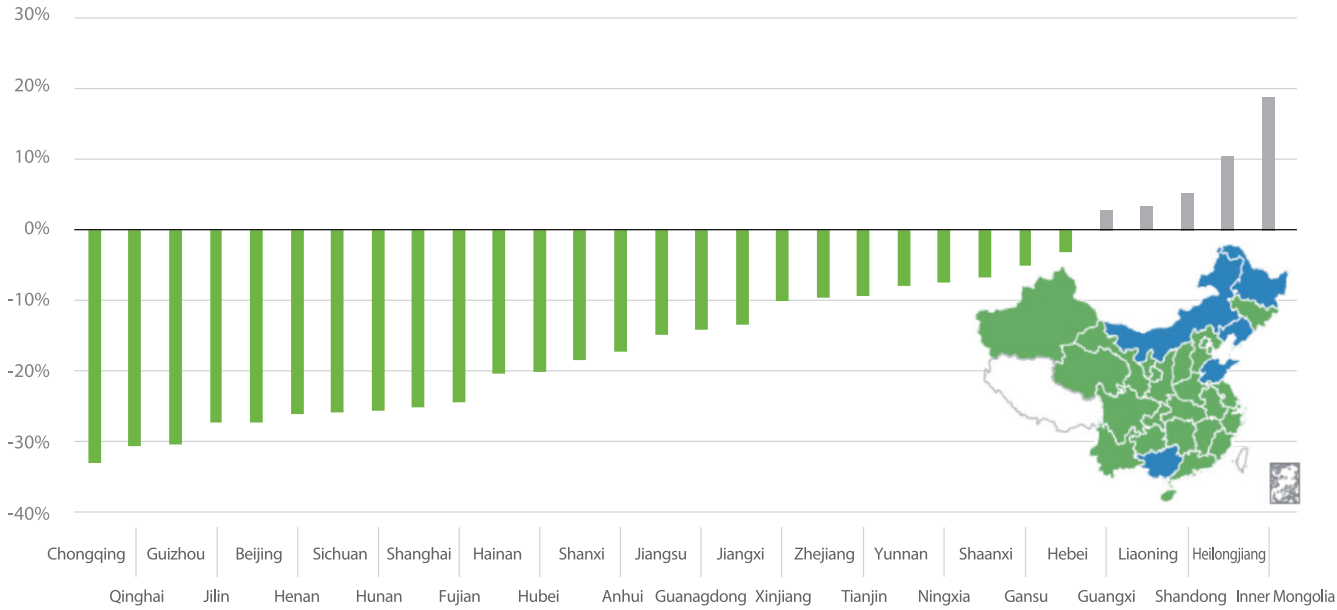
FIGURE 13. Renewables additions in the 13th FYP period (MW)



Note: Renewables here include wind, solar hydropower and biomass.

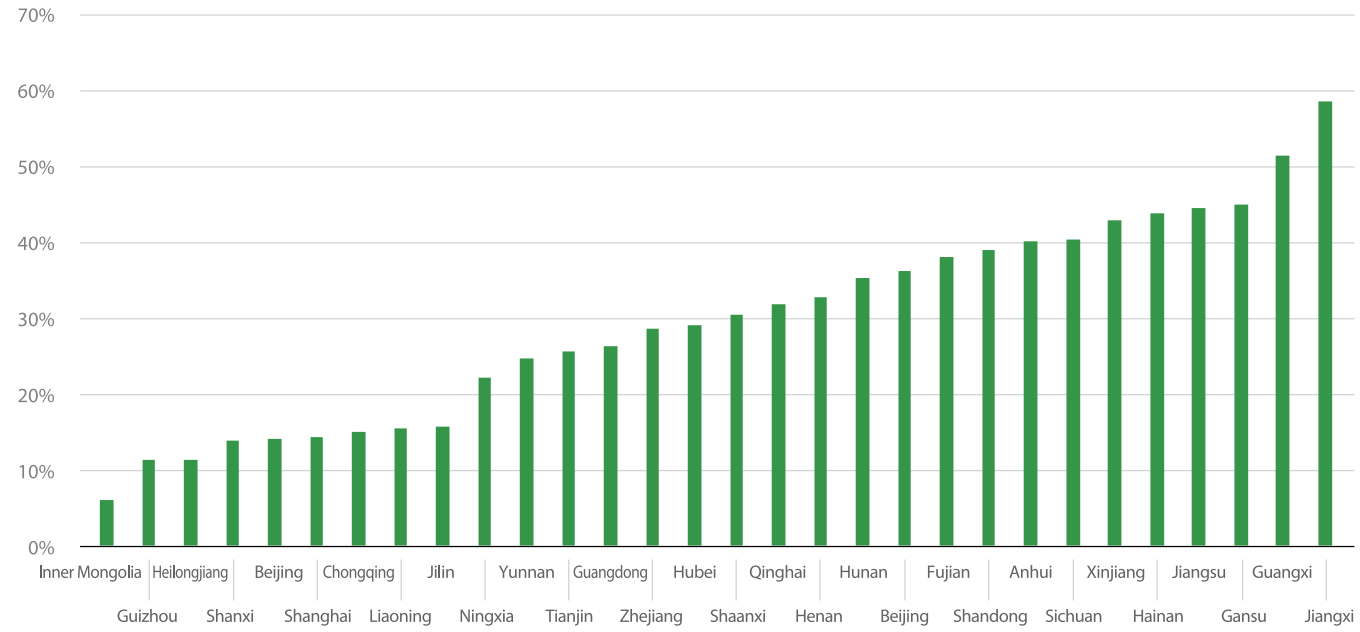
Source: Renewable Energy Development Plan during the 13th and 14th FYP of each provincial region, Energy Development Plan during the 13th and 14th FYP of each provincial region.

