



GREENPEACE 绿色和平

China Green Recovery Watch | Q1 2021

中国绿色复苏季度观察 | 2021年第一季度

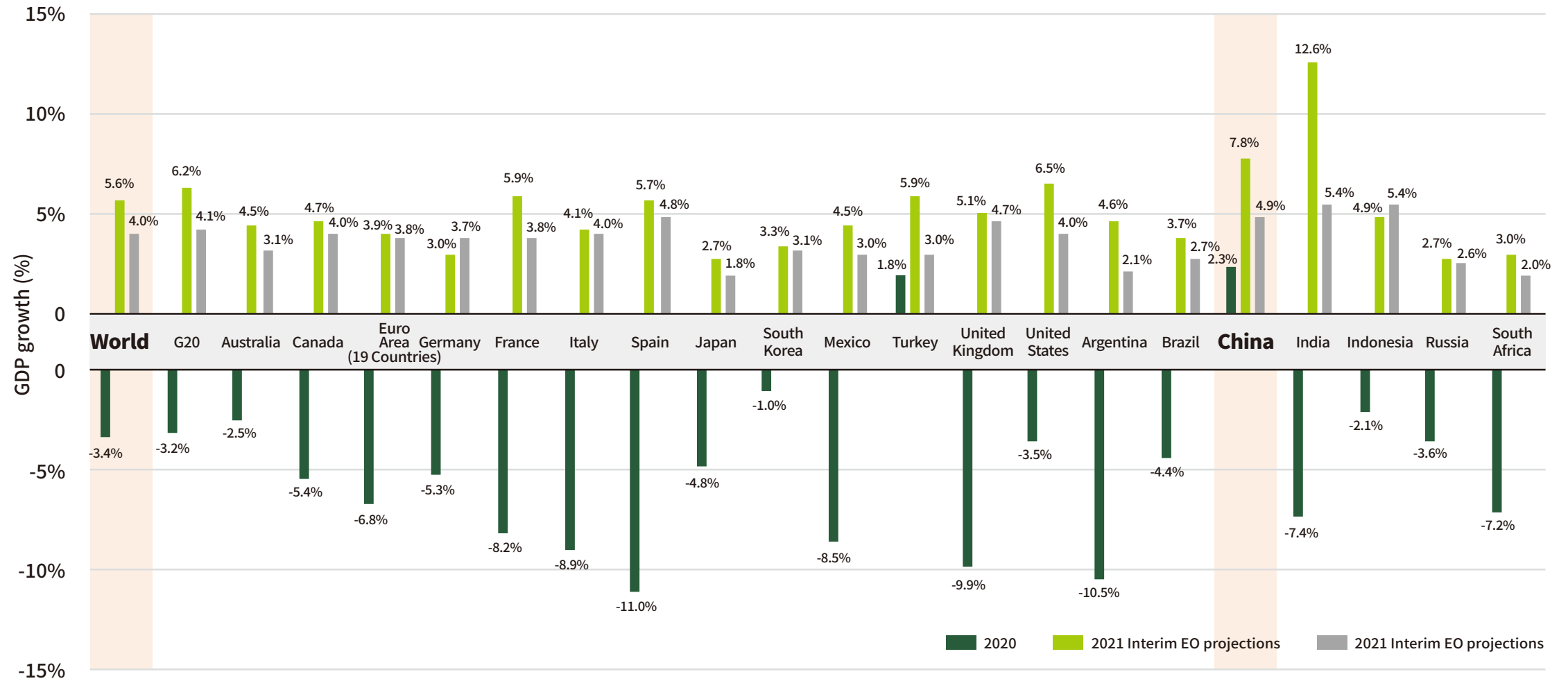
Greenpeace will quarterly sort out China's recovery data from economic, environmental, and social dimensions, exploring the parallel path of deepening high-quality economic reforms and sustainable development.

2021 May

Ruoyun Zhu (ruoyun.zhu@greenpeace.org) | Jiayi Xu (jiayi.xu@greenpeace.org)



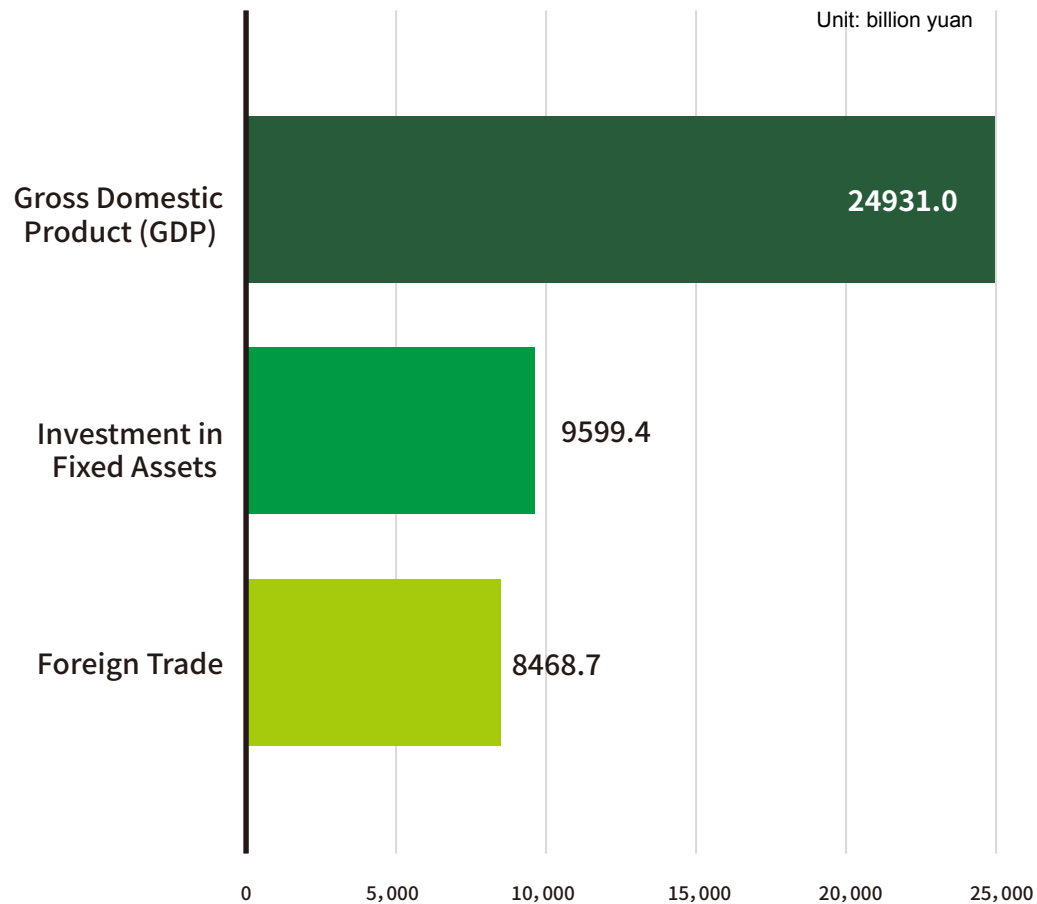
Global Recovery Overview | 2020 Gross Domestic Product and Projections



Source: OECD Economic Outlook, Interim Report March 2021

China's Recovery | Economy Overview

2021.Q1 China Economic Recovery Overview



2020.Q4 - 2021.Q1 (Q-o-Q)

+0.6%

Gross Domestic Product (GDP)

+2.06%

Investment in Fixed Assets

2020.Q1 vs. 2021.Q1 (Y-o-Y)

+18.3%

Gross Domestic Product (GDP)

+25.6%

Investment in Fixed Assets

+29.2%

Foreign Trade

2019.Q1 vs. 2021.Q1 Two-Year-Avg.*

+5.0%

Gross Domestic Product (GDP)

