An aerial photograph of a city, likely Shenyang, China, showing a complex multi-level highway interchange with several overpasses and ramps. The roads are surrounded by green spaces, trees, and some buildings. The sky is hazy. The text is overlaid on the top half of the image.

Shenyang environmental protection and demonstration of national environment model city

Shenyang Environmental Protection Bureau

Hong Zhao

Jan. 2013

Preface

It is my great pleasure to come again to Kawasaki, the beautiful city. Kawasaki has always been one of the cities with which Shenyang keeps closest foreign environmental cooperation and exchange. In the past thirty years, we developed extensive cooperation in the field of environmental protection through environmental technology cooperation, environment-friendly city international forum, environmental protection personnel training, etc.. Thanks for the support that environmental protection colleagues of Kawasaki offer to the environmental protection industry of Shenyang, and thanks for the concerns and attention Mayor Takao Abe gives to the environmental cooperation between the two cities.



International cooperation and exchange in environmental protection

Nowadays, on the road of environmental protection development of China, Shenyang, like other cities, desperately needs to borrow ideas from foreign experience and lessons, desperately needs to bring in foreign environmental concept and environmental protection technology and desperately needs the cooperation in the aspects of engineering, products and administration projects. For this reason, we devote ourselves to communicating with countries of advanced environmental protection technologies like Japan, etc., to actively boost the introduction of advanced environmental protection technology.



Cooperation and exchange of environmental protection between Shenyang and Kawasaki

Hold Environment-friendly City International Seminar

Mar. 2012

It was co-hosted by the Ministry of the Environment, National Institute for Environmental Studies, Kawasaki Environment Bureau of Japan and the People's Government of Shenyang, Shenyang Environmental Protection Bureau and Shenyang University.

Aiming at deliberating the strategies and measures of constructing national environment city in the aspects of developing green economy and ecological industry and venous industry and building a resource-saving and environment-friendly society, etc., Japanese expert delivered a speech on international cooperation of Japan's urban development planning, ecological environment improvement and energy saving & environmental protection and made valuable suggestions on Shenyang's environment model city construction planning.

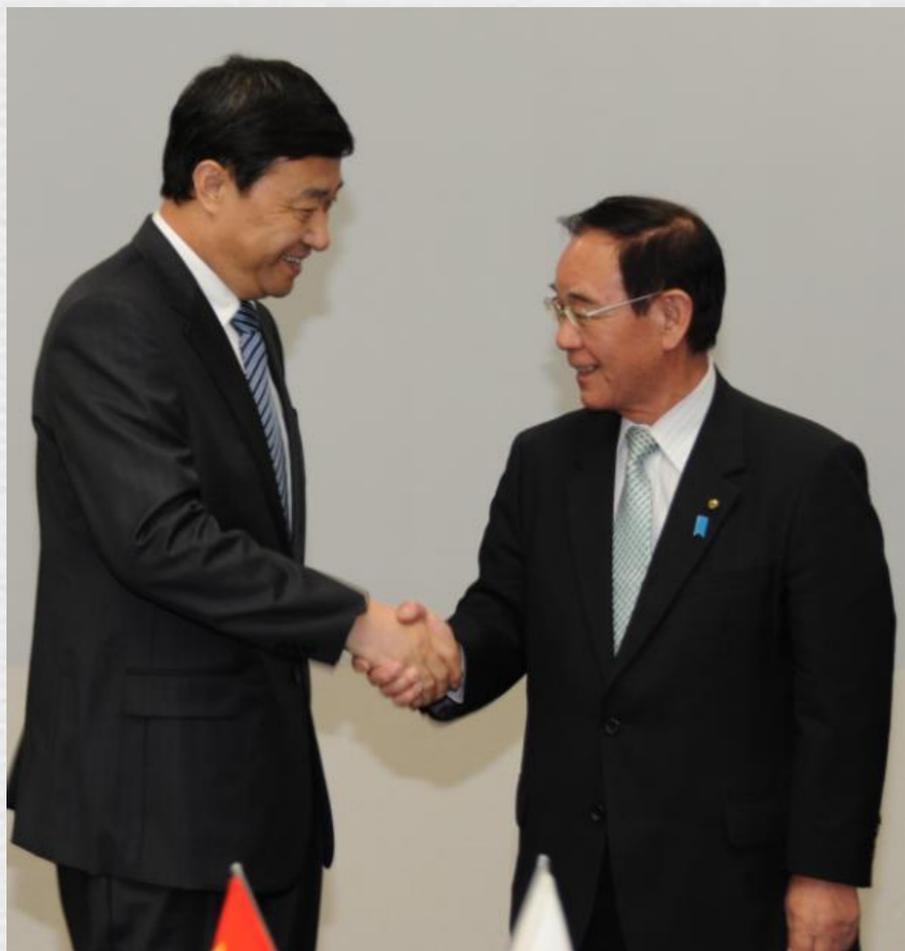


Cooperation and exchange of environmental protection between Shenyang and Kawasaki

Visit of high level deepens further cooperation between the two cities

In May 2012, Zeng Wei, main leader of Shenyang, visited Kawasaki, which successfully advanced further cooperation between the two cities.

