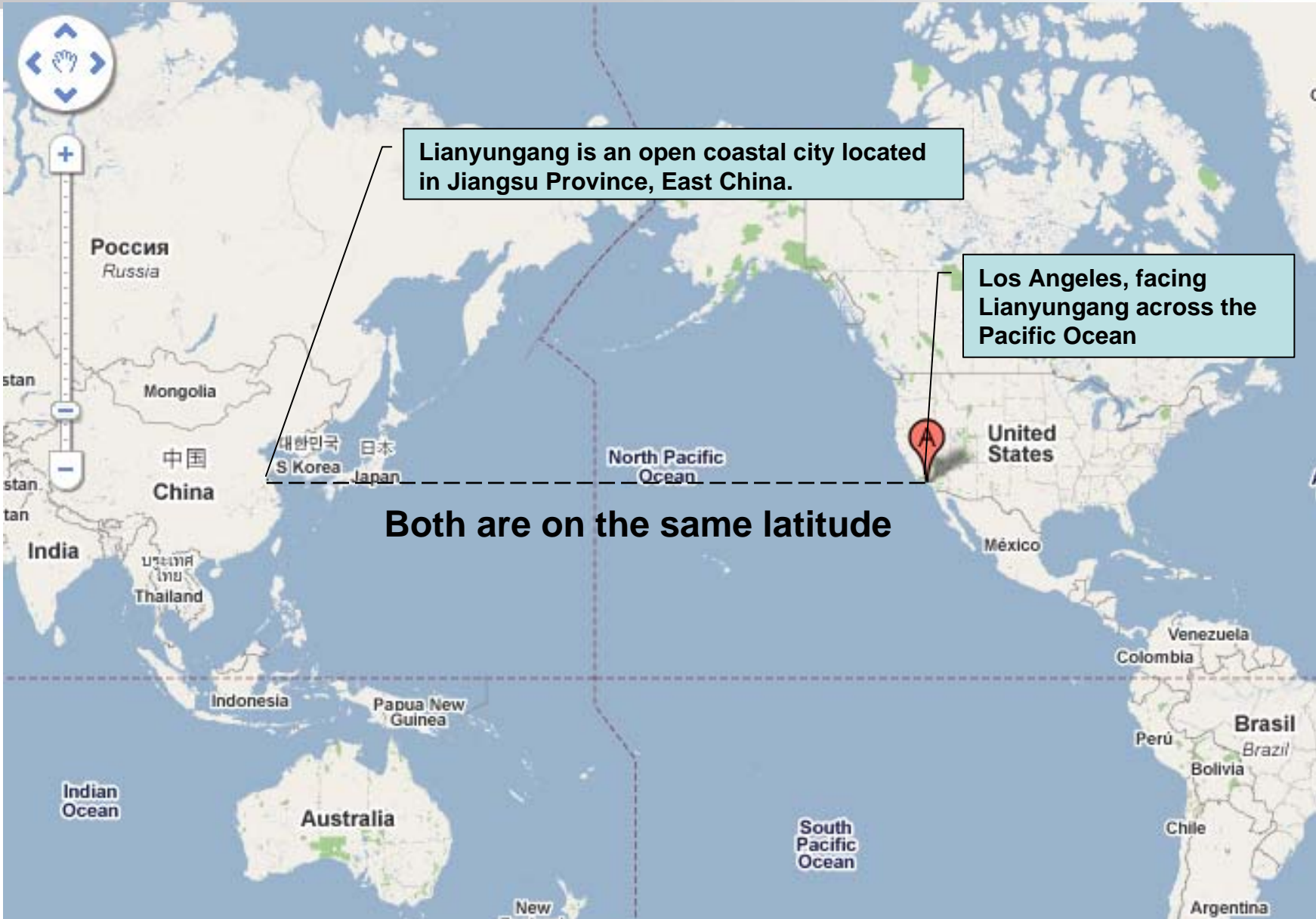


An Introduction to Lianyungang and Its Development Planning Of IGCC/Co-production/CCS System

By Shi Yan

Vice Mayor of Lianyungang Municipal Government





Lianyungang is an open coastal city located in Jiangsu Province, East China.

