

Original Paper

A Comparative Study of the Development of Ecologically Civilized Cities between China and Germany

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Abstract

Through a comparative analysis of the practices and experiences in constructing ecologically civilized cities between China and Germany, this study aims to discuss the similarities and differences in terms of theoretical foundations, realistic challenge, response strategies, development trends and implementation proposals between the two countries. Using the comparative study method, this study focuses on the similarities and differences in the development of ecologically civilized cities between China and Germany. It is found that Germany demonstrates significant strengths in legislative support, technological innovation and public participation, while China stands out in policy facilitation, the speed of infrastructure development and the construction of green financial system. The successful experiences of the two countries in building ecologically civilized cities provide valuable insights for other countries and regions. In the future, China and Germany should continue to strengthen cooperation, share wisdom in ecological governance, jointly cope with global environmental challenges and push forward the construction of the community with a shared future.

Keywords

China and Germany, ecologically civilized cities, urban development, comparative study

1. Comparative Analysis of Theoretical Foundations for the Development of Ecologically Civilized Cities between China and Germany

The development of ecologically civilized cities in China and Germany is grounded in profound theoretical principles. The two countries share both similarities and differences in theoretical foundations for advancing the development of ecologically civilized cities.

Highlighting the harmonious co-existence between man and nature, China upholds the core concept of sustainable development and is committed to building an ecological economic system celebrating resource conservation, environmental protection and dynamic balance. Scientific planning, technological

innovation and international cooperation are leveraged to promote green GDP growth and fulfill win-win outcomes in both economic development and environmental protection.

Comparatively, Germany puts more emphasis on the efficiency of resource utilization and protection of natural environment, stressing coordinated development between economy, society and nature, in building ecologically civilized cities. The theoretical foundation of such notions is rooted in its reflection on industrial revolution and its commitment to fulfilling a green economic transformation and sustainable urban development through technological innovation and construction of institutional system.

In terms of theoretical foundations, both countries have realized the importance of building ecologically civilized cities and are dedicated to pushing forward the green transformation of urban development through scientific planning and technological innovation. Their differences are reflected by China's greater emphasis on macro-level building of institutional system and policy guidance and Germany's highlight on technological innovation and micro-level implementation. The manifestation of these commonalities and individualities provides vast perspective space for cooperation and exchanges between China and Germany in the development of ecologically civilized cities.

By comparing the theoretical foundations for the development of ecologically civilized cities between China and Germany, it is not difficult to find that the two countries share both similarities and distinct differences. A theoretically guided approach that starts with different national situations helps analyze the realistic challenges confronted by the development of ecologically civilized cities in both countries.

2. Comparative Analysis of Realistic Challenges Confronting the Development of Ecologically Civilized Cities between China and Germany

China is confronted by many challenges in developing ecologically civilized cities. On the one hand, the rapid expansion of urban areas has led to increased pressure on the protection of ecological land and public green space, requiring more reasonable layout in the process of building ecologically civilized cities to ensure good ecology and beautiful landscapes. On the other hand, severe energy consumption and pollutant emissions particularly from the automobile industry and coal-fired boilers point to a pressing need to adjust energy consumption structure and promote the use of clean energy.

Germany also encounters a number of challenges in its pursuit of developing ecologically civilized cities. For one thing, the urbanization process has been accompanied by increasing resource consumption and environmental pressure, and substantial funding and technological support are needed in energy transformation and promotion of green architecture. For another, despite the strict environmental protection laws and regulations in Germany, the execution and public participation of these policies still need to be improved to ensure the effective implementation of environmental measures.

It is obvious that the two countries are both confronted by many challenges in advancing ecologically civilized cities. To address these realistic challenges, they both should adapt their measures to local conditions and find solutions in a pragmatic way.

3. A Comparative Analysis of Response Measures to the Development of Ecologically Civilized Cities between China and Germany

To effectively address realistic challenges, China has adopted a number of measures in order to effectively cope with the realistic challenges. Firstly, regulations on motor vehicle exhaust emissions are strengthened by imposing specialized control on high-emission vehicles and encouraging the use of new- and clean-energy vehicles. Secondly, substantial efforts have been put into developing urban public transport systems to reduce transport pollution and fulfill clean energy-powered buses and taxis. In the meantime, strict environmental protection policies are implemented to strengthen comprehensive environmental governance and promote urban environmental quality. In addition, China attaches great importance to developing environmental awareness within the society as a whole by advocating healthy and civilized ways of consumption and establishing an environment-friendly atmosphere. Finally, China also actively constructs a green financial system. By promoting the establishment of green finance supporting mechanism, China stands to provide sufficient funds for the building of ecologically civilized cities and push forward the development of green industries and improvements in ecological environment. With these measures, China is gradually constructing a resource-conservative and environment-friendly society, laying a solid foundation for the development of ecologically civilized cities.