FIGURE 14. Change in per unit of industrial value-added energy consumption (%, 2020 vs. 2015)



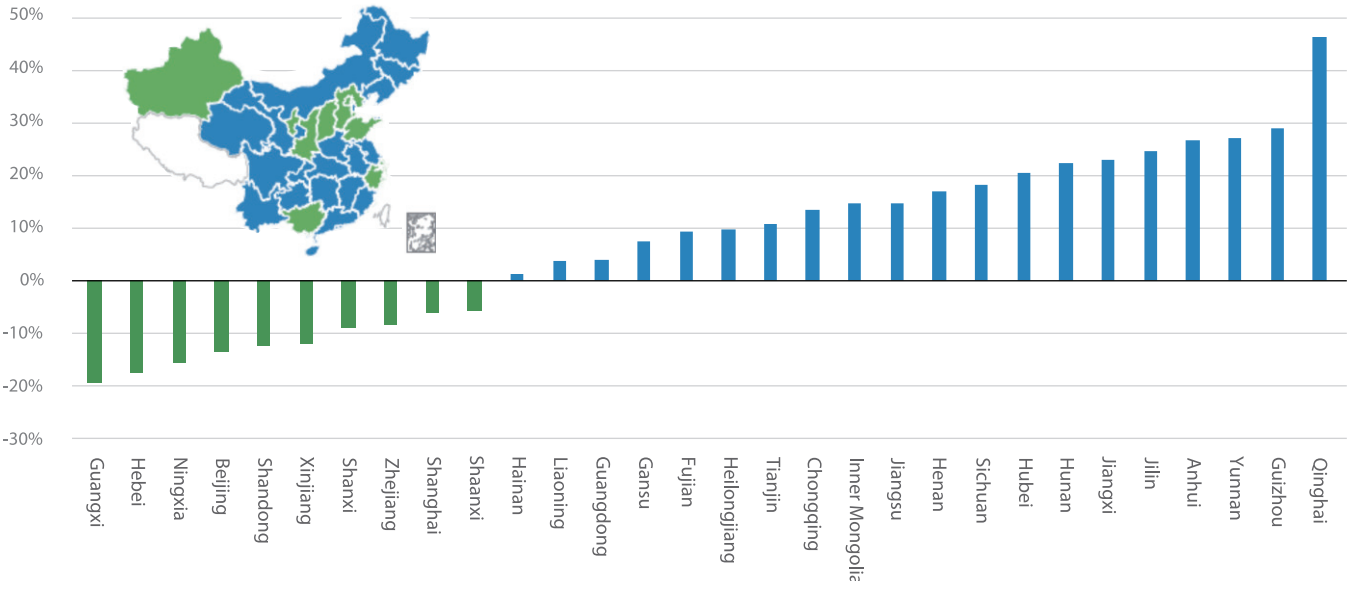
Source: Industrial added value comes from the Secondary Industry added value from National Bureau of Statistics. Provincial level industrial energy consumption is calculated by iGDP based on based on Total Energy Consumption −Industry Sector from provincial energy balance sheets of China Energy Statistical Yearbook.

FIGURE 15. Per capita building energy consumption change (%, 2020 vs. 2015)



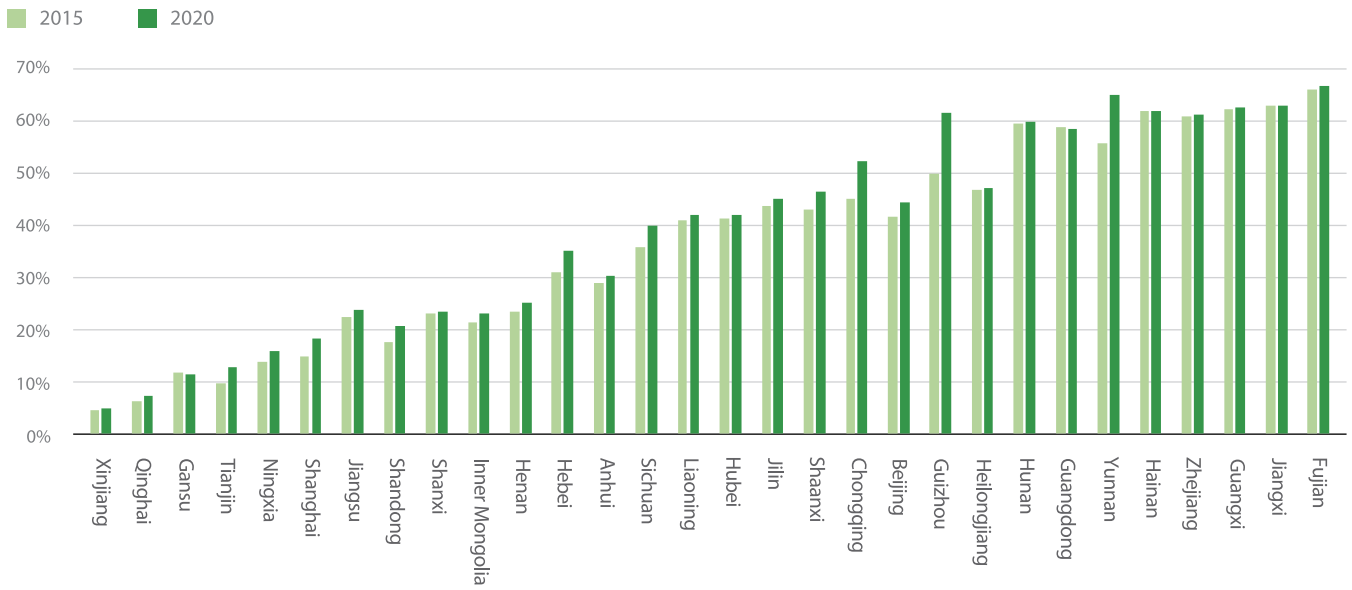
Source: Provincial level building energy consumption (operation phase) is calculated by iGDP based on based on Total Energy Consumption – Wholesale and Retail Trades, Hotels and Catering Services and Residential from provincial energy balance sheets of China Energy Statistical Yearbook. For a detailed methodology please see the working paper below.

