**Explaining city branding in China’s three megacity regions: The role of ecological modernization**

**TABLES 1-4**

Table 1: Urban developmental pathways.

|  |  |  |  |
| --- | --- | --- | --- |
| ***Stage of economic development/***  ***Position within the region*** | **Primary sector dominates** | **Secondary sector dominates** | **Tertiary sector dominates** |
| **Regional orientation** | PATHWAY 1  Eco-tourism  (accommodating manufacturing) | PATHWAY 2  Advanced, low carbon manufacturing | PATHWAY 4  Knowledge and culture-oriented services |
| **National orientation** | n.a. | PATHWAY 2  Advanced, low carbon manufacturing | PATHWAY 4  Knowledge and culture-oriented services |
| **International orientation** | n.a. | PATHWAY 3  High-tech innovation | PATHWAY 5  Global advanced producer services |

Table 2a. Key geographic data and developmental pathways for GPRD cities.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **City (province)** | **Land**  **area**  **(km2)** | **Perm.**  **Pop. (mln.)** | **Three dominant industries** | **GDP/cap permanent pop. (RMB)** | **1/2/3**  **as GDP (in %)** | **1/2/3 as working pop. (in %)** | **Urban stage** | **Regional**  **position** | **Predictedpathway** |
| Hong Kong | 2755 | 7.27 | Trading & logistics (23%)  Tourism (5%)  Professional & other producer services | 267744 | 0/7/93 | 0/3/97 | 3 | INT | 5 |
| Macau | 30 | 0.6 | Travel & tourism (44%) | 386825 | 0/6/94 | 0/20/80 | 3 | INT | 5 |
| Guangzhou (GD) | 7249 | 13.08 | Manufacturing (45%)  Accommodation & catering (35%)  Rent and commercial service (6%) | 138374 | 1/32/67 | 8/36/56 | 3 | INT | 5 |
| Shenzhen (GD) | 1997 | 10.78 | Manufacturing (60%)  Accommodation & catering (32%)  Rent and commercial service (3%) | 162382 | 0/41/59 | 0/48/52 | 3/2 | INT | 5/3 |
| Foshan (GD) | 3798 | 7.35 | Manufacturing (64%)  Accommodation & catering (23%)  Rent and commercial service (4%) | 108875 | 2/60/38 | 5/59/36 | 2 | REG | 2 |
| Dongguan (GD) | 2460 | 8.34 | Manufacturing (66%)  Accommodation & catering (27%)  Rent and commercial service (3%) | 75212 | 0/46/54 | 1/68/31 | 2 | REG | 2 |
| Zhuhai (GD) | 1724 | 1.61 | Manufacturing (40%)  Accommodation & catering (29%)  Rent and commercial service (7%) | 125449 | 2/50/48 | 6/51/43 | 2/3 | REG | 2/4 |
| Huizhou (GD) | 11346 | 4.73 | Manufacturing (51%)  Accommodation & catering (21%)  Public administration, social security & social organization (6%) | 66432 | 5/55/40 | 18/50/32 | 2 | REG | 2 |
| Jiangmen GD) | 9505 | 4.51 | Manufacturing (57%)  Accommodation & catering (19%)  Public administration, social security & social organization (7%) | 49652 | 8/48/44 | 33/40/27 | 2 | REG | 2 |
| Zhongshan (GD) | 1784 | 3.19 | Manufacturing (69%)  Accommodation & catering (20%)  Rent and commercial service (4%) | 94278 | 3/54/43 | 5/67/28 | 2 | REG | 2 |
| Zhaoqing (GD) | 14891 | 4.04 | Manufacturing (36%)  Public administration, social security & social organization (16%)  Accommodation & catering (12%) | 48813 | 15/49/36 | 52/25/23 | 1 | REG | 1 |