Los Angeles, facing Lianyungang across the Pacific Ocean

Both are on the same latitude

OUTLINE

- **As a Fantastic and Historical City in the Past**
- **As a Modern and Industrial City in the Present**
- **As a Potential City to Promote IGCC/Co-production/CCS System in the**



OUTLINE:

As a Potential City to Promote IGCC/Co-production/CCS in the future

As a Modern and Industrial City in the Present

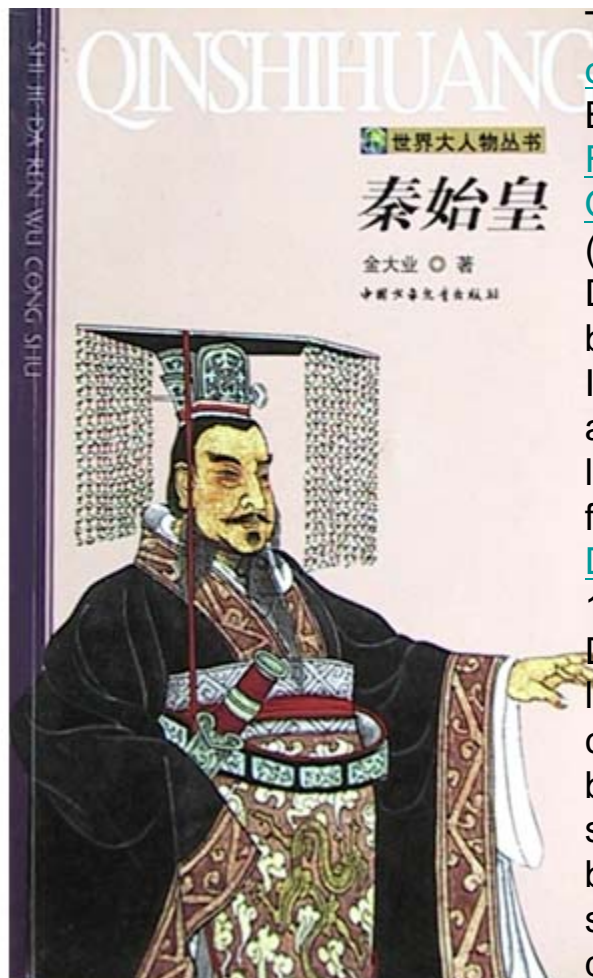
As a Fantastic and Historical City in the Past

Nearly 2,500 years ago, China's ancient Saint Confucius visited Lianyungang and climbed up a hill to enjoy the sea view and the hill was then named as "Kongwangshan Hill.

Confucius ([Chinese](#): 孔夫子;), lit. "Master Kong," (551 BC – 479 BC) was a [Chinese](#) thinker and social [philosopher](#), whose teachings and [philosophy](#) have deeply influenced [Chinese](#), [Korean](#), [Japanese](#), [Taiwanese](#) and [Vietnamese](#) thought and life.



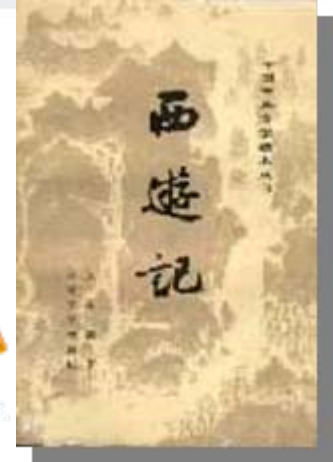
Confucius and His Students



The [unification of China](#) in 221 BC under the [First Emperor Qin Shi Huang](#) (or Shi Huang Di) marked the beginning of Imperial China, a period which lasted until the fall of the [Qing Dynasty](#) in AD 1912. The Qin Dynasty left a legacy of a centralized and bureaucratic state that would be carried onto successive dynasties.



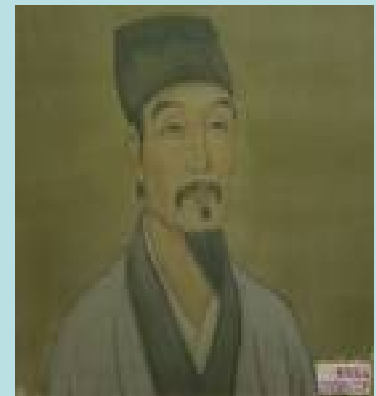
Inscription on this stone says, “ Nearly 2,200 years ago, the Great First Emperor of the Qin Dynasty inspected Lianyungang for three times and left us the “East Qin Gate. ”