- Representatives of the two cities signed memorandum of cooperation of establishing the advanced environmental protection city.
- Further deepened the cooperation with Japanese enterprises in the aspects of strengthening environmental protection and developing environmental protection industries; emphatically negotiated and boosted 25 major projects.
- Five units related to environment of Shenyang and Kawasaki signed the letter of intent, to share the experience and related information in the aspects of wastes recycling, industrial pollution control, river basin ecological restoration, atmospheric environmental monitoring and early warning & forecasting, etc..



川崎市環境技術情報センター、公害研究所、公害監視センターと
瀋陽環境科学研究所、環境監視センターの協力に関する覚書

川崎市と瀋陽市は、1991年04月10日に友好都市締結に合意し、両市の間で環境技術交流に関する協定書に合意し、更に、2009年04月18日に環境技術の交流を通じて両市の友好関係をより深めることを目指し、循環経済発展協力に関する協定書に合意した。

さらに、2011年05月18日には、友好都市連携30周年を記念し、相互の循環経済発展協力とさらに推進するため相互の取組を確認した。

この度、「川崎市及び瀋陽市の環境にやさしい都市の構築に係る協力に関する覚書」の枠組みのもと、さらに相互の環境保護都市づくりに向けた協力を推進し、産業物の資源化や再利用、産業公害対策、水環境の保全、大気環境の監視測定及び緊急時の予報などの経験・情報を共有するため、川崎市・瀋陽市の環境関係5機関の協力に関する覚書を締結し、以下の取組を行うことを確認する。

- 1 5機関共通の課題のもと協力体制の構築を進める。
- 2 相互の協力を通じ、低炭素社会、循環型社会、自然共生型社会の構築に向けた、環境科学研究所、環境監視分野における先進的な取組について情報交流を行う。
- 3 環境分野における情報交流の基盤づくりを推進する。
- 4 環境分野に関する人材の交流体制を構築し、研修等を通じて、相互の人材の育成を図る。
- 5 環境施策や制度等についての取組について情報交換を図る。
- 6 環境分野における静脈産業の関連技術・情報を収集整理し共有を図る。
- 7 水環境の保全に向けた情報交流を図り、取組及び研究を推進する。
- 8 大気汚染に関する緊急時の予報情報に係る体制や研究成果について情報共有を図る。
- 9 PM2.5などの対策を推進するため、観測体制、測定技術及び研究成果の共有を図る。
- 10 連絡体制を確立し、5機関の協力の連携状況の共有を図る。

2012年5月23日

<p>川崎市環境技術情報センター 所長 齋 亜子</p> <p>川崎市公害研究所長 山田健二 郎</p> <p>川崎市公害監視センター所長 関 昌之</p>	<p>瀋陽環境科学研究所長 邵 春岩</p> <p>瀋陽市環境監視センター所長 徐 嘉怡</p>
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川崎、瀋陽両市が開催した環境産業説明会
川崎市産業振興会館

環境都市推進へ協力
川崎の 中国・瀋陽市と覚書
技術共有

川崎市は、友好都市で中国最大の工業都市、瀋陽市（遼寧省、人口約800万人）の環境先進都市への推進へ協力を推進させる。水道事業分野では、担当職員を相互派遣、経済成長が著しく中国最大の主要な環境問題が注目されており、川崎市が培った高度な環境技術、ノウハウを共有する中で、環境解決に貢献する。

川崎市の産業振興会館（中環共産党委員会常務委員）の協力が20日、川崎市を訪れ、環境先進都市づくりへの協力など、両市市長と各分野にわたる協力に関する覚書を取り交わした。具体化に向けて両市が同日開催した環境産業説明会で、各書院は川崎市の先進的な環境技術、ノウハウを学び、中国の環境先進都市のモデルづくりへ新たな一ページを開きたいと抱負を述べた。

両市間で取り交わした覚書は、▽環境先進都市づくりに協力▽川崎市上下水道局と瀋陽市水務局間で上下水道の友好協力▽川崎環境技術情報センターと公害研究所

川崎市の公害監視センターと瀋陽市環境科学研究所、環境監視センターの協力の3分野。このほか、JFEエスエー、三アリン、国立環境研究所などと環境分野の業務提携、環境教育の共同研究などについて協力促進を確認した。

上下水道事業分野では、川崎市と瀋陽市水務局間で、両市の職員交流が盛り込まれた。水道、下水道に関連する技術、維持管理、観測管理分野などで交流、観測、研究を推進。こうした友好交流に基き、両市間のビジネス協力にも結び付けられる。また、低炭素社会、資源循環型社会の構築へ、専門家間の交流、環境科学研究所と瀋陽市環境分野での情報交換、大気などに取り組み、両市は10月1日に「環境文化」をテーマに、両市間で連携を深めていく。

5/24 神奈川新聞

Environmental protection work progress of Shenyang

General situation: In accordance with the overall development goal of constructing ecological and livable city of Shenyang, Shenyang is committing itself to the comprehensive control of river, atmosphere, solid waste, noise, etc..



