

# Research on the Promotion of the Construction of the Yellow Sea Ecological Economic Circle in Yancheng City

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## ABSTRACT

Chinese-style modernization is a modernization of harmonious coexistence between man and nature. Yancheng initiated the construction of the Yellow Sea Ecological Economic circle, which is of great theoretical and practical significance for promoting ecological priority and green development and establishing a more effective new regional development mechanism. The advantages and characteristics of the construction of the Yellow Sea Ecological Economic Circle are: (1) The integrity and similarity of the ecosystem; (2) Openness and relevance of economic development; (3) Geographical and cultural proximity and integration. Countermeasures for the construction of the Yellow Sea Ecological Economic Circle include: (1) Clarify the target system for the construction of the ecological economic circle, accelerate the establishment of the organizational leadership and overall coordination mechanism, and do a good job in top-level design; (2) Build a regional green economic industrial system, enhance regional innovation capacity, and create the Shanghai-Nantong-Yancheng-Qingdao "G15" science and technology innovation industrial belt; (3) Strengthen infrastructure construction, improve the ecological network system, and build a modern coastal transportation artery; (4) Strengthen co-governance and co-management, build an integrated ecological governance system, and accelerate the establishment of a mechanism for realizing the value of ecological products.

## KEYWORDS

Ecological economic circle; World Heritage; Around the Yellow Sea

## 1. INTRODUCTION

Since the 18th National Congress of the Communist Party of China, the overall layout of the "five-sphere integrated plan" has been fully advanced, and ecological civilization construction has been given a prominent position. Yancheng adheres to the development path of "two Seas and Two greens", and with the successful application for World Heritage status of the Yellow Sea Wetland, which has become China's first Marine natural heritage site, Yancheng's ecological characteristics and regional advantages have become more prominent [1]. In order to better leverage the brand advantage of the successful application for World Heritage status, with ecological protection as the starting point, vigorously promote the deepening of open cooperation among cities and regions around the Yellow Sea, and make due contributions to the construction of Jiangsu's "Belt and Road" convergence point, Yancheng has initiated the construction of the Yellow Sea Ecological Economic circle, which will provide replicable and promotable "Yancheng solutions" for promoting ecological priority and green development.

## **2. DRAW ON DOMESTIC AND INTERNATIONAL EXPERIENCE**

Ecological economy builds economic development on the basis that the ecological environment can bear, achieving a "win-win" situation of economic development and ecological protection, and establishing a virtuous cycle of economy, society and nature. Since the 1950s, in the face of the huge pressure of global resource and environmental problems and the heavy cost of polluting first and then treating in developed countries in Europe and America, the concepts of green movement, ecological development and sustainable development have been proposed, and some experiences have been gained in protecting the ecological environment and coordinating economic development, such as the development and governance of the Tennessee River Basin in the United States. The Tennessee River Basin Authority was established, with unified leadership and planning to break down administrative barriers; By adjusting the industrial structure, the integrated development and utilization of manufacturing, commerce, services, agriculture, etc. were achieved. In the development of Hokkaido, Japan, emphasis is placed on developing green industries and a circular economy, promoting industrial upgrading through technological innovation, giving full play to the leading role of the government in promoting environmental protection, and widely mobilizing and organizing various entities to actively participate.

Since the 18th National Congress of the Communist Party of China, historic, turning-point and overall changes have taken place in China's ecological and environmental protection, and ecological economy has become the foundation and support of ecological civilization construction. Major achievements have been made in the construction of four national pilot zones for ecological civilization in Fujian, Guizhou, Jiangxi and Hainan, and eight national pilot demonstration zones for ecological civilization in Beijing, Inner Mongolia, Hebei, Heilongjiang, Zhejiang, Jiangsu, Yunnan and Qinghai. The Yellow River Delta Efficient Ecological Economic Zone, the Poyang Lake Ecological Economic Zone, the Dongting Lake Ecological Economic Zone, the Huaihe River Ecological Economic Belt and the Han River Ecological Economic Belt have been elevated to national strategies. The major strategies such as the joint protection of the Yangtze River Economic Belt and the ecological protection and high-quality development of the Yellow River Basin have provided strong impetus and guidance for the construction of the Yellow Sea Economic Circle.