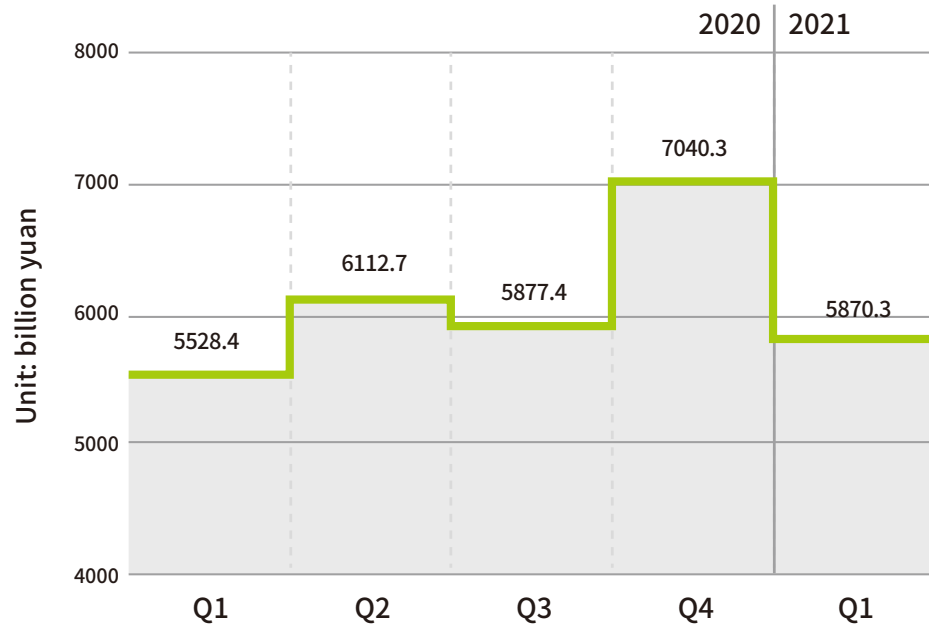
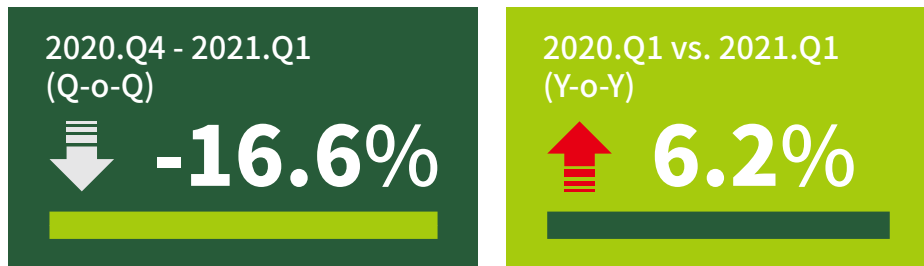
+2.9%

Investment in Fixed Assets

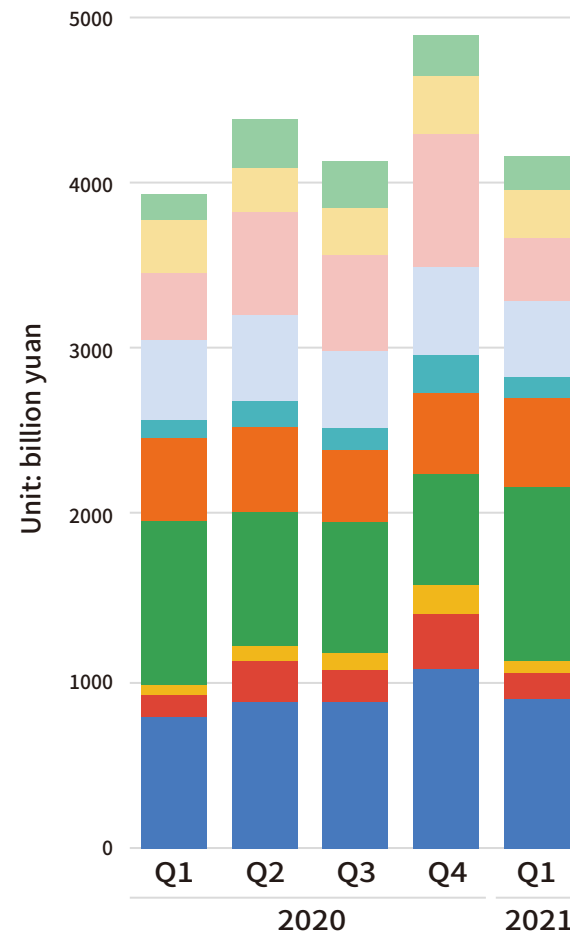
*Due to the impact of COVID-19 in the first quarter of 2020, the baseline of some indicators has dropped significantly. Therefore, the two-year average growth can reflect the economic growth of the first quarter of 2021 more objectively.

中国复苏进展 | 政府财政支出

• General Public Expenditure



• Main Categories



	2020.Q4 - 2021.Q1 (Q-o-Q)	2020.Q1 vs 2021.Q1 (Y-o-Y)
National Debt	↓ -19.5%	↑ 27.4%
Transportation	↓ -15.3%	↓ -7.8%
Agriculture, Forestry & Water Conservancy	↓ -52.3%	↓ -5.5%
Urban & Rural Community Affairs	↓ -13.8%	↓ -4.1%
Energy Conservation and Environmental Protection	↓ -47.1%	↑ 9.0%
Healthcare	↑ 10.9%	↑ 8.3%
Social Security and Employment	↑ 55.9%	↑ 6.1%
Culture, Tourism, Sports, and Media	↓ -56.3%	↑ 13.7%
Science and Technology	↓ -54.8%	↑ 16.3%
Education	↓ -16.5%	↑ 13.8%

Source: Ministry of Finance of the People's Republic of China

China's Recovery | Economic Structure

• Primary Industry



	2020.Q1 vs. 2021.Q1 (Y-o-Y)	2019.Q1 vs. 2021.Q1 Two-Year-Avg.*
GDP	↑ 8.1%	↑ 2.3%
Investment in Fixed Assets	↑ 45.9%	↑ 14.8%
Electricity Consumption	↑ 26.4%	/