FIGURE 16. Per capita transportation energy consumption change (%, 2020 vs.2015)



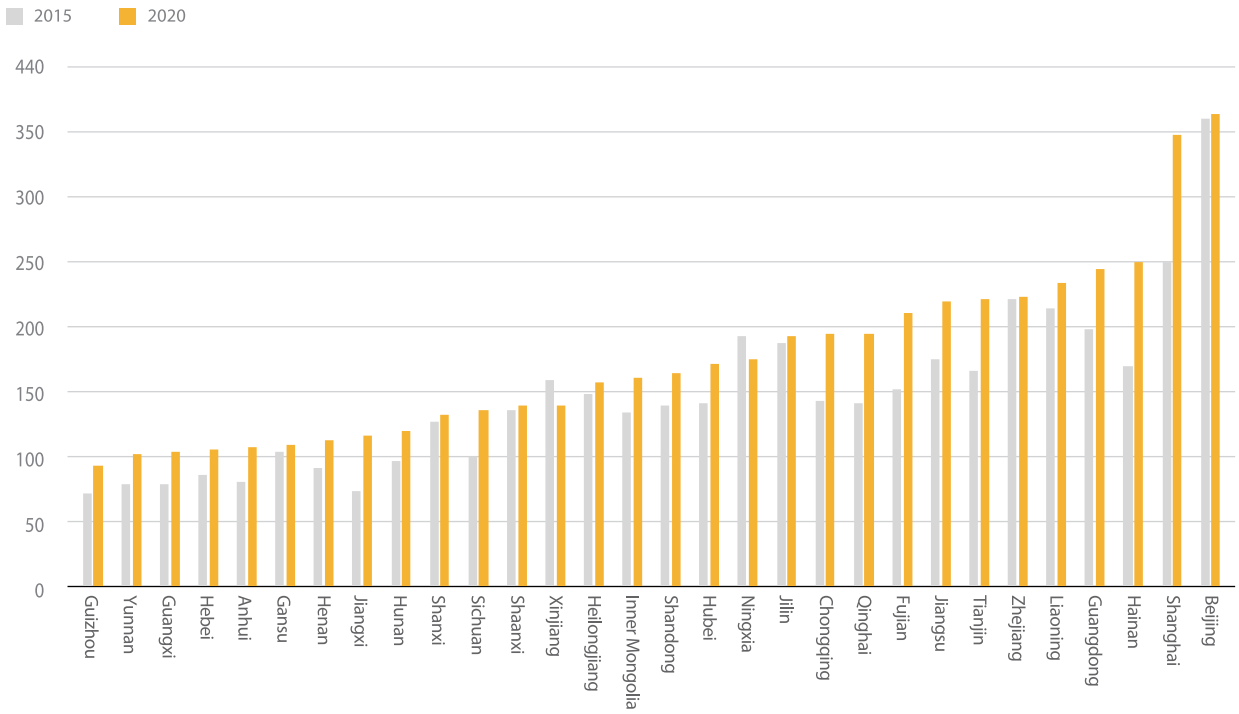
Source: Provincial level transportation energy consumption is calculated by iGDP based on based on Total Eneray Consumption –Transport, Storage and Post from provincial energy balance sheets of China Energy Statistical Yearbook.

FIGURE 17. Forest coverage (%, 2020 vs. 2015)



Source: Ecological and Environment Protection Plan during the 13th FYP and 14th FYP of each provincial region, Annual Statistical Bulletin of each province

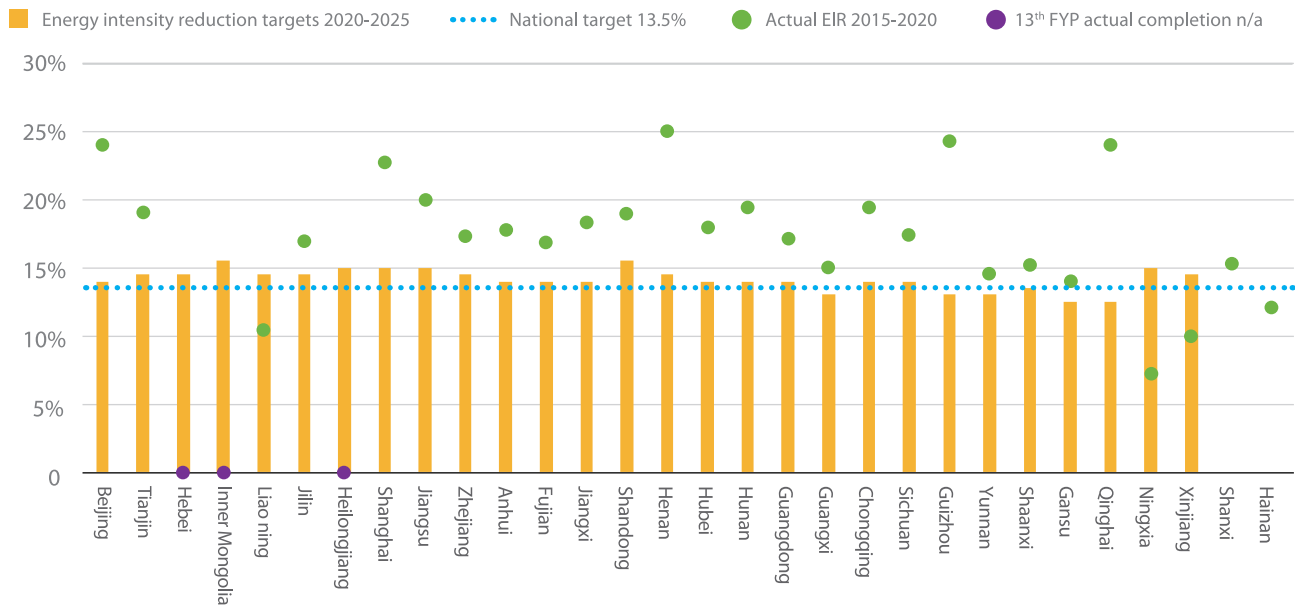
FIGURE 18. Municipal solid waste generation per capita (kg/cap/year)



Source: Waste data comes from the Statistical Yearbook and the Urban and Rural Development Yearbook of each provincial region. Population data comes from the National Bureau of Statistics.