**Table 1.** National Ecological Economic Zones (Belts)

Names	Distribution range	Functional positioning
Yellow River Delta Efficient Ecological Economic Zone	It mainly includes all of Dongying City and Binzhou City in Shandong Province and parts of Weifang City, Dezhou City, Zibo City and Yantai City, a total of 19 counties (cities and districts), with a land area of 26,500 square kilometers, accounting for about one-sixth of the total area of Shandong Province.	Embody the concept of sustainable development, promote the ecologicalization of industrial structure and the upgrading of economic form, facilitate the efficient operation and high degree of openness of the economic system, and achieve the organic unity of development and protection, resources and environment, economy and ecology.
Poyang Lake Ecological Economic Zone	In the northern part of Jiangxi Province, including the three cities of Nanchang, Jiujiang and Jingdezhen, as well as some counties (cities and districts) of Yingtan, Xinyu, Fuzhou, Yichun, Shangrao and Ji'an, a total of 38 counties (cities and districts) and the entire body of Poyang Lake, it covers an area of 51,200 square kilometers.	A demonstration zone for comprehensive development of the Great Lakes Basin, a water ecological security zone for the middle and lower reaches of the Yangtze River, an important driving zone for the rise of Central China, an international ecological economic cooperation platform, an important economic growth pole between the Yangtze River Delta and the Pearl River Delta, and a world-class demonstration zone for coordinated development of ecological economy.
Dongting Lake Ecological Economic Zone	It includes the three cities of Yueyang, Changde and Yiyang, Wangcheng District of Changsha City and Jingzhou City of Hubei Province, a total of 33 counties and districts. The planned total area is 60,500 square kilometers.	A national pilot zone for ecological civilization construction in the Great Lakes Basin, a modern agricultural base for ensuring food security, a pilot zone for the simultaneous development of "two types" leading "four modernizations", a modern logistics distribution zone for water and land transportation, and a demonstration zone for comprehensive prevention and control of schistosomiasis.
Huaihe River Ecological Economic Belt	Including Huai'an City, Yancheng City, Suqian City, Xuzhou City, Lianyungang City, Yangzhou City, Taizhou City in Jiangsu Province; Zaozhuang City, Jining City, Linyi City, Heze City in Shandong Province; Bengbu City, Huainan City, Fuyang City, Lu'an City, Bozhou City, Suzhou City, Huaibei City, Chuzhou City in Anhui Province Xinyang City, Zhumadian City, Zhoukou City, Luohe City, Shangqiu City, Pingdingshan City and Tongbai County of Nanyang City in Henan Province, with a planned area of 243,000 square kilometers.	Demonstration belt for ecological civilization construction in river basins, innovative development belt for characteristic industries, Demonstration belt for new urbanization, and pilot zone for cooperation and development in the central and eastern regions.
Han River Ecological Economic Belt	Shiyan City, Danjiangkou City, Xiangyang City, Jingmen City, Suizhou City, Xiaogan City, Xiantao City, Wuhan City and the Shennongjia Forest District, 10 cities (forest areas) and 40 counties (cities, districts), with a drainage area of 63,000 square kilometers.	National Strategic water Resources Security Zone, Inland River Basin Protection and Development Demonstration Zone, Pilot Zone for Coordinated Development of Central and Western China, and Pilot Zone for Green Development in the Yangtze River Basin.

Looking at China's ecological economic zones (belts), geographically, they are mainly distributed along rivers and coasts, with a large number of wetlands and habitats for animal diversity, all of which

have national nature reserves and important ecological function areas. Functional positioning emphasizes ecological priority and green development, protecting the ecological environment, promoting coordinated development of the ecological environment and the economy, and playing a demonstrative and leading role; The development model is based on economic zones (belts), with key towns along the line as nodes, to create high-quality development zones (belts) [2].

### **3. ADVANTAGES AND CHARACTERISTICS OF THE CONSTRUCTION OF THE YELLOW SEA ECOLOGICAL ECONOMIC CIRCLE**

The Yellow Sea Ecological Economic Circle is initiated by Yancheng, a World Natural Heritage Site - China Yellow (Bohai) Sea Migratory Bird Habitat (Phase I), and the World Natural Heritage Site - China Yellow (Bohai) Sea Migratory Bird Habitat (Phase II) project involves cities in the Bohai Rim Economic circle such as Liaoning, Hebei, Shandong and Shanghai, as well as cities in the Yellow Sea region of North Korea and South Korea. Based on an area of 380,000 square kilometers in the Yellow Sea, spanning provinces and countries, it has distinct advantages and characteristics.

