

Qingdao makes plans for low carbon future

Renewable energy projects are important part of city's growth

By JU CHUANJIANG
AND ZHAO RUIXUE

The seaboard city of Qingdao in east China's Shandong province has a new low-carbon formula for the development of its economy.

"Development of a low-carbon economy is a strategic option for Qingdao's sound and sustainable development," said Xia Geng, the city's mayor.

"The following years will see Qingdao put great efforts into developing new sources of energy while reducing emissions," Xia said.

The city government aims to reduce carbon dioxide emissions to 1.32 tons per 10,000 yuan of gross domestic product by 2020, a decrease of 45 percent compared with 2005, according to Qingdao Development and Reform Commission.

In a bid to achieve this target, the government has incorporated low-carbon economic development into its plans for the 12th five year plan (2011-2015).

To ensure that Qingdao can achieve low-carbon economic development, any new investment projects must undergo stringent screening procedures before they can be approved. So far, 18 projects with potential heavy pollution have been turned down.

Priority is given to environmentally friendly concerns such as high-tech powered projects, the service industry, energy-saving and eco-friendly businesses and cultural enterprises.

Companies are encouraged to conduct research into developing low-carbon technologies.



Developing a low-carbon economy is a strategic option for Qingdao's sound and sustainable development."

XIA GENG
QINGDAO MAYOR

The government has earmarked 127 million yuan for achieving an energy-saving economy, of which over 60 million yuan has been used on developing 70 energy efficient and low-carbon technologies. These will help save more than 300,000 tons of coal.

Several heavy energy-consuming facilities will be closed. A number of coal-fired plants have already been shut down.

While shutting down heavy polluters, renewable energy forms such as wind and solar power are encouraged.

A major new energy project is Qingdao Huawei Wind Power project, which costs 140 million yuan. Currently it generates 23.5 million kWh of electricity annually.

The total installed capacity of wind power generators in Qingdao amounts to 16.35 megawatts.

Several large-scale wind power projects are under discussion. There are plans to build four land wind power plants and two on the sea with an installed capacity of 600,000 kW.

As well as wind power, Qingdao



Wind power facilities at Qingdao Olympic Sailing Center have become a major local attraction for visitors.

hopes to develop solar energy. Eight percent of households use a solar-powered water heater.

The city aims to produce one million such water heaters annually so that more people will be able to use the equipment.

Solar-powered air conditioners and solar lamps are also widely used in the city. There are aims to erect solar bus shelters within three years.

Qingdao Olympic Sailing Center has a solar energy heating system that can supply hot water for showers and for the 300 sq m swimming pool. It also has a seawater air conditioning system, the first in China. This is both cheaper and greener than a traditional cooling system.

All new construction projects are

encouraged to use environmentally friendly materials. The city has its first ecological building, which has special features that help to reduce emissions and energy consumption to almost zero.

Waste is another area of focus and efforts are being made to handle it in ecological ways. The annual steel residue produced by Qingdao Iron and Steel Group is re-used as building materials and the annual 180,000 tons of white liquor mud is used to desulfurize exhaust gas from coal plants.

As a coastal city, Qingdao can harness the seawater. There are several such projects underway, including a desalination plant, which can desalinate 3000 cubic meters of seawater every day.

Massive harbor expansion drafted

By JI YUAN

Dongjiakou Harbor will be transformed into an international freight center with the construction of two huge docks.

A dock for iron ore with the capacity to handle ships carrying up to 400,000 tons will be the first one of such a scale in China and will be in operation by the end of the year.

A second dock for oil-tankers with a handling-capacity of 450,000 tons will also be built.

Once construction is completed, the harbor will be an important shipping terminal for bulk cargo, liquid chemicals, coal and iron ore in the Shandong Peninsula.

"The construction is key to building Qingdao's marine economy," said Hu Shaojun, vice-mayor.

As well as the new docks, the new harbor will be an important platform for industries such as logistics, finance, tourism and real estate, and will help to drive the city's economic growth.

An overall plan for the expanded harbor area was approved last March and construction will begin on May 31.

The harbor will be designed to accommodate up to 112 vessels. The initial area of the harbor project will cost 12 billion yuan and is expected to be operational within three to five years, with 40 million tons of cargo being handled each year.

The city government has established a special team to coordinate the construction work, while Qingdao Port Investment Construction Group was founded to be in charge of the physical development of the project.

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Construction at Dongjiakou Harbor

12
billion yuan
investment in the initial harbor area

112
vessels
The number of ships the harbor will be able to accommodate

panies have participated in the harbor project, including Qingdao Port Group, Luneng Group, Sinopec, Datang Power and Hongkong MTL Corporation. Several financial institutions have provided credit totaling 30 billion yuan.

At the same time infrastructure construction is gaining pace. Roads, a water, electricity and gas supply network, a sewage treatment plant, seawalls, waterways, and facilities for radar navigation and port inspection are being built.

A 10 km road, the Shugang Expressway, linking Qingdao to Lianyungang, was completed in just 80 days, and a work on a shipping hub in neighboring Jiangsu province, has now started.

