"High-quality" economic development: China's conciliation between economic growth and environmental sustainability

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Abstract:

This paper examines the concept of "High-quality" economic development, as the new strategy adopted by China to reconcile economic growth and environmental sustainability. It will be argued that it is impossible to understand the prospects for the development of the Chinese economy without considering the institutional framework of State action and the macroeconomic policy – which allows us to define China as a developmental state. Furthermore, the main goals and achievements of China regarding to energetic transition will be presented. In this paper, China is taken as a successful example from which Brazil could draw lessons for its own development strategy.

Keywords: economic development; sustainability; China

Área temática: 1. Economia

Resumo:

Este artigo examina o conceito de desenvolvimento econômico de "alta qualidade", como a nova estratégia chinesa para conciliar crescimento econômico e sustentabilidade ambiental. Argumentar-se-á que é impossível compreender as perspectivas de desenvolvimento da economia chinesa sem considerar o quadro institucional da ação do Estado e a política macroeconômica – o que nos permite definir a China como um Estado desenvolvimentista. Serão apresentados também os principais objetivos e conquistas da China no que diz respeito à transição energética. Neste artigo, a China é tomada como um exemplo de sucesso do qual o Brasil poderia tirar lições para sua própria estratégia de desenvolvimento.

Palavras-chave: desenvolvimento econômico; sustentabilidade; China

Classificação JEL: O1; O2; Q5

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1. Introduction

China has grown extraordinarily over the last 40 years – around 10% p.a. between 1978 and 2016 – and significantly increased its weight in world GDP, becoming one of the main locomotives of the global economy. Such results were associated with a profound transformation of its productive structure, and brought about undesired side-effects in terms of income inequality and environmental impacts.

As a response to such events, China has adopted a new development philosophy in recent years (particularly under the guidance of Xi Jinping, since 2013), based on the concept of high-quality development. In general terms, this new perspective aims to correct some of the problems associated with the high-growth rates of the last few decades, changing the focus from quantity to quality in terms of economic growth. The idea of high-quality development includes the pursuit of innovation, the need for coordination between urban and rural development, the provision of basic public services such as health care and a pension system, and environmental concerns (which is the focus of this paper).

It is interesting to note that the concept of high-quality development represents a conciliation between economic growth and environmental preservation. In other words, China does not give up economic development in favor of sustainability. Instead, the idea behind the new development philosophy is the possibility of adjusting the trajectory of development in order to cope with environmental issues.

The remainder of this paper is organized as follows. Next section presents the concept of developmental state and argues that China fits into this concept, given its institutional structure and the policies adopted over the last few decades. In section three, the new development philosophy is presented, taking the 14th Five-year Plan as a starting point, and the concept of high-quality development is examined, with particular emphasis on the environmental dimension. Section four shows some of the policies and results associated with sustainability issues. Last section presents some concluding remarks.

2. China as a developmental state

The term developmental state refers to a state that intervenes and guides the direction and pace of economic development. The developmental state is mainly associated with the type of economic policies followed by East Asian governments in the second half of the twentieth century and, in particular, with the post-World War II Japanese economic model (CALDENTEY, 2008).

For Bresser-Pereira (2019, p. 38), in a broader way, "the state will be developmental if it: (i) views economic growth as its main objective; (ii) intervenes moderately in the market by planning the economy's non-competitive sector and by adopting strategic industrial policies; (iii) operates an active macroeconomic policy by limiting budget and current account deficits and by getting "right" the five macroeconomic prices, particularly the exchange rate; and (iv) is politically supported by a developmental class coalition formed of entrepreneurs, workers, public bureaucrats and sectors from the old dominant class which holds political power and embraces a national development strategy."

According to Caldentey (2008), some of the key features that support the notion of the developmental state are: first, the developmental state is conceived as an interventionist state. Second, this does not necessarily imply heavy use of public ownership. Rather, the developmental state tries to achieve its goals through a set of instruments such as tax credits,

subsidies, import controls, export promotion, and targeted financial and credit instruments related to industrial, trade, and financial policies. Third, the degree and type of government intervention depends on different external and internal factors, and the features of the industry the state is trying to develop; therefore, it varies over time in scope and content. Fourth, the developmental state requires the existence of a bureaucratic apparatus to guide and implement the planned process of development, by formulating policy and possessing the required freedom and ability to apply it. Finally, the developmental state usually acts in line with the active participation and response of the private sector to state intervention.

The new developmentalism assumes that countries that have adopted developmental economic policies and have undergone catching-up face a tendency for the exchange rate to overvalue. This results from two main factors: an additional exchange rate appreciation caused by the net flow of external capital, encouraged by the growth policy relying on external savings; and consequently, an environment that does not promote industrialization, considering the significant role of income obtained from the export of primary products (JABBOUR; GABRIELE, 2021).