#### **3.1. Ecosystem Integrity and Similarity**

The Yellow Sea Economic Circle is composed of neighboring provinces and municipalities along the Yellow (Bohai) Sea, with their coasts connected and their seas connected. They share the largest tidal flats and wetlands along the Yellow (Bohai) Sea. Among them, the coastal tidal flats of Jiangsu account for about a quarter of the country's total, while those of Shandong and Liaoning account for about one eighth and one twelfth of the country's total. Together, they form the continuous migratory route of East Asia-Australia. The biodiversity is rich. Among them, the Yancheng coastal tidal flat wetland has been included in the list of Wetlands of International Importance and is part of the Global Environment Facility (GEF) project. It has successfully applied as China 's first coastal wetland World Natural Heritage Site, while Poyang Lake Wetland and Dongting Lake Wetland, both of which are internationally important wetlands and GEF projects, have been approved as national ecological economic zones to promote the construction of the Yellow Sea Ecological Economic circle. It will facilitate the implementation of the second phase of the application for World Heritage status and help protect the integrity of the Yellow (Bohai) important ecological function zone and wetland ecosystem.

#### **3.2. Openness and Relevance of Economic Development**

The Yellow Sea area is located at the junction of the two strategic functional zones of Beijing-Tianjin-Hebei and the Yangtze River Delta, where cities have close economic and trade ties and a high degree of industrial correlation. The development plans for the Jiangsu Coastal Area, the Shandong Peninsula Blue Economic Zone and the Liaoning Coastal Economic Belt have been elevated to national strategies, and the Marine economy has become an important engine for economic development in the Yellow Sea area. Among them, Yancheng and Lianyungang in Jiangsu Province, and Rizhao and Weihai in Shandong Province were simultaneously approved as national Marine economic demonstration zones. The Yellow Sea is an important radiation area for development towards Northeast Asia. It is the region of South Korea closest to the Chinese mainland. There are the Yancheng and Yantai industrial parks among China's three major China-South Korea industrial parks, as well as the Sinmankim China-South Korea Economic Cooperation Park in South Korea. It has become the most active economic and trade area between China and South Korea. South Korea has become Yancheng's largest source of foreign investment and trade partner. More than a thousand South Korean-funded enterprises have settled here[3]. The total investment is more than 5 billion US dollars. It plays an important role in responding to the trade conflict between China and the United

States and in building a new development pattern with domestic and international circulations reinforcing each other.

### **3.3. Geographical and Cultural Proximity and Integration**

In the Yellow Sea region, both being nodes of the Belt and Road Initiative, with the completion and operation of the coastal high-speed rail channel, the urban belt along the Yellow Sea coast has gradually shown a huge synergy for overall development and is conducive to exerting the radiating role of the gateway city to the sea of the Huaihe River Ecological Economic Belt. Yancheng Dafeng has the largest "enclave" in Shanghai, which serves as a bond for exchanges and friendship between Jiangsu and Shanghai, and is also striving to build a base for high-quality agricultural products and a new highland for industrial transfer in Shanghai. The urban belt along China's Yellow Sea is separated from Japan and South Korea by a narrow strip of water. Ganyu in Lianyungang is the hometown of Xu Fu and an important birthplace of cultural exchanges between China and Japan; Yancheng has established sister-city relations with South Korea's Namwon City, Daegu City and Seoul's Seongbuk District. Currently, more than 10,000 South Koreans are working and living in Yancheng. There are seven flights per week between Yancheng and Seoul, and Yancheng's Dafeng Port has full coverage of major ports in South Korea.

## **4. SUGGESTIONS AND COUNTERMEASURES FOR THE CONSTRUCTION OF THE YELLOW SEA ECOLOGICAL ECONOMIC CIRCLE**

The Yellow Sea region is rich in wetland resources and important ecological functional areas. It has the first and second World Heritage sites of the Yellow (Bohai) Sea Migratory Bird Habitat in China. It has the important mission of ecological protection and the common goal of achieving innovative and high-quality development. It must grasp the new requirements and new positioning and promote high-level construction.

### **4.1. Clarify the Target System for the Construction of the Ecological Economic Circle and Accelerate the Establishment of An Organizational Leadership and Overall Coordination Mechanism**

The Yellow Sea Ecological Economic Circle, located between the Yangtze River and Yellow River basins and the Yangtze River Delta and Beijing-Tianjin-Hebei economic zones, is a developed coastal area. Unlike other national ecological economic zones (belts), it should be positioned at a high starting point and advanced at a high level. First, we should accelerate the formulation of the planning for the Yellow Sea Ecological Economic Circle, do a good job in top-level design, clarify the construction goals and tasks, take ecological protection as the main line and high-quality development as the core, strive to incorporate it into the 14th Five-Year Plan of the country, and enhance its influence at the national and international levels. At present, national-level ecological economic zones (belts) are mainly distributed along rivers and lakes. The only one, the Yellow River Delta Efficient Ecological Economic Zone, which is located in the coastal area, is only 2.65 square kilometers, accounting for only one sixth of the area of Shandong Province. It is all distributed within Shandong Province and its radiation and driving capacity is limited. If integrated into the Yellow Sea Ecological Economic circle, it will expand the development space. It can also achieve functional upgrading and jointly build an ecological civilization demonstration belt in the developed coastal areas; Second, we should accelerate the establishment of a regional ecological economic organization leadership and overall coordination mechanism, strengthen strategic alignment with the Belt and Road Initiative, the integration of the Yangtze River Delta, the coordinated development of the Beijing-Tianjin-Hebei region, the Huaihe River Ecological Economic Belt, and the ecological protection of the Yellow River,

