

Cleaner energy for China: An interview with the chairman of ENN Group

In a country with a major pollution problem, Wang Yusuo is trying to build a part of the solution.

**Michael Wang and
David Xu**

China has a reputation for relying on heavily polluting energy sources, such as coal. But efforts by innovative Chinese companies are under way to convert the country's abundant coal supplies into sources of cleaner energy. One of these companies is the privately held ENN Group, better known in China for its subsidiary XinAo Gas, which is listed in Hong Kong. The chairman of ENN, Wang Yusuo, founded the company in 1989 as one of the country's first natural-gas distributors; its debut project was piping gas to the city of Langfang, in Hebei Province. ENN, which now has more than 20,000 employees, supplies natural gas to more than 40 million people in nearly 70 cities in China and liquefied natural gas to filling stations in more than 20 Chinese cities.

Wang has ambitions for ENN beyond the distribution of natural gas. The company's clean-coal process involves gasifying coal and then turning the product into dimethyl ether, which can be used not only for fuel in power plants, household cooking, and vehicles but also as raw material for chemical products. One of its advantages is that it generates no sulfur dioxide or soot when burned. Wang says the company is exploring ways to turn carbon dioxide waste into a usable resource as well. In addition, ENN has ventured into the production of solar-energy equipment and aspires to be a world leader in the photovoltaic-energy industry.

With 2007 revenues and profits totaling \$1.71 billion (12 billion renminbi) and \$143 million (1 billion renminbi), respectively, ENN is now looking to expand globally; last year, it contracted to build a plant that will produce 200,000 tons of dimethyl ether a year in Egypt. Wang Yusuo recently met with Michael Wang and David Xu, a McKinsey principal and director, respectively, at his office in Langfang, to discuss the clean-energy strategy of ENN, the challenges it faces, and his vision for the future.

The Quarterly: *Why did you enter coal chemical engineering and clean energy?*

Wang Yusuo: We decided to enter coal chemical engineering in 2004. I never felt that value was created in gas distribution. It was just a transactional business where we resold the gas after buying it in volume. The business model was easy and simple for others to copy and it was hard to control the gas resources. I always wondered what would happen if I was not allowed to sell other people's products? What would I do then?

So we had a very strong sense of crisis, always looking for opportunities. In July 2003, I saw a report—on the utilization of clean coal—that kept me awake that night. At the time, our company was considering new ways to participate in the energy business, but the three top domestic players

Wang Yusuo

Vital statistics

Born April 16, 1964, in Bazhou, Hebei Province

Education

Graduated with MA (2002) and PhD (2007) in management from Tianjin University of Finance and Economics

Career highlights

ENN Group (1989-present)

- Cofounder and chairman of board of directors of ENN Group (1989-present)
- Chairman of board of directors of XinAo Gas (1998-present)

Fast facts

Member of China Association for Promoting Democracy (since 1994), of Standing Committee of 11th Chinese People's Political Consultative Conference (CPPCC) National Committee (2008), and of Standing Committee of CPPCC Hebei Provincial Committee (2008)

Vice chairman of All-China Federation of Industry & Commerce (2008) and of Hebei Federation of Industry & Commerce (2008)

Received Outstanding Contribution Award of China Charity (2005), China Charity Award (2005), and State Council Award for Ethnic Unity and Progress (1995)

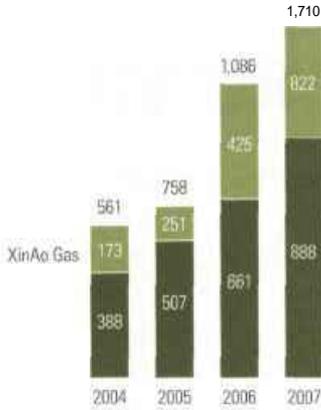


EXHIBIT

ENN Group

Vital statistics

- Created in 1989
- Location of headquarters: Langfang City
- >100 subsidiaries; ~23,000 employees
- Total 2007 assets: \$2.6 billion¹
- Ranked no. 7 in total assets among all Chinese private companies
- XinAo Gas was first privately owned operator of piped gas in People's Republic of China

ENN sales revenues, \$ million¹¹\$1 = 7 renminbi.

Source: Annual reports; company Web site; McKinsey analysis

dominated the oil and gas sectors, and a few powerful multinationals took whatever remained. I saw that an opportunity existed in the development and utilization of clean coal, and we had to seize it. The oil and gas companies were not interested in the development and utilization of clean coal, since the work is dirty, dangerous, and difficult to do profitably. Coal companies also have had little interest in the business, and foreign companies had yet to take advantage of it in China.

But China has an increasing need to develop clean-coal technologies, since the country is rich in coal and poor in oil and gas. Coal accounts for over 70 percent of China's total energy consumption, but the use of coal in power plants has created serious environmental pollution because of high emissions of carbon dioxide, among other pollutants. In the 1960s, China pursued an energy strategy focused on oil and gas instead of coal. That made coal-based clean energy a huge business opportunity.

The trouble was that when we began considering a clean-coal business project, in 2003, our company's annual revenues were just over 3 billion renminbi, and this coal chemical project would cost more than 2.4 billion renminbi. Most of our staff opposed the project because of its risky nature. In the end, we went ahead, using various sources of financing, and it turned out to be a good decision.

Our ambition is to build a value chain covering the production, transformation, distribution, and application of clean energy based not only on coal

but also on solar and biomass. We started by developing the technology to turn burning coal into more environmentally friendly, useful substances—methanol and dimethyl ether. This application, which produces a fuel that is very price competitive, helps to maximize the use of coal but in a way that minimizes damage to the environment. But turning coal into a clean-energy resource nonetheless generates carbon dioxide, a greenhouse gas. So we have also begun trying to develop a technology that can transform the wasted carbon dioxide into a useful resource. Of course, that would be a powerful innovation.

The Quarterly: *How has ENN developed its clean-energy business in China?*

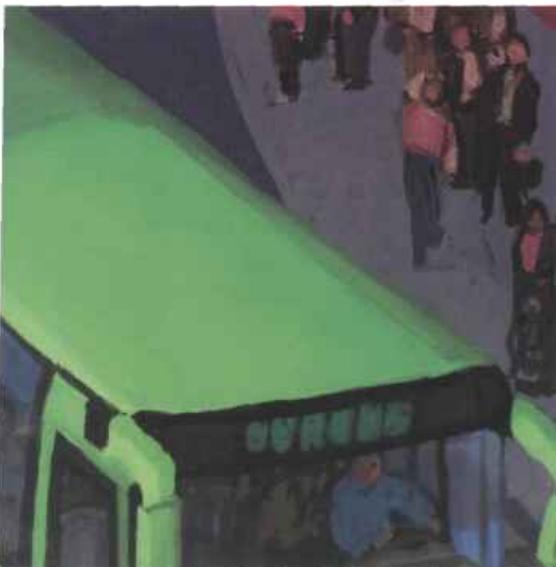
Wang Yusuo: We have focused on three areas. First, through our subsidiary XinAo Gas, we distribute the clean energy produced by others. Second, we are involved in producing clean energy ourselves by building production bases for methanol in various parts of the country, usually close to coal-mining regions, and by rolling out dimethyl ether plants, which use methanol as the raw material. In addition, ENN established the world's first commercial dimethyl ether filling station for buses, in Shanghai, in 2007. We're also increasing our investment in solar energy. We imported a photovoltaic-module production line from the United States and expect to launch a new-generation product within two to three years.

Finally, we are aggressively pushing for the greater use of clean energy. In response to the Chinese government's environmental policies, we've proposed an energy-saving and emission-reduction plan in an attempt to

be the nation's clean-energy service provider. This plan integrates biomass, solar, geothermal, and methane into a package for a given city's households and businesses. The idea is that the city could benefit environmentally through the use of multiple energy sources.

The Quarterly: *Do you have any plans for global expansion?*

Wang Yusuo: By 2020, we hope to obtain 50 percent of our revenue from overseas markets. We will push our global strategy on two fronts.



First, we plan to penetrate foreign markets by leveraging proprietary technology in coal chemical engineering and coal gasification. We are working to make our technology in solar and biomass energy more competitive. Our regional energy-saving and emission-reduction solutions offer something that every nation needs.

Second, we plan to focus on international mergers and acquisitions. The future of chemical engineering and energy may shift toward coal, in part because natural gas has become very expensive. If that happens, ENN could be interested in acquisitions in both the coal and the gas sectors, given our existing assets in both areas.

The Quarterly: *What about your current overseas expansion?*

Wang Yusuo: At the end of last year, we signed a contract with Egyptian Petrochemicals and Methanex of Canada to build a plant to produce 200,000 tons a year of dimethyl ether in Egypt. This is the first time we were able to use our patented clean-energy technology in a foreign market. We also went into Egypt to give our people some experience in managing global operations.

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The Quarterly: *How has ENN's business developed in conjunction with the liberalization and maturation of China's economy?*

Wang Yusuo: ENN has usually been able to seize opportunities at the right time and place and to predict the trends. Why? I believe it is because I have a deep understanding of the future direction of China's economic reform. This is probably because of my active involvement in politics—I have been a member of the Chinese People's Political Consultative Conference since 1994. Through those activities, I can see more than an ordinary entrepreneur and, as a result, am more likely to anticipate trends and adjust my business strategy accordingly.

The Quarterly: *What are ENN's goals for the next 10 to 20 years?*

Wang Yusuo: ENN is striving to be in the Fortune 500 by 2020 — which means that the company goes global as a world-class leader and I, the founder, retire. But before then, some goals must be met. First, our

long-term strategy should be on the right track, with the right resources in place. Second, our management system should be efficient and effective and fully networked so that I know what is going on in the company at any given moment, even if I travel to the moon. Finally, we should have a complete talent-development and -management system in place. It is important to have good successors, but it is more important to have a good institutional structure.

Michael Wang is a principal in McKinsey's Shanghai office, where **David Xu** is a director.
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