• Secondary Industry



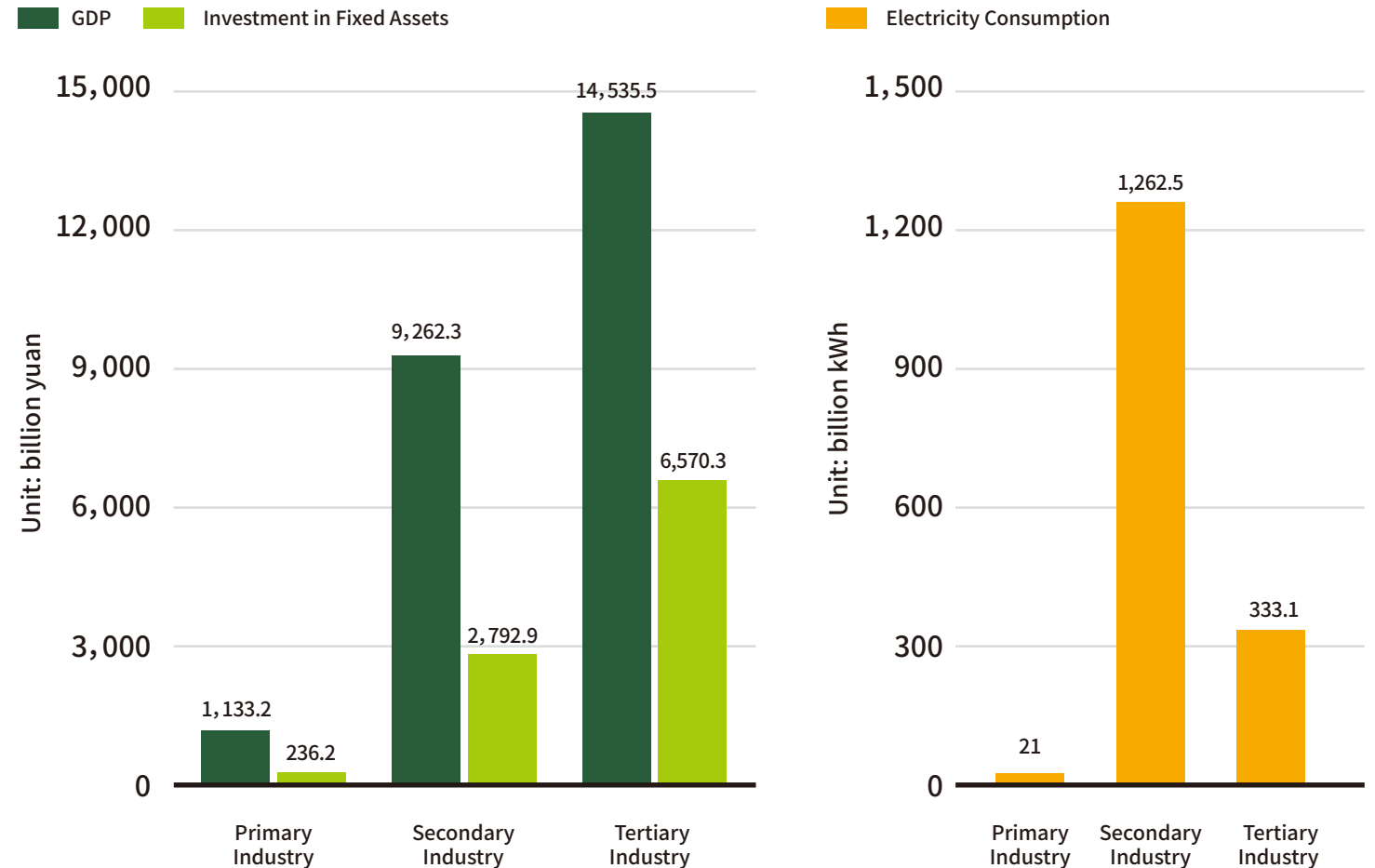
	2020.Q1 vs. 2021.Q1 (Y-o-Y)	2019.Q1 vs. 2021.Q1 Two-Year-Avg.*
GDP	↑ 24.2%	↑ 6.0%
Investment in Fixed Assets	↑ 27.8%	↓ -0.3%
Electricity Consumption	↑ 24.1%	/

• Tertiary Industry



	2020.Q1 vs. 2021.Q1 (Y-o-Y)	2019.Q1 vs. 2021.Q1 Two-Year-Avg.*
GDP	↑ 15.6%	↑ 4.7%
Investment in Fixed Assets	↑ 24.1%	↑ 4.0%
Electricity Consumption	↑ 28.2%	/

2021.Q1 GDP, Investment in Fixed Assets, and Electricity Consumption

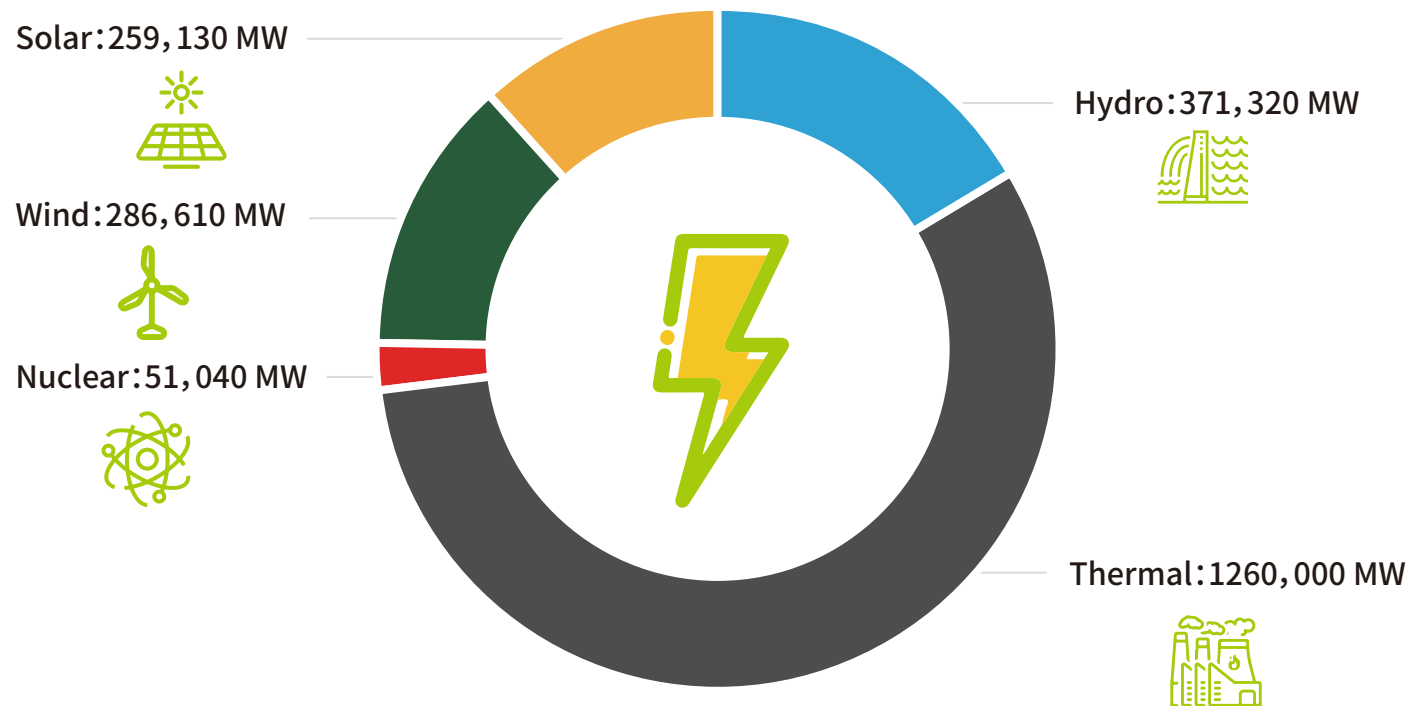


Source: National Bureau of Statistics; National Energy Administration of the People's Republic of China

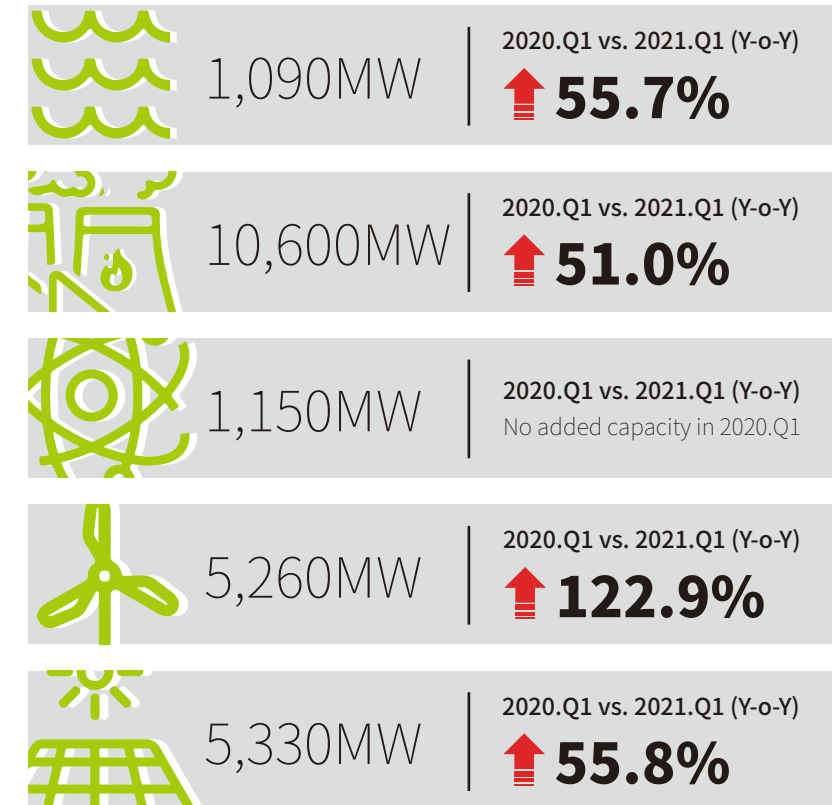
China's Recovery | Power Sector: Capacity

- As of the first quarter of 2021, the total installed capacity of wind power and photovoltaics accounted for 24.5% of the country's total installed power generation capacity, an increase of approximately 0.2% compared to last year.