refer to the coordination mechanism of the integration of the Yangtze River Delta, establish corresponding organizational structures, and carry out inter-city, inter-provincial, and central-local alignment and cooperation. Hold regular consultations on issues related to ecological environment and socio-economic development in the region, and expand publicity and influence through the existing Global Coastal Forum (Yancheng); Third, establish a regular mechanism for integrating ecological civilization construction into economic, political, cultural and social construction, incorporate ecological construction into economic, social, cultural and political construction, make overall arrangements, strengthen the system construction, and formulate the "Three-Year Action Plan for the Yellow Sea Ecological Economic Circle" Realize the integrated development of the first and second phases of the World Heritage project of the Yellow (Bohai) Sea migratory Bird Habitat in China, formulate relevant systems in light of regional ecological environment characteristics, and on the basis of the "Regulations on the Protection of the Yellow Sea Wetland in Yancheng City", introduce the "Regulations on the Protection of the Yellow Sea Wetland", and take the rule of law as the fundamental means to coordinate and promote the construction of the ecological economic circle [4].

#### **4.2. Build a Regional Green Economic Industrial System and Enhance Regional Innovation Capacity**

Green economy is a new economic form that aims at the coordinated development of economy, society and ecology, and is characterized by maintaining the human living environment, scientifically developing and utilizing resources, and coordinating the relationship between man and nature. It is the foundation and driving force of ecological civilization construction. First, increase open cooperation in the energy sector, promote the transformation of energy utilization methods, make full use of Marine resources, vigorously develop offshore wind power, accelerate the development of new energy sources such as solar energy, biomass energy and tidal energy, build a clean, low-carbon, safe and efficient energy system, and create a green energy belt in the Yellow Sea region; Promote the strengthening of the wind power industry chain, upgrade fan manufacturing and wind farm development simultaneously, and expand the new energy industry system. Second, vigorously develop eco-tourism, with migratory bird routes as corridors, key transit points as nodes, and the World Natural Heritage site - China Yellow (Bohai) Sea Migratory Bird Habitat (Phase I) Yancheng as the core, create a "one belt, one core, multiple nodes" eco-tourism circle around the Yellow Sea, and based on the seasonality of migratory birds and the heterogeneity of coastal wetlands, establish an all-climate, all-path one-ticket tourism model, Focus on developing study Tours and experiential tourism, fully leverage the brand advantage of World Heritage, accelerate the application and construction of the South Yellow Sea Wetland National Park, incorporate Dongsha and the radiating sandbar area into the ecotourism circle, follow the development and utilization model of the Great Barrier Reef in Australia, accelerate the supply-side reform of tourism products, open up sea, air, hiking and other tour routes, and luxury and economy consumption types. Third, taking ecological resources as an advantage, we will increase investment attraction and opening up both domestically and internationally. Relying on the China-South Korea industrial Park, we will accelerate the development of intelligent manufacturing and information technology industries, expand the production capacity of new energy vehicles, and strengthen cooperation with emerging industries in Shanghai, Shandong, Liaoning, South Korea and Japan within the region to promote the dual circulation of domestic and international markets. The China-South Korea industrial parks should accelerate the development of modern service industries, enhance scientific research and innovation capabilities, promote the integration of industry and city, build demonstration zones of the fourth-generation industrial parks, and create the Shanghai-Nantong-Yancheng-Qingdao "G15" science and technology innovation industrial belt.

