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How do policy factors drive the development of new energy industry in China?



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Key takeaways

- **Lithium Batteries:** New energy vehicles are poised to remain a significant force in China's efforts to promote consumption. The central and local governments have frequently introduced supportive policies for new energy vehicles since 2023. It is projected that China's sales of new energy vehicles can increase almost five-fold to around 16 million units by 2025, from the 2020 levels.
- **Photovoltaics and Wind Power:** It is estimated that during the 14th Five-Year Plan period, China's annual average installed capacity of photovoltaics and wind power may exceed 130GW in total, representing a significant increase of 55% compared to the annual average installed capacity of 84GW during the 13th Five-Year Plan period. With continuous technological progress, photovoltaics and offshore wind power generation are expected to become the main sources of power supply in the future, in the context of promoting carbon neutrality.
- **Energy Storage:** With the implementation of a series of policies, such as encouraging energy storage development in the northwest region to improve the safety and stability of the power system, cost-effectiveness of large-scale energy storage has improved, while bidding activities for related development projects have become more active. With the increasing demand for ground-mounted photovoltaics, it is expected that bidding and installation of energy storage capacity will gradually accelerate in 2023.

Policy support has been a major driving force behind the development of China's new energy industry. Through policy subsidies and industry-specific policies, the government has lowered the development costs of related industries, while improving their cost-effectiveness. On the consumer side, subsidies for end-consumers may enhance purchasing power and directly boost demand growth. Until 2020, the policy cycle was the primary factor considered when analysing the new energy industry. However, since 2020, the focus of the industry analysis has shifted to the capacity cycle and product cycle, and the importance of the policy cycle has declined. Nevertheless, while the role of policy factors in shaping the development of the industry has diminished, they continue to have an impact.

Since China announced its "dual carbon" goals in 2021, proposing carbon peaking by 2030 and carbon neutrality by 2060, a series of policies have been introduced to facilitate the achievement of these goals. China's annual carbon dioxide emissions are currently about 10 billion tons, with 85.5% stemming from energy-related activities, including electricity, steel, and transportation industries. Among these, electricity generation accounts for 44% of emissions, while transportation accounts for 13%. Therefore, China has to transform its energy structure to achieve carbon peak and carbon neutrality.

In recent years, the central and local governments have introduced several policies to support the new energy industry. In June 2022, the policy released by National Development and Reform Commission and the National Energy Administration of China indicated the need to fully leverage the financing advantages of power grid enterprises, actively expand sources of funding, and promote annual budgetary balance of subsidies for renewable energy power generation. In mid-November 2022, Ministry of Finance of China issued a notice on "Advanced allocation of the budget of local funds for additional subsidies for renewable energy electricity prices for the year 2023"¹, releasing RMB 4.71 billion for subsidies to eligible energy companies in advance, thereby helping to alleviate capital shortages for some companies. In addition, more local governments are beginning to reduce investments in energy-intensive projects, and the financial industry also tends to increase support for clean energy.

Looking ahead, as long as the development trend towards carbon neutrality remains unchanged, the policy environment is expected to benefit the business growth and valuations of the new energy industry in the long term. It is worth noting that in the early stages of development of the new energy industry, stock prices of companies in this sector generally rose. However, after the markets revise profit expectations upwards and valuation fully recovers, it is possible that there may be a structural differentiation in the future performance of the industry. This could lead to rotation in the performance of specific sub-sectors. The main sub-sectors of the new energy industry include lithium batteries, photovoltaics, wind power and energy storage, and each of these sub-sectors receives different levels and forms of policy support.

Lithium Batteries

China's purchase subsidies for new energy vehicles were withdrawn at the end of 2022, and the relevant impact is expected to be shared between car manufacturers and consumers. If the subsidies are completely cancelled starting from 2023, it is expected that the subsidy per pure electric vehicle (EV) will be reduced by about RMB 10,000, while that per plug-in hybrid electric vehicle (PHEV) will be reduced by RMB 4,800. The cancellation of subsidies will have a greater impact on mid-priced pure EVs than on high-end and PHEV models. Due to the elevated price of lithium carbonate, car manufacturers will face greater cost pressures, which may lead to a general trend of rising prices for new energy vehicles in 2023.