Policy Targets in the 14th FYP Period

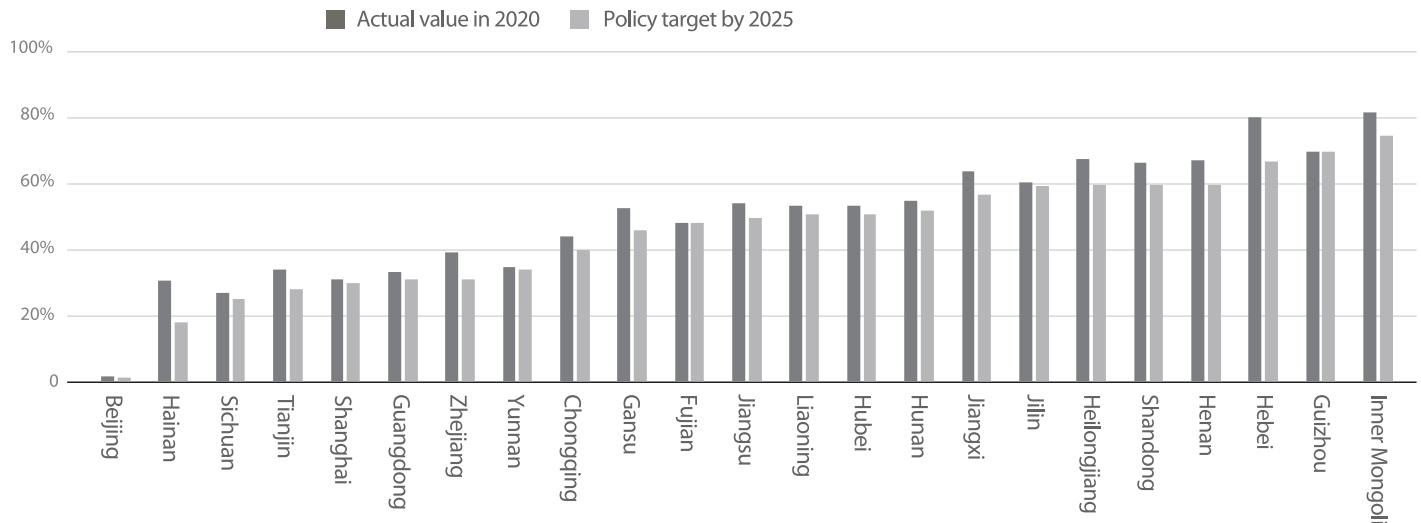
FIGURE 19. Energy intensity reduction targets by provincial region in the 14th FYP period



Notes: 1.Shanxi and Hainan announced that they would only "meet the national targets" regarding energy intensity reduction for 2025, so do not appear in the figure.
2.Energy intensity reduction completion data for Hebei, Inner Mongolia and Heilongjiang by 2020 (during the 13th FYP period) is not publicly available.
3.The 13th FYP completion rate for Anhui and Ningxia compare energy intensity reduction rates in 2019 and 2015.

Source: CCNT

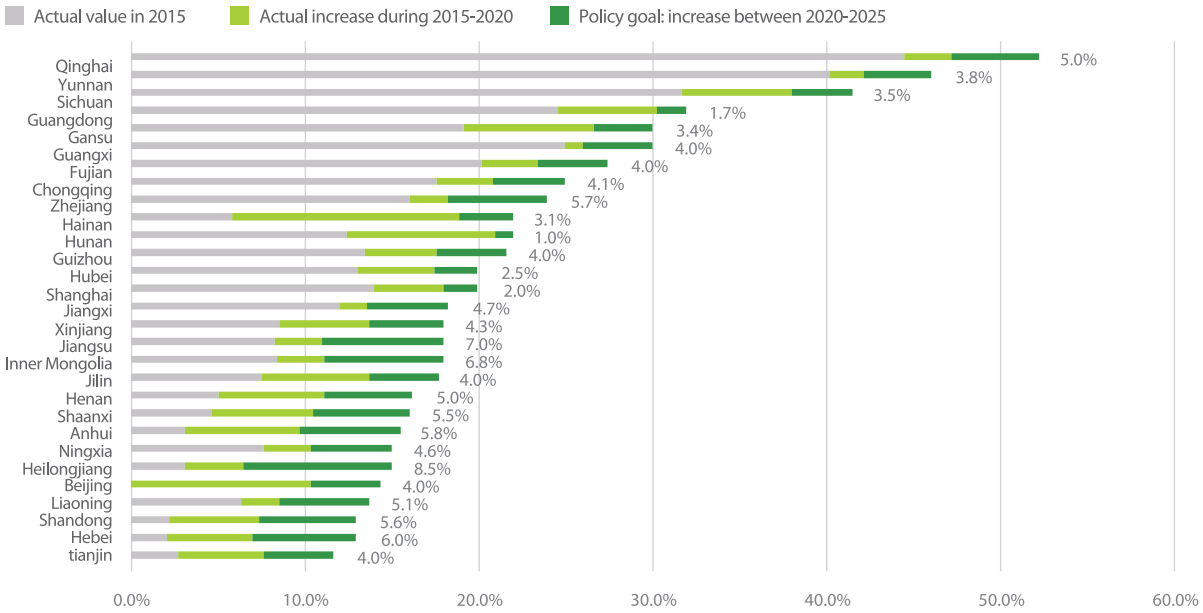
FIGURE 20. Coal consumption share of total energy consumption (2025 policy target vs. 2020 status)



Notes: Due to data availability, the proportion of coal consumption of Guizou and Heilongjiang in 2020 is the proposed target by relevant FYPs rather than the actual value.