Table 2b. Key geographic data and developmental pathways for YRD cities.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **City (province)** | **Land**  **area**  **(km2)** | **Perm.**  **Pop. (mln.)** | **Three dominant industries** | **GDP/cap permanent pop. (RMB)** | **1/2/3**  **as GDP (in %)** | **1/2/3 as working pop. (in %)** | **Urban stage** | **Regional**  **position** | **Predictedpathway** |
| Shanghai | 6341 | 24.26 | Manufacturing (53%)  Accommodation & catering (45%)  Rent & commercial services (2%) | 97343 | 0/35/65 | 4/39/57 | 3 | INT | 5 |
| Nanjing (JS) | 6587 | 8.22 | Manufacturing (38%)  Accommodation & catering (33%)  Rent & commercial services (7%) | 107545 | 2/41/57 | 1/33/56 | 3 | NAT | 4 |
| Yangzhou (JS) | 6591 | 4.48 | Manufacturing (28%)  Accommodation & catering (19%)  Public administration, social security & social organization (16%) | 82654 | 6/51/43 | 20/45/35 | 2 | REG | 2 |
| Changzhou (JS) | 4372 | 4.70 | Manufacturing (60%)  Accommodation & catering (20%)  Rent & commercial services (4%) | 104423 | 3/49/48 | 11/53/36 | 2 | REG | 2 |
| Suzhou (JS) | 8488 | 10.60 | Manufacturing (47%)  Accommodation & catering (26%)  Rent & commercial services (5%) | 129926 | 2/50/48 | 4/61/35 | 2 | NAT | 2 |
| Taizhou (JS) | 5787 | 4.64 | Manufacturing (40%)  Public management, social security and social organizations (15%)  Accommodation & catering (10%) | 72706 | 6/50/44 | 25/42/33 | 2 | REG | 2 |
| Nantong (JS) | 8001 | 7.30 | Manufacturing (42%)  Accommodation & catering (17%) Public management, social security & social organizations (9%) | 77457 | 6/50/44 | 23/46/31 | 2 | REG | 2 |
| Zhenjiang (JS) | 3847 | 3.17 | Manufacturing (38%)  Accommodation & catering (13%) Public management, social security & social organizations (12%) | 102651 | 4/50/46 | 13/47/40 | 2 | REG | 2 |
| Wuxi (JS) | 4627 | 6.50 | Manufacturing (31%)  Accommodation & catering (13%) Public management, social security & social organizations (8%) | 126389 | 2/50/48 | 5/57/38 | 2 | NAT | 2 |
| Hangzhou (ZJ) | 16596 | 8.89 | Manufacturing (35%)  Accommodation & catering (34%)  Rent & commercial services (8%) | 129448 | 3/42/55 | 11/45/43 | 2/3 | NAT | 2/4 |
| Huzhou (ZJ) | 5820 | 2.93 | Manufacturing (55%)  Accommodation & catering (16%)  Public management, social security & social organizations (9%) | 74334 | 6/51/43 | 14/51/35 | 2 | REG | 2 |
| Jiaxing (ZJ) | 3915 | 4.57 | Manufacturing (58%)  Accommodation & catering (18%)  Rent & commercial service (5%) | 96607 | 4/54/42 | Data unavailable | 2 | REG | 2 |
| Taizhou (ZJ) | 9411 | 6.02 | Manufacturing (61%)  Accommodation & catering (16%) Public management, social security & social organizations (3%) | 56876 | 6/47/47 | 19/44/37 | 2 | REG | 2 |
| Shaoxing (ZJ) | 8279 | 4.96 | Manufacturing (33%)  Accommodation & catering (26%) Public management, social security & social organizations (13%) | 96437 | 4/52/44 | Data unavailable | 2/3 | REG | 2/4 |
| Ningbo (ZJ) | 9816 | 7.81 | Manufacturing (63%)  Accommodation & catering (21%)  Rent & commercial service (4%) | 130769 | 4/54/42 | Data unavailable | 2 | NAT | 2 |
| Zhoushan (ZJ) | 1455 | 1.15 | Manufacturing (70%)  Accommodation & catering (27%)  Rent & commercial services (1%) | 104239 | 10/42/48 | 14/35/51 | 3 | REG | 4 |

