



**From left:** Flocks of rare birds are spotted on Salt Lake in Yuncheng city. JIANG HUA / FOR CHINA DAILY This wind farm in Youyu county is among the largest of such sites in Shanxi. TIAN ZHONG / FOR CHINA DAILY The Taiyuan section of the Fenhe River is now an attractive leisure area. FAN WENJING / FOR CHINA DAILY

# Seeing is believing: province changing minds with environmental campaign

Full-scale action to tackle air and water pollution bringing remarkable results

By YUAN SHENGGAO

Zhang Guangxian, a tourist from South China's Guangdong province, made a tour of Shanxi province at the beginning of June. "This trip gave me an all-new impression of Shanxi," Zhang said.

He started his journey in Taiyuan, the capital of this North China province. He then visited the western part of Shanxi via a sightseeing road along the Yellow River, which is known as the Yellow River No 1 Highway.

Zhang said the environment of Shanxi challenged his ideas about Shanxi, which he thought to be a cradle of Chinese culture but somewhat a polluted region because of its coal-mining industry.

"At Jinci Temple in Taiyuan, I was welcomed by a crystal-clear, murmuring stream," he said. "And several days later, when I saw the Yellow River, I found it was also a cleaner river surrounded by green mountains."

He added that during his trip, the blue skies were another surprise to him. "When I posted the pictures on my WeChat account, many of my friends said they couldn't believe this is Shanxi," Zhang said. "Once I made them believe, some said they are now considering plans to visit this province in the near future."

Latest statistics released by the Shanxi Department of Ecology and Environment showed that the air quality index of Shanxi decreased from 5.18 points in 2020 to 4.3 points in 2024, which show an improvement of 22.8 percent.

The proportion of monitored rivers and lakes with good and excellent water quality levels was 94.7 percent in 2024, compared with 70.7 percent in 2020.

The substantial improvement in water and air quality is a result of Shanxi's relentless efforts in environmental protection.

The province has recently implemented a strategy to make itself an experimental zone for ecological protection and high-quality development in the Yellow River drainage region. It has also launched campaigns to reduce pollution and carbon dioxide emissions and curb soil erosion, leading to a steady improvement in its environment.

The 5,464-kilometer Yellow River is the second-longest river in China. It is regarded as the mother river of the nation because it has nurtured Chinese



An aerial view of Zhangzimen Park, a pleasant destination in Changzhi city, where locals and visitors can relax. GUO SHIHU / FOR CHINA DAILY

civilization for millennia. The Shanxi section of the Yellow River is 965 km in length.

More than 73.1 percent of the land in Shanxi belongs to the river's drainage basin, which is home to 73.4 percent of the province's population and makes up a majority of Shanxi's GDP.

Shanxi is located in the middle reaches of the Yellow River and in the eastern part of the Loess Plateau. The region had been a victim of soil erosion for many centuries because of its terrain being dominated by mountains and hills with less vegetation coverage and loose soil.

In the early 1950s, the area of soil erosion in Shanxi — which has a land area of about 156,700 square kilometers — was 108,000 sq km, of which 67,600 sq km was in the Yellow River drainage basin. The soil erosion-induced annual sediment in the Yellow River was 366 million metric tons in that period.

After decades of continuous treatment, the area of soil erosion in the province has been reduced substantially, with 65.5 percent of Shanxi's territory freed from soil erosion in 2024.

Shanxi began to implement its strategy to develop into an important experimental zone for ecological protection and high-quality development in the Yellow River drainage region in 2017. Provincial authorities have put the strategy high on their work agendas.

Officials said improving water quality is one of Shanxi's priorities in developing the experimental zone.

The Fenhe River is the largest Yellow River branch in Shanxi. With sustaining efforts to improve water quality and increase runoff, the river has seen remarkable progress in environmental protection.

The Taiyuan section of the river, for instance, has become a scenic belt in the city, offering a pleasant destination for locals to relax and tourists to visit.

The Fenhe River is also creating an ideal habitat for birds. Gong Sulong is an official at the Luyashan National Nature Reserve in the upper reaches of the river. On June 13, he spotted a group of boreal owls near the river through his infrared camera.

"We first found them during a biodiversity survey last year," Gong said excitedly. "They have been here for more than a year."

He explained that it was also the first time that the species had been identified in Shanxi.

He noted that a great number of rare bird species have been found along rivers and lakes in Shanxi. In a wetland reserve in the upper reaches of the Sanggan River in Shuozhou city, nearly 60,000 migrant birds have been counted annually in recent years.