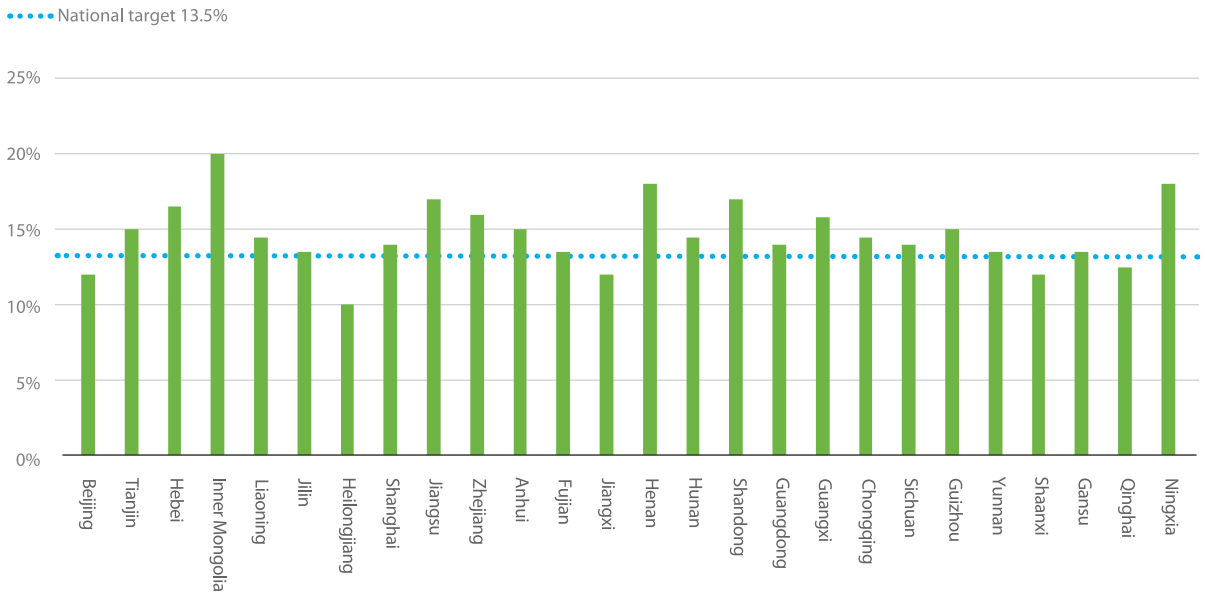
Source: The Energy Development Plan during the 14th FYP of each provincial region, the Ecological and Environment Protection Plan during the 14th FYP of each provincial region and the Implementation Plan for Energy Conservation and Emission Reduction during the 14th FYP of each provincial region.

FIGURE 21. Announced new targets for non-fossil fuel share increase (%, new addition) in the 14th FYP period



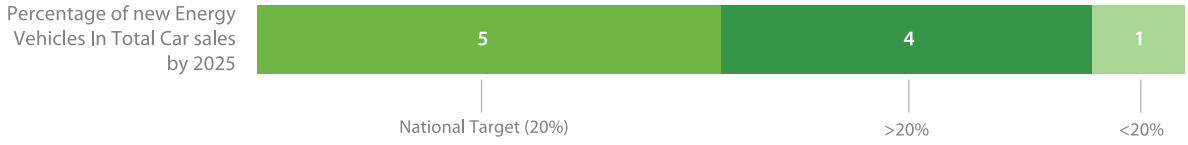
Source: The Energy Development Plan during the 13th and 14th FYP of each provincial region, The Ecological and Environment Protection Plan during the 13th and 14th FYP of each provincial region and the Implementation Plan for Energy Conservation and Emisson Reduction during the 13th and 14th FYP of each provincial region.

FIGURE 22. Announced energy intensity reduction per unit of value-added in industrial enterprises above a designated size (compared to 2020)



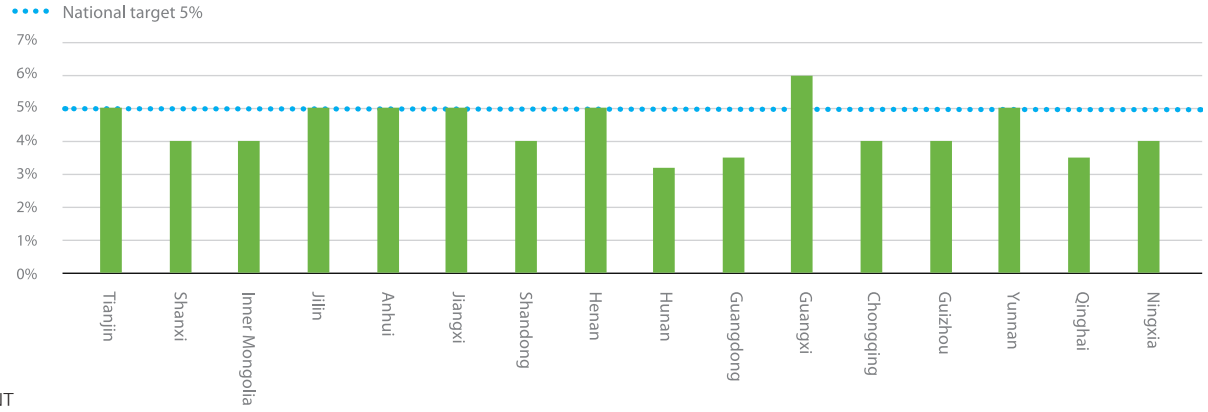
Source: CCNT

FIGURE 23. Percentage of new energy vehicles in total car sales by 2025



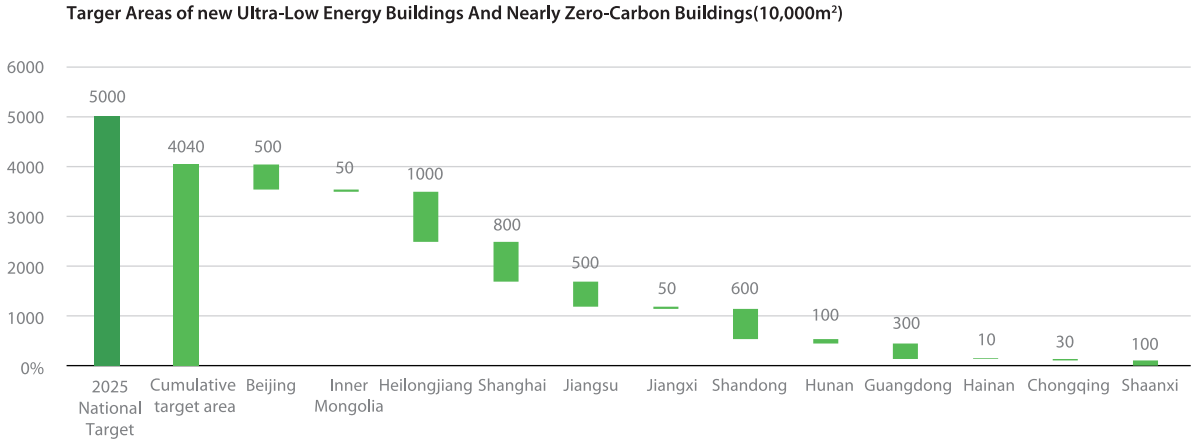
Source: CCNT

FIGURE 24. Carbon emissions reduction targets in per unit transportation turnover of operating vehicles by 2025 compared with the 2020 level