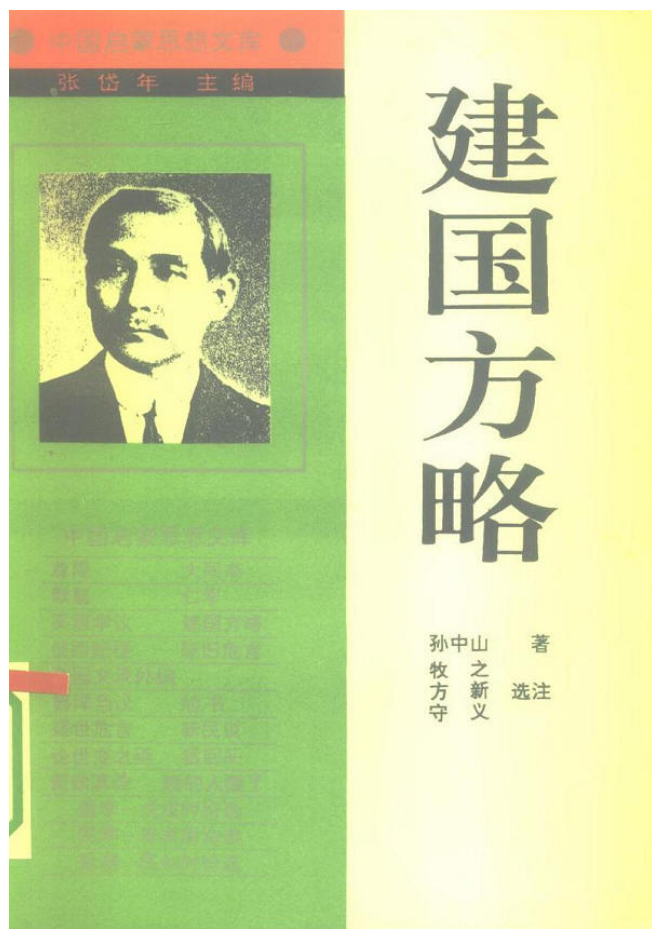


Journey to the West is a household legend and myth throughout East Asia



Nearly 500 years ago, inspired by the splendid scenery of Lianyungang's sea and mountain, Wu Cheng'en, created "Journey to the West", one of China's "Four Great Classical Novels".





Nearly 100 years ago, Doctor Sun Yat-sen, made a blueprint of the East Harbor of Lianyungang during his two visits to Lianyungang. In his *“Plans of National Reconstruction,”* he described, “Haizhou(today’s Lianyungang) has been defined as one of the eastern terminal of Longhai Railway which goes across middle and west China. In addition, Lianyungang enjoys good water transportation system.” In his opinion, Lianyungang should be a great portal city at that time. Unfortunately, the war disturbed his plan absolutely.

IN THE PAST	NOWDAYS
The place where Confucius used to enjoy the sea view	A flourishing city
Huaguoshan Mountain which means the Mountain of Flower and Fruit and used to be an island	A garden in the city
Doctor Sun Yat-sen's dream	In 2008, with the bulk cargo throughput of Lianyungang Port reaching 100 million tons and a container throughput of 3 million TEUs.

OUTLINE:

As a Potential City to Promote IGCC/Co-production/CCS in the future

As a Fantastic and Historical City in the Past

**As a Modern and Industrial City
in the Present**



Lianyungang is the east bridgehead of the new Eurasia Land Bridge and one of China's first 14 coastal cities opened to the outside world.

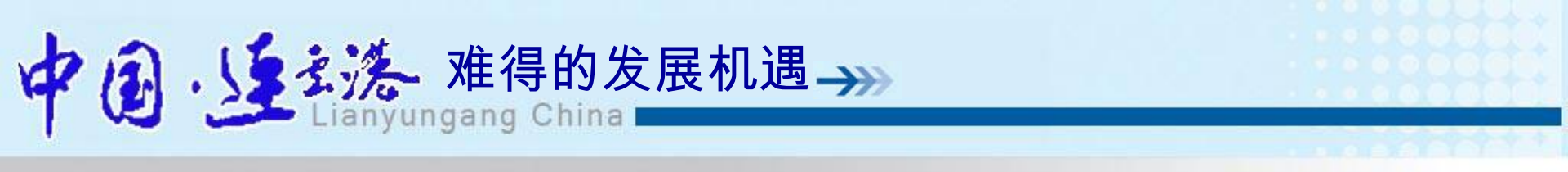


The unique geographical location of Lianyungang has ensured an important position in the layout of China's national productive forces.



President HU points out :