脱硫装置



铬渣治理



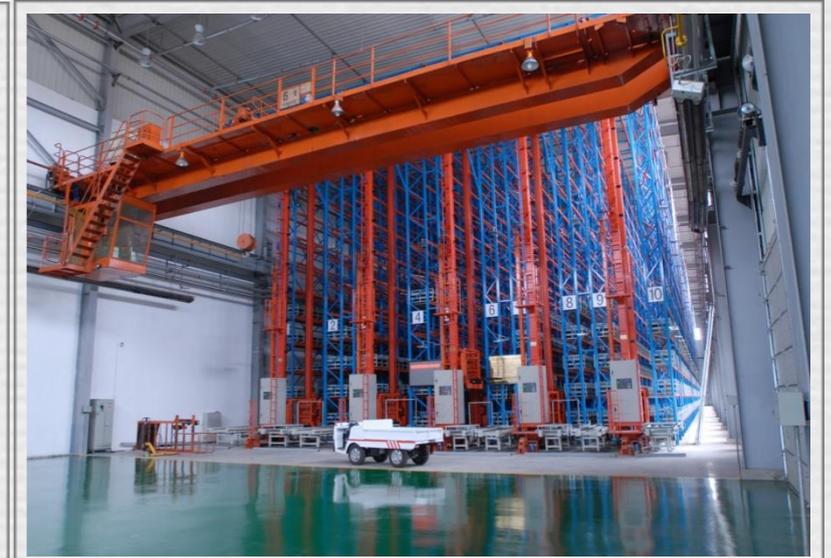
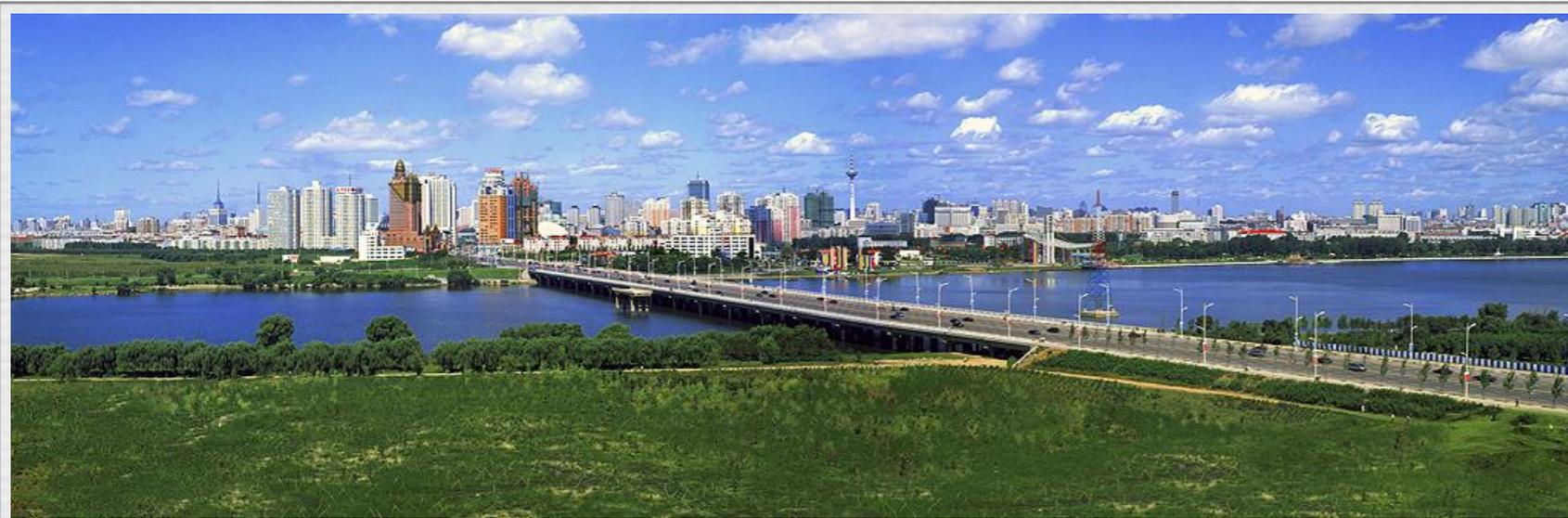
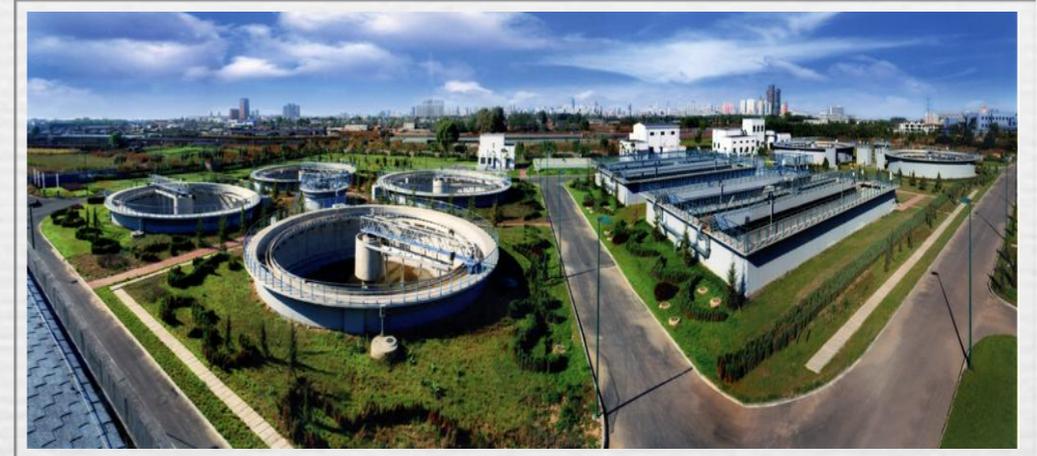
道路隔声屏