### **4.3. Strengthen Infrastructure Construction and Improve The Ecological Network System**

Infrastructure is an important support for economic development and ecological construction, and ecological networks are an important component of modern infrastructure. First, we should build a modern transportation artery along the coast, accelerate the construction of the high-speed railway network around the Yellow Sea and the Beijing-Shanghai High-Speed railway coastal passage, extend westward to the Yellow River Basin and the Huai River Basin, and connect eastward to port nodes such as Dafeng Port, Sheyang Port, Binhai Port and Chenjia Port. We should also actively promote the construction of major projects such as undersea tunnels and open up new channels to Northeast China and Northeast Asia. Accelerate the upgrading of port terminals, expand the production scale of Dafeng Port and Sheyang Port, focus on accelerating the construction of Binhai Port as the gateway to the Huaihe River, and create a waterway network that connects rivers and seas; Strengthen coordination and cooperation with ports such as Shanghai Port and Qingdao Port, and accelerate the integration of ports, industries and cities. Second, we should strengthen ecological infrastructure construction, make ecological environment investment a fundamental and strategic investment for economic and social development, and establish a national wetland ecological station and national laboratory around the Yellow Sea (Yancheng) as soon as possible to fill the gap in the Jiangsu region of the South Yellow Sea. Build a coastal sewage treatment network and implement regional centralized treatment; Strengthen the clearance of Marine debris and strictly control Marine plastic waste. Third, we should build open cooperation platforms, strengthen scientific research cooperation with major research institutions in the Yellow Sea region, especially Shandong Province, which has an advantage in Marine resources, and establish Marine industry research institutes and academicians' workstations; Cultivate specialized talents for wetland protection through the Yellow Sea Wetland Research Institute and Wetland College to provide intellectual support for deepening regional cooperation; Strengthen international cooperation on Yellow Sea ecology, draw on the experiences and lessons of land reclamation and tidal flat development and utilization in places such as Sinmankim of South Korea and Kobe of Japan, and actively implement reclamation to wetland projects [5].

### **4.4. Strengthen Co-Governance and Co-Management To Build An Integrated Ecological Governance System**

The Yellow Sea Ecological Economic Circle is a regional community and should be systematically thought and planned. First, we should establish an early warning and monitoring system for the carrying capacity of resources and the environment. Based on territorial spatial planning, we should integrate various types of ecological environment Spaces such as main functional zoning, ecological functional zoning, ecological conservation red lines and natural shorelines, and coordinate the demarcation and implementation of ecological, production and living Spaces to form a unified ecological environment space control system. 2. Build an ecological coordinated protection system, with unified protection and restoration of mountains, rivers, forests, farmlands, lakes and grasslands, systematically design overall plans and action plans for ecological environment restoration and protection, and then implement strategies classified and zoned for key breakthroughs to protect the biodiversity and natural authenticity of the Yellow Sea; Control the intensity of coastal development, protect natural shorelines, fully implement the river chief system and the bay chief system, carry out comprehensive management of the basin environment and nearshore waters, strictly control the discharge of land-based pollutants into the sea, and achieve the integration of pollution prevention and control and ecological protection; Jointly deal with rising sea levels, strengthen monitoring and control of disasters such as red tides and green algae, and strictly implement the "fishing and catching ban" system during the off-season around the Yellow Sea; Promote unified standards and joint law enforcement. Third, we should accelerate the establishment of a mechanism for realizing the value of ecological products, explore the assessment of the value of ecological service functions, adhere to

government leadership with the participation of enterprises and all sectors of society, operate in a market-oriented manner, improve the ecological compensation mechanism, establish a unified open market for regional land, sea areas, funds, technology, etc., achieve the rational flow of resources and elements, and give reasonable returns for the protection and restoration of the ecological environment; Establish a more comprehensive assessment system for ecological civilization achievements, explore the establishment of a dual evaluation mechanism for gross domestic product (GDP) and gross ecosystem product (GEP), and intensify ecological and environmental accountability and lifelong pursuit of responsibility.

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## **REFERENCES**

- [1] Zhou Hongchun, Guan Yonglin. Ecological economy - the Foundation and Support for Ecological Civilization Construction in the New Era [J], *Ecological Economy*, 2020 (9): 13-24.
- [2] Wang Ming 'an, Dong Shujun. Current status and Enhancement Strategies of Inter-governmental Cooperation on Ecological Governance in Ecological Economic Zones: A Case Study of Dongting Lake Ecological Economic Zone [J], *Law and Society*, 2020 (9): 101-103.
- [3] Shen Peng. Experience and Implications of Circular Economy Development in Developed Countries [J], *Environmental Protection*, 2016 (10): 68-71.
- [4] Hongquan Chen, Research on Accelerate the Construction of the Yellow Sea Urban Belt [J], *Warwick Evans Publishing* 2025 (1) :1-7.
- [5] Chen Hongquan, Zhang Yunfeng. Regional differences and spatial pattern evolution of coastal economic development in Jiangsu Province [J]. *Scientia Geographica Sinica*, 2016(2):283-288.