"The growing number of birds is marked evidence of improvement in the river or lake environment," Gong said. "A good ecological environment and sufficient food — like fish and shrimps — are the basic requirements for a habitat for birds," Gong said.

After decades of efforts, Shanxi has renewed its endeavors in envi-

ronmental protection since 2024.

In that year, the province launched 285 projects for water quality improvement, focused on controlling pollution in rivers and lakes.

With a total of 3,730 discharge outlets brought under supervision by a provincewide monitoring platform, the campaign aims to eliminate urban pollutant discharge.

In addition, curbing soil erosion is a highlight of Shanxi's environmental protection.

The province recently released the nation's first local standard for soil pollution control, offering crucial technological support to soil environment protection, according to Shi Zhenlong, an official at the Shanxi Department of Ecology and Environment.

"By the end of 2024, Shanxi saw 98.9 percent of its farmlands freed from pollution and becoming safe for farming," Shi said. "This rate was 6.9 percentage points higher than our target for the year."

He added that soil pollution control is not only crucial for producing safe food for local residents but good for offering clean drinking water. "Curbing soil pollution can bring substantial improvements to underground water quality," Shi explained.

In Shanxi, environmental protection is a comprehensive move that includes the control of air, water and soil erosion, and involves the participation of all stakeholders in society.

Over the decades, the industrial community in the province has played an important role in promot-

ing environmental protection and sustainable development.

Shanxi has been a traditional powerhouse of China and coal mining has been a pillar of the local economy. The coal mining industry used to be a major source of pollution.

In recent years, Shanxi has implemented an energy revolution campaign, aiming to upgrade its coal-mining industry toward the directions of safer, more efficient and more environmentally friendly operations, and develop new energy sources like wind and solar power to diversify its energy industrial structure.

In Malan Coal Mine based in Gujiao city, digitalization has become a new model of operations. Coal mining there is basically controlled by a central operational room, where big display screens show operational data and production scenes and workers make operations possible through remote control.

"The push buttons can make everything move smoothly," said Hao Yirui, a manager of the coal mine. "Through remote control, coal-cutting machines begin work, followed by shaft-supporting structures automatically installed by machines and coal loaded to enclosed conveyor belts and transported to the surface."

He noted that this is a "smart process" that features efficiency, safety and cleanness.

Malan Coal Mine is a subsidiary of local mining giant Shanxi Coking Coal Group, one of the leaders in

Shanxi's coal mining digitalization.

The company now boasts 34 smart coal mines and 219 smart mining shafts backed by digital technologies.

Data from the Shanxi Energy Administration show that the province had 268 smart coal mines by the end of 2024. And 80 percent of the coal output in Shanxi that year was from these advanced facilities.

Shanxi is also vigorously developing new resources like wind power, solar power, geothermal energy and hydrogen fuel, aiming to establish a greener energy system.

The Taiyue Mountain Wind Farm, for instance, is among the largest wind-power projects in Shanxi. Its annual power generation capacity reached 400 million kilowatt-hours in 2024.

Even small villages have played a role in Shanxi's energy revolution campaign. Zhuangshang in Ruicheng county was recently rated as the first zero-carbon demonstration village in China. Its solar farm, composed of photovoltaic panels installed on hills and rooftops, generates 2.8 million kWh of electricity annually.

As wind and solar power offers an unstable electricity supply, energy storage is now a highlight in Shanxi's energy industry.

To address this concern, Shanxi Jingjin Feipeng Energy Technology based in Yuncheng city broke ground for a large flywheel energy storage project in Yuncheng at the end of 2024.

Flywheel energy storage, also known as kinetic energy storage, is a form of mechanical energy storage which is suitable to provide stable power supply to the grids.

A company executive said this is among the largest flywheel energy storage facilities in the world. "Upon its operation in the near future, it will offer a new solution to the energy storage industry and boost the development of the wind and solar energy industries in Shanxi," said the executive.

The sustained efforts in environmental protection from all social stakeholders have continued to contribute to better environmental quality.

Statistics recently released by the Shanxi Department of Ecology and Environment show that Shanxi's air quality index reduced to 4.14 points during the first four months of 2025, marking a 15.7 percent improvement compared to the same period of 2024. The ratio of days with good or excellent air quality was 79.9 percent in that period, up 2.5 percentage points year-on-year.

*Zhang Qi contributed to this story.*



Hundreds of photovoltaic panels cover the hillsides at a huge solar farm in Yangqu county. LI ZHAOMIN / FOR CHINA DAILY