Pilot city strives for cutting edge

By WANG QIAN

Qingdao has won approval to be China's first pilot city in national technological innovation, from the Science and Technology Ministry.

"I am very proud to be the mayor of the city taking the lead to promote technological innovation in China," Mayor Xia Geng told China Daily.

The mayor said that capability in this area "is central to the city's competitive development. We are determined to strengthen this sector to revitalize the city's economy."

He added that implementation guidelines and plans would be unveiled at the end of March.

Since 2006, local authorities have released a series of policies to encourage innovation.

Last year a scheme targeted at 10 industries was initiated. According to the scheme, 10 high-tech industrial centers will be established by 2012.

Statistics show that output value in the high-tech sector was 396.6 billion

yuan in 2009, a year-on-year increase of 15.72 percent, accounting for 46.48 percent of the city's total output.

Over 200 companies gained the status of high-tech enterprise last year and more than 3,732 patents were granted, a year-on-year increase of 23 percent. Seven products won national science and technology awards.

The first prize in national technical invention was awarded to the research team led by Guan Huashi, of the Ocean University of China, for their work on marine characteristics of oligosaccharides. Experts said that the research lays the foundation for China's marine pharmaceutical industry.

More than 20 key industrial technologies have been discovered, including 1000 kV high voltage insulation materials.

The first prize in national scientific and technological progress was awarded to CSR Sifang Locomotive & Rolling Stock for its high-speed

396.6
billion yuan
high-tech industrial output last year

trains, which can travel up to 250 km per hour. The company has secured a 47 billion yuan order from the Ministry of Railways.

There are several national research institutes in the city, including an energy technology center. In March 2009, the city signed an agreement with the Chinese Academy of Sciences.

Leading local companies are constructing national-level laboratories and engineering technology research centers. Three laboratories, almost complete, have been built by Haier Group, Hisense Group and Sinopec Qingdao Safety Engineering Institute. A further two to be sponsored by Tsingtao Beer Group and Marine Chemicals Research Institute have

been approved by the Ministry of Science and Technology.

Qingdao has also signed agreements with the Ukrainian National Academy of Sciences, Ukraine Barton Welding Institute, Russian Academy of Sciences and Russian Ecological and Environmental Protection Center.

A total of 18 research and development institutions have been co-established by local businesses, domestic universities and research institutions, carrying out some 200 technical projects in total.

Mayor Xia Geng said that efforts will continue this year. The high-tech sector is projected to generate 460 billion yuan in annual output, a year-on-year increase of more than 15 percent, accounting for 46.8 percent of the city's total.

Qingdao Industrial Technology Research Institute and six engineering technology research centers are planned and 15 projects in the sectors of electronic information, new energy, rail transportation and biomedicine are top priorities in the innovation initiative.

Plans for supporting small and medium-sized enterprises (SMEs) will continue to be implemented, with an aim to aid a total of 105 SMEs within three years.

Meanwhile, the authorities are to build three high-end industrial clusters. There will be a manufacturing center especially for autos, engines, shipbuilding, marine engineering, energy and environmental protection facilities. There will also be a high-tech industry area providing facilities for companies concerned with electronic information, biological engineering, new materials and clean energy. A third area will be a focus for finance, technological information, logistics and creative businesses.

Qingdao hopes to become a model area for modern equipment manufacturing with several industrial parks established by 2012, and a leading center of high-end industry by 2020.



Design for the Qingdao high-tech zone

'Eco-friendly zone' welcomes range of high-tech business

By DAI YAN

From wasteland to thriving industrial center, the area north of Jiaozhou Bay in Qingdao has undergone a transformation.

In recent years Qingdao National High-tech Industrial Development Zone has grown rapidly and is now aiming to become an eco-technological center.

The local authorities want to develop the zone into a center focused on high-tech products like optical measuring instruments, photoelectric environmental protection equipment, optoelectronics, IC and photovoltaic materials and ocean engineering equipment.

It is hoped that by 2015 a substantial base of research centers and companies including well-known brands will be established.

The zone will be split into areas, with one third left as open green space, one third for industry and the rest for residential communities. High profile designers have been invited to help create an eco-friendly and aesthetically pleasing space.

To preserve the area as one of environmental conservation, all new projects must undergo stringent screening procedures and are refused if they are deemed as potentially harmful to the ecological system.

Last year environmental projects amounting to a total investment of more than 700 million yuan were approved.

In all, more than 5 billion yuan have been invested in infrastructure facilities. Some 70 such projects are under construction.

In cooperation with the Chinese Academy of Sciences, a new industrial startup park will be established in 2015. It will be a base for around 20 high-tech companies.

Meanwhile, the authorities have also signed an agreement with seven universities and colleges in the city. They hope that this will facilitate cooperation between business and the education system so that research ideas may be developed and applied and business graduates will be able to move quickly into the business world by setting up their own companies in the zone.



A factory of CSR Sifang Locomotive & Rolling Stock. The company was awarded for its technological breakthrough in high-speed trains.

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