Table 2c. Key geographic data and developmental pathways for Bohai Rim cities.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **City (province)** | **Land**  **area**  **(km2)** | **Perm.**  **Pop. (mln.)** | **Three dominant industries** | **GDP/cap permanent pop. (RMB)** | **1/2/3**  **as GDP (in %)** | **1/2/3 as working pop. (in %)** | **Urban stage** | **Regional**  **position** | **Predictedpathway** |
| Beijing | 16415 | 21.52 | Wholesale & retail (33%)  Manufacturing (29%)  Tenancy & other commercial services (11%) | 99995 | 1/21/78 | 5/18/77 | 3 | INT | 5 |
| Tianjin | 11917 | 15.16 | Manufacturing (32%)  Wholesale & retail (25%)  Rent & commercial services (7%) | 105231 | 1/50/49 | 8/39/53 | 3/2 | NAT | 4/2 |
| Shijiazhuang (HB) | 15848 | 10.62 | Manufacturing (41%)  Wholesale & retail (28%)  Public management, social security & social organizations (11%) | 48701 | 9/47/44 | 0/36/64 | 3 | NAT | 4 |
| Tangshan (HB) | 13472 | 7.77 | Manufacturing (26%)  Public management, social security & social organizations (23%)  Wholesale & retail (18%) | 80138 | 9/58/33 | 3/54/43 | 2 | NAT | 2 |
| Langfang (HB) | 6429 | 4.52 | Manufacturing (64%)  Wholesale & retail (15%)  Public management, social security & social organizations (10%) | 48121 | 9/48/43 | 0/59/41 | 2 | REG | 2 |
| Qinhuangdao (HB) | 7523 | 3.06 | Manufacturing (24%)  Public management, social security & social organizations (20%)  Wholesale & retail (19%) | 39158 | 15/37/48 | 0/41/59 | 3 | REG | 4 |
| Baoding (HB) | 22109 | 11.49 | Manufacturing (45%)  Public management, social security & social organizations (17%)  Wholesale & retail (17%) | 26415 | 14/52/34 | 0/56/44 | 2 | NAT | 2 |
| Chengde (HB) | 39500 | 3.53 | Public management, social security & social organizations (32%)  Health, sports and social welfare (14%)  Education (10%) | 38062 | 17/50/33 | 0/36/64 | 3 | REG | 4 |
| Zhangjiakou (HB) | 36873 | 4.42 | Public management, social security & social organizations (40%)  Manufacturing (12%)  Wholesale & retail (10%) | 30513 | 18/43/39 | 0/36/64 | 3 | REG | 4 |
| Cangzhou (HB) | 14033 | 7.38 | Manufacturing (64%)  Wholesale & retail (15%)  Public management, social security & social organizations (12%) | 42486 | 10/52/38 | 3/40/57 | 3/2 | REG | 4/2 |
| Hengshui (HB) | 8815 | 4.42 | Manufacturing (38%)  Public management, social security & social organizations (30%)  Wholesale & retail (13%) | 25878 | 14/48/38 | 0/33/67 | 3/2 | REG | 4/2 |
| Xingtai (HB) | 12486 | 7.26 | Manufacturing (49%)  Public management, social security & social organizations (18%)  Wholesale & retail (17%) | 22696 | 17/47/36 | 0/47/53 | 3/2 | REG | 4/2 |
| Handan (HB) | 12009 | 9.37 | Public management, social security & social organizations (31%)  Manufacturing (22%)  Wholesale & retail (14%) | 32857 | 13/50/37 | 0/57/43 | 2 | REG | 2 |
| Anyang (HN) | 5599 | 4.43 | Public management, social security & social organizations (25%)  Manufacturing (20%)  Wholesale & retail (13%) | 35920 | 9/58/33 | Data unavailable | 2/3 | REG | 2/4 |

Table 3a. Ecological modernization pathways and city brand identities for GPRD cities.