Source: CCNT

FIGURE 25. Announced newly added building areas for ultra-low energy buildings or nearly zero energy buildings (10,000 m^2)



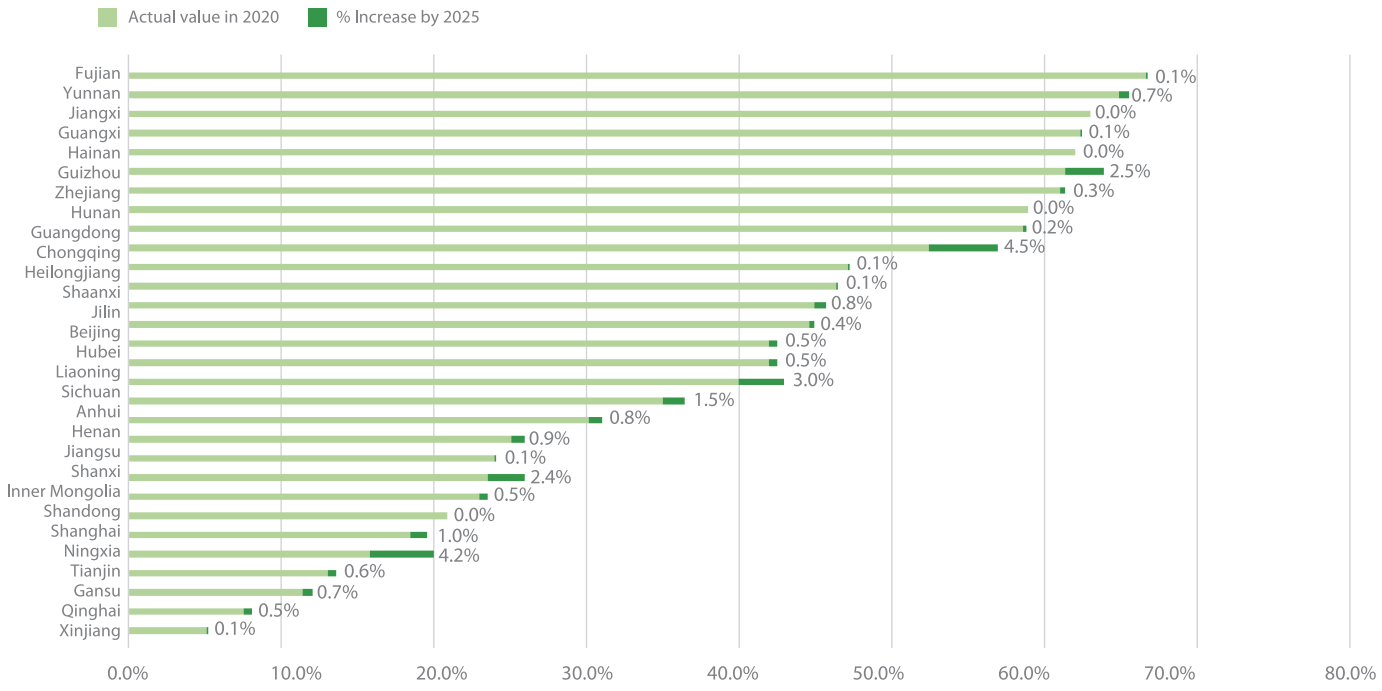
Source: CCNT

Table 1. Building codes for ultra-low energy buildings or near-zero energy buildings by provincial region

PROVINIAL REGION	SUB-NATIONAL ULTRA-LOW-ENERGY BUILDING CODE IMPLEMENTED	SUB-NATIONAL ULTRA-ZERO-ENERGY BUILDING CODE IMPLEMENTED	SUBNATIONAL BUILDING CODES
Beijing	√		Architectural Design Standards for Ultra-Low Energy Residential Buildings
Hebei	√		Evaluation Standards for Passive Ultra-Low Energy Buildings
Liaoning	√		Energy Conservation Design Standards for Ultra-Low Energy Residential Buildings
Heilongjiang	√		Energy Conservation Design Standards for Ultra-Low Energy Residential Buildings in Heilongjiang Province Energy Conservation Design Standards for Ultra-Low Energy Public Buildings in Heilongjiang Province
Shanghai	√		Technical Guidelines for Ultra-Low Energy Buildings in Shanghai (for Trial Implementation)
Jiangsu	√	√	Technical Guidelines for Ultra-Low Energy Residential Buildings in Jiangsu Province (for Trial Implementation) Technical Standards for Nearly Zero-Energy Building Inspection
Anhui	√	√	Energy Conservation Technical Standards for Passive Ultra-Low Energy Civil Buildings Technical Standards for Nearly Zero-Energy Buildings
Fujian	√		Technical Guidelines for Ultra-Low Energy Buildings in Fujian Province (Draft for Comments)
Shandong	√		Energy Conservation Design Standards for Passive Ultra-Low Energy Residential Buildings
Henan	√		Energy Conservation Design Standards for Ultra-Low Energy Public Buildings in Henan Province
Hubei	√		Energy Conservation Design Code for Passive Ultra-Low Energy Residential Buildings
Hunan	√		Energy Conservation Design Standards for Ultra-Low Energy Residential Buildings in Hunan Province
Guangdong	√		Technical Guide for Ultra-low Energy Buildings with Lingnan Characteristics
Sichuan	√		Technical Guide for the Application of Ultra-low Energy Buildings in Sichuan Province (Draft for Comments)
Shaanxi	√		Energy Conservation Design Standards for Ultra-Low Energy Residential Buildings
Xinjiang	√	√	Application Guidelines for Applicable Technologies for Ultra-Low Energy Buildings and Nearly Zero-Energy Buildings in Urumqi

