

# Province's deputies lay out green future vision



Shanxi delegation puts forward more than 250 proposals at National People's Congress held in Chinese capital

By YUAN SHENGGAO

National People's Congress deputies from Shanxi province fulfilled their missions at this year's NPC session, held in Beijing from March 5 to 13, by putting forward motions and proposals on legislative issues and those relating to national and local socioeconomic development.

The Shanxi NPC delegation proposed five motions: promoting legislation for urban and rural community governance; revising laws on the protection of cultural relics, road traffic safety and charity; as well as enhancing legislative supervision on the prevention and control of contagious diseases.

The deputies put forward a total of 254 proposals, including seven joint proposals. The delegation's joint proposals include making the Taiyuan Energy Low Carbon Development Forum a regular international event; building a high-speed railway linking Shanxi and Shandong provinces; enhancing Shanxi's role in the experimental zone for the ecological protection and the high-quality development of the Yellow River Basin; giving stronger financial support for upgrading coal mines toward more intelligent and safer operations; and developing the city cluster in central Shanxi into a national demonstration area for the commercialization of scientific and technological achievements.

The energy sector is a focus of the proposals from the Shanxi delega-



From left: National People's Congress deputies from Shanxi discuss the motions and proposals they plan to put forward during the annual NPC session. Shanxi's NPC deputies study the Government Work Report. PHOTOS BY LI LIANJUN / FOR CHINA DAILY

tion. One proposal is for the annual Taiyuan Energy Low Carbon Development Forum to become a regular international event and a platform to aid international exchanges in the field of low-carbon and sustainable energy development.

## Taiyuan forum

The forum is also aimed at showcasing Shanxi's and China's transformation in the energy industry.

As a major energy base in China and a pilot zone for energy industry transformation, Shanxi is now implementing an energy revolution campaign, which features the upgrading of traditional coal mining, coking and coal-fired power generation industries and promoting the development of clean, renewable energy resources.

As a result of industrial upgrades driven by digital, intelligent and environmentally friendly technologies, about 80 percent of Shanxi's coal output in 2022, which stood at 1.3 billion metric tons, was produced by advanced facilities with cleaner, safer and more efficient operations.

Shanxi is among the country's leaders in the development of new and clean energy resources.

For instance, Shanxi is one of the provinces in China with the richest coal mines and 993 smart coal-mining shafts. Intelligent operations like remote-sensing shaft surveillance, unmanned coal cutting and automatic coal conveyance are conducive to improving both efficiency and safety.

However, the digitalized upgrades

of coal mines need large sums of investment. So Shanxi's NPC deputies said that the State can play a crucial role in supporting the upgrades.

They suggested preferential taxation and financial policies be used to encourage the construction of safer, more efficient and more environmentally friendly coal mines, especially those smaller-sized ones, which are relatively weak in technological and financial resources, when they are launching projects for digitalization and automation.

The event is also expected to become a stage for diplomacy, showing China's commitment to low-carbon, sustainable development. It is also aimed at becoming a platform to enhance multilateral collaborations in the energy industry and promote international cooperation in tackling global climate change.

## Intelligent operations

In a proposal related to upgrading coal mines toward more intelligent and safer operations, Shanxi's NPC deputies called for increased financial support from the State.

Shanxi now views smart coal mining a crucial link in Shanxi's energy revolution campaign and is vigorously promoting industrial digitalization in the coal mining industry.

Local statistics show that the province is currently home to 37 smart coal mines and 993 smart coal-mining shafts. Intelligent operations like remote-sensing shaft surveillance, unmanned coal cutting and automatic coal conveyance are conducive to improving both efficiency and safety. However, the digitalized upgrades



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## Experimental zone

The Shanxi NPC deputies proposed enhancing the province's role in the experimental zone for the ecological protection and the high-quality development of the Yellow River Basin.

The 5,464-kilometer Yellow River is the second-longest river in China. The Shanxi section of the river is 965 km in length.

More than 73.1 percent of the land in Shanxi is part of the river's drainage basin, which is home to 73.4 percent of the province's population. As Shanxi is located on the Loess Plateau, where soil erosion has been a severe challenge for millennia, it holds an important position in the ecological condition of the Yellow River.

Shanxi began to implement its strategy in becoming an experimental zone for ecological protection and high-quality development in the Yel-

low River's drainage region in 2017. Since then, provincial authorities have put the strategy high on their agenda.

Shanxi released its implementation plan for building an experimental zone for the ecological protection and the high-quality development of the Yellow River Basin in September 2022, calling for measures to curb soil erosion, protect the environment and promote low-carbon, green industrial transformation.