|  |  |  |  |
| --- | --- | --- | --- |
| **City (province)** | **Predicted pathway** | **Brand identity: quotations from Five Year Plans and Urban Master Plans** | **Adopted pathway** |
| Hong Kong | 5 | The long-term vision for Hong Kong to strengthen its position as Asia’s world city. “Asia’s world city” is not only about economic growth and competitiveness, but ensuring we have a city that is proud for being Asia’s exemplary city in achieving true sustainable development.(HK2030) | 5 |
| Macau | 5 | With gambling and tourism as its main industries, Macau regards delicacy and pleasance as its development targets, continued prosperity as its goals, and openness and inclusiveness as its characteristic. Macau is a tourism and liveable city, sustainable development city, world vibrant city. (Macau Conceptual Plan 2007). | 5 |
| Guangzhou (GD) | 5 | Guangzhou is one of National Center Cities, provincial capital, International Commercial Trade center, External Exchange Center, Comprehensive Transportation Hub, and a an International Shipping Center in South China (UMP). It builds into a National Innovation city (12th FYP). | 5 |
| Shenzhen (GD) | 5/3 | Shenzhen is the Special Economic Zones, National Economic Center and an International City in China. Shenzhen is the service base to support Hong Kong's prosperity and stability. Under the framework of "one country two systems", Shenzhen aims to be an international financial, trade and shipping center under with the development of Hong Kong. Shenzhen is also the national high-tech industrial base and cultural industry base (UMP). | 5/3 |
| Foshan (GD) | 2 | Foshan will be built into an advanced manufacturing base, a service center for industries, a Lingnan Cultural city, a beautiful home with happiness (UMP). | 2/4 |
| Dongguan (GD) | 2 | Dongguan is the central city in the PRD. It is an important information technology R&D, an industrial base in China, as well as a modern city with beautiful environment (UMP). | 2/4 |
| Zhuhai (GD) | 2/4 | Zhuhai is a national Special Economic Zone, the central city in the West Bank of the PRD and the coastal tourist city…Zhuhai aims to be a modern service center in the West Bank of PRD. Zhuhai strives to a leading heavy strategic manufacturing base. Zhuhai targets to be a high-tech industry-oriented research and education (UMP). | 2/4 |
| Huizhou (GD) | 2 | Huizhou is one of the central cities in the PRD. Huizhou will be a petrochemical base, as well as an important cluster of electronic information industry and light manufacturing in South China, Huizhou will be a scenic coastal city in Guangdong, a historical and cultural city, as well as an important area of leisure base (UMP). | 1/2/4 |
| Jiangmen GD) | 2 | Jiangmen is one of the central city and portal cities in west of PRD… It is a waterfront city led by modern manufacturing, trade logistics and cultural tourism industries (Urban Master Plan).Jiangmen strives to be Livable Eco Model city (12th FYP). | 2/4 |
| Zhongshan (GD) | 2 | Zhongshan is the regional central city in the West Bank of PRD, a livable entrepreneurial city with an attractive ecological and investment environment for startups in Guangdong Province, a tourist city as the hometown of Sun Yat-Sen (UMP). | 4 |
| Zhaoqing (GD) | 1 | Zhaoqing is the local central city in Guangdong Province, a national historical and cultural city and tourist city (UMP). | 4 |

Table 3b. Ecological modernization pathways and city brand identities for YRD cities.