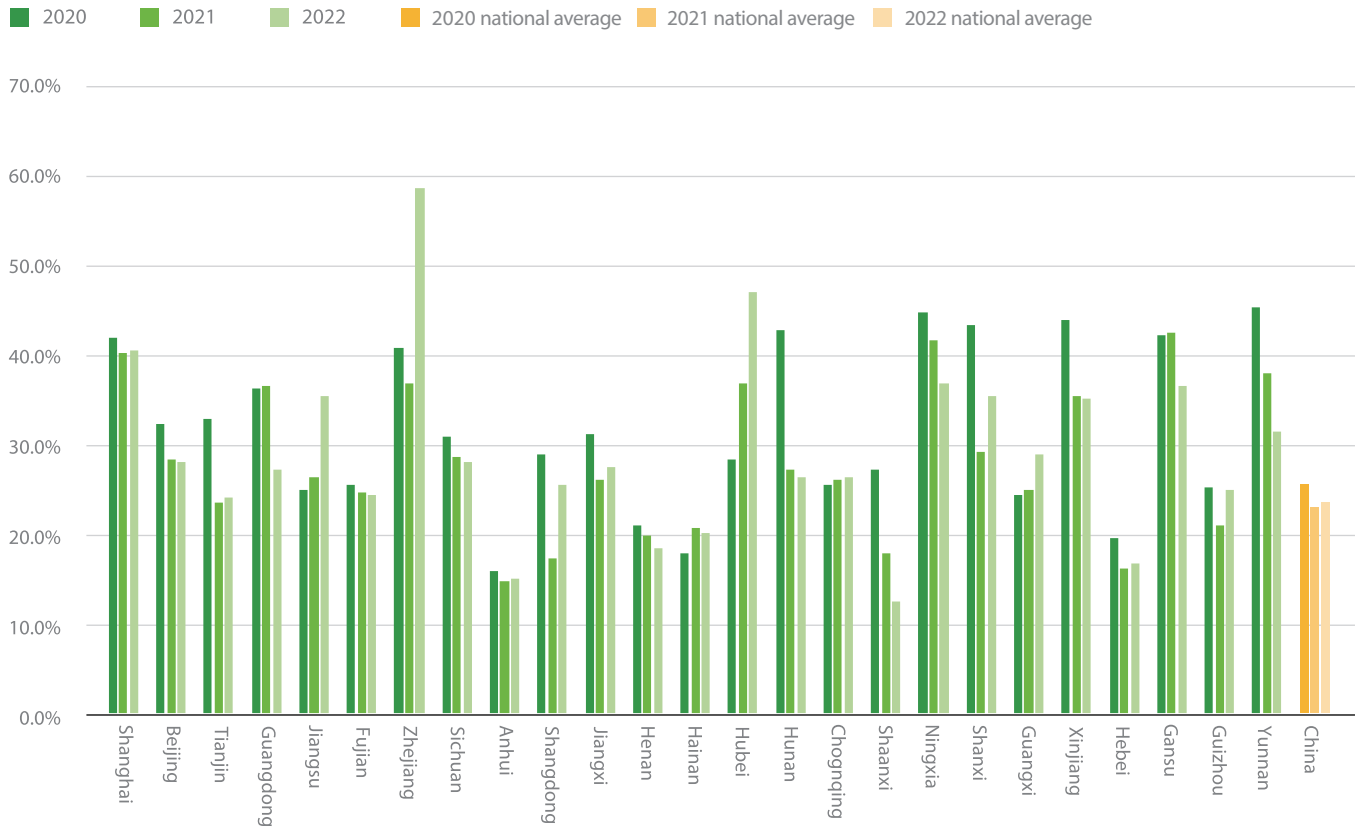
Source: CCNT

FIGURE 26. Forest coverage (%, increase by 2025)



Source: CCNT

FIGURE 27. Carbon mitigation projects share in key construction projects[1] by provincial region

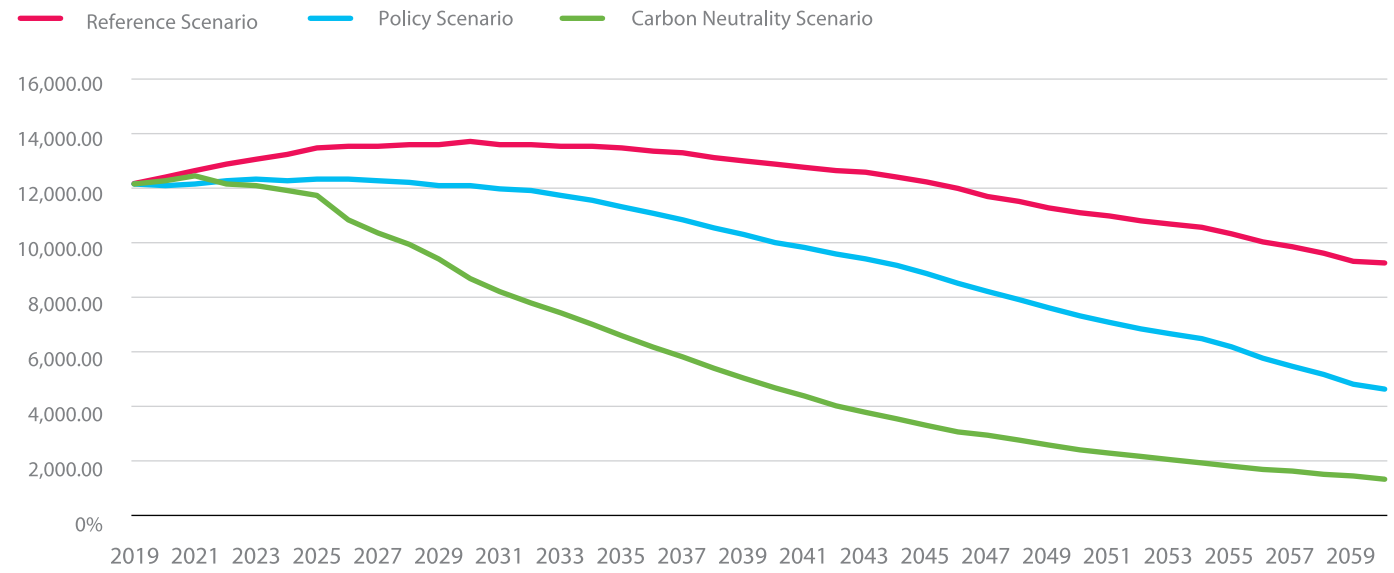


Source: LIU Xueye. (2022). Progress in Public Investment Towards Dual-Carbon Goals: A Review of Key Investment Projects in China. Beijing. IGDP.