The deputies said this plan has been submitted to the National Development and Reform Commission for approval, aiming to spread Shanxi's experience among provinces and regions along the Yellow River.

## Demonstration area

In one of its joint proposals, the Shanxi NPC delegation called for the State's approval for the city cluster in central Shanxi to become a national demonstration area for the commercialization of scientific and technological achievements.

In 2021, the Central Committee of the Communist Party of China and the State Council released a guideline to step up the high-quality development of several city clusters in China's central regions. The city cluster in central Shanxi, which comprises Taiyuan, Jinzhong, Xinzhou, Lyuliang and Yangquan, is on the list.

The city cluster accounts for 47.3 percent of the land area and 46.3 percent of the population in Shanxi. In

2021, its GDP took up 50 percent of the provincial total.

It is a region with the best industrial basis and development potential in Shanxi, boasting many resources for economic growth, including four State-level development zones; 36 provincial-level development zones; and 73.2 percent of Shanxi's higher-learning institutions and research institutes, as well as a solid industrial basis featuring traditional, emerging and high-tech industries.

The Shanxi Transformation and Comprehensive Reform Demonstration Zone, located in Taiyuan and Jinzhong, is the leading development zone in Shanxi. It is piloting Shanxi's economic transformation, which is designed to upgrade traditional industries for higher-efficiency, cleaner and safer operations, and cultivating emerging industries as new growth engines. The zone has such industries as advanced manufacturing, the digital economy, biomedicine, new energy vehicles, electronic information, smart logistics, modern agriculture and environmental protection.

The Taiyuan-Xinzhou Integrated Economic Zone was launched in 2021. The zone is mobilizing resources in both cities to build industrial clusters centering on new materials and advanced equipment manufacturing, and foster new engines for the province's economic development.

While serving the cities' integration, the zone is designed to host industries and resources that have relocated from the Beijing-Tianjin-Hebei region.

Shanxi's NPC deputies said in the process of building a central Shanxi city cluster and promoting industrial transformation, there is great demand for commercializing the scientific and technological results developed by entities in Shanxi and across the rest of the country.

They added that there are also many scenarios for the commercialization of sciences and technologies, either in upgrading its traditional industries or in developing emerging sectors.

Zhao Xiangnan and Yang Wen contributed to this story.

## Admixture a pillar of Wanrong's economy

By YUAN SHENGGAO

While the building industry in China has experienced rapid growth over the past decades, few people realize that concrete admixture is a crucial part of this industry.

The admixture, or additive agents in various forms, is used to closely bind cement, sand and gravel together to improve the performance of concrete in erosion resistance, heat insulation and strength.

But for one county in North China's Shanxi province, concrete admixture is known to almost everyone. The niche product has developed into a local economic pillar, offering jobs to tens of thousands of residents.

The Shanxi provincial government released its first batch of 10 provincial-level characteristic towns and the county of Wanrong was on the list thanks to the product.

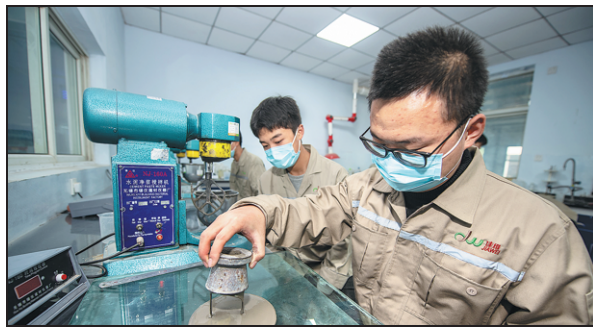
Developing towns with characteristic industries is a new strategy in Shanxi, which aims to create advantageous industries for local growth.

Wanrong's history in this industry dates back to about 40 years ago. Starting from several small mills producing the additive with primitive equipment and techniques, the industry has evolved into a crucial local industry with a total output value accounting for about one-third of the total for the Chinese market.

The county is now home to 65 concrete admixture producers. They produce more than 1 million metric tons of product varieties a year, with a combined output value of more than 4 billion yuan (\$580.8 million).

More than 80,000 Wanrong residents are engaged in the industry, working with local manufacturers or doing sales throughout the country.

Wang Fei, mayor of Wanrong, said local producers are proud that their products have been used for many landmark projects in the country, including the Three Gorges Dam and



Top: Technicians at a concrete admixture company in Wanrong county test products in a laboratory. XUE JUN / FOR CHINA DAILY

Above: One of the concrete admixture research and development facilities in Wanrong. YAN XIN / FOR CHINA DAILY

the Qinghai-Tibet Railway. The products have also reached more than 30 countries and regions.