|  |  |  |  |
| --- | --- | --- | --- |
| **City (province)** | **Predicted pathway** | **Brand identity: quotations from Five Year Plans and Urban Master Plans** | **Adopted pathway** |
| Shanghai | 5 | Shanghai will build into a comprehensive global city, international economic, financial, trade, shipping and technological innovation center, and an international cultural metropolis by 2040(UMP). | 5 |
| Nanjing (JS) | 4 | Nanjing is a famous ancient capital, Jiangsu Province capital, important regional center city.  It is a national historical and cultural famous city, national comprehensive transport hub, national innovation base, regional modern service center, YRD advanced manufacturing base, eco liveable city (UMP). It aims to be a cultural green city and smart Nanjing (12th FYP). | 4 |
| Yangzhou (JS) | 2 | As a national historical and cultural city, scenic tourist city with the traditional characteristics, Yangzhou is built into a regional central city, a historical and livable city, through the development of advanced manufacturing industry (UMP). It targets to be innovative Yangzhou (12th FYP). | 4/2 |
| Changzhou (JS) | 2 | Changzhou aims to be a strong economy city with an advanced manufacturing industry…, cultural city, regional hub city, and ecological city (UMP). It focuses to be an innovative and entrepreneurial city (12th FYP). | 2/4 |
| Suzhou (JS) | 2 | Suzhou is a national historical and cultural city, scenic tourist city, national high-tech industrial base, and important central city in the YRD (UMP). It is an advanced manufacturing base (13th FYP) | 4/2 |
| Taizhou (JS) | 2 | Chinese medical city, port city, historical and cultural city, eco city, “City of health, city of richness, city of happiness” (13th FYP) | 4 |
| Nantong (JS) | 2 | Nantong is a modern international port city in the China's eastern coast, economic center and gateway city in the north wing of Shanghai, and a liveable entrepreneurial city, historical and cultural city in China (UMP). | 4 |
| Zhenjiang (JS) | 2 | It is a national historical and cultural city, an important port in the YRD, scenic tourist city and regional center city (UMP). It aims to be a modern ‘mountain and river garden city’ (12th FYP). | 4 |
| Wuxi (JS) | 2 | Wuxi city is one of the most important central cities in the YRD, and also an important scenic tourist city. It aims to be an international manufacturing base, worldwide tourist resort and ecological city (UMP). | 2/4 |
| Hangzhou (ZJ) | 2/4 | Hangzhou is a central city in YRD, national historical and cultural famous city, and scenic tourist city. It has the following functions: YRD Regional Financial Services Center, modern logistics center and transport hub, national high tech industrial base, economic information center and innovation center, International e-Commerce Center and Tourism Leisure Center (UMP). It is a the Oriental city of quality (13th FYP) | 4/2 |
| Huzhou (ZJ) | 2 | Huzhou is the central city on the South Bank of Taihu Lake, a provincial historical and cultural city, an industry and trade city, as well as the ecological tourism city in the YRD. It has the functions as the advanced manufacturing base in the YRD, modern service industry base, urban agriculture base (UMP)….It aims to be an eco-city (13th FYP). | 4/2 |
| Jiaxing (ZJ) | 2 | YRD innovative strong economic city, eco-cultural Jiangnan water city, Hangzhou Bay liveable coastal city, modern network-type garden city (12th FYP) | 4 |
| Taizhou (ZJ) | 2 | Taizhou actively creates a regional center city, transport hub city, ecological livable city, historical and cultural city (UMP). | 4 |
| Shaoxing (ZJ) | 2/4 | Shaoxing targets to be an industrial city with its own features, cultural leisure city and ecological livable city" (UMP). | 2/4 |
| Ningbo (ZJ) | 2 | Ningbo is an important port city in China's southeast coastal, economic center in the south wing of the YRD, national historical and cultural city. It has following functions: International Trade Logistics Port, advanced manufacturing industry base in East China, an important foreign trade port in the YRD south wing (UMP). It strives to be a smart city (12th FYP) | 2/4 |
| Zhoushan (ZJ) | 4 | Zhoushan targets to build into an international logistics hub island, an opening-up island, modern marine industry base, an international ecological leisure island and garden city (UMP). | 4/2 |

Table 3c. Ecological modernization pathways and city brand identities for Bohai Rim cities.