Thus, this strategy recommends the adoption of an exchange rate policy based on capital control, neutralization of the Dutch disease, and rejection of policies that result in increased interest rates and unwanted capital inflows into the country, such as the policy of growth with external debt, and the exchange rate as a nominal anchor to control the inflation rate. As a result, the objective is to achieve an industrial equilibrium exchange rate, that is, the exchange rate necessary for industrial companies to be internationally competitive, utilizing the most modern technology (JABBOUR; GABRIELE, 2021).

Also, according to the authors, a competitive exchange rate can stimulate both higher value-added exports and investment in the domestic market. The consumption-led expansion, on the other hand, has limited effects: consumption can only temporarily generate economic growth, as long as it is politically and economically feasible to induce income redistribution towards the working class. The absence of clear limits for the increase of wages' share in national income makes investments and exports the main factors of economic growth in the long run" (Bresser-Pereira et al., 2016). Exchange rate policy must ensure that the country's companies have access to internal and external demand.

According to Bresser-Pereira (2009), middle-income economies experienced the Dutch disease and caught up, somehow neutralizing this competitive disadvantage. Several countries that industrialized did so intuitively by adopting multiple exchange rates, import tariffs, and export subsidies. It is also worth highlighting that the new-developmental strategy considers that industrial policy does not compensate for an appreciated exchange rate.

Finally, new developmentalism rejects the idea of external financing, as it considers it beneficial only when growth reaches a "miraculous" pace, the expected profit rate increases, the marginal propensity to invest rises, and the rate of substitution of internal savings for external savings diminishes. Outside of this scenario, external debt leads to long-term appreciation of the exchange rate, resulting in increased consumption by workers and rentiers. On the other hand, internal financing of investments is essential. This implies that a viable financial system for economic development is one capable of providing financing that enables entrepreneurs to invest and channel savings towards debt repayment (JABBOUR; GABRIELE, 2021).

In very broad terms, China can be characterized as a developmental state. Economic growth and development has been the focus of its policies at least since the late 1970s - which is illustrated by the well-known Deng Xiaoping's parable of the white cat or black cat. Planning has been an important element in China's state action, since the launch of the first five-year plan

in the 1950s, and it was responsible for guiding the Chinese economy over time. The government has used various instruments to promote economic development, including industrial, trade and macro policies, and adjusted its strategies according to internal and external circumstances. It has been able to introduce economic programs and policies, to vary the speed and the sequence of reforms, and to make corrections or even reverse its policy when needed. Finally, it should be mentioned that a bureaucratic apparatus to implement the planned process of development has been put in place: the State Planning Commission has been created in the early 1950s, which was replaced in the last few decades by the National Development and Reform Commission (NDRC), responsible for the formulation and implementation of strategies on national economic and social development, medium and long-term development plans and annual plans.

On the other hand, in terms of macroeconomic strategies, China not only embraced balance of payments management policies and a exports-led growth strategy to catch-up, but also addressed the matter of the financial constraint facing the development process (BRESSER-PEREIRA; JABBOUR; DE PAULA, 2020).

With regard to specific state interventions, two main movements can be highlighted since the 1990s. The first was the launch of the Great Western Development Program in 1999, which was a major step in the unification of China's economy. The second major movement occurred as a response to the 2008 international financial crisis. China's State Council announced a stimulus package worth around US$586 billion, which at the time corresponded to 12.6% of GDP. This package represented a true state intervention in the economy, and led to the construction of thousands of new kilometers of high-speed train lines, subways, and roads in a short period of time (BRESSER-PEREIRA; JABBOUR; DE PAULA, 2020).

The results of China's growth strategy and policies are uncontested. China’s economic growth from 1980 to 2017 has been outstanding: the average real GDP growth rate during this period was 9.2% per annum. Therefore, for more than four decades, the country has experienced almost uninterrupted growth above the international average. The average growth rate of China’s per capita GDP over more than 35 years has been close to 9.0% per annum, and its per capita income (at Purchasing Power Parity) has increased from a mere US$ 250 in 1980 to US$ 8,827 in 2018 – a 36-fold increase. For Jabbour et al. (2021), this continuous process of Chinese economic growth is the most important fact in recent economic history.

Since 2013, China has been the country with the largest volume of foreign trade in the world, causing strong effects on practically all economies worldwide. It has also become a major exporter of capital through direct investments abroad (from US$0.8 billion in 1990 to US$149 billion in 2022). Receiving foreign capital, the country saw foreign direct investments grow from US$1.4 billion in 1984 to US$181 billion in 2022, according to data from the World Bank. This demonstrates that the country did not grow based on a growth policy reliant on external debt. Between 1980 and 2018, the country only experienced a current account deficit in three years. Thus, China did not rely on foreign savings to grow, thus preventing the appreciation of the exchange rate and preserving national companies' competitiveness (JABBOUR; GABRIELE, 2021).

China's development policies, including industrial and exchange rate policies, have brought about outstanding results in terms of international trade. The country's exports rose from approximately US$9.75 billion in 1978 to US$3.71 trillion in 2022. Until 1989, the country recorded trade deficits due to the greater growth in imports compared to exports. However, the latter benefited from a competitive exchange rate policy and, from 1995 onwards, began to grow sharply. Additionally, there was an increase in imports, although smaller, which were subject to customs and non-customs tariffs, as well as a devalued exchange rate, thus

stimulating a vigorous process of import substitution and a strong incentive for exports (BRESSER-PEREIRA; JABBOUR; DE PAULA, 2020).

The country's foreign exchange reserves jumped from US$1.6 billion in 1978 to US$3.09 trillion in the first quarter of 2019. Driven by commercial performance and the large flow of foreign direct investment, these reserves are the largest in the world. This is due to the fact that, since the beginning of the 1990s, exports have exceeded imports, and the relationship between the two follows a "line of proximity" (JABBOUR; GABRIELE, 2021).

Regarding the macroeconomic policies adopted by the country, it can be observed that China places great importance on an active fiscal spending policy as a tool for stabilizing the economic cycle. According to data from China's Ministry of Economy, the country's total fiscal expenditure reached 23.89 trillion yuan in 2019. Considering that the country's total economic output was 9.9 billion yuan, this corresponds to approximately 24.11% of the total, highlighting the idea that fiscal spending has a stimulating effect on the country's economic growth (ZHANG, 2020).

Peiyong (2017) highlights that this is related to the fact that the country has adopted a proactive fiscal policy, which involves increasing the issuance of treasury bonds to expand fiscal spending and thus boost domestic demand to promote economic growth. Additionally, local governments utilized revenues from long-term construction treasury bonds issued by the central government, along with other bank funds, to implement various projects.

In turn, the monetary and exchange rate policies are conducted by the People's Bank of China. This institution performs typical central banking activities such as formulating and implementing monetary policy, issuing national currency, conducting exchange rate policy, managing international reserves, regulating financial markets, preventing systemic risks, and ensuring the normal functioning of payment systems and liquidation, among others. The goals of monetary policy include promoting economic growth in addition to maintaining exchange rate and inflation stability. It should be noted that this institution is not independent but is subordinate to the State Council. Thus, the Central Bank follows the macroeconomic policy guidelines defined by the central government, in line with annual GDP growth targets (LIBANIO, 2020).

Exchange rate policies, in turn, are also aligned with broader economic development objectives (LIBANIO, 2020). In mid-2005, the People's Bank of China announced that the country would adopt a managed float regime for the Yuan. This means that the country was abandoning the policy of fixing the value of the Chinese currency in terms of the dollar, which had been in force for more than a decade (CUNHA, 2005). Libânio (2020) characterizes the period between the mid-1990s and mid-2000s as a time when the exchange rate was kept fixed and relatively devalued, especially to stimulate exports and contribute to the generation of account surpluses. Currently, the People's Bank of China actively intervenes in the foreign exchange market to maintain the exchange rate of the national currency within predetermined limits.

Thus, macroeconomic dynamics suggest that the reform and opening policy has made intense use of state control mechanisms characteristic of economic formations that have transformed into developmental states, such as Japan and South Korea, especially in the post-World War II period.

3. China’s 14th Five-Year Plan and the concept of “high-quality” economic development

China's 14th Five-year Plan establishes the country's strategic objectives for the period between 2021 and 2025. The first five-year plan emerged in 1953, and since then, these plans have been fundamental in guiding national policies. The 14th Plan emerged in a scenario of pandemic and stagnation of the world economy, which immediately posed immense challenges to its implementation, and places strong emphasis on technological development and innovation (SANTIAGO, 2022).

A very particular characteristic of this Plan is related to the absence of targets for GDP growth, reflecting the adoption of a new development philosophy by Chinese authorities, in which the main goal is no longer to achieve high growth rates, but instead focusing on the qualitative aspects of development[3].

Chen and Huo (2022) consider that currently China's economy is moving from a high-speed growth stage to high-quality development, and is in a critical period of transforming its development mode, optimizing its economic structure, and transforming its growth drivers.

The general goal of the 14th Plan is "to build a modern socialist country in all respects". Broadly speaking, this means that the Chinese government is paying more attention to social and environmental aspects which were put aside in the periods of high growth rates since the early 1980s. In this case, the concept of "high-quality" development stands out as the main guidance to planning, strategies and policies for the Chinese economy. In particular, the idea of high-quality development encompasses six different aspects: (i) investments in innovation; (ii) coordinated development between regions and between urban and rural areas; (iii) sustainable development; (iv) openness to markets and coordination between public and private sectors; (v) improvement of people's wellbeing; (vi) national security.

According to Tao, Zhang and Shangkun (2022), the core content of high-quality development is the concept of new development composed of innovation, coordination, environment-friendliness, openness and sharing in all sectors of the social economy. High-quality economic development requires sustainable development and coordinated development of urban and rural areas, and the role of government's macro-control and the role of the market mechanism should be correctly played (CHEN; HUO, 2022).

High-quality economic development implies an essential change in the connotation of economic growth. Specifically, high-quality economic development is guided by new development concepts. Through socialized reproduction, high-quality economic development makes the innovation of production, the efficiency of distribution, the fairness and justice of distribution, and the maturity of consumption highly closely coordinated. High-quality development is theoretically related to economic growth, economic development, and sustainable development. Among these, sustainable development is essential to high-quality economic development (CHEN; HUO, 2022).

According to the 14th Plan, which for the first time has a chapter dedicated exclusively to the topic of technology, China's intention is to increase spending on R&D by more than 7% per year, representing, in absolute terms, 2.4% of GDP. The increase in investment also involves basic research, which is expected to grow 10.6% in 2021. It is worth mentioning the prospect of increasing the representation of basic research in relation to the total invested in R&D from 6% to 8%, remaining, however, below the 17% found in the United States (CHINA, 2023).

According to the Chinese government (2023), the resources will be directed to sectors

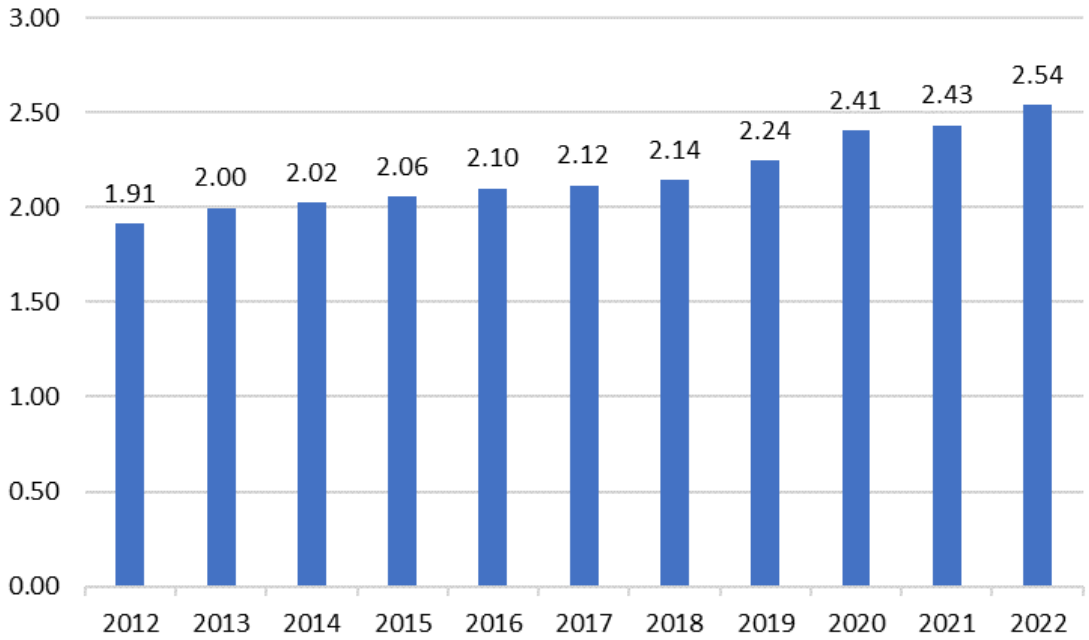
[3] In any case, the quantitative dimension of growth will not be fully disregarded, with the objective of increasing GDP per capita remaining in order to equalize it with "moderately developed" countries.

considered strategic, such as artificial intelligence, quantum information, semiconductors, neuroscience, genetic engineering, clinical medicine, space, depth, and soil exploration. Actions to achieve “self-sufficiency” in this set of areas include policies to promote greater interaction between the private sector and academia, boosting collaboration ties, and encouraging scientists to incorporate themselves into industrial activities and even create their own startups.

The country is committed to the philosophy of innovative, coordinated, green, open and shared development, and takes innovation-driven development as the driving force to create new momentum and build new strengths for economic development. China has placed rigid constraints on the exploitation of resources and the environment to promote comprehensive adjustment of the industrial structure, and strengthened regional cooperation to optimize the spatial configuration of industry. As a result, China’s economy aims to improve the quality of development while maintaining a reasonable pace of growth (CHINA, 2023).

Figure 1 shows the share of GDP expenditure on research and development (R&D) in China from 2012 to 2022. As we can see, investment in research and development in China, as a proportion of GDP, shows an increasing trajectory, between the years 2012 and 2022. In 2022, this investment represented around 2.54% of the country's GDP.

Figure 1. Share of GDP expenditure on research and development (R&D) in China, 2012 to 2022



Source: authors' elaboration based on data from the World Bank.

Thus, China implements the innovation-driven development strategy. It takes scientific and technological innovation as the driving force and guarantee for adjustment of industrial structure and green and low carbon transition of the economy and society and regards strategic emerging industries as a key driver for economic development, reaping remarkable economic and social benefits as a result.

The focus of this paper is the environmental aspects of high-quality development. In this case, it should be noted that this concept represents a conciliation between economic growth and environmental concerns. In other words, China does not see these two elements as

irreconcilable, and is not willing to give up economic development in order to achieve environmental preservation.

According to Feijó et al (2023), in the context of the climate crisis, the State plays a crucial role as a promoter of public policies capable of bringing stability, reducing inequality and establishing rules for planning aimed at long-term growth with environmental sustainability. Thus, State planning practices will be essential to coordinate the allocation of resources and direct economies toward a sustainable green transition.

Based on the idea of sustained economic growth, sustainable development must achieve three points: first, it must not destroy the ecosystem; second, it must not sacrifice the living environment of the people; third, it must be an ecological economic development. High-quality economic development means that the economic structure of society must match social development and coexist in harmony with the ecosystem. This is also the meaning of sustainable development (CHINA, 2023).

Thus, in addition to the technological component, the environmental dimension also has a relevant space in the 14th Plan, suggesting China's commitment to sustainable development and the international climate regime.

In that regard, the Chinese government has defined two main goals associated with carbon emissions. These goals are taken as a requirement for high-quality development, and are aligned with the strategic objective of building China into a modern socialist country by 2050. The first goal is to reach the peak of carbon emissions before 2030. The second one is to achieve carbon neutrality before 2060 (dual carbon goals, hereafter).

Regarding the first goal, it is useful to distinguish between a natural peak and a policy-driven peak of carbon emissions. The natural peak is determined by a country's economic development, industrial structure, and level of urbanization. China's industrialization and urbanization processes are far from complete. The secondary sector accounts for more than 50% of all industry in almost half of China's cities, and it is dominated by the high-energy-consuming and high-carbon-emitting industries. As a result, China achieving the goal of bringing carbon dioxide emissions to a peak before 2030 requires the use of policy measures to curb excessive development involving high-energy-consuming and high-carbon-emitting projects. This will shorten the time it takes to bring carbon emissions to a peak as well as the overall peak value.

Some of the policies associated with declining carbon emissions include limiting coal consumption and developing new energy sources, raising capacity for energy conservation, searching for higher energy efficiency, promoting green industries, curbing the expansion of energy-intensive projects, and investing in low-carbon transportation.

It should be noted that energy activities account for the majority of China's carbon dioxide emissions, so transforming the production and consumption of energy is crucial for achieving the dual carbon goals. The renewable energy industry is growing rapidly, and China leads the world in the manufacture of clean energy generation facilities for wind and photovoltaic power. In numbers, the country produces more than 70% of the global total of polysilicon, wafers, cells and modules. Furthermore, the quality and efficiency of the energy-saving and environmental protection industries have continued to improve, with the development of a green technical equipment manufacturing system covering various sectors such as energy and water conservation, environmental protection, and renewable energy. Thus, new forms and models of business continue to grow, such as comprehensive energy services, contract-based energy and water management, third-party treatment of environmental pollution, and comprehensive carbon emissions management services. In 2021, the output value

of China’s energy conservation and environmental protection industries exceeded RMB8 trillion (CHINA, 2023).

About the application of green production methods, China has accelerated the building of a green, circular, and low-carbon economy. For that, it practices green production methods, promotes the energy revolution, the economical and intensive use of resources, and cleaner production, and pursues synergy in the reduction of pollution and carbon emissions. All these efforts have contributed to the coordinated development and balanced progress of the economy, society, and environmental protection (CHINA, 2023).

According to China (2023), in order to build a green, circular, and low-carbon production system, China has integrated the concept of green development into the entire life cycles of industry, agriculture and the service sector and to conserve energy, reduce emissions, raise efficiency, and facilitate the comprehensive green transformation of traditional industries, China has encouraged innovations in technology, models, and standards.

China's industrial structure must also adjust in order to contribute to the reduction of carbon dioxide. To promote the green development of industry, China is committed to establishing a green manufacturing system, and creating green factories, green industrial parks, green supply chains, and green product evaluation standards. In order to accelerate the building of green industrial chains and supply chains, China provides guidance for enterprises to achieve innovations in the design of green products and adopt green, low-carbon and eco-friendly processes and equipment. Also, the Chinese government optimizes the spatial layout of enterprises, industries and infrastructure in industrial parks. Following the principles of “coupling of industries, extended responsibility of enterprises, and circular use of resources”, it has promoted the transformation of industrial parks, circular combination of industries and circular production in enterprises. This means that China has been transforming its major industries to achieve clean production, and is carrying out comprehensive inspections of clean production, promoting digital transformation across the board (CHINA, 2023).

4. Some policies and achievements

High-quality development is an ambitious proposal and faces various challenges for its implementation. These challenges are associated with unbalanced regional development, difficulties in implementing reforms in key industrial sectors, insufficient innovation capacities, inadequate rural-urban income distribution, among others.

This section aims to briefly present which goals of the 14th Five-year Plan have already been achieved and what are the main difficulties that have been encountered, with a focus on environmental aspects.

About the green transformation of transport vehicles, China has vigorously promoted the use of new-energy vehicles in public transport, taxi service, environmental sanitation, logistics, distribution, civil aviation, airports, and Party and government institutions. Thus, by the end of 2021, the number of China’s registered new energy vehicles had reached 7.84 million, accounting for about half of the global figure. There were 508,900 new energy buses, accounting for 71.7% of the total number of buses in China. There were 207,800 new energy taxis. The proportion of internal combustion locomotives decreased from 51% in 2012 to 36% in 2021. Furthermore, China has also updated the pollutant discharge standards for motor vehicles, promoted the use of liquefied natural gas (LNG) powered boats and transformation of shore power facilities, and accelerated the transformation or elimination of obsolete vehicles and boats. Since 2012, more than 30 million yellow-label vehicles with high emissions have

been eliminated, and 47,100 obsolete inland river boats have been re-engineered or mothballed (China, 2023).

To improve transport infrastructure for green development, China has initiated a special program for the construction of green highways, and the recycling of waste road surface materials. Thus, by the end of 2021, more than 95% of the waste materials from expressways and 80% of the waste materials from national and provincial highways had been recycled. To improve the afforestation along its roads, green belts have been built along 570,000 kilometers of its trunk roads, about 200,000 kilometers more than in 2012. China has continued the electrification of its railways, with the proportion of electric railways increasing from 52.3% in 2012 to 73.3% in 2021. It has also built more green ports and road transport support facilities. By the end of 2021, five types of shore power facilities had been built in 75% of the specialized berths of major ports, and 13,374 charging piles had been built in expressway service areas – the highest number in the world (CHINA, 2023).

With regard to changes in the territory, China is making efforts to optimize its governing system of territorial space, that is, it has strengthened the overall planning and coordinated management and control of territorial space for working and living and for the environment. Furthermore, it has intensified efforts to protect and restore ecosystems, effectively expanded the capacity of the eco-environment, and promoted the rapid accumulation of natural wealth and eco-environmental wealth. In that regard, a comprehensive system integrating planning approval, implementation supervision, regulations, policies and technical standards is taking shape (CHINA, 2023).

Based on the results of national land resource surveys, China has carried out an evaluation of the carrying capacity of resources and the environment, and suitability of land development. Specifically, it has scientifically designated agricultural, ecological, urban and other functional zones, and improved the territorial space layout that consists of three major zones – main agricultural production zones, key ecosystem service zones and urbanized zones. To strengthen national and regional eco-environmental security, China has designated permanent basic cropland, drawn red lines for eco-environmental protection, delineated boundaries for urban development, and set protection lines for all types of sea areas, in a coordinated manner, establishing centralized control over the use of territorial space and ensured that these lines are not crossed (CHINA, 2023).

China has strengthened the management of key ecosystem service zones and endeavored to prevent and control eco-environmental risks. County Level administrative units that perform important ecological functions such as water conservation, soil and water conservation, inhibiting winds, fixing sand, and protecting biodiversity are designated as key ecosystem service zones, which should focus on protecting the environment and providing eco-environmental products and be restricted from large-scale industrialization and urbanization. As a result, China’s natural ecosystems are generally stable or improving, eco-environmental services have improved, and the supply of eco-environmental products has continued to increase.