再生水源热泵

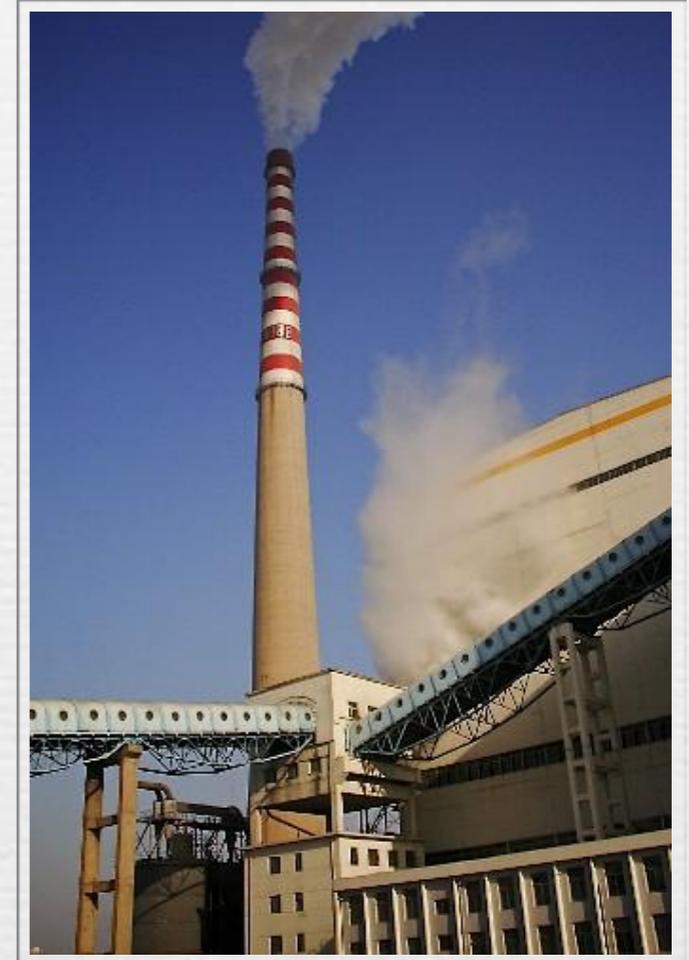
Environmental protection work progress of Shenyang

River improvement: Liaoning Province is carrying out comprehensive treatment of Hunhe River and Taizi River basins. The provincial government has invested 389.04 million yuan which is used for four kinds of key administration projects such as construction and transformation, supporting and sewage interception pipe network engineering of Shenyang Sewage Treatment Plant.



Environmental protection work progress of Shenyang

Atmosphere pollution control: Shenyang has been included in national key atmosphere pollution control area. Therefore, Shenyang is actively carrying out the popularization of clean gas, acceleration of desulfurization facility transformation of coal-burning installation, continuous promotion of large-scale centralized heating, demolition and replacement of arcola as well as control of exhaust pollution of motor vehicle.