|  |  |  |  |
| --- | --- | --- | --- |
| **City (province)** | **Predicted pathway** | **Brand identity: quotations from Five Year Plans and Urban Master Plans** | **Adopted pathway** |
| Beijing | 5 | Beijing is the national political and cultural center, and an international historical city and modern city (UMP). The positioning of Beijing is to be international communication and technological innovation centre, liveable city…. (13th FYP) | 5 |
| Tianjin | 4/2 | It is an economic center in the Bohai Rim Region, and it will develop into an international port city, an economic center in the northern part of China, and an ecological city (UMP). It is the core area of northern international transportation, the financial innovation demonstration area, the R&D base for advanced manufacturing.... (13th FYP) | 4/2 |
| Shijiazhuang (HB) | 4 | It is the capital of Hebei Province, and the third pole of the Jing-Jin-Ji Area. It is one of the modern service and biological bases in China (UMP). It aims to improve its service economy. (13th FYP). | 4 |
| Tangshan (HB) | 2 | It is one of the center cities in Bohai Rim, and a new national industrial base and port city (UMP). It aims to be a new industrial city in the Bohai Rim, to become a pivot point in Capital Economic Zone and a prosperous and liveable coastal city (13th FYP). | 2 |
| Langfang (HB) | 2 | Langfang is an important node and a new developing pole in the Jing-Jin-Ji region…It aims to become R&D centre and base for commercialisation of research findings, clusters for strategic new industrial sector and service sector, model city in term of urbanisation and innovation (UMP). | 4/2 |
| Qinhuangdao (HB) | 4 | Qinhuangdao is a famous coastal city for tourism, leisure and holiday in China and an important port city with comprehensive functionalities (UMP). | 4 |
| Baoding (HB) | 2 | Baoding is a national historical city, and one of the centre cities in Jing-Jin-Ji Region with advanced manufacturing and a modern service industry (UMP). | 2/4 |
| Chengde (HB) | 4 | Chengde is a national historical and cultural city, an international tourism city, and a regional centre city for connecting Jing-Jin-Ji, Liaoning and Mongolia (UMP). It targets to be a ecological city (13th FYP). | 4 |
| Zhangjiakou (HB) | 4 | Zhangjiakou is the water conservation functionality area for the Jing-Jin-Ji region, and aims to become a cluster of green industries, a demonstration area for renewable energy, and to become an international sports and leisure city (13th FYP). | 4 |
| Cangzhou (HB) | 4/2 | Cangzhou is an important transportation pivot in Bohai Rim Region, a regional centre city in the Jing-Jin-Ji Region and a port city with specialty of canal culture and chemical industry (Urban Master Plan). It aims to be an important national security base for chemical industry and clean energy, to become an important industry support and base for technology transformation, to become an important modern logistics distribution centre, and an important open coastal city (13th FYP). | 2/4 |
| Hengshui (HB) | 4/2 | Hengshui is an ecological and liveable city near a lake in the northern part of China. It is a modern and also a regional center city in central southern part of Hebei, and an important transportation pivot. It is an agricultural modernization demonstration base in North China Plain; a well-known leisure tourism and transportation logistics hub in Southeast of the province, as well as green agricultural products supply processing base and an advanced manufacturing base for the rubber and plastics, textile and garment industry (UMP). | 1/2/4 |
| Xingtai (HB) | 4/2 | Xingtai is an important centre city in south part of Jing-Jin-Ji, an important national base for manufacturing and a demonstration area of innovative industrial transition. It is also an ecological tourism city, and historical and cultural city (UMP). | 2/4 |
| Handan (HB) | 2 | Handan is a national historical and cultural city, a regional economic center city at the joint of Hebei, Shanxi, Shandong and Henan (UMP). The industrial positioning is a base for fine steel and iron, advanced facility manufacture, food industry, environmental friendly products, and new energy vehicles, and also a centre for commerce and logistics. (13th FYP) | 2 |
| Anyang (HN) | 2/4 | Anyang is a national historical and cultural city and a centre city in the north of Henan province (UMP). It strives to be Innovation Anyang (13th FYP). | 4 |

Table 4a: Ecological modernization pathways and city labels for GPRD cities.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **City (province)** | **Predicted**  **pathway** | **Most frequent city labels in 12th FYP** | **Most frequent city labels in 13th FYP** | **Most frequent city labels in UMP** | **Overall dominant city label(s)** | **Adopted pathway** |
| Hong Kong | 5 | Service city 9  Advanced manufacturing city 1 | Service City 11  Smart city 8 | Service city 17  Innovation city 6 | Service city  Smart city  Innovation city | 5/3 |
| Macau | 5 | Tourism city 5  Liveable city 3 | Tourism city 12  Smart city 8 | Tourism city 4  Liveable city 2 | Tourism city  Liveable city  Smart city | 5 |
| Guangzhou (GD) | 5 | Service city 21  Innovation city 17 | Service city 22  Innovation city 9 | Tourism city 6  Advanced manufacturing city 4 | Service city  Innovation city  Tourism city | 5/3 |
| Shenzhen (GD) | 5/3 | Innovation city 17  Eco city 10 | Service city 18  Innovation city 16 | Advanced manufacturing city 11  Service city 5 | Innovation city  Service city  Advanced manufacturing city | 3/5 |
| Foshan (GD) | 2 | Eco city 13  Service city 5 | Low carbon city 9  Eco city 8 | Tourism city 13  Advanced manufacturing city 11 | Eco city  Tourism city  Low carbon city  Advanced manufacturing city | 4/2 |
| Dongguan (GD) | 2 | Tourism city 9  Service city 9 | Eco city 18  Service city 12 | Advanced manufacturing city 4  Tourism city 2 | Eco city  Advanced manufacturing city  Service city  Tourism city | 2/4 |
| Zhuhai (GD) | 2/4 | Eco city 8  Service city 6 | Low carbon city 43 Tourism city 21 | Advanced manufacturing city 15  Eco city 8 | Low carbon city  Advanced manufacturing city  Eco city  Tourism city | 2/4 |
| Huizhou (GD) | 2 | Advanced manufacturing city 19  Tourism city 7 | Eco city 14  Smart city 11 | Tourism city 14  Eco city 5 | Eco city  Tourism city  Smart city  Advanced manufacturing city | 1/2 |
| Jiangmen GD) | 2 | Advanced manufacturing city 9 Innovation city 7 | Innovation city 10  Eco city7 | Eco city 13  Tourism city 11 | Eco city  Innovation city  Tourism city  Advanced manufacturing city | 1/2/4 |
| Zhongshan (GD) | 2 | Tourism city 7  Innovation city 7 | Innovation city 9  Eco city 6 | Eco city 5  Liveable city 5 | Innovation city  Eco city  Liveable city  Tourism city | 4/1 |
| Zhaoqing (GD) | 1 | Tourism city 9  Advanced manufacturing city 8 | Service city 13  Eco city 9 | Tourism city 151  Eco city 40 | Eco city  Tourism city  Service city | 1/4 |