Nationwide Installed Power Generation Capacity (up to 2021.Q1)



2021.Q1 Added Capacity



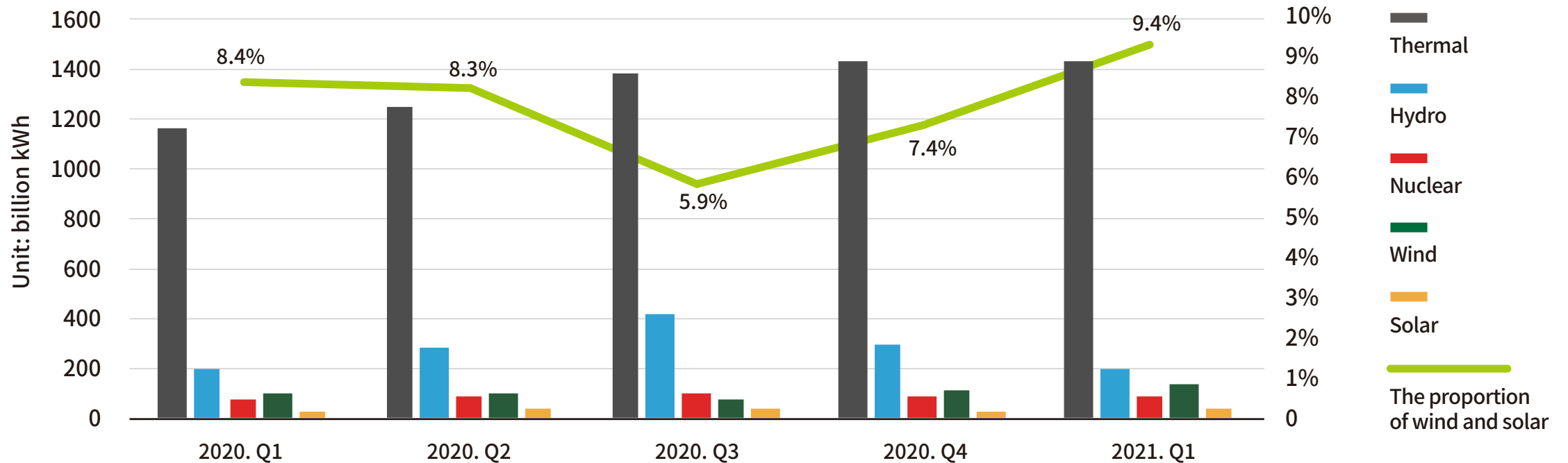
Source: National Energy Administration of the People's Republic of China

China's Recovery | Power Sector: Electricity Generation

- In the first quarter of 2021, the proportion of wind and solar-generated electricity continued to increase.

	Thermal	Hydro	Nuclear	Wind	Solar
2021.Q1 Electricity Generation (billion kWh)	14378.6	1958.6	925.9	1400.6	387.7
2020.Q1 vs. 2021.Q1 (Y-o-Y)	↑ 21.1%	↑ 0.5%	↑ 18.8%	↑ 30.9%	↑ 14.1%

