

China Sustainable Development Strategy Report 2011

---- Greening the Economic Transformation

CAS Sustainable Development Strategy Study Group

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Executive Summary*

The world is in the most crucial period of transition in the 21st century, in which the future of human civilization will depend on our choice today. China has become the second largest economy in the world and, in terms of both its size and achievements, has increasingly deep impact on global socio-economic development and pattern. In the meantime, the rising China has been facing more and more international conflicts and development issues. In the context of changing global circumstances, the coming 5-10 years will be a crucial period of time for China to address a variety of challenges, accelerate the transition of economic development mode, and ensure sustainable growth. Materializing the philosophy of green development in the process of economic transition is not only a rare opportunity for us but also a lofty mission entrusted by history.

Global economic transition and green development

To realize green recovery, develop emerging green industries, and transit towards green and low carbon economy has become a consensus of more and more countries and is the only choice to get win-win situation against the back ground of international financial crisis and global climate change, in that the innovation and greening will be the two most important wheels driving the economic transition in a quite long coming years (CAS Sustainable Development Strategy Study Group, 2010). Pushed by the proactive actions taken by countries to address crisis, a new science & technology revolution and industrial revolution is going to happen. Although it is hard for us at present to precisely forecast when this revolution will happen and to clearly define the economic development mode, yet we are sure that the direction of future innovation, the characteristics of development, and the mode of transition could be expressed by the following key words: smart, green/low carbon, integrated/balanced, fare/ inclusive, cooperative/secured (Lu Yongxiang, 2009; Wang Yi, 2010; AASA, 2011). There is no doubt that the greening and low carbon will play an important role in leading and catalyzing this revolution and promote the sustainable globalization.

After 2009 Copenhagen UN conference on climate change, countries have been more pragmatic in terms of shifting to green and low carbon economy. On the one hand, the economic recovery of developed countries in the post financial crisis period is unstable and the unemployment rate remains high (Spence, 2010). In facing the impact of emerging economies,

* The summary was written by Prof. WANG Yi and Dr. CHEN Shaofeng. Prof. WANG Yi is the Team Leader and Chief Scientist of the CAS Sustainable Development Strategy Study Group and Deputy Director-General of Institute of Policy and Management (IPM) of the Chinese Academy of Sciences (CAS). Dr. CHEN Shaofeng is an associate professor of IPM of the CAS. The report has been published by the Science Press Beijing in March 2011. For further information, please send email at "wangyi@casipm.ac.cn" or visit www.china-sds.org and www.chinasd.csdb.cn

the developed countries have employed trade protectionism measures and realized the urgent need for restructuring their industries in order to increase the competitiveness and employment. On the other hand, in view of the difficulties in reaching a legally binding agreement on the further commitments for annex I parties to the Kyoto Protocol and the internal pressure and problems of developed economies, the pace of greening has been slow down to certain extent in some countries making more comprehensive and long-term considerations. For instance, the 《EU 2020 Strategy》 is not only puts emphasis on low carbon economy but also pays attention to resource efficiency and other issues related to sustainable growth based on energy efficiency (European Commission, 2010); After failing to pass the climate act at the Congress, President Obama gave priority again to clean energy in his 2011 state of the union message in the hope to lead the world economy by leading the clean energy economy; whereas Japan is simply retreating in terms of addressing climate change and developing low carbon economy, and at 2010 Cancun climate conference even opposed the continuation of the Kyoto Protocol which was initiated by itself.

In contrast, the emerging economies have quickly recovered from financial crisis, having increasingly great influence on world economy. The weighted average economic growth rate of 11 emerging economies represented by China, India, and Brazil in 2008 was about two times of world average (Boao Forum for Asia, 2010). On one hand, the achievements got by emerging economies are directly linked to the development mode and actions taken by them; on the other hand, a lot of problems remain in those countries and in Asian emerging economies in particular, where the export oriented economy is facing grave challenge with the continued loss of their traditional comparative advantages and insufficiency of innovation capacity and human capital. To gain a sustainable power for growth, it is a must to make the transition in economic development mode, including implementing green transition (AASA, 2011).

Under the present international situation, we have had a pretty good opportunity to summarize the experiences and lessons learnt by international community in dealing with global crises in the last few years, including understanding the diverse policies and measures taken by countries based on their own specific circumstances and different understanding and choices with regard to low carbon economy, green development, and sustainable growth, thus enabling us to take more proactive and balanced development strategy and setting a solid foundation for economic transition and building up a long-term and sustainable development mode while addressing the present priority issues in China.

We have to be aware that the idea of green and low carbon development is in accordance with the fundamental interests of long-term survival and development of the Chinese people and all human beings. Green; low carbon; smart; driven by innovation; and balanced development – these are something that we should stick to in the global and China’s economic transition in order to expedite the structural change of production elements and the reform of systems and to promote the transition of economic development mode, realizing the green economic transition.

Characteristics, lessons and existing problems of China’s economic transition

Since the reform and opening up in 1980s China has been in a process of multiple and continued transition, including transitions of economic system, social form, development mode, and system opening, which characterized by rapid changes, complexity, and uncertainty. Those

basic features added by growing impact of international factors make the development of strategy and institutional arrangement very difficult in this period of time. After the entry into the 21st century and since the “11th Five-Year Plan” period in particular, China has put forward the strategic adjustment of economic structure and transforming the economic development mode in following the changing circumstances and development needs both at home and abroad.

- Maintaining the momentum of rapid development. China should grasp the strategic opportunity to accelerate the industrialization to pass its middle stage, advancing towards a high income country, making China’s economy from “big” to “strong”, and plying its role in contributing to global economy;
- Driven by innovation. With the rising labor cost, the traditional combination of production elements can not meet the requests of structural adjustment in the new era. We have to keep with the emerging science & technology revolution, improve the quality of growth, transit towards a growth mode that is driven by innovation, smart, efficient, and sustainable;
- Mitigating resource and environmental pressure. The direct consequence of the extensive economic grow is to bring about such issues as resource supply security, environmental pollution, and ecological degradation. Therefore, developing circular economy and building energy-saving and environment friendly society is the way out.
- Changing the pattern of export. China’s traditional export-oriented economy mainly by resource and environment intensive products has not only increased the pressure on resources supply and caused environmental pollution, but also induced many conflicts in international trade. It is imperative to shift to green trade and promote the upgrading of industries;
- Balancing different development objectives. In the present stage and foreseeable future, China will continue to face multiple challenges both at home and abroad, including middle income trap, widening of income gap, pressure of inflation, RMB appreciation, rising international prices of resources and energy, and unemployment that need to be addressed by balancing different development goals.

In this context, China set the energy saving and emission reduction as the basic binding indicators to encourage the large scale application and industrial development of energy saving and environment friendly technologies, renewable energies, new energy vehicles, high speed railway, and got the universally acknowledged achievements of green growth. For example, the average growth rate of the installed capacity of wind power in China has been over 100% for five consecutive years; the total installed capacity of wind power and the production of solar photovoltaic cell rank the first place in the world; the heat collecting area by solar water heater accounts for 2 thirds of the world total. The following points are drawn from the practice of energy saving and emission reduction:

- Paying attention to awareness raising of the whole society on energy conservation and environmental protection. The most significant achievement of the five-year practice of energy saving and emission reduction is the rising of awareness on greening and low carbon of the whole society, to which the key is the awareness raising of leading officials. As an important political and administrative task, the energy saving and emission reduction has got the universal attention by leading officials at all levels, who employed effective tools and measures in energy saving and emission reduction and

became experts in this regard. This is a more precious wealth we got than achieving energy saving and emission reduction targets.

- Sustained support for innovation, large scale pilot application, and industrial development of green technologies, including wind power, solar energy, electric cars and high efficient batteries, coal poly-generation, and circular economy, etc. The large scale application of those technologies is considered by many experts as a right direction to pursue because only so doing can the pathway of integrated innovation be explored and the specific road map be developed, problems be identified and addressed, and human resources and experiences of engineering and management be accumulated.
- Giving priority to phasing out the surplus and out-of-date production capacity in key sectors and enterprises. The phasing out of the surplus and out-of-date production capacity in key sectors and enterprises and its stringent implementation is very important for energy saving and emission reduction. This not only facilitated the achievement of energy saving and emission reduction targets but also advanced upgrading the traditional industries.
- Putting emphasis on engaging enterprises in energy saving and emission reduction. For example, in the first four years of the “11th Five-Year Plan” period, energy saving equivalent to 132.2 million tons of standard coal was realized that is about one third more than the expected target set in the “11th Five-Year Plan” and accounts for 30% of the total amount of energy saving of the whole society.

