



Cattle graze on a mountainous pasture nearby a wind farm in Qinyuan, Shanxi province. MA LIMING / FOR CHINA DAILY

Shanxi residents relishing clean-energy improvements

Greener transportation and power-generation methods have locals living better than ever

By ZHANG DANDAN
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While showing his photography works of local scenery, amateur photographer Zhu Mingyuan from Xiaoyi, Shanxi province relished in the atmosphere.

“Now in the city, the air is fresher, the plants greener, and local residents have a happier mood than before,” Zhu said. “The sky here used to be gloomy and gray.”

Du Zhanmei, a 66-year-old villager in Qingxu county in Shanxi, said that in previous years, heavy fog and haze haunted the county in winters.

“But more recently, we have begun to enjoy more blue skies and better weather, even in the peak of winter when coal use is at its highest,” Du said.

As an important energy and industrial production hub in China, Shanxi has mined 19 billion metric tons of coal over the past seven decades, helping shore up the sustainable development of the Chinese economy, according to the local government.

Yet an economic structure with excessive dependence on coal mining has handicapped Shanxi’s overall development and caused pollution.



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Zhu Mingyuan, a local amateur photographer who records changes in the city with his camera

To cope with the issue, the province has made strides in reforming its energy supply, consumption, technology, and cooperation and innovation mechanisms, aiming to forge an advanced energy system.

Keeping close to Shanxi’s reform in the energy system, Zhao Yangsheng, a professor of

mining engineering at Taiyuan University of Technology, is committed to researching exploitation technologies of next-generation energy, including coalbed methane and oil shale, to realize low-carbon and clean energy development and use.

Zhao and his research team have developed a technology for exploiting the oil shale, which he said will lead to a technological revolution in exploiting the oil shale and inject momentum into Shanxi’s energy reform.

Achievements made in fostering the province’s energy reform can be found in cities and counties, as well as in enterprises in Shanxi.

With more than 8,200 fully electric taxis put into service, Taiyuan, capital of Shanxi province, is the first city worldwide to realize the electrification of all its taxis, according to the local government.

Qinyuan county of Changzhi city in Shanxi has witnessed the operation of 166 wind energy-driven generators, which can generate 482 million kilowatt-hours of electricity each year.

Compared with thermal power generation in generating the equivalent electricity, the wind energy-driven generators can

save 172,000 tons of coal per year and cut 131,000 tons of dust, 480,000 tons of carbon dioxide, 15,000 tons of sulfur dioxide and 7,100 tons of nitrogen oxide each year.

The wind power generation system in the county has generated significant economic, social and environmental benefits, the local government said.

Lu’an Group, one of the leading coal enterprises in Shanxi, takes advantage of advanced technologies, turning pollution-intensive high-sulfur coal into a “treasure”, offering a clean, efficient and low-carbon solution of utilizing such coal in the province and the country.

Through technical processing, the coal company has established five high-tech industrial chains of high-sulfur coal and produced 180 models of fine chemicals.

Shanxi’s coalbed methane extraction has accounted for more than 90 percent of the country’s total. The installed capacity of new energy power generation in Shanxi has exceeded 20 million kWh. The province also has the largest scale of photovoltaic power generation in China.

Xie Yan and Li Yu contributed to this story.

World heritage mountains offering unique sights throughout the year

By HU YUYAN
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An unexpected detour gave several tourists a pleasant glimpse of snow-covered Wutai Mountains in North China’s Shanxi province.

An early January snowfall in Shanxi forced Li Jianing and his family from Hebei province to deviate from their planned route. But they ended up getting to see the sacred Buddhist site covered in white. It was a stunning, tranquil sight that filled them with peace and joy, Li said.

In winter, Wutai Mountains, which has been listed as a UNESCO world cultural heritage site, is more than just a sight for sore eyes. During the weeklong Spring Festival holiday, starting on Jan 24 this year, the scenic area will put on Buddhist Music performances each day at Pusading Temple and Shuxiang Temple. Monks will perