

# Six Challenges Facing China's Resources and Environment: To Choose a Low Carbon Development Policy

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Confronted by a lack of resources and energies and the deterioration of the ecological environment while trying to maintain a fast economic growth rate, China has to think and act in a revolutionary way. Also, it needs strong and powerful policies. In this article, I will analyze the three strategic aspects of China's resources and environment, namely the status quo, the development goals and the possible measures to achieve these goals. Furthermore, I will raise six hidden challenges and some reflections concerning the mainstreaming of the eco-civilization and the choices of policies for low carbon development.

## ***I. Challenges of ecological continual deterioration***

At present, ecological deterioration is the biggest hindrance holding back the Chinese mode of development and the biggest concern on the mind of the people. The environment problem in the broad sense includes the input of resources, the output of pollution and the ecosystem. In the past 30 year, the growth of China is resource driven the environmental issues caused by high speed growth has exceeded the capacity of the ecosystem in China. The ecological footprint of China, which is over the world average level, has weighed down its ecological capacity. If it cannot transform its mode of economic growth from one that is driven by resources to an efficient one, then the fast-growing economy and the rapid step of urbanization will make the issue worse in the next two decades. Measured by IPAT, an equation frequently used to assess the sustainability of development, the population of China will reach 1.4 billion and the GDP per capita, will correspondingly hit 16 thousand. If we suppose the technical efficiency grows at 4 percent annually, the pressure from the environment and resources that China will face is 1 times as heavy as in 2010.

## ***II. The challenge from the rumor that "China threatens the security of ecosystem"***

In the international arena, resources, environmental and ecological problems are closely related with homeland security and international security, and in more occasions, they have been included in the policy-making by diplomats, businessmen and military commanders by western countries. Since mid-90s, China's food security first became the

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*Facing with rapid economic growth, a lack of resources and energy, and a deterioration of the ecosystem, China need to think and solve problems in a revolutionary way and come up some powerful strategies.*

world's concern. But soon, it was replaced by the country's economic and ecological problems. China consumed more fossil fuels against the backdrop of its rapid industrialization and urbanization. As a result, it produced almost the most pollutants in the world, which influenced the global climate change. As it is such a populous country, when the environmental problem causes some social conflicts, the influence may cross the boundary. It is foreseeable that the international society may make heated discussion on whether China's economic aggregate and its influence on the environment is the most eye-catching during the three decades from 2020 to 2050. In the future, China really should think strategically and come up with some strategies in response to these China threat theories,

### ***III. The challenge of ecological civilization mainstreaming***

Ecological civilization has become an important part of the "five in one" development strategy. But there are some misunderstandings which equates ecological civilization with protecting the environment. This will easily neglect the strategic management and cooperation of combining the environment and the development. If a problem cannot be solved in a long time, then it is most probably that the methods adopted are too rigid and futile. In the past half century, the three progressively deepening stages of UN's green policy may have revelation on policy-making. Since then the ecological civilization began to emphasize that we should use our main force on finding a preventive developing mode and cooperation between countries instead of passively reacting to the environmental and resource issues. At the same time, it required us to regard the ecological civilization as the mainstream of environmental and resource issues. It is a departure from the resource or environment intensive developing mode and also a reform for the government, enterprises and social group. As to China's renovation and shift at present, we should stress green renovation and green shift. Apart from environmental protection, we have a bigger picture to consider. And we should drop the rigid thinking. The first stage: In 1972, in the UN's environment conference, the attendee pointed out that economic growth led to problems of resources and environment. The second stage: In 1992, the UN's environment and development conference emphasized that the developing mode was the primary issue concerning the ecosystem and the environment. The third stage: In 2012, the UN's sustainable conference paid special attention on the responsibilities of the governments and enterprises and on the management of social issues.

### ***IV. The challenge of the detachment of economic growth and resources and environment***

Instead of the intensity index, the index to measure the improvement

should include the per capita index and the total volume index, which are intended to realize the detachment of the social and economic development. From 2020 to 2030, the biggest challenge facing China is can it meet the number that set for the fossil fuels. We can't solve this problem when the industrialization and urbanization are realized. The central government has more determination and more strong moves in solving this problem. It has showed to the world that it is willing to cooperate in reversing global warming. And at the same time, it has begun to solve air pollution in China in order to preserve the fruit of development and upgrade the development mode. In the following two or three decades, China will introduce three integration, i.e., integrating to the new mode of urbanization, integrating to the shifts in industrialization and integrating to modern lifestyle.

#### ***V. The challenge of efficiency not matching scale expansion***

Since 1990s, some European countries integrated sustainable development into the theory of innovative long wave and claimed that the world was experiencing the sixth innovative long wave. The theory highlights the substitution of the renewable energies, the revolution of resource efficiency, the service of the manufacturing industry and the cooperative economy. It will go through a developing period of 50 years and achieve a new status of low carbon economic development. The concept of the Third Industrial Revolution and the Society of Zero Marginal Cost was proposed by An American scholar. In fact, they are the new development of the Long Wave Theory and indicate that sharing economy is the new form of low carbon economy. China needs to innovate technologically in certain areas, such as conserving the resource and environmental friendliness. But that is not enough, because the outcomes of the technological innovation can easily be offset by the expansion in production and consumption. In the past three decades, our efficiency and technology are on the rise, but the pollution is also on the rise. If we want to realize the detachment or the separation of economic growth and the environment, we should use more disciplined measurements such as rules of red lines. In order for us to control the scale and speed of economic growth in general, enhance the sharing economy which is meaningful in system innovation, and supports the economic and social development characterized by the new normal.

#### ***VI. The challenge of a systematic "three in one" low carbon economy***

Concerning the policies and mechanisms in the past 3 decades, we have so much work to do in upgrading the policies and policies in order to solve environmental problems. After we have done some researches on the system and policies of the emission of carbon dioxide of the world, we can conclude that there are three links in the environmental protection system

construction. Namely, the three links are: deciding the scale, allotting the responsibility and marketing, which are internally logical and are the right order of ecological and environmental construction. First of all, it is the system of ecological red line. We should identify the reasonable scale of ecological consumption; classify the natural matters into useable ones and non-useable ones. We should give government supervision on the natural assets according to the requirements of public assets. Also, we should put a reasonable limit on the useable natural assets. Secondly, it is the system of responsibilities and usage. We should know the owner and manager of the natural assets, and the initial distribution of these useable assets can be free or in a form of auction. Last but not least is the marketing system, which intends to increase the using efficiency of the natural assets. Because the ecological scale and the fair distribution are decided by the political mechanism, instead of solely by the market, this is a process of combining the government, the market and the society. Concerning the ecological civilization and low carbon economic growth in the future, China must enhance its ability of managing and solving the environmental and resources issues.

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