It should be noted that to realize economic transition and change the mode of economic development is a complex systems engineering and can not be completed overnight. At present, there are many problems and challenges in the process of economic transition. Taking the strategic emerging industries as example, both innovation and industrialization of key technologies and market creation takes time; the emerging industry’s capability of creating new jobs is not necessarily higher than that by reforming traditional industries due to the fact that the emerging industries employ innovative and smart technologies; there are some barriers in innovation financing, commercial development mode, and management system; there is great risk of duplications in identifying strategic emerging industries by provinces, municipalities directly under the central government, and autonomous regions for their own regions, 30 provinces, municipalities directly under the central government, and autonomous regions (except Tibetan autonomous region) have selected new energy and relevant industries as their own strategic emerging industries, this is very likely to result in the surplus of production capacity and the wasteful use of resources thus harming the healthy development of the industries in future. In addition, there are following problems and lessons:

- Inconsistency of policies. Because many government departments were engaged in the work of energy saving and emission reduction therefore problems of inconsistency, incompleteness, and lacking interconnection occurred in functions division, policy development, planning coordination, and funds distribution, thus the effectiveness of management and fund use could not be ensured, even resulting in duplication and wastefulness.
- Overdependence on administrative measures. At present, the fulfillment of energy saving and emission reduction targets has mainly relied on administrative orders, without appropriate use of diversified measures including the use of market/economic tools, thus,

to certain extent, making the energy saving and emission reduction a passive action rather than an active action of some local governments and enterprises and increasing the costs of energy saving and emission reduction. This is why power cuts, stopping production, and even false reporting happened in some areas for the purpose of fulfilling the mandated tasks.

- Lacking long-term mechanism for energy saving and emission reduction. 1. Lacking clear division of responsibilities on energy conservation and emission reduction between governments, enterprises, and individuals; 2. Without a long-term price signal to reflect the real costs of resources and environment, thus facilitating neither the economic effectiveness of fulfilling energy saving and emission reduction targets nor the long-term healthy development of emerging green industries; 3. Incompleteness of supervision system, early warning mechanism, and training mechanism.
- Over focusing on technical solutions and overlooking other supporting measures and system reformation measures. There was no adequate attention to such structural and system solutions as creation of new market, commercial financing, construction of supporting infrastructures, and the introduction of intellectual property and standards.

In summary, promoting and realizing green economic transition is a process of system reformation and innovation involving multiple dimensions of awareness, investment, technology, institution, system, structure, and culture that entails integration and coordination of investment, technology development, commercial operation, market creation, institutional arrangement, and supervision. Therefore, we should not pursue a quick completion of the development emerging green industries and the transition of economic development mode. There is no reason for us to be blindly optimistic over the present achievements, but we should integrate all resources in doing every concrete task and strive to realize the system reformation and innovation in ten years or even longer time.

Policy recommendations on realizing green economic transformation

It is demonstrated by domestic and international experiences that the successful economic transition needs the support of following aspects: ① Making full use of governmental guidance and support, including legislation, planning, and unified management system while continuously improving governance structure; ② Paying great attention to and giving sustained support for guiding science & technology innovation; ③ Highlighting the combination of greening traditional industries and the development of emerging green industries; ④ Fully promoting renewable energy and other clean energies, energy saving buildings, electric cars, the development and application of smart grid; ⑤ Paying attention to the development of comprehensive supporting policies, especially the supporting policies and policy integration for financing, business development, infrastructure construction, and market creation, etc.; ⑥ Paying attention to the cooperation between industries, universities and research institutions, personnel training, and international cooperation. Based on the aforementioned understanding, we would like to highlight following strategic measures and policy recommendations among other suggestions put forward in each chapters of the book:

1. Unifying the understanding on development and striving to realize a green economic

transition at the highest level. There are three levels of green economic transition: first, addressing those issues in green field per se, including resource saving, pollution control, ecological conservation, etc.; second, developing green industries and green economy, especially energy conservation, new energy, energy saving and new energy cars, energy saving and environmental protection reformation by employing smart technologies; third, actively advancing the process of greening the whole economic system that entails incorporating the ideas of greening, low carbon, smartness, and circular economy into the industrialization and urbanization and the process of transforming production, consumption, investment, and foreign trade patterns, thus facilitating the decoupling of economic growth and resource use. The green economic transition strategy should be built on national circumstances and international development trend and pursue a road of sustainable development with Chinese characteristics that is steady, balanced, progressive, and innovative.