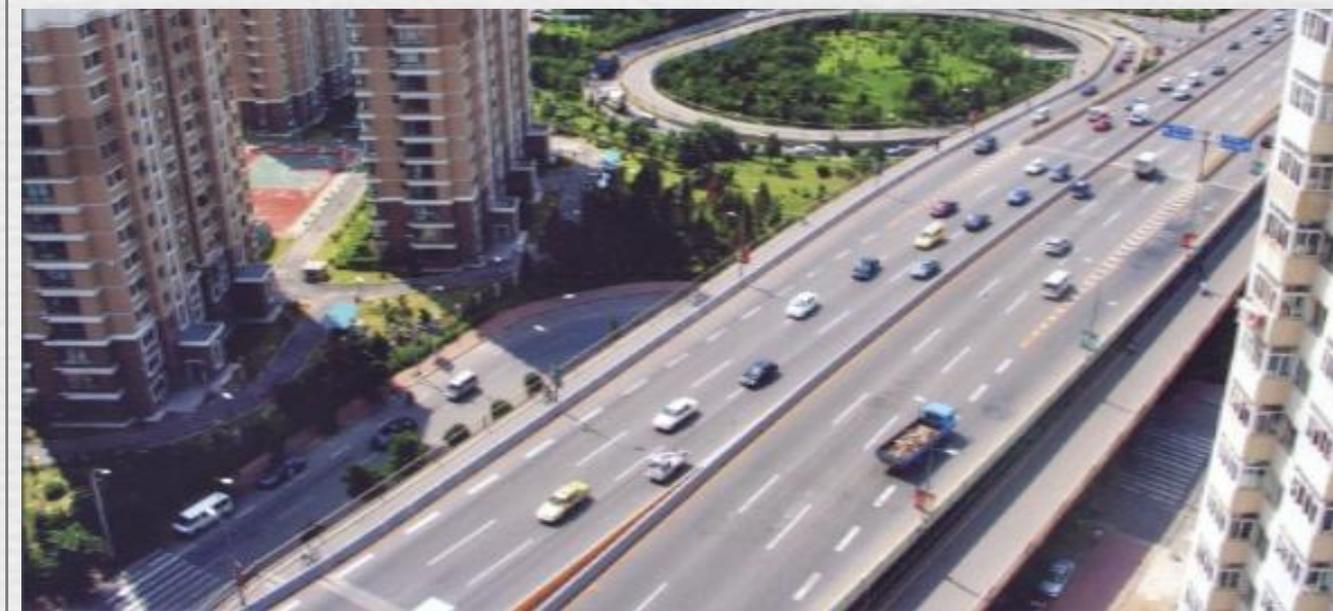
Environmental protection work progress of Shenyang

Solid waste pollution control: Shenyang is implementing construction of the chromium slag harmless disposal engineering and the sludge disposal engineering of sewage treatment plant with daily handling capacity of 1000 tons.



Environmental protection work progress of Shenyang

Noise pollution control: Shenyang is devoting itself to carrying out pollution prevention of traffic noise and construction noise.



Environmental protection work progress of Shenyang

Ecological protection: Wolong Lake in Shenyang is listed as the national pilot project to protect the ecological environment of lakes this year. The state will invest annually 100 million yuan for five successive years in the lake protection work, mainly including ecosystem improvement, construction of sewage treatment plant and estuarine wetlands, pollution source control, rural garbage disposal, pollution control of livestock and poultry farming, and agricultural diffuse pollution control.



Development of Environmental Protection Industry in Shenyang

Accelerating the development of renewable resources recycling industry

—Planning for the sector and Management

Administrative Regulations on Renewable Resources Recycling enacted in **2011**

Shenyang Development Plan for Renewable Resources Recycling during the 12th Five-year Period enacted

System Construction Working Committee established in **2007**

Investigation into Total Quantity of Renewable Resources of Shenyang in **2009**

System Construction Work Leading Group established and *Renewable Resources Recycling Management Method of Shenyang* enacted in **2006**

Feasibility Study of Network System Construction Project of Renewable Resources Recycling

Renewable Resources Association established in **2005**

Renewable Resources Administrative Office established in **2004**

Construction Plan of Renewable Resources Recycling System of Shenyang made

Development of Environmental Protection Industry in Shenyang

Accelerating the development of renewable resources recycling industry
—supportive policies

Granting preferential taxes to the new and high-tech enterprises,
the resources comprehensive utilization or renewable resources utilization enterprises

Increasing the land supply

Providing financial support for the enterprise development by fixed assets investment subsidy,
soft loan and other ways

Setting up a foundation for environmental protection industry,
supporting the industrial development



Development of Environmental Protection Industry in Shenyang

Accelerating the development of renewable resources recycling industry
—construction of renewable resources sorting centers



Qiushi Scrap Metal Sorting & Processing Center

The center, which is constructed by Shenyang Qiushi Renewable Resources Group Co., Ltd., has building area of 48,000 sq.m. and can treat 200,000t different kinds of scrap metal each year.

Zhonghong Waste Plastic Sorting Center

The center covers an area of 66,000 sq.m. and is composed of such three main parts as sorting & processing area, wastes stocking area and sewage treatment station, as well as roads and greening areas. It has sorting capacity of 50,000 tons/year and is built by Shenyang Zhonghong Renewable Resources Investment Development Co., Ltd..