To strengthen eco-environmental conservation and restoration a new type of protected area (PA) system has been set up, that are major platforms for eco-environmental conservation. China is developing a PA system with national parks as the mainstay, supported by nature reserves and supplemented by nature parks. This shows that the country is making steady progress in building national parks in environmentally important regions. Thus, as of the end of 2021, nearly 10,000 PAs of various types and levels had been established, covering more than 17% of China’s land area, bringing under effective protection 90% of its natural terrestrial ecosystem types and 74% of key state-protected wildlife species (CHINA, 2023).

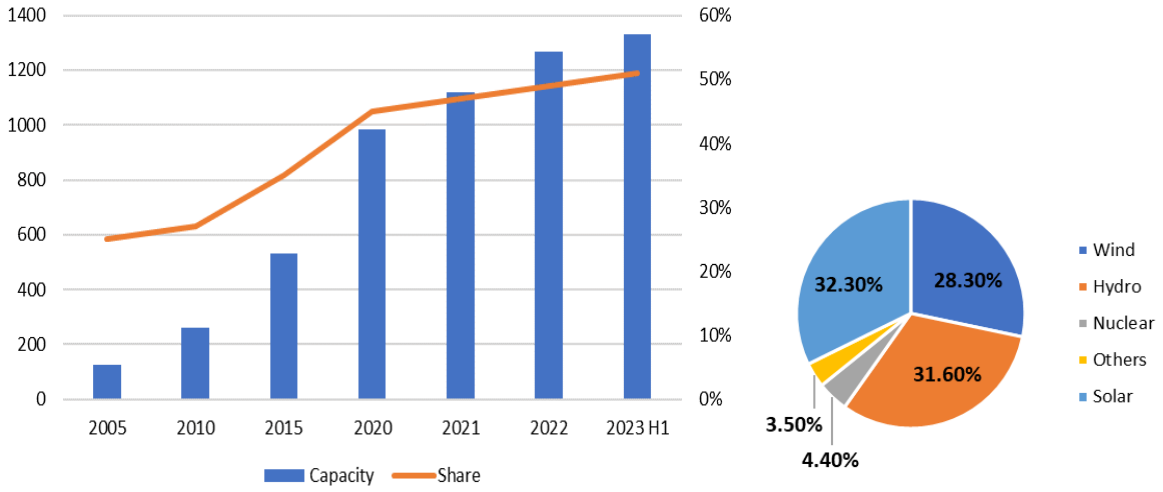
It should be also noted that China has made continuous efforts in terms of afforestation. According to official data, the country's afforestation area reached 64 million hectares over the

past decade. In 2022 alone, China planted a total of 3.83 million hectares of new forests. Such efforts are important for the country to achieve carbon neutrality before 2060.

With the aim of driving advancements in environmental protection in the Beijing-Tianjin-Hebei region, the strategy for coordinated regional development has been implemented, promoting the integrated development of areas such as transportation, environment, industry, and public services, while strengthening joint prevention and control of environmental problems. With the region as a focal point, comprehensive efforts have been made to address the overexploitation of groundwater in North China, reversing the continuous decline in groundwater levels since the 1980s. Within this region, the Xiongan New Area is being constructed according to forward-thinking plans and high standards, with a focus on developing it into a destination for entities relocated from Beijing whose functions are non-essential to Beijing's role as the capital. The idea is that Xiongan will be transformed into an eco-friendly exemplar city of high-quality green development with a rational layout, a good balance of blue water, green spaces, clean air, clear skies, and urban facilities. Thus, in 2021, across 13 cities in the region, 74% of days recorded good air quality, marking a 32% increase compared to 2013, which shows that Beijing has set a global example in air quality control (CHINA, 2023).

Regarding energy production, figure 2 shows total installed capacity and proportion of non-fossil power generation (left), in the period from 2005 to 2023H1 and Non-fossil power generation capacity mix (right), in 2023H1. The data reflects a quick change in the profile of energy generation in China, with strong investments in renewable sources, particularly hydro, wind, solar energy. According to the data, renewable energy sources account for 50.9% of the total installed capacity in the country. Thus, it can be seen that the target of the 14th five-year plan was reached 2 years before the end of the current period.