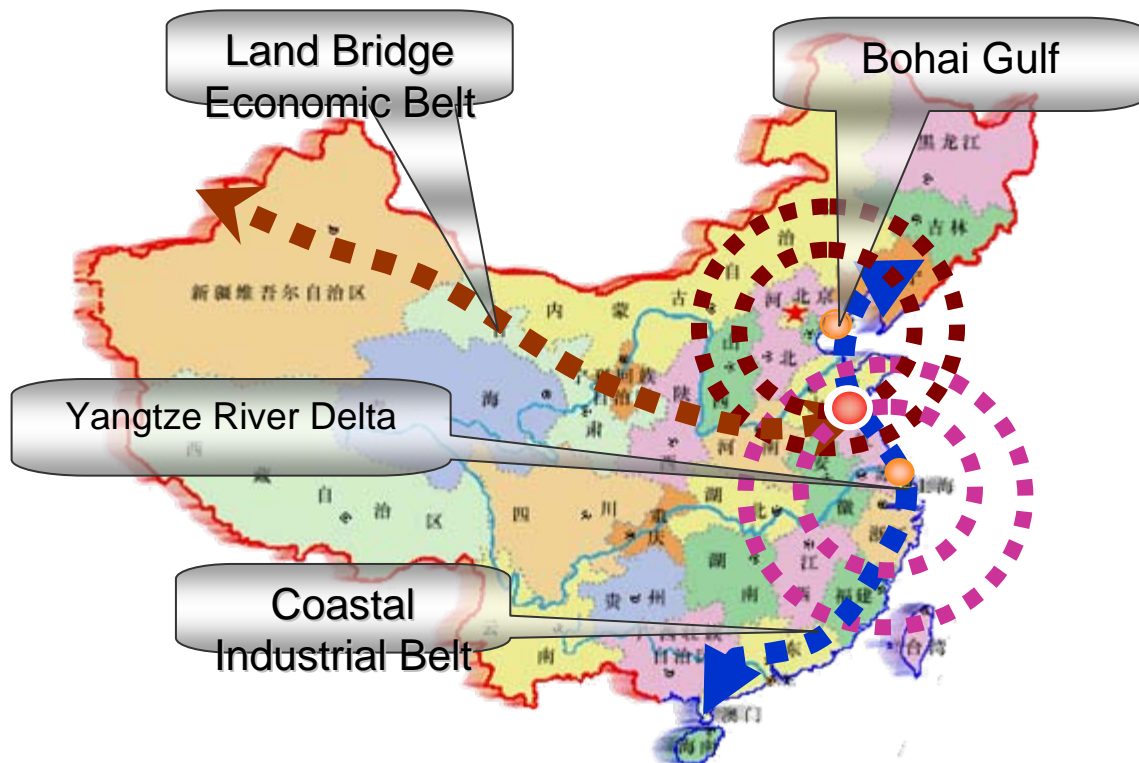
- Lianyungang has an important location and the development of Lianyungang is a matter of the whole nation. .
- Neighboring provinces should be taken into consideration when developing Lianyungang and Middle Asian countries also have their interests in the new Eurasia Land Bridge.
- Lianyungang should make good use of its location to achieve sound and rapid progress.



中国·连云港 难得的发展机遇 →→

Lianyungang China





Premier WEN Jiabao points out:

Neighboring the **Yangtze River Delta** on the south and the **Bohai Gulf** in the north, Lianyungang faces Northeast Asia across the sea and is connected to Central and Western China and further westwards to Middle Asia through **Longhai Railway** lines. Lianyungang is a link between the north and south, east and west. It plays a strategic role in the coordinated regional economic development of China.



According to ***the Guiding Opinions on Further Promoting the Reform, Opening-up and Social-Economic Development of the Yangtze-River Delta Region*** issued by the State Council, Lianyungang is selected as a new economic growth pole in the Yangtze River Delta. And it is identified as playing a leading role in the development of Jiangsu's coastal areas in the ***Regional Development Planning of the Coastal Area of Jiangsu Province*** which will soon be issued.

We have defined our future city as:



- An international coastal city;
- A modern industrial port city ;
- A famous tourist city well known for the sea and Mountain scenery.



City planning features :



- City layout : **One Heart, Three Poles;**
- Port layout : **One Body, Two Wings;**
- Industrial layout: **One North-South, One East-West**