2020.Q1 - 2021.Q1 Electricity Generation: By Source

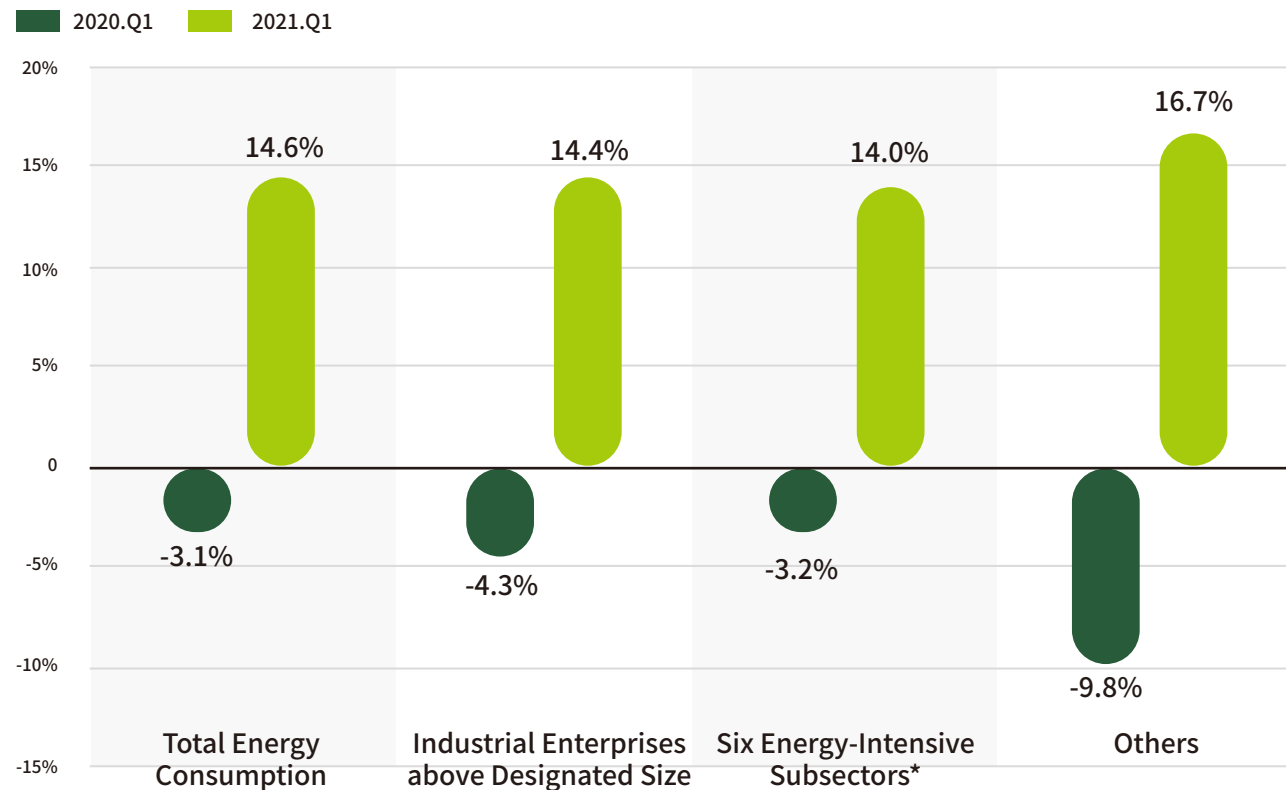


Source: National Bureau of Statistics of the People's Republic of China

China's Recovery | Energy Consumption and Intensity

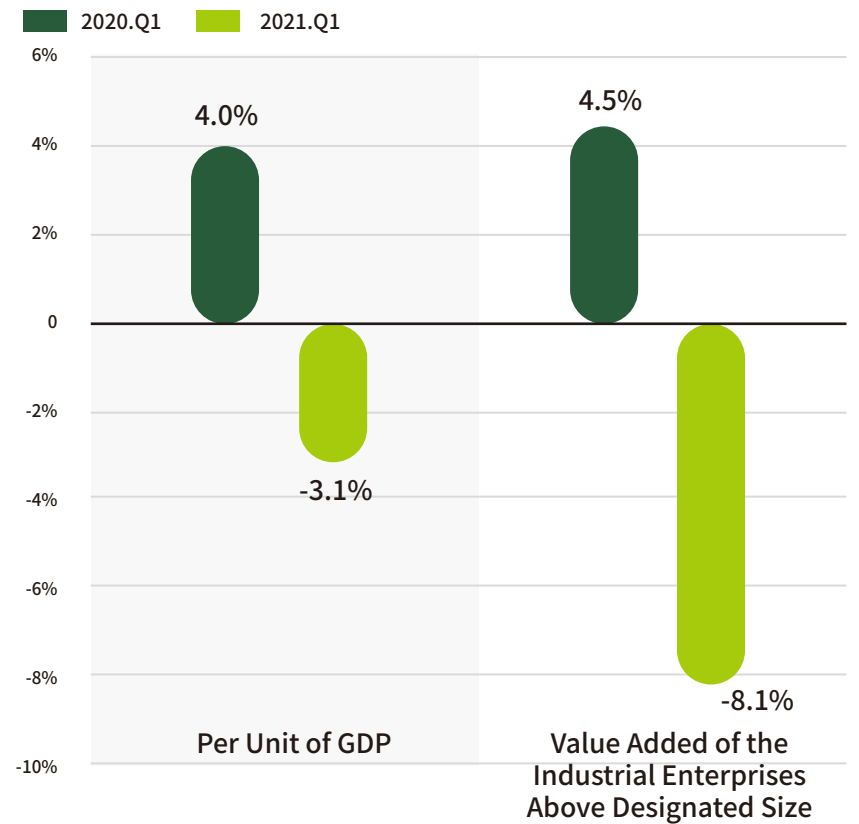
- In the first quarter of 2020, the energy consumption has kept growing. Meanwhile, China's energy intensity remained decreasing.

2020.Q1 and 2021.Q1 **Energy Consumption**, Percentage Change, Previous Period (Y-o-Y)



*power, steel, chemicals, petroleum & chemical, building materials, non-ferrous metals

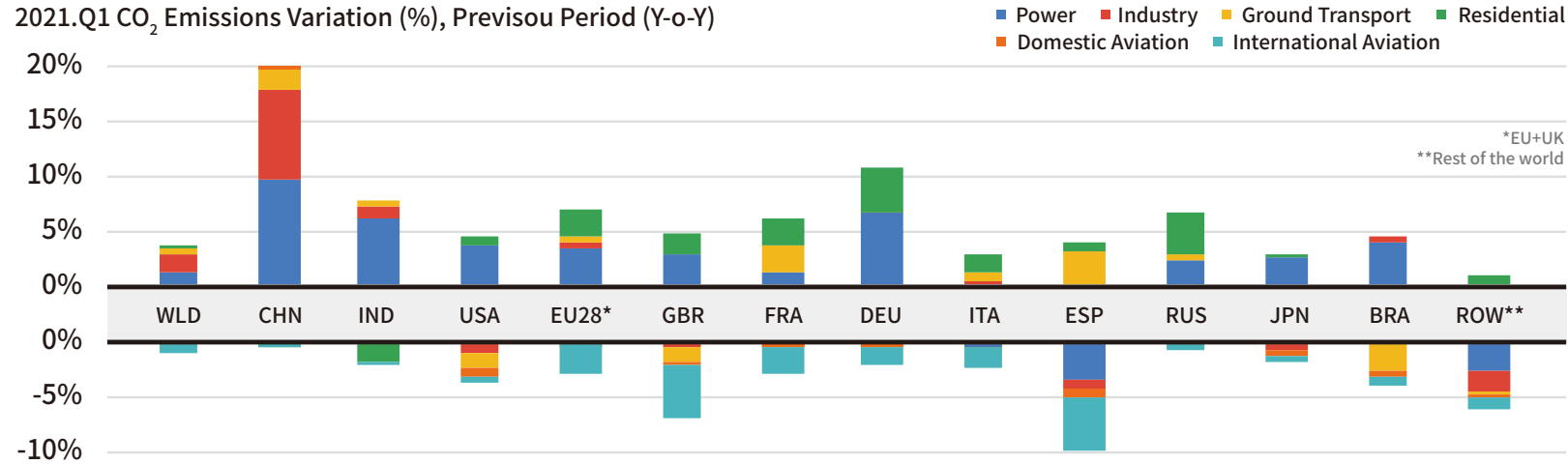
2020.Q1 and 2021.Q1 **Energy Intensity**, Percentage Change, Previous Period (Y-o-Y)



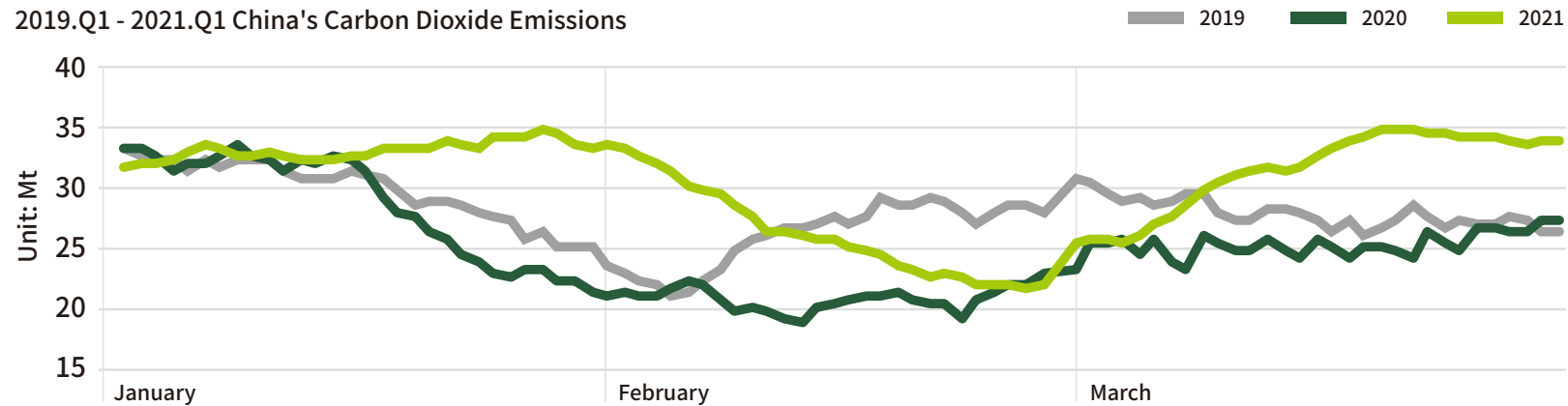
Source: National Bureau of Statistics of the People's Republic of China

China's Recovery | Carbon Dioxide Emissions

2021.Q1 CO₂ Emissions Variation (%), Previous Period (Y-o-Y)



2019.Q1 - 2021.Q1 China's Carbon Dioxide Emissions



	Mt CO ₂	2020.Q1 vs. 2021.Q1 (Y-o-Y)	2019.Q1 vs. 2021.Q1 (Y-o-Y)
Total	2708.4	↑ 19.9%	↑ 8.6%
Power	1234.6	↑ 21.1%	↑ 11.2%
Industry	985.7	↑ 24.0%	↑ 16.4%
Ground Transport	195.5	↑ 27.2%	↓ -13.3%
Residential	276.0	↓ -0.7%	↓ -4.8%
Domestic Aviation	14.0	↑ 57.9%	↓ -7.2%
International Aviation	2.7	↓ -33.5%	↓ -63.4%