Figure 2. Total installed capacity and proportion of non-fossil power generation (left), 2005 - 2023 H1 and Non-fossil power generation capacity mix (right), 2023 H1

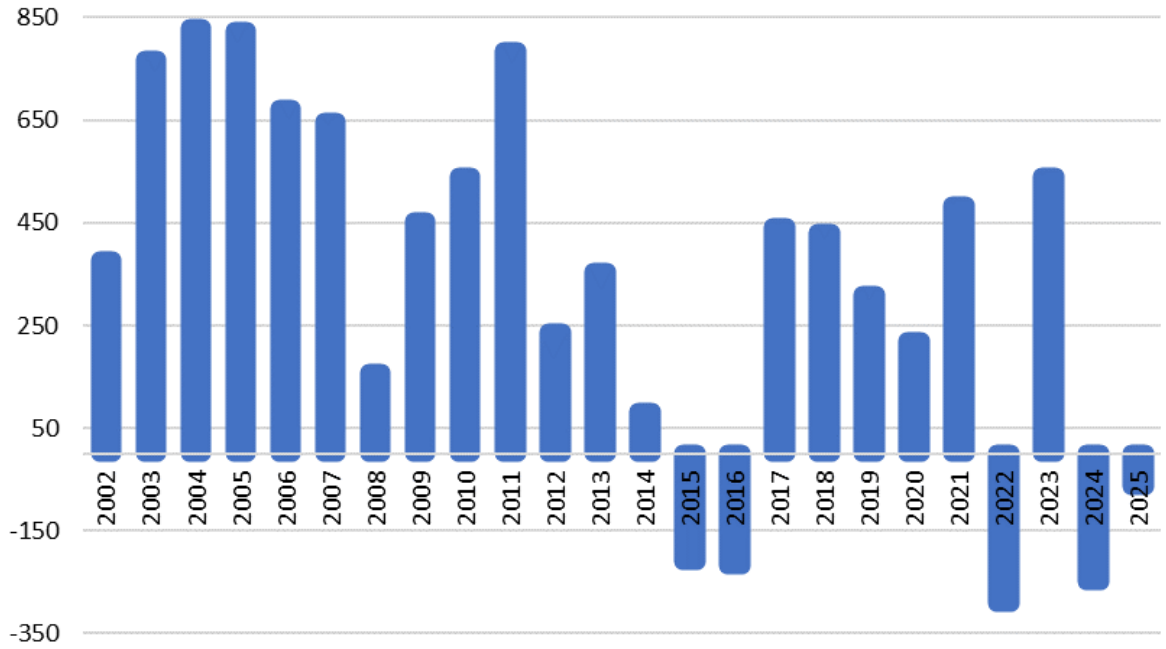


Source: authors' elaboration based on data from the China Electricity Council.

China's CO2 emissions have seen expressive growth over recent decades, pausing only for brief periods due to cyclical shocks. Over the past 20 years, its annual emissions from fossil fuels and cement have grown almost every year, interrupted only by the economic slowdown of 2015-16 and the impact of zero-Covid restrictions in 2022 (Figure 3). However, the average increase in the last ten years is visibly lower than in the previous decade, reflecting the advance of renewable energy sources, as well as the lower growth rates observed after 2013. In addition, the forecast for the near future shows a decline in emissions, particularly due to record growth

in the installation of new low-carbon energy sources. These results are in line with the dual carbon goals presented before in this section.

Figure 3. Annual change in emissions from fossil fuels and cement, million tonnes of CO2



Source: authors' elaboration based on data from the Center for Research on Energy and Clean Air (CREA). Note: figures for 2024 and 2025 are forecasts.

5. Final remarks

This paper has examined China's new development philosophy, based on the concept of high-quality development. This concept involves several aspects, such as innovation, regional inequalities and social welfare. In particular, for the purposes of this paper, high-quality development includes concerns with the environment, and it is seen as an attempt to reconcile economic growth and environmental sustainability. This suggests that China is not willing to give up economic development in order to achieve environmental preservation, and see both objectives as compatible.

We have argued that China's state can be described as a developmental state, given its institutional structures and the policies adopted over time. Also, in line with Feijó *et al* (2023), we have suggested that planning and state guidance are essential for achieving long-term growth with environmental sustainability in a context of climate crises.

Some of China's main goals and policies regarding the environment have been presented, with particular emphasis on the so-called dual carbon goals: reaching carbon emission peaks before 2030 and reaching carbon neutrality before 2060. The achievement of such goals involve changes in China's industrial structure, continuous investment in renewable energy sources, efforts toward low-carbon transportation, and increasing carbon sequestration via afforestation and the creation of protected areas.

In conclusion, it should be stressed that the Chinese case can be taken as a successful example from which developing countries, such as Brazil, could draw lessons for its own development strategy. Given the importance of economic development to overcome structural problems of peripheral countries, such as poverty and inequality, along with the urgencies of

the climate crisis, a strategy that aims to reconcile economic development and environmental sustainability seems to provide the best path for our future.

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