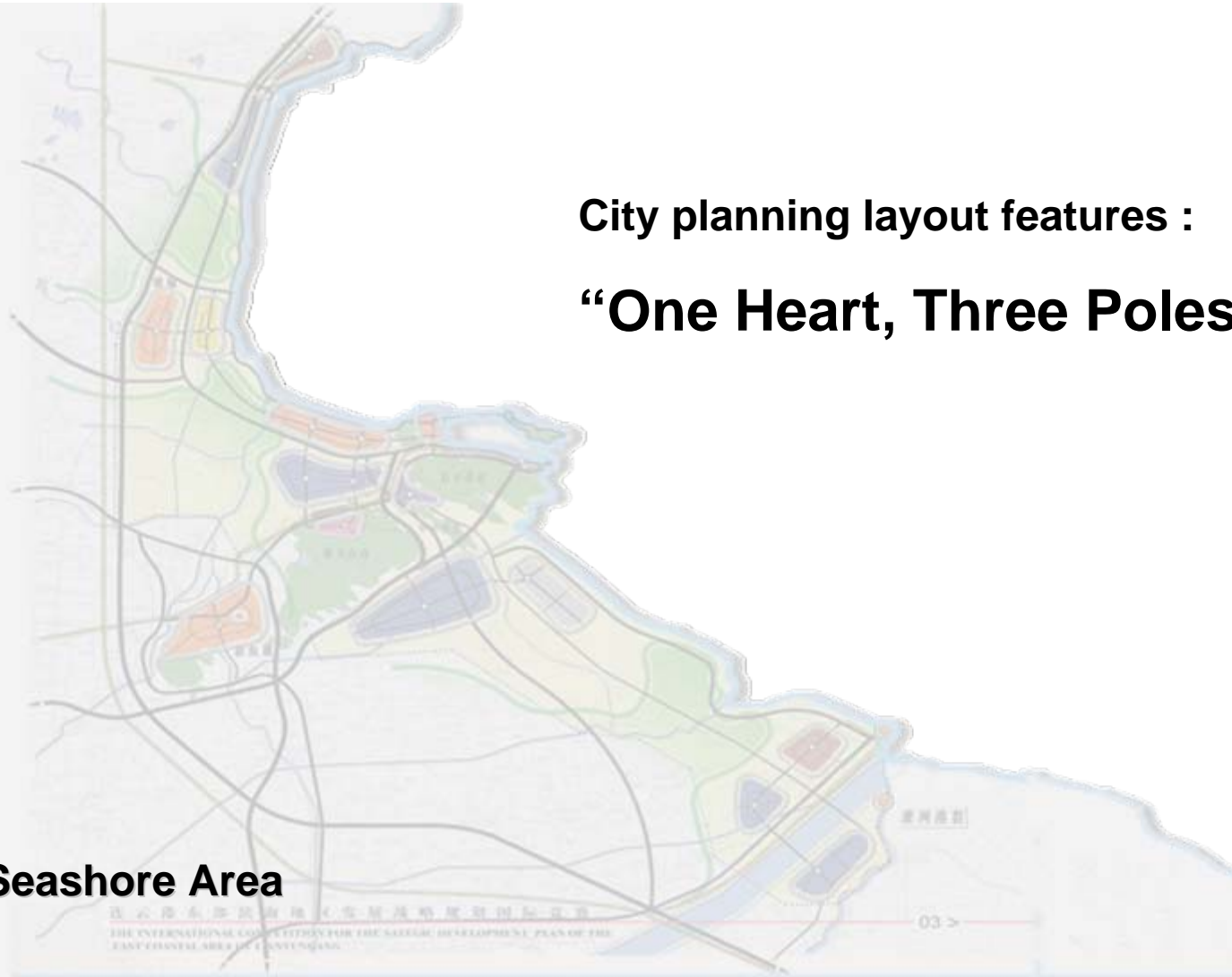
City planning layout features :

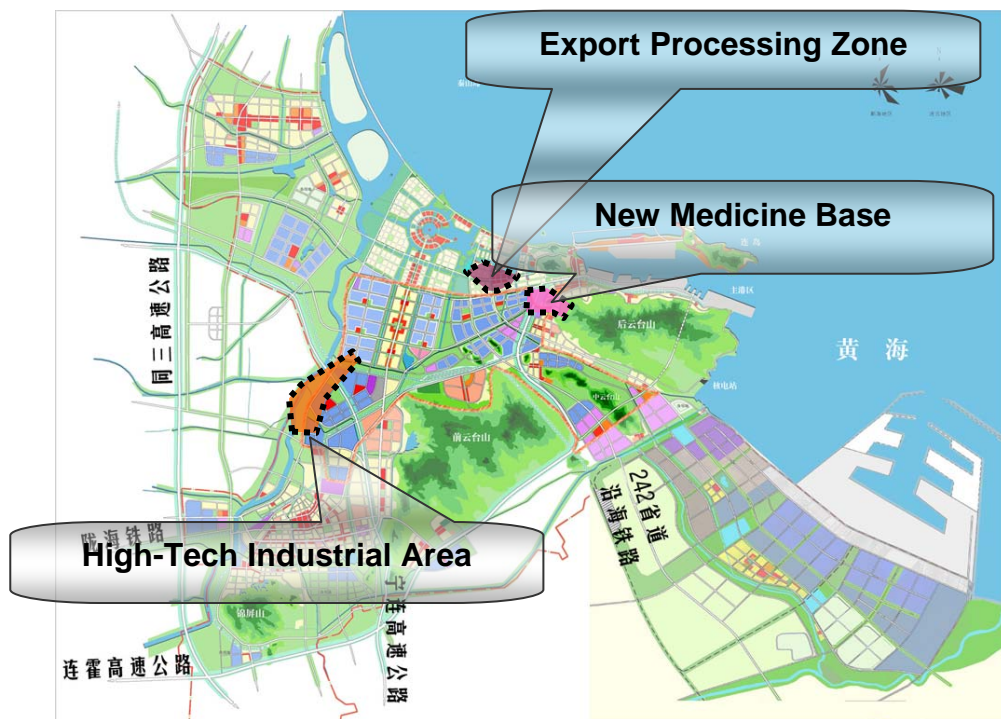
“One Heart, Three Poles”

Area

Seashore Area

Surrounding Industrial Area





**Industrial layout features:
“One North-South,
One East-West”,**

At present, the new and high-tech industries including new pharmaceuticals, new materials and new energy are growing rapidly and there is also a surge in the coastal industries.