Source: Carbon Monitor

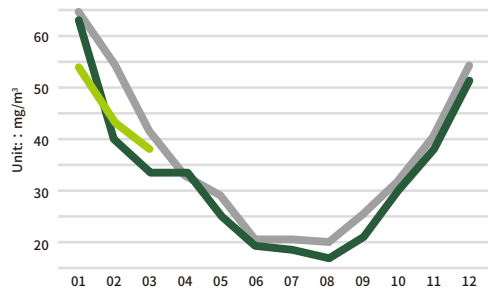
China's Recovery | Air Quality

- 2021.Q1 Air Quality of China's 339 Cities

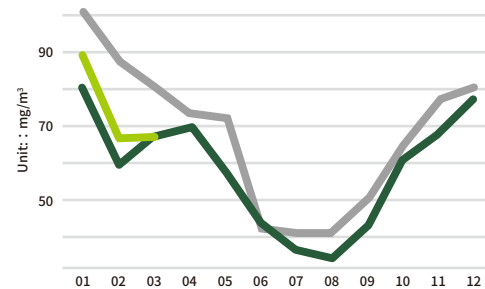
Pollutant	PM _{2.5}	PM ₁₀	O ₃	SO ₂	NO ₂	CO
Concentration	45µg/m ³	75µg/m ³	108µg/m ³	12µg/m ³	29µg/m ³	1.3mg/m ³
Percentage Change, Previous Period (Y-o-Y)	↓ -2.2%	↑ 13.6%	↑ 2.9%	↑ 9.1%	↑ 20.8%	↓ -13.3%

20219.1 - 2021.3 Six Main Pollutants' Concentration

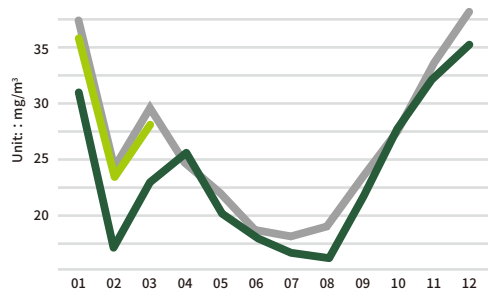
PM_{2.5} Concentration



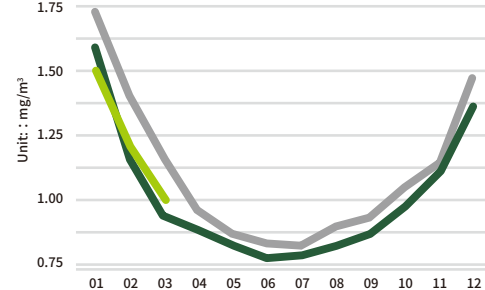
PM₁₀ Concentration



NO₂ Concentration

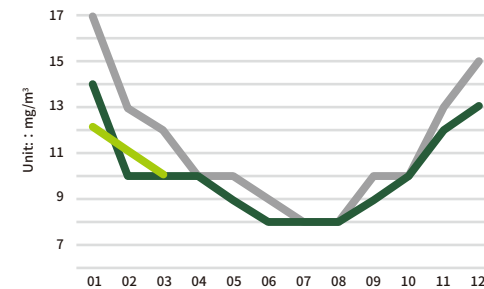


CO Concentration



2019 2020 2021

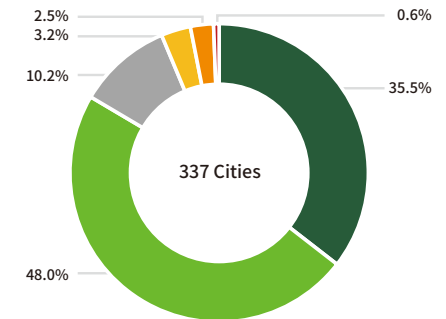
SO₂ Concentration



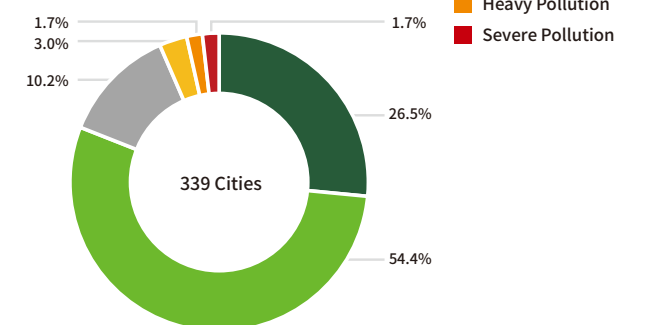
O₃ Concentration



2020.Q1



2021.Q1

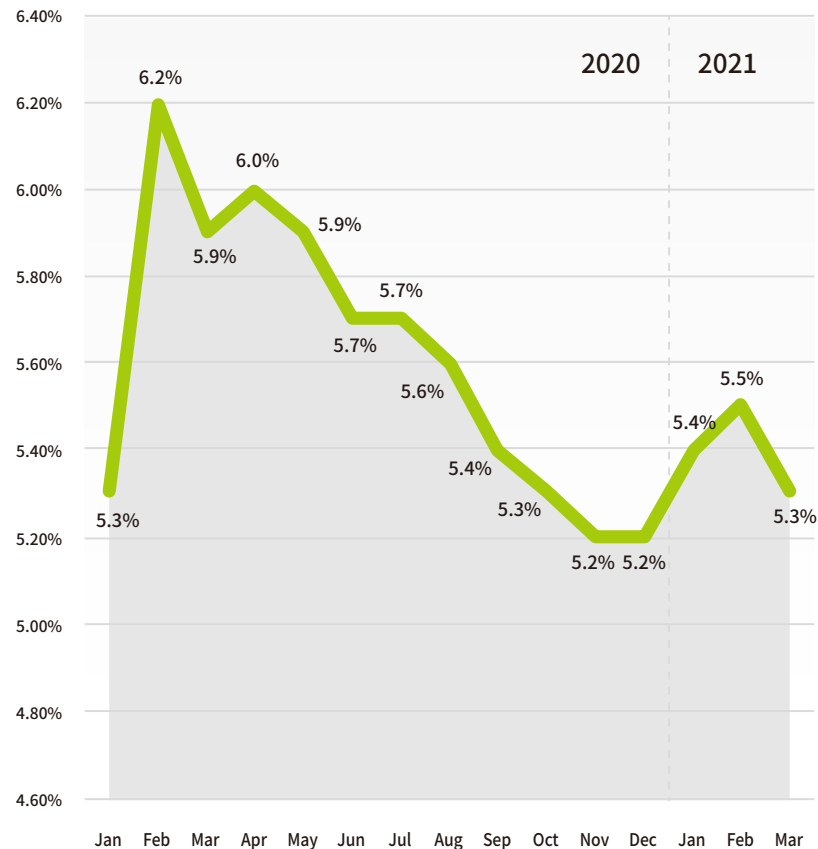


Note: 2019-2020: 337 cities, 2021: 339 cities.

Source: Ministry of Ecology and Environment of People's Republic of China

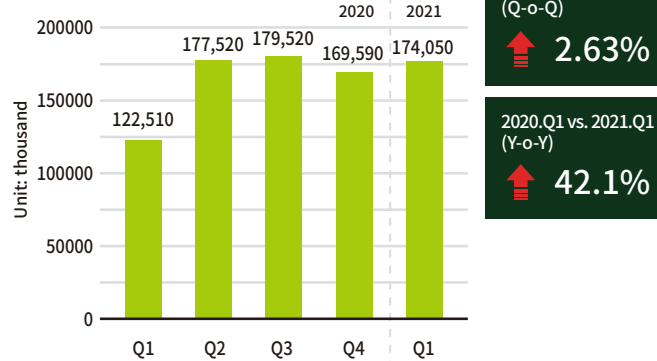
China's Recovery | Employment

National Surveyed Urban Unemployment Rate

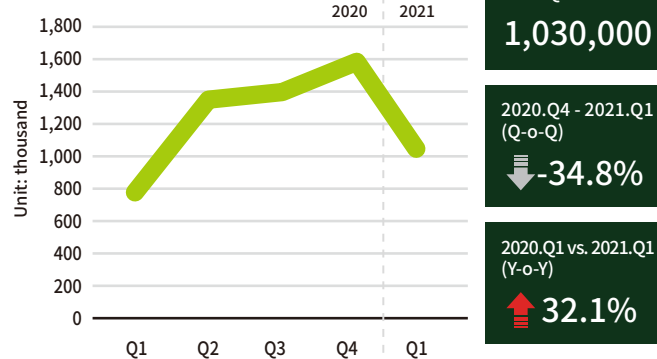


Employment Situation

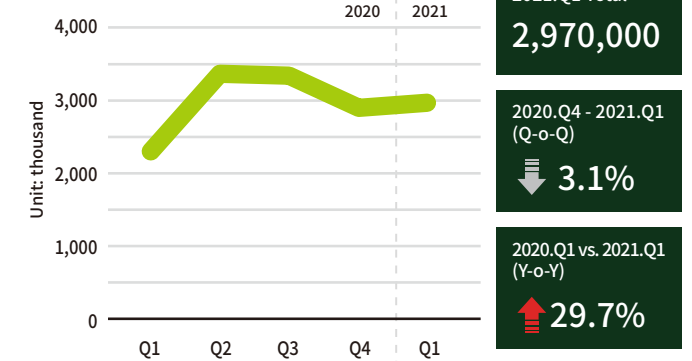
Migrant Workers from Rural Areas: Quarterly Total