New energy vehicles are poised to remain a significant force in China's efforts to promote consumption. Even with the withdrawal of purchase subsidies, new energy vehicle will continue to be one of the key priorities for provinces and cities across the country. That is why the central and local governments have frequently introduced supportive policies for new energy vehicles since 2023. For example, the Ministry of Industry and Information Technology implemented policies to boost consumption in January this year, such as promoting new energy vehicles in rural areas. The National Development and Reform Commission stated that it will facilitate orderly recovery of life service consumption and put forward support for housing improvement and consumption sectors including new energy vehicles. Shanghai and provinces like Heilongjiang and Sichuan have also proposed a series of policy incentives for buying new energy vehicles. In summary, on the back of policy support, it is expected that new energy vehicles still have huge room for growth in the medium to long term. According to the Ministry of Industry and Information Technology's target for the proportion of new energy vehicles, it is projected that China's sales of new energy vehicles can increase almost five-fold to around 16 million units by 2025, from the 2020 levels, and the actual growth rate of the industry may be even faster.

Photovoltaics and Wind Power

In order to meet its emissions reduction targets in response to climate change, China has gradually established a "1+N" policy framework, where "1" refers to the 3060 Plan, which aims to achieve peak carbon dioxide emissions by 2030 and carbon neutrality by 2060. The "N" represents the implementation plans for carbon peaking in various sub-sectors and sub-industries such as energy, industrial, transportation, urban and rural construction, as well as support programs in areas such as technology, energy security, carbon sink capacity, fiscal and financial pricing policies, standard measurement system, security programs including inspection and assessment.

In terms of specific targets, China plans to increase the proportion of non-fossil energy consumption to over 20%, 25%, and 80% by 2025, 2030, and 2060, respectively. Assuming by 2025, the proportion of non-fossil energy consumption in China will rise to 20%, photovoltaics and wind power account for 65% and 35% respectively of that increase, and the average annual utilisation is 1,200 hours and 2,000 hours for photovoltaic power generation and wind power generation, it is estimated that during the 14th Five-Year Plan period, China's annual average installed capacity of photovoltaics may reach 100GW, and the annual average installed capacity of photovoltaics and wind power may exceed 130GW in total, representing a significant increase of 55% compared to the annual average installed capacity of 84GW during the 13th Five-Year Plan period.²

In addition, the "Action Plan for Enhancing Carbon Peaking and Carbon Neutrality Standardisation"³ released by the National Energy Administration of China calls for the establishment and improvement of a renewable energy standard system mainly based on photovoltaics and wind power. It is believed that this will be conducive to maintaining the rapid growth trend of the wind power industry. Currently, photovoltaic and offshore wind power industries have achieved grid parity. With continuous technological progress, photovoltaics and offshore wind power generation are expected to become the main sources of power supply in the future, in the context of promoting carbon neutrality.

Energy Storage

Energy storage serves as a complementary component to large ground power stations; however, its cost-effectiveness is still relatively low due to limited cost reductions, and therefore policy continues to be the core driving force for this industry. At the end of November 2022, the National Energy Administration released the “Basic Rules of Electricity Spot Market (Draft for Comments)”⁴, which proposed a capacity compensation mechanism for the first time at the national level, that is, direct compensation for the installed capacity or available capacity of power generation enterprises to stimulate investment in power generation projects. It is believed that this move will drive the development of China's energy storage industry.

With the implementation of a series of policies, such as encouraging energy storage development in the northwest region to improve the safety and stability of the power system, cost-effectiveness of large-scale energy storage has improved. As a result, bidding activities for related development projects have become more active. According to internal statistics, installed capacity tendered publicly in 2022 reached 42GWh. As for 2023, January is the traditional offseason for tenders, and in February bids reached 2.9GWh, representing a nearly threefold annual increase. With the increasing demand for ground-mounted photovoltaics, it is expected that bidding and installation of energy storage capacity will gradually accelerate in 2023. Although there is room for improvement in the business model and profitability of large-scale energy storage, we believe that China will continue to roll out support policies for the energy storage sector which serves as an important part of China's energy structure transformation, promoting the development of the industry.

1. The English name is a direct translation of the official Chinese name of 《關於提前下達2023年可再生能源電價附加補助地方資金預算的通知》
2. Source: National Energy Administration of China
3. The English name is a direct translation of the official Chinese name of 《能源碳達峰碳中和標準化提升行動計劃》
4. The English name is a direct translation of the official Chinese name of 《電力現貨市場基本規則（徵求意見稿）》

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