Similarly, to effectively address realistic challenges, the German government has also adopted a series of countermeasures. First, efforts in green technology research, development and promotion have been stepped up to increase the efficiency of energy utilization and the ratio of renewable energy. Second, enforcement of environmental laws and regulations has been strengthened to ensure effective implementations. In the meantime, public education has been promoted to raise residents' environmental awareness and participation, giving rise to a good atmosphere of common protection within the society. In addition, Germany also places greater emphasis on international cooperation to promote joint efforts to tackle global environmental problems and advance the development of global ecological and environmental protection through Sino-German international cooperation programs. Through these measures, Germany has achieved substantial success in building ecologically civilized cities and provided valuable experience for sustainable development of cities.

The different measures adopted by China and Germany in building ecologically civilized cities reflect their differences in historical ground and culture and provide limitless possibilities for future cooperation and exchanges. We hopefully wish well for the development of ecologically civilized cities in both countries and put forward the following feasible proposals.

4. Prospects and Suggestions for the Development of Ecologically Civilized Cities in China and Germany

In the future, more emphasis will be placed on sustainability, intelligence and humanistic integration in the development of ecologically civilized cities. First of all, in the context of global climate change and resource constraints, ecologically civilized cities will be committed to reducing energy consumption and

carbon emissions and fulfill energy conservation, low carbon and sustainable development through technological approaches like green architecture, clean energy and intelligent transport. In addition, intelligentization is another major trend for the development of ecologically civilized cities. Using advanced technologies like big data, Internet of Things and artificial intelligence, fine management of cities, optimized resource allocation and improved public services will be fulfilled. For example, the smart garbage sorting, environmental monitoring and disaster warning systems will effectively increase the efficiency of environmental management in cities. Meanwhile, ecological cities in the future will focus more on humanistic integration highlighting the harmonious co-existence between human and nature. Urban planning will take into sufficient account of protection of culture, history and natural landscapes and building ecological landscapes and public space with characteristics. Furthermore, residents' environmental awareness and participation can be improved through ecological civilization education, thus creating a good atmosphere where the whole society puts joint effort into building ecologically civilized cities.

To sum up, the development of ecologically civilized cities will step toward sustainability, intelligentization and humanistic integration with an aspiration of coordinated development between economy, society and environment.

To promote sustainable development of ecologically civilized cities in China and Germany and construct a positive picture with harmonious human-human and human-society co-existence, both countries also need to make efforts in the following aspects: First, dialogues and cooperation in policies should be strengthened. China and Germany should deepen their dialogues in the area of policies related to building ecologically civilized cities and jointly research and formulate development strategies adapted to their own national situations, advancing the fulfillment of more win-win outcomes. Second, advanced technologies and experiences should be promoted. Inter-city technological exchanges and cooperation should be encouraged, especially in areas of green architecture, clean energy and smart transport, by promoting advanced technologies and successful experience and promoting the level of ecologically civilized cities. Moreover, public participation and education should be enhanced. By strengthening the popularization and education of ecological civilization, heightening public awareness in environmental protection and encouraging residents to actively participate in the building of ecologically civilized cities, a good environment where the whole society jointly advances the development of ecologically civilized cities will be created.

With the implementation of the above suggestions, we believe, China and Germany will achieve more significant successes in building ecologically civilized cities and contribute wisdom and positive forces for the cause of global ecological civilization.

5. Conclusion

Both China and Germany are active participators, contributors and promoters of the development of ecologically civilized cities. By comparatively examining the theoretical foundations and realistic

challenges related to the development of ecologically civilized cities in both countries, we explored the countermeasures that should be adopted. On this basis, we summarized the achievements that can be made in the future and put forth the suggestions for improvement, providing a beneficial reference for creating a global community of ecological civilization.

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