Port layout features:
“One Body, Two Wings”,

We have got approval from the Central Government to start building a 300,000-ton deepwater channel . In the near future Lianyungang will emerge as another super large hub port city between Shanghai and Qingdao.



OUTLINE:

As a Modern and Industrial City in the Present

As a Fantastic and Historical City in the Past

**As a Potential City to Promote
IGCC/Co-production/CCS in the future**

Lianyungang : a regional energy production and supply center.



2-million KW nuclear power facilities with a planned future capacity of 10-million KW.

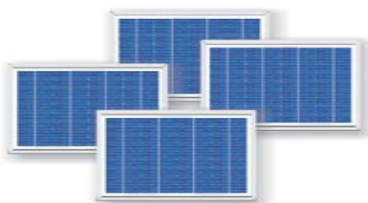


1-million KW wind power plant planned to build China's largest blade manufacturing plant established.



To start constructing an Ultra-supercritical power plant.

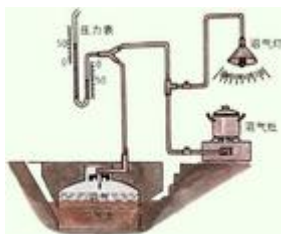
Lianyungang : a regional energy production and supply center.



Here settles China's largest solar water heater exporter and several solar energy Polycrystalline silicon and Monocrystalline silicon producers.



Here settles China's largest solar water heater exporter
To promote usage of solar water heater in daily life

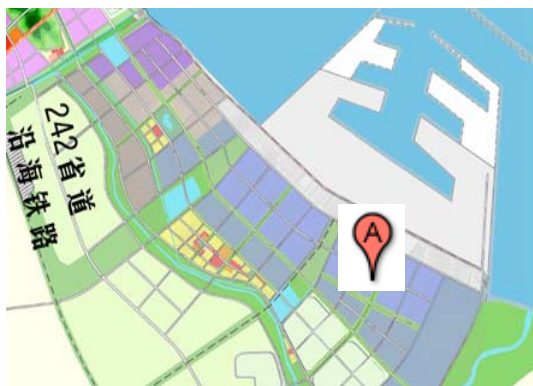


Here settles several biomass power plant.
Many **biogas facilities** are built recently .

Lianyungang : a regional energy production and supply center.



More importantly, with the full support of Chinese Academy of Sciences, we work together with CAS to build “Chinese Academy of Sciences Energy Power Research Center” and “Clean Energy Innovation Industrial Park”.



Considering worldwide demand to solve climate change problems and based on the advantages of energy industry, the way of development and the goals of Lianyungang, the city have attached great importance to the R&D, engineering and commercialization of IGCC/co-production/CCS technology system. Clean Energy Innovation Industrial Park is planned mainly to hold technological demonstration project , which covers an area of 10 square kilometers.

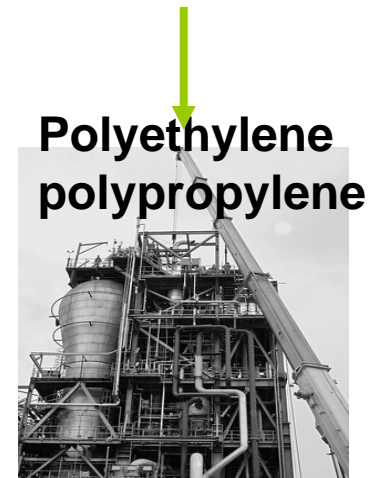
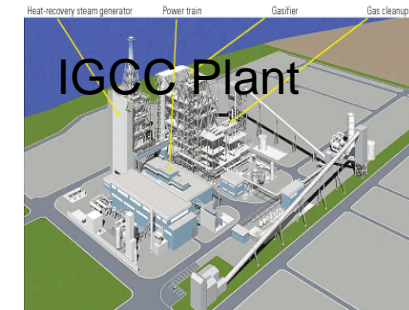


CEP, focusing on the National “863 Program” during the “11th Five Year Plan” , aiming at developing advanced world energy power technology and catering to the huge demand of China’s energy power development, Chinese Academy of Sciences Energy Power Research Center will research and verify IGCC and co-production technology with independent IPR, promote system upgrading, fully support the operation of the commercial demonstration of IGCC and co-production facilities and will provide mature engineering technology and equipment technology featuring low-cost and low-pollution for spreading and applying new generation coal-based power generating and co-production of China. Further, the center will do R&D on producing hydrogen, capturing and storing carbon dioxide, and distributed energy system to make a world first class energy research center.