2. Developing the 《Basic Law of Green Development》. This law as a framework law will guide and coordinate all development and environment related laws and regulations, define the relationships between government and market and between planning and market, provide for legal responsibilities and obligations of governments at all levels, enterprises, and individuals in green development related fields (including green growth, circular economy, clean production, energy saving & emission reduction, ecological conservation, pollution control, and addressing climate change), and establish compliance mechanisms, thus having a long-term mechanism of promoting green economic transition.

3. Establishing CCCPC leading group of green development. This leading group will guide and coordinate the key matters on national green development, conducting unified management and deployment. A corresponding coordination mechanism should also be established in the State Council in order to coordinate affairs related to green development, settle conflicts among different departments, strengthen resources integration, avoid duplicated construction, and provide alternative solutions.

4. Strengthening guidance by planning, scientific assessment, and identifying emerging green industries with strategic importance and their priority areas. Comprehensively coordinate the development of key, special, sectoral, and local plans, establish democratic assessment mechanism, interim adjustment mechanism, and interaction mechanism between upper level and lower level; issue national 《Planning of Strategic Emerging Industries》 as soon as possible in order to guide and coordinate the development and deployment of local strategic emerging industries, and to guide the enterprises to choose appropriate technical route, avoid vicious competition, duplicated construction, and surplus of production capacity, and normalize the healthy development of strategic emerging industries; At local level, the key industries and prioritized fields should be assessed and identified with strong scientific basis and in accordance with the local conditions, and the local planning for the development of strategic industries should have close interconnection and interaction with the national planning. While paying attention to the development of emerging green industries, great importance should be attached to the reform and upgrading of traditional industries, co-controlling of pollution, and the development of circular economy. Design intellectual property and develop industries' standards, thus leading the development of emerging green industries and improving their competitiveness. Promote the greening of traditional industries by enhancing environmental standards and developing resources and environment performance criteria for the industries.

5. Developing supporting policies in a coordinated manner and balancing investment directions. While the technological innovation is of great importance in the development of emerging green industries, no industries can be developed by depending on technology alone. In the case of strong investment will of local governments, it is crucial for the smooth development of emerging green industries to coordinate sectoral policies and balance investment directions. In the meantime of continuously supporting the innovation of key technologies and their integrated innovation, great attention should be paid to policy development and system integration in personnel training, innovation financing, infrastructure construction, business development mode, and market creation.

6. Enhancing the use of market economy instruments. Although government has an important role in economic transition in the post-crisis period, attention has to be paid to the risks in technology, investment, and supervision that may happen in the government-led process of economic transition and industrial development, and the law of market economy should be respected. In this context, we should stick to the principle of «Driven by market, facilitated by government» and promote economic transition and the development of emerging green industries by employing market economy instruments. Policy measures on financial subsidy, financing guarantee, lending at favored rate, tax relief, financial assistance, etc. should be developed in compliance with WTO rules and provisions of multilateral environmental agreements (MEAs). Encourage international cooperation, participation of all stakeholders, and the establishment of industry alliance and public-private partnership. Keep improving governance structure, especially focusing on playing the role of private sector and SMEs.

7. Restricting the export of strategic resources concerning the long-term development interest of the country by legislation, e.g. “Law of resources security” and appropriately increase the reserve of strategic resources. In view of the defects in WTO rule and the growing disputes in international trade, it is necessary to develop relevant laws and regulations to reduce and restrict the export of strategic resources and raw materials, starting from raising the rate of resource tax and environmental cost; develop the long-term reserve plans for each kinds of strategic resource based on national interest and increase import and reserve of strategic resources. In the next round of WTO negotiation, the coordination between WTO rules and provisions of MEAs should be an important issue to be negotiated aiming at preventing the potential rule conflicts in green industry development and international trade in future.