The official found that a priority on innovation and developing products to meet the diversified demands of clients are among major factors contributing to the industry's growth.

He noted that local enterprises have collaborated closely with renowned research institutions in the country to enhance their competence in research and development.

With the help of the institutions, there are 18 corporate technological centers and other R&D facilities in Wanrong. In addition, there are 15 local companies recognized as high-tech enterprises.

Zhang Zhimin, chairman of local manufacturer Aoruite, said he is a witness to the industry's growth, especially its increasing strength in technological competence.

"About 40 years ago, we used washbasins to produce the additives," Zhang said. "Now, advanced reactors are standard to every producer."

The executive added that local manufacturers are beginning to diversify to segmented markets and

are targeting their R&D to meet the diversified demands of clients.

"Our researchers have traveled extensively in the country and the world to study how to develop products to suit regional requirements," Zhang said. "We investigate the differences of cement, sand and gravel in various regions and develop suitable products through numerous analyses, experiments, tests and trials."

County Mayor Wang said he is more optimistic about the industry's future after Wanrong made the list of characteristic towns.

He said the listing will offer an unprecedented opportunity for the industry by accelerating the formation of an industrial cluster and helping to increase the influence and recognition of local products in both domestic and international markets.

Wanrong aims for the concrete admixture industry to have more than 100 manufacturers and an annual output value of 10 billion yuan by 2025.

Zhang Haiying contributed to this story.

## Smart coal mining offers huge boost to local energy industry

By YUAN SHENGGAO

When talking about the changes brought by smart coal mining, Zhang Xing, an executive of the Tashan Coal Mine, said he feels a revolution is occurring.

He made the remarks at the operational center of the coal mine, which is a subsidiary of Shanxi's energy giant Jinneng Holding Group.

Zhang faced a huge display screen, showing all the operational conditions, including miners' locations, safety conditions and the machines' operations, with real-time images, vector graphics and data analyses.

"We have realized intelligent coal cutting in seven shafts, ensuring a coal recovery rate of up to 90 percent," he said. "This is also increasing safety and improving the in-shaft environment along with a rising efficiency."

Shanxi is vigorously promoting coal mining upgrades by using 5G-connected and digital technologies.

Local statistics show that Shanxi turned 20 coal mines and 665 mining shafts into smart facilities in 2022. The province is now home to 37 smart coal mines and 993 smart coal mining shafts in total. The facilities feature greater efficiency,

better safety and lower pollutant emissions.

In addition, the application of simultaneous extraction of coal and coal-bed methane has further contributed to safer and more efficient energy production.

Coal-bed methane is a form of natural gas and a type of clean fuel. However, the gas presents a danger inside coal mines. It can explode if the concentration of the gas reaches a certain level.

Safe extraction of the gas can help to prevent coal mine accidents by reducing its concentration. The extracted coal-bed methane can then be used as a clean energy resource.

The simultaneous extraction of coal and coal-bed methane technology developed by Shanxi's companies is currently one of most advanced in the industry worldwide.

The technology has made Shanxi one of the country's leaders in coal-bed methane development. Statistics show that, in 2022, local coal mines extracted 6.3 billion cubic meters of coal-bed methane from mining shafts, transporting the gas to consumers as a clean fuel.

The smart coal mines and safe extraction of coal-bed methane are part of Shanxi's current energy revolution campaign, which aims to

upgrade the coal mining industry toward safer, cleaner and more efficient operations, while also strengthening the development of clean energy resources. Furthermore, the energy revolution campaign aims to facilitate Shanxi's low-carbon development and help China fulfill its carbon neutrality goals.

The capacity of power generated from clean energy resources including wind and solar energy reached 49 million kilowatts, taking up 41.2 percent of Shanxi's total.

Shanxi is also promoting low-carbon energy development on the demand side, which is demonstrated in the increase of new energy resources in consumption and the decrease in total energy consumption in industrial production.

Statistics show that the energy used for producing the same amount of GDP in the province has decreased 33.2 percent over the past decade. The per-unit GDP energy consumption for 2022 is estimated to drop 3 percent year-on-year, making Shanxi a national leader in this regard.

Shanxi has also stepped up the production and use of hydrogen. The western Shanxi city of Xiaoyi is now a national hub for the hydrogen industry.

Zhang Yi contributed to this story.



A new solar farm built in the county of Wuxiang, which is designed to generate 13.68 million kilowatt-hours of electricity annually. SUN RONGXIANG / FOR CHINA DAILY