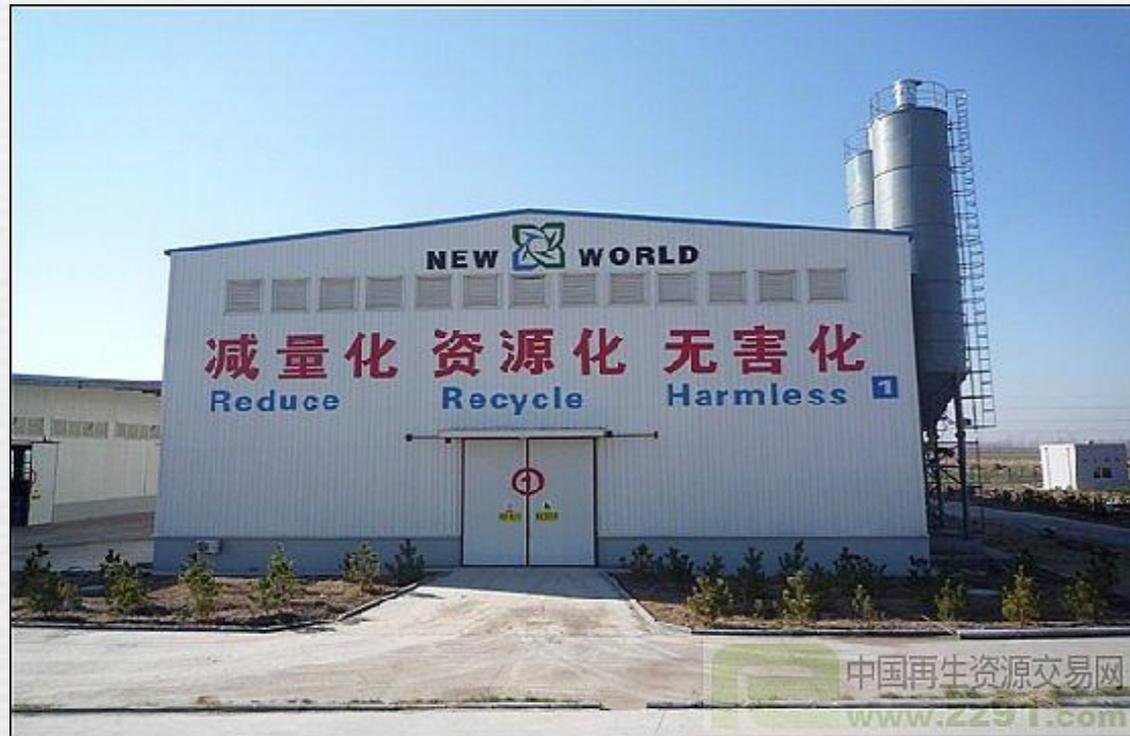


Qiushi Waste Paper Sorting Center

The center has three subsidiaries, with total construction area of 16,000 sq.m. and sorting capacity of 200,000t different types of waste paper. It is constructed by Shenyang Qiushi Xuye Renewable Resources Co., Ltd. and Qiushi Chain Co., Ltd..

Environmental protection work progress of Shenyang

Accelerating the development of renewable resources recycling industry
—construction of renewable resources recycling enterprises



Qiushi Xintiandi Waste Household Appliance Recycling Enterprise

In 2011, Shenyang Qiushi Renewable Resources Group Co., Ltd. established Liaoning Qiushi Xintiandi Renewable Resources Co., Ltd. in association with Qingdao Xintiandi Investment Co., Ltd., a well-known enterprise in the country. According to the planning, Liaoning Qiushi Xintiandi will set up a production line that can process 1,200,000 sets of waste electric appliances and electronic products annually. At the moment, the project is under construction.



Qiushi End-of-life Vehicle Disassembly & Recycling Enterprise

Shenyang Qiushi End-of-life Vehicle Recycling Co., Ltd., established on July 29, 2004, is the only one enterprise specializing in recycling and processing the end-of-life vehicles in Shenyang. The disassembly center covers an area of 40,000 sq.m and can disassemble 20,000 vehicles per year.

Development of Environmental Protection Industry in Shenyang

Accelerating the development of renewable resources recycling industry
—introduction of renewable resources technology

Actively putting up the platform for both Chinese and Japanese enterprises to exchange environmental protection technologies, and maintaining a cooperative relationship with tens of Chinese and Japanese enterprises, among which Japanese East Asian Oil Industry Company has made headway substantially in terms of waste oil recycling.