8. Accelerating the transition of foreign trade patterns and realizing green trade transition. Strive to change the situation of “environment deficit” in foreign trade in 10 years thus helping achieve energy saving and emission reduction targets. The specific measures will include: implementing green trade policy mainly by imposing environment tariff on exported products and reducing the export of high energy consuming, high polluting, and resource intensive products; Encouraging the export of products with environmental labeling by increasing the rate of tax refund; changing the foreign assistance patters, increasing the aid of high quality, low cost, energy saving, and environment friendly products.

References (Omitted)

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Contents

**Leading the Advancement of Human Civilization through Green and Smart Development
(Foreword) LU Yongxiang**

Preface and Acknowledgements

Abbreviations

Executive Summary

Part One Greening the Economic Transformation

Chapter 1 Realizing the Green Economic Transformation

1. Global Economic Transformation and Green Development
2. China's Economic Transformation and Green Development
3. Advancing China's Green Transition by Developing the Emerging Strategic Industries
4. Policy Recommendations for Accelerating China's Green Transition

Chapter 2 Energy Conservation and the Development of Energy Conserving Industry

1. Energy Conservation in Industry and Industrial Energy Conservation
2. The Importance of Developing Energy Conservation Industry in China
3. Progress and Problems in Energy Conservation in China
4. The Current State of China's Energy Conservation Industry
5. Comparing Energy Conservation Policies in China and Foreign Countries
6. Policy Recommendations on Promoting Energy Conservation and the Development of Energy Conservation Industry

Chapter 3 Environmental Industry Facilitates Green Growth

1. The Current State and Future Development of China's Environmental Industry
2. Orderly Development of the Water Industry
3. Steady Development of the Solid Waste Treatment Industry
4. Rapid Development of the Desulfurization and Denitrification Industry

Chapter 4 Developing the Circular Economy

1. The Current State, Problems and Trends
2. Key Areas and Development Strategies for Propelling the Circular Economy
3. Policy Recommendations

Chapter 5 Renewable Energy Industry

1. Make Great Efforts to Develop Renewable Energy and Actively Address Climate Change
2. The Current State of Renewable Energy Industry
3. China's Institutional Framework for Renewable Energy

4. China's Renewable Energy Trends in a New Context

Chapter 6 Energy Conservation and Alternative Energy Vehicles

1. Social Benefits of Energy Conservation and Alternative Energy Vehicles
2. The Current State of the Industry
3. Challenges in Developing the Industry
4. Strategy and Policy Recommendations for Developing the Industry

Chapter 7 Integrating ICT into the Green Economic Transformation

1. Smart Growth, ICT and Economic Transformation
2. ICT Facilitates Upgrading the Industrial Structure
3. Integrating ICT into Key Industries
4. Innovative ICT Technologies
5. Policy Recommendations

Chapter 8 Realizing the Green Transition of Trade

1. The Current State and Problems in Foreign Trade
2. The Environmental Impact of Traditional Trade Modalities and the Green Transition of Trade
3. The Feasibility of the Green Transition of Trade
4. Developing a Strategy for China's Green Transition of Trade
5. Policy Recommendations for Achieving the Green Transition of Trade

Part Two Technical Report: Methodology and Technical Analysis — Assessment of Sustainable Development and Resource and Environmental Performance

Chapter 9 Assessment Indicator System of China's Sustainability

1. Basic Assessment Indicator System Framework for China's Sustainability
2. China's Sustainability Assessment Indicator System for 2011

Chapter 10 Assessment of China's Sustainability (1995-2008)

1. Findings of China's Sustainability Assessment in 2008
2. Trends of Changes in China's Sustainable Development (1995-2008)
3. Disaggregated Data on the Assessment of China's Sustainability (1995-2008)

Chapter 11 Assessment of China's Resource and Environmental Performance (2000-2009)

1. Resource and Environmental Performance Index (REPI)
2. REPI-based Assessment by Region (2000-2009)
3. Analysis of the REPI-based Assessment by Region (2000-2009)
4. Empirical Analysis of the REPI-based Assessment by Region (2000-2009)
5. Data Appendix