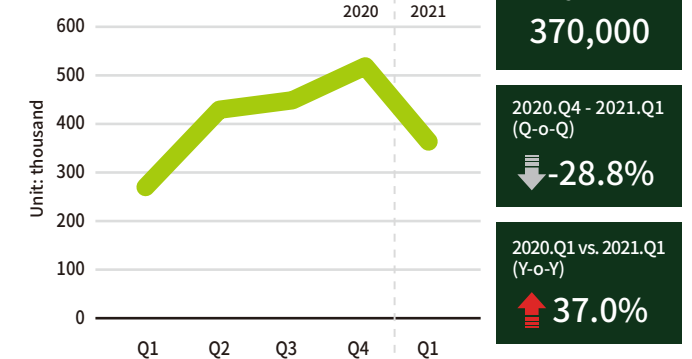
Unemployment to Reemployment Number: Quarterly Added



Urban Job Creation Number: Quarterly Added Quarterly Total



Employment of People with Difficulties: Quarterly Added

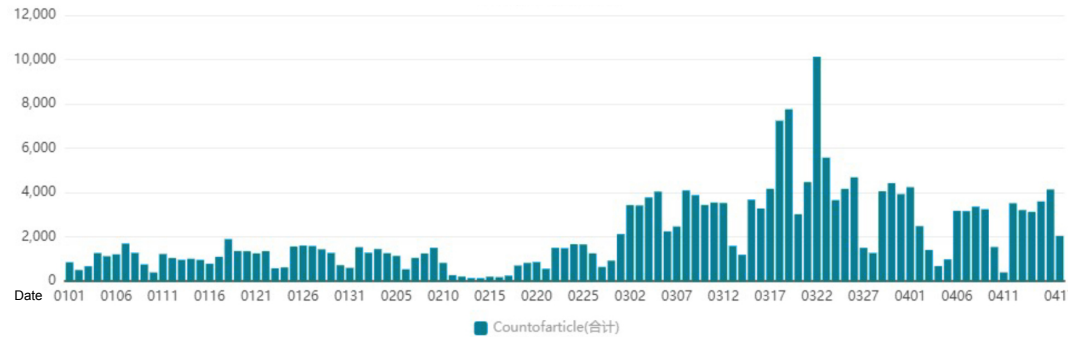


Source: National Bureau of Statistics of China; Ministry of Human Resources and Social Security of People's Republic of China

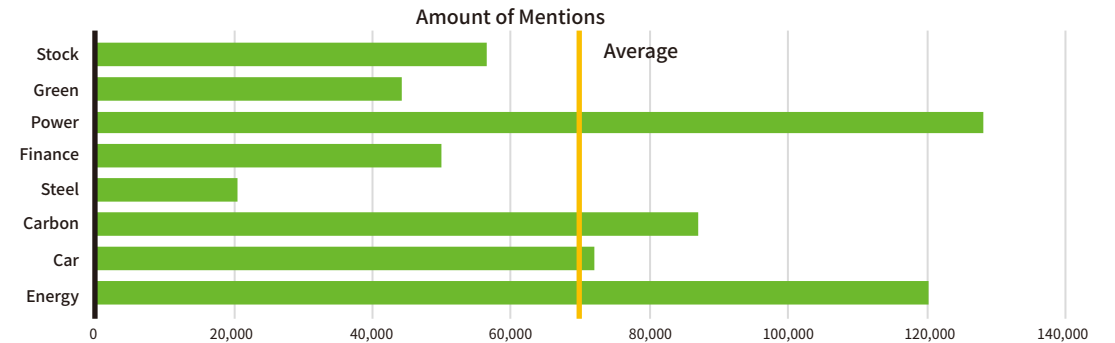
Quarterly Highlight | Public Discussions Regarding Carbon Neutrality during the Two Sessions

According to Greenpeace's analysis of public discussions of "carbon neutral" and related industry, the main findings are as follows:

1. Discussion regarding Carbon Neutrality did not increase significantly during The Two Sessions (NPC & CPPCC National Committee annual sessions), while an increase occurred over the next two weeks.

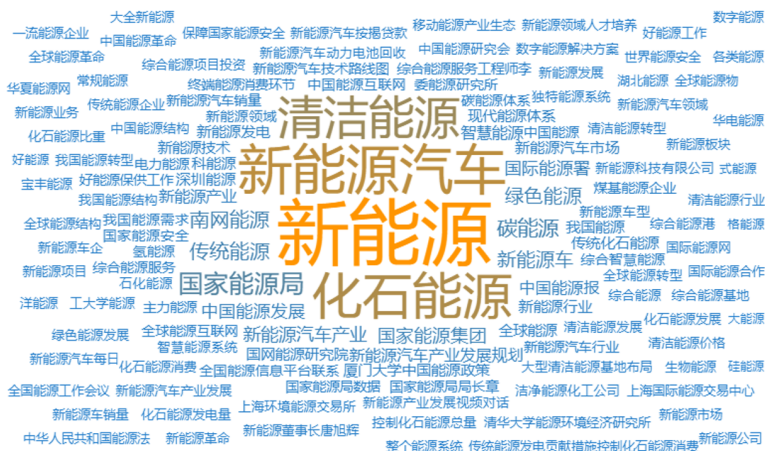


2. Among related keywords, "power (电)" and "energy (能源)" were the most popular topics.



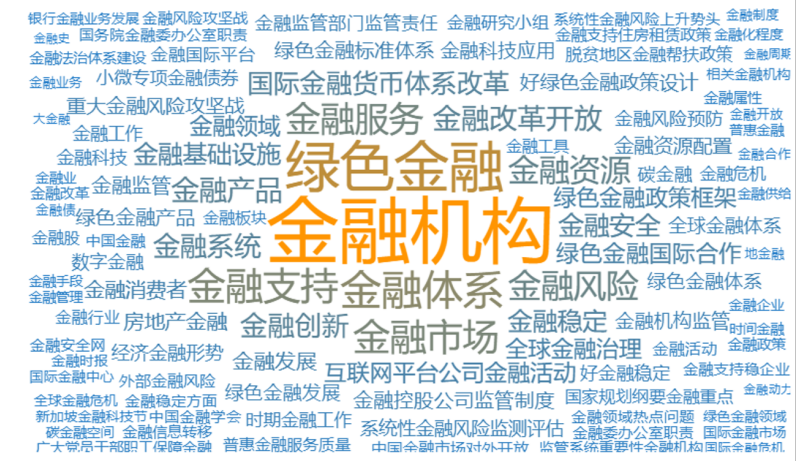
3. For topics related to "energy," "New Energy" received the most attention. The top five most-mentioned topics are

- New Energy
- New Energy Vehicle
- Fossil Fuel
- Energy Structure
- Clean Energy



4. Among topics related to "finance," "green finance" has received great attention. The top five most-mentioned topics are

- Financial Institutions
- Green Finance
- Financial Systems
- Financial Support
- Financial Markets.