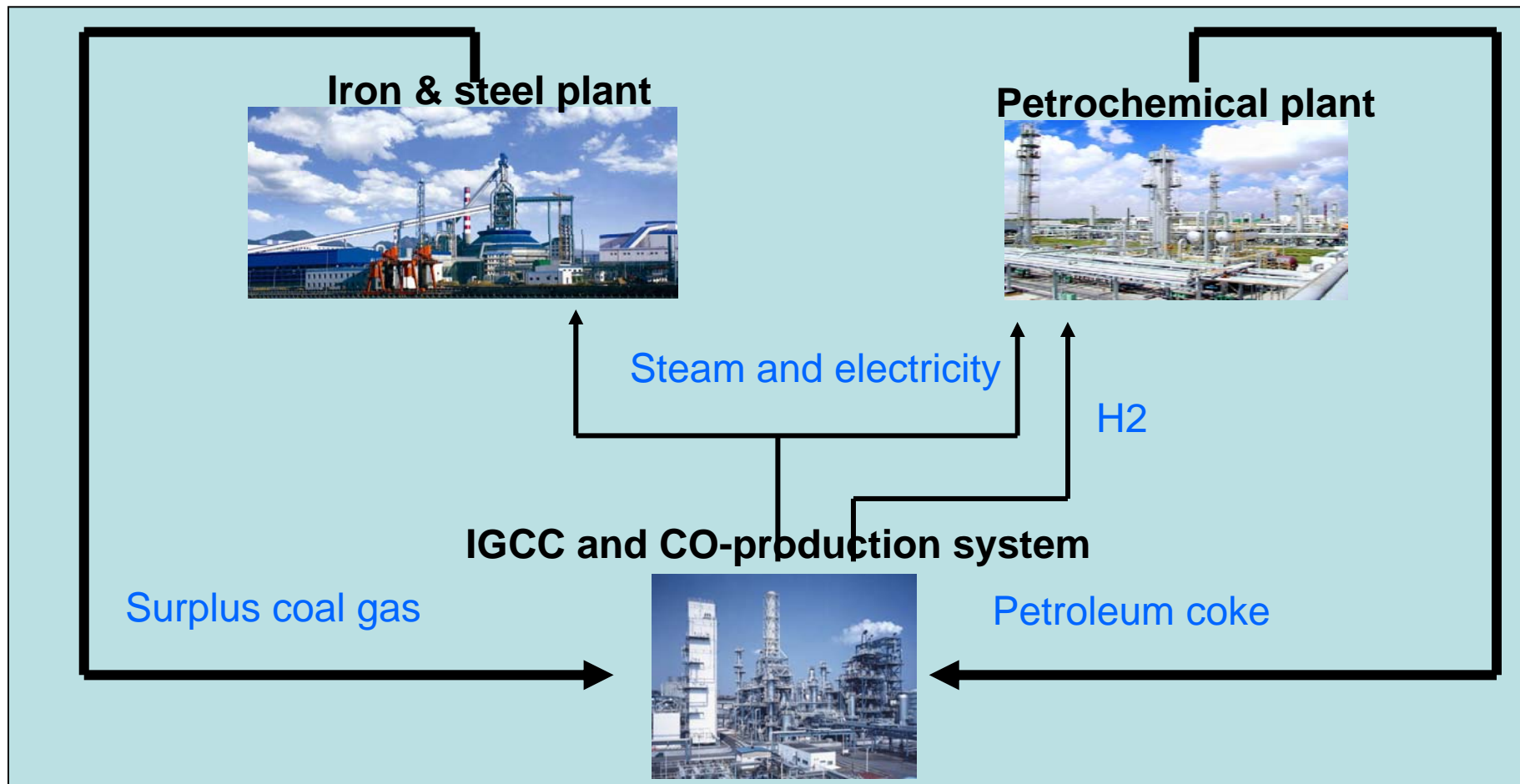
we are planning to propose a 1,200 MWe IGCC, co-production and carbon dioxide emission reduction demonstration project. This project will integrate the most advanced IGCC technology and equipment, DMTO technology and coal-based ethylene glycol technology from home and abroad, and will carry out experiments to capture carbon dioxide.