Carrying forward the feasibility study of waste oil integrated regeneration and recycling work in Shenyang



Coordinating with the relevant municipal functional departments to provide data of enterprise's wastes



Giving assistance in publicizing the national and local industrial policy and the industrial planning management policy

Main cooperative projects of Shenyang environmental protection industry

Dephosphorization & denitrification technology of urban sewage treatment plant

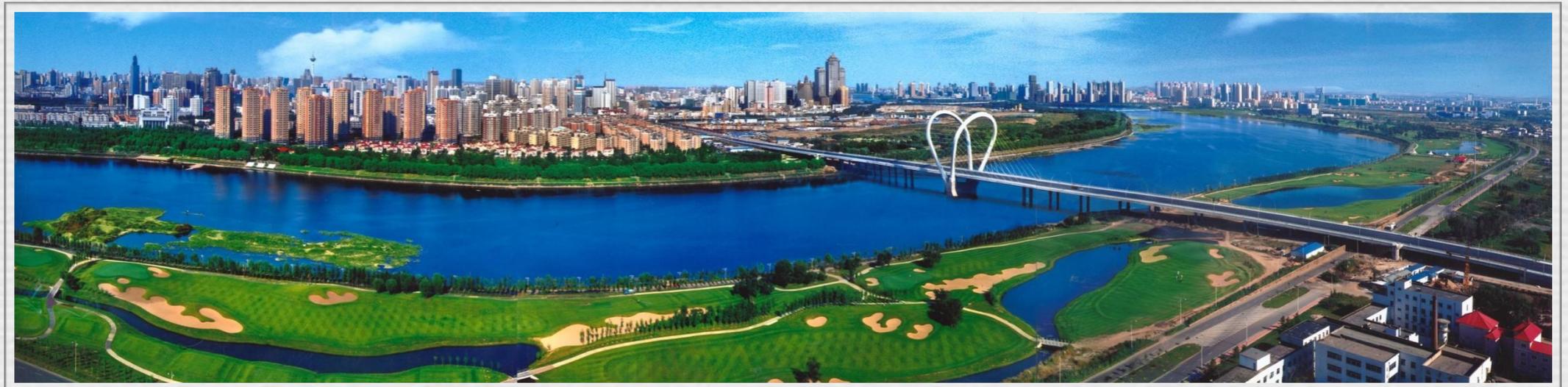
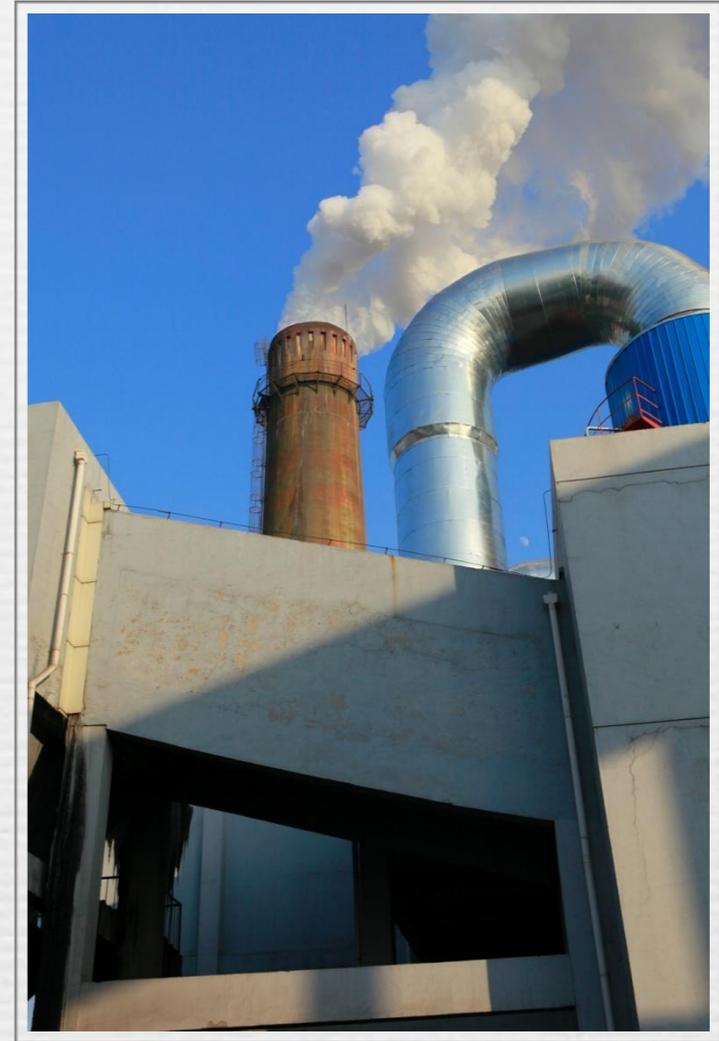
Now there are 9 urban sewage treatment plants in Shenyang, with total designed treatment capacity of 1,245,000 tons/day, conforming to national class II standard for sewage discharge. At present, Shenyang plans to make comprehensive upgrade and reconstruction of the existing sewage treatment plants by adding the functions of dephosphorization and denitrification; however, there lacks the scientific and reasonable technical reform scheme.



Main cooperative projects of Shenyang environmental protection industry

Nitrogen oxide control technology and equipment manufacturing

Shenyang has regarded nitrogen oxide as the new control factor in pollution control and emission reduction, and will upgrade and reform the existing air pollution control device by adding the function to control the nitrogen oxide in the coming years; however, there lacks the mature control technology and equipment manufacturing capacity.