Quarterly Highlight | The 14th Five-Year Plan: Air Pollution

Air quality objectives in the 14th Five-Year Plan, by 2025:



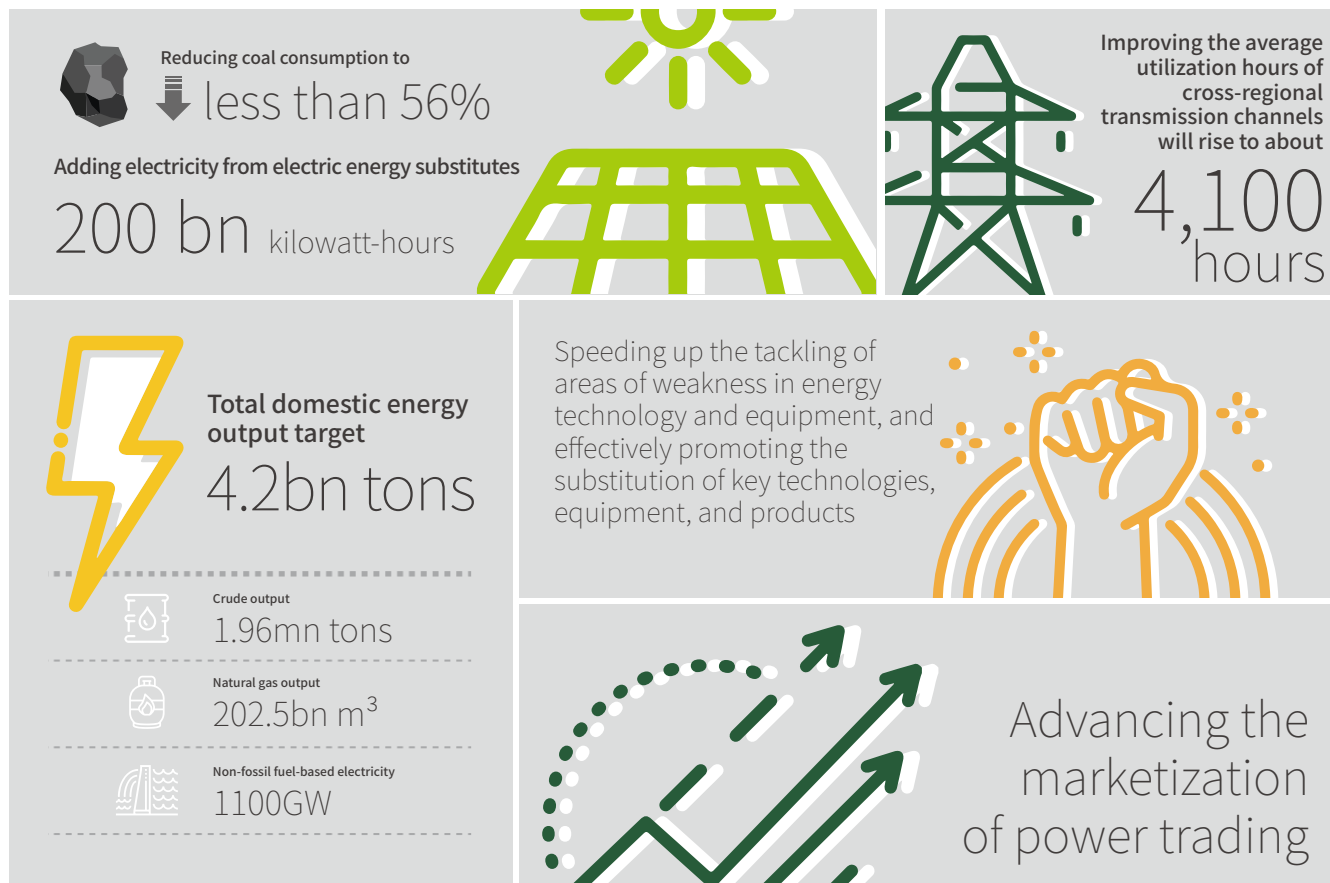
For emission reduction indicators, SO₂ in the 13th Five-Year Plan was replaced with VOCs to cope with the increase in O₃ concentrations in China in recent years. As the precursors of O₃ pollution, NOx and VOC emissions have remained high at the ten-million-ton level. Especially in critical areas such as **Jingjinji Metropolitan Region (Beijing, Tianjin, and Hebei) and the surrounding cities and the Yangtze River Delta**, industries involving VOCs are highly concentrated. While the 11 provinces and cities account for only **13%** of the country's land area, their emissions account for **49%** of the country's total crude oil processing. There are many small-scale enterprises in industries such as raw materials, chemical pesticides, furniture, and shipbuilding, whose outputs account for about **50% to 88%** of the country's total.

Therefore, **the prevention and management of O₃ pollution will be inseparable from industrial upgrading and low-carbon transformation.**

Source: Ministry of Ecology and Environment of People's Republic of China

Quarterly Highlight | Annual Energy Work Guidance for 2021

China's National Energy Administration on April 22 released the **annual Energy Work Guidance for 2021**, which aims to manage energy security risks and achieve energy transition to meet the targets of peak carbon emissions by 2030 and carbon neutrality by 2060. The guideline covers **energy structure, supply security, energy efficiency, technology innovation, and electricity market reform**.



- **Energy Structure:** Reducing coal consumption to **less than 56%** of the country's total energy mix; Adding electricity from electric energy substitutes: **200 bn kilowatt-hours**; Lifting electricity consumption to **28%**
- **Supply Security:** Total domestic energy output target: **4.2bn tons**, crude output: **196 mn tons**, Natural gas output: **202.5bn m³**, Non-fossil fuel-based electricity (hydro, wind, solar, biomass, and nuclear): **1100GW**
- **Energy Efficiency:** Reducing annual energy intensity by **3%**; Improving the average utilization hours of cross-regional transmission channels will **rise to about 4,100 hours**.
- **Technology Innovation:** Speeding up the **tackling of areas of weakness in energy technology and equipment, and effectively promoting the** substitution of key technologies, equipment, and products; Focusing on the needs of new energy models and business forms, and establish a number of **energy technology innovation platforms**.
- **System Reform:** Carrying out the trial operation and longer-period settlement for the first batch of electricity pilot areas and expanding pilot projects; Advancing the **marketization of power trading**

Emission Peak & Carbon Neutrality | Local Actions



Zhejiang Province: Green, Low-carbon, Circular, and Sustainable development As Priority

- On January 30, Zhejiang Province adopted the 14th Five-Year Plan of Zhejiang Province, **listing promoting green, low-carbon, circular, and sustainable development** as the primary objective and critical tasks of the 14th Five-Year Plan and later on.



Sichuan Province: The first Province to Issue Detailed Plans Aimed at Reaching Carbon Neutrality

- On March 29, Sichuan Province issued a plan on promoting and standardizing carbon neutrality, setting two main goals:
- By 2022: Building a **carbon-neutral innovation service platform** in Sichuan Province and implement a batch of international and national large-scale carbon neutral demonstration projects.
- By 2025: Forming a **carbon-neutral policy standard and supporting service system** that is compatible with international standards, national requirements, and the uniqueness of Sichuan.



Beijing: Timetable and Roadmap for Carbon Neutrality

- On April 15, The 15th Standing Committee of BMPC proposed that the city will implement the Green Beijing strategy, accelerate green and low-carbon development, **control carbon emission intensity and total amount, and come up with the timetable roadmap for carbon neutrality in 2021.**



Guangdong: Promoting Advantaged Regions and Industries to Lead in Peaking Carbon Emissions

- On April 25, Guangdong Province adopted the 14th Five-Year Plan of Guangdong Province, proposing strengthening efforts to control carbon dioxide emissions in **industries, energy, and transportation**, increase the proportion of low-carbon energy consumption, and support advantaged regions and industries to take the lead in peaking carbon emissions.



Thank You

GREEN RECOVERY
GREENPEACE

Ruoyun Zhu (ruoyun.zhu@greenpeace.org) | Jiayi Xu (jiayi.xu@greenpeace.org)