IGCC/Co-production system:

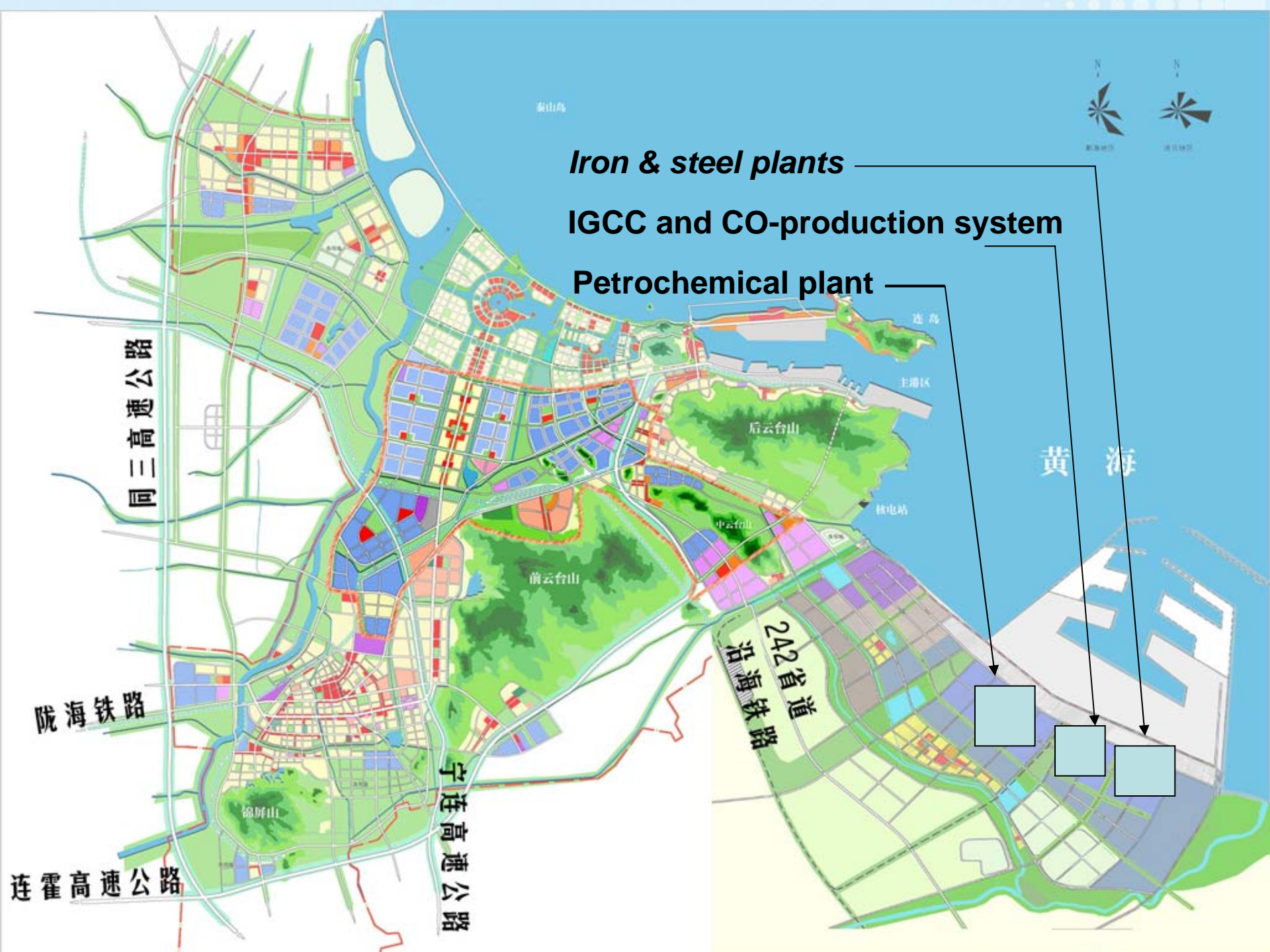
- 1,200 MW ultra-clean power generating**
- 300,000-ton polyethylene per year**
- 300,000-ton polypropylene per year**
- 68,000-ton fuel gas per year**
- 82,000-ton liquid gas per year**
- 35,000-ton C5 per year and 7,000 ton isobutyl oil per year**
- 250,000-ton ethylene glycol system per year,**
- 300,000 tons of urea per year,**
- and conduct experimental study on carbon dioxide capture.**



IGCC/Co-production system



Therefore, the entire industrial area can form a circulatory system of energy transformation and material conversion, thus realize a true modern co-production.



The engineering and commercialization of IGCC/co-production/CCS technology system matters the future of human beings. Last year, I was very glad to meet Mr. John Morgan from BP. Earlier this year, Mr. Keit White from GE visited Lianyungang. We have exchanged views on energy and environment industry in which we have common interests. We are all determined to and confident in the development of energy and environment industry.



16th April ,2009

Chaoyang Road, Xinpu District
Jiangsu Province, China.

Dear friends:

I would like to take this opportunity to invite you to come to Lianyungang and to promote the development of IGCC/co-production/CCS technology. I firmly believe that with your support and participation, Lianyungang will make continuous progress in clean energy industry.

Sincerely

Shi Yan



Thank you!