Main cooperative projects of Shenyang environmental protection industry

Vehicle exhaust control technology

It is expected that by the end of 2012, the number of motor vehicle of the city will surmount 1.2 million. With the rapid increase of the number of motor vehicle, Shenyang will face more and more severe vehicle exhaust pollution. Therefore, effective measures are needed urgently to solve the problem of vehicle exhaust pollution.



Main cooperative projects of Shenyang environmental protection industry

Environment monitoring technology and facilities

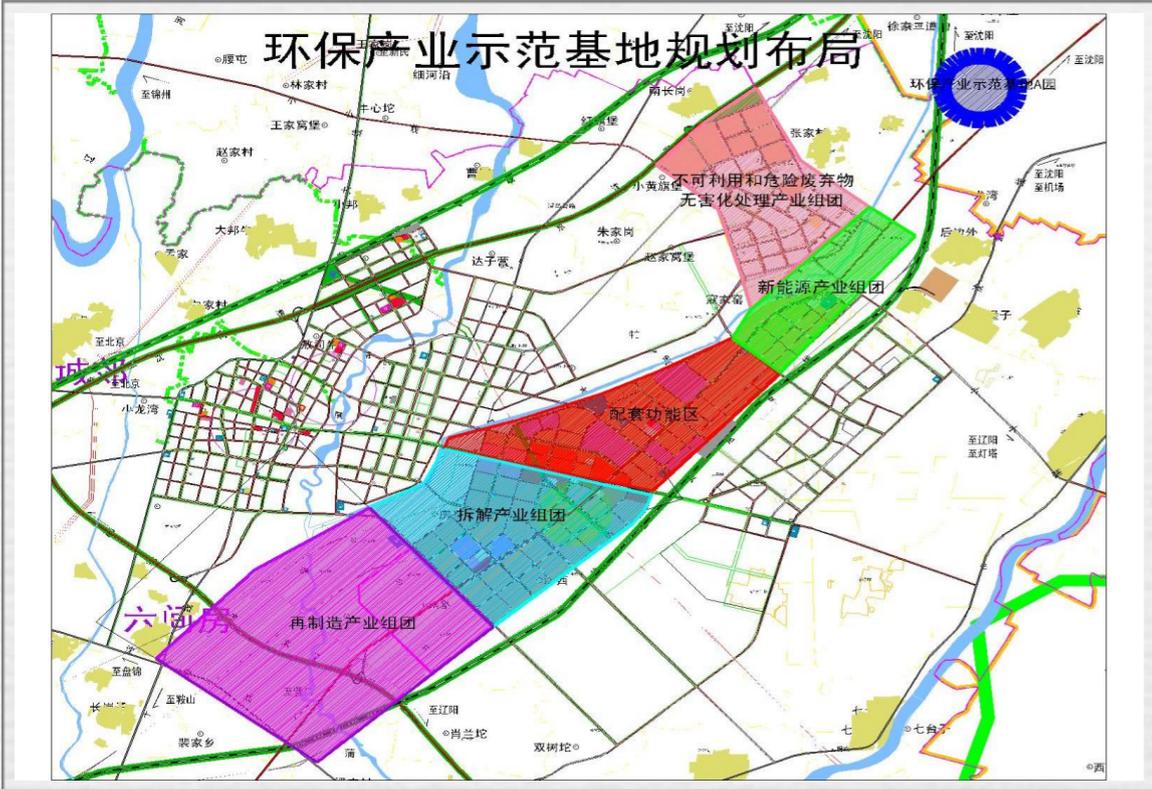
Shenyang will further promote the monitoring level of ambient air monitoring network, enhance the monitoring capacity of newly added indicators such as PM2.5, CO, O3, and plans to achieve the goal that all 11 state-controlled points are with the monitoring capacity of PM2.5, CO, O3 before the end of the year.



Main cooperative projects of Shenyang environmental protection industry

Recycling of waste and old materials

Plenty of waste and old materials such as end-of-life public transport vehicles, waste household appliance, scrap metal, waste plastic and waste paper are produced in Shenyang every year, with total quantity of over 3.5 tons and failure to be fully utilized. Meanwhile, Shenyang Environmental Protection Industry Base which is under construction will give priority to the development of disused resources recycling industry, and the base also needs to borrow ideas from international mature development experience and bring in advanced enterprise and technology.



Concluding remarks

The above is the circumstances relevant to Shenyang environmental protection and demonstration of national environment model city. Thanks for your attention to Shenyang and welcome friends from all walks of life to take an active part in the development of Shenyang's environmental protection.

Thank you

An aerial photograph of a city, likely Shenyang, showing a complex multi-level highway interchange with several overpasses. The surrounding area includes green spaces, trees, and various buildings, including some tall residential or commercial structures in the distance. The sky is clear and blue.