1 "Key Construction Projects" are projects that are considered main infrastructure development projects, high-tech and key innovation projects, cross-region projects and other projects that have significant social and economic development impacts. These projects are normally the priorities of public investment. http://www.gov.cn/zhengce/2020-12/26/content_5574782.htm

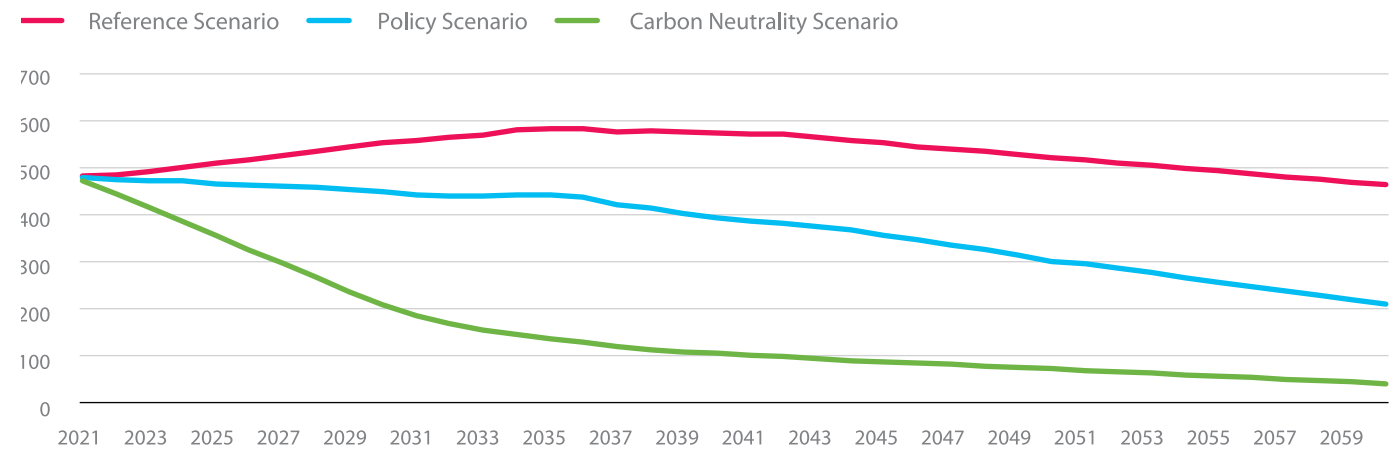
Outlook Towards Carbon Neutrality: Energy Policy Simulator [2]

FIGURE 28. CO_2 emissions in China under different scenarios (no LULUCF, MMT)



Source: iGDP calculations.

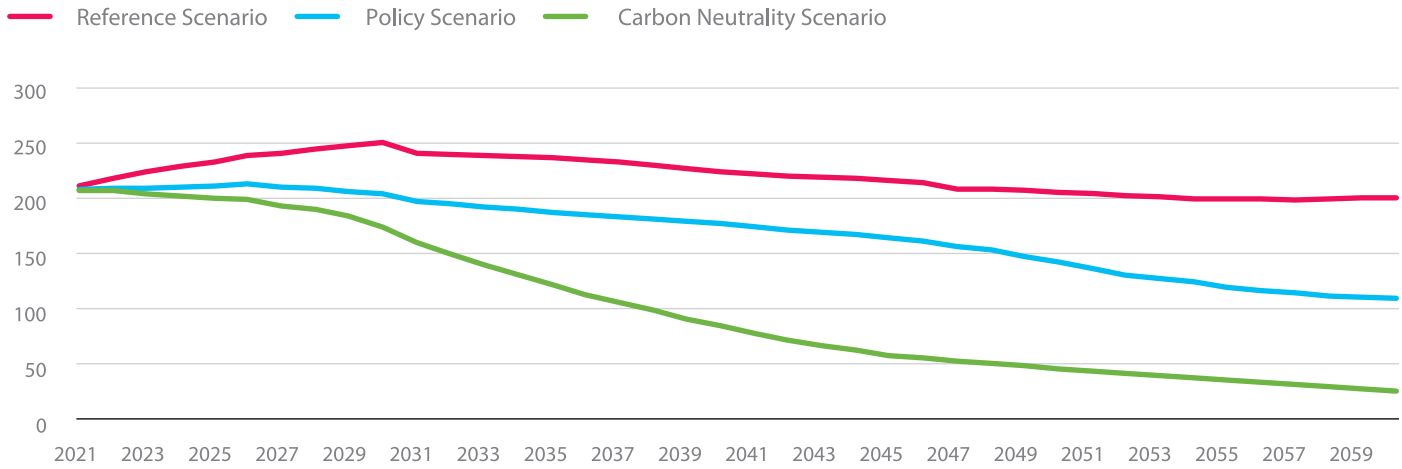
FIGURE 29. CO_2 emissions in Guangdong Province under different scenarios (MMT)



Source: iGDP calculations.

2 Energy Policy Simulator (EPS) China 2021 is a system dynamics model that simulates and evaluates the impact of energy and climate policies on energy consumption, greenhouse gas emissions, pollutant emissions, investment demand, and related macro-level social and economic indicators. http://www.igdp.cn/energy-policy-simulator/

FIGURE 30. CO_2 emissions in Jiangxi Province under different scenarios (MMT)



Source: iGDP calculations.

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Carbon Neutrality Tracker

ABOUT CCNT

China Carbon Neutrality Tracker (CCNT) is an online database and interactive platform that tracks China's national and sub-national carbon neutrality actions by collecting and sorting publicly-available policy documents with an impact on GHG emissions. It offers an overview and structural classification of China's climate actions and serves as a comprehensive compendium of the specific policies and actions of various government departments and key non-state entities. CCNT includes all policies and actions with a climate impact and classifies them by region and sector. It gathers policy information primarily from authoritative government sources at national, regional, provincial and municipal levels. CCNT currently has national and provincial webpages. The database is continuously updated to include new provincial and city-level actions, and CCNT regularly issues short policy briefings.

ABOUT IGDP

iGDP is a non-profit consultancy focusing on green and low-carbon development. It works to strengthen China's low-carbon environmental policy design and implementation through interdisciplinary, systematic, and empirical research. We work with all stakeholders to promote a zero-emissions future and tell the story of China's green and low-carbon development.

- Energy Transition
- Green Economics
- Climate Strategies
- Sustainable Cities
- Strategic Communication

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