Table 4b: Ecological modernization pathways and city labels for YRD cities.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **City (province)** | **Predicted pathway** | **Most frequent city labels in 12th FYP** | **Most frequent city labels in 13th FYP** | **Most frequent city labels in UMP** | **Overall dominant city label(s)** | **Adopted pathway** |
| Shanghai | 5 | Service city 38  Tourism city 5 | Service city 13  Advanced manufacturing city 11 | Tourism city 10  Service city 9 | Service city  Tourism city  Advanced manufacturing city | 5/3 |
| Nanjing (JS) | 4 | Service city 30  Tourism city 20 | Service city 20  Eco city 17 | Tourism city 25  Service city 9 | Service city  Tourism city  Eco city | 4 |
| Yangzhou (JS) | 2 | Eco city 13  Innovation city 10 | Innovation city 8  Eco city 7 | Tourism city 21  Liveable city 2  Service city 2 | Innovation city  Tourism city  Eco city | 4 |
| Changzhou (JS) | 2 | Innovation city 7  Eco city 6 | Innovation city 29  Service city 17 | Tourism city 14  Eco city 6 | Innovation city  Tourism city  Service city  Eco city | 4 |
| Suzhou (JS) | 2 | Tourism city 19  Smart city 11 | Innovation city 18  Tourism city 15 | Tourism city 37  Service city 18 | Tourism city  Innovation city  Service city | 4 |
| Taizhou (JS) | 2 | Tourism city 11  Eco city 6 | Tourism city 7  Innovation city 4 | Tourism city 16  Liveable city 5 | Tourism city  Innovation city  Liveable city  Eco city | 4 |
| Nantong (JS) | 2 | Service city 11  Tourism city 10 | Smart city 6  Innovation city 5  Service city 5 | Service city 42  Tourism city 36 | Service city  Tourism city  Smart city  Innovation city | 4 |
| Zhenjiang (JS) | 2 | Eco city 19  Service city 9 | Eco city 27  Tourism city 20 | Tourism city 25  Eco city 22 | Eco city  Tourism city  Service city | 4 |
| Wuxi (JS) | 2 | Eco city 15  Innovation city 6 | Smart city 10  Eco city 9 | Tourism city 17  Eco city 11 | Tourism city  Smart city  Eco city  Innovation city | 4/2 |
| Hangzhou (ZJ) | 2/4 | Service city 18  Innovation city 17 | Service city 29  Innovation city 15 | Tourism city 10  Service city 7 | Service city  Tourism city  Innovation city | 4 |
| Huzhou (ZJ) | 2 | Eco city 17  Service city 8 | Eco city 15  Innovation city 10 | Tourism city 11  Eco city 7 | Eco city  Tourism city  Innovation city  Service city | 4 |
| Jiaxing (ZJ) | 2 | Tourism city 23  Eco city 20 | Eco city 13  Service city 12 | Tourism city 19  Service city 6 | Tourism city  Eco city  Service city | 4 |
| Taizhou (ZJ) | 2 | Advanced manufacturing city 3 Resilient city 2 | Eco city 6  Innovation city 5 | Eco city 11  Service city 11 | Eco city  Service city  Innovation city  Advanced manufacturing city | 4/2 |
| Shaoxing (ZJ) | 2/4 | Tourism city 9  Eco city 7  Innovation city 7 | Smart city 8  Eco city 8 | Tourism city 10  Eco city 5 | Tourism city  Eco city  Smart city | 4/2 |
| Ningbo (ZJ) | 2 | Smart city 29  Innovation city 13 | Service city 15  Eco city 6 | Tourism city 5  Service city 5 | Service city  Tourism city  Eco city  Smart city | 4/2 |
| Zhoushan (ZJ) | 4 | Eco city 14  Service city 5 | Service city 18  Eco city 16 | Eco city 14  Tourism city 11 | Eco city  Service city  Tourism city | 4 |

Table 4c: Ecological modernization pathways and city labels for Bohai Rim cities.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **City (province)** | **Predicted pathway** | **Most frequent city labels in 12th FYP** | **Most frequent city labels in 13th FYP** | **Most frequent city labels in UMP** | **Overall dominant city label(s)** | **Adopted pathway** |
| Beijing | 5 | Innovation city 14  Eco city 14 | Eco city 14  Innovation city 12  Liveable city 12 | Tourism city 32  Eco city 26 | Eco city  Tourism city  Innovation city  Liveable city | 5/3 |
| Tianjin | 4/2 | Eco city 12  Service city 12 | Service city 12  Innovation city 12 | Tourism city 13  Eco city 13 | Service city  Eco city  Innovation city | 4 |
| Shijiazhuang (HB) | 4 | Service city 31  Innovation city 18 | Tourism city 13  Smart city 12 | Tourism city 7  Eco city 7 | Tourism city  Smart city  Eco city  Service city | 4/2 |
| Tangshan (HB) | 2 | Service city 18  Eco city 17 | Service city 6  Modern agricultural city 4 | Low carbon city 3  Innovation city 1  Tourism city 1 | Service city  Low carbon city  Modern agricultural city  Eco city | 4/2/1 |
| Langfang (HB) | 2 | Service city 15  Low carbon city 8 | Modern agricultural city 7  Service city 6 | Eco city 14  Tourism city 6 | Modern agricultural city  Eco city  Service city  Tourism city | 1/4 |
| Qinhuangdao (HB) | 4 | Innovation city 10  Tourism city 9  Service city 9 | Tourism city 11  Eco city 5  Smart city 5 | Tourism city 17  Eco city 4 | Tourism city  Eco city  Smart city  Innovation city | 4/2 |
| Baoding (HB) | 2 | Low carbon city 9  Eco city 6 | Low carbon city 13  Service city 12 | Tourism city 12  Eco city 12 | Low carbon city  Tourism city  Eco city  Service city | 4/2 |
| Chengde (HB) | 4 | Tourism city 15  Eco city 5 | Tourism city 16  Innovation city 6 | Tourism city 4  Eco city 1  Advanced manufacturing city 1 | Tourism city  Innovation city  Eco city | 4 |
| Zhangjiakou (HB) | 4 | Eco city 11  Advanced manufacturing city 6 | Low carbon city 5  Modern agricultural city 4  Resilient city 4 | Tourism city 1  Eco city 1 | Low carbon city  Modern agricultural city  Eco city  Resilient city | 2/1/4 |
| Cangzhou (HB) | 4/2 | Advanced manufacturing city 12  Eco city 7  Service city 7 | Low carbon city 10  Tourism city 8 | Eco city 7  Service city 6 | Low carbon city  Eco city  Service city  Advanced manufacturing city | 2/4 |
| Hengshui (HB) | 4/2 | Eco city 17  Liveable city 4 | Modern agricultural city 10  Service city 9 | Service city 6  Modern agriculture city 6 | Modern agricultural city  Service city  Eco city | 1/4 |
| Xingtai (HB) | 4/2 | Tourism city 7  Eco city 6 | Modern agricultural city 13  Low carbon city 10 | Tourism city 6  Advanced manufacturing city 3  Service city 3 | Tourism city  Modern agricultural city  Low carbon city  Advanced manufacturing city | 1/2 |
| Handan (HB) | 2 | Eco city 9  Low carbon city 8 | Low carbon city 12  Modern agricultural city 10 | Tourism city 3  Liveable city 1 | Tourism city  Low carbon city  Modern agricultural city  Eco city | 1/2 |
| Anyang (HN) | 2/4 | Service city 16  Eco city 11 | Modern agricultural city 8  Resilient city 8 | Tourism city 5  Service city 2 | Tourism city  Modern agricultural city  Service city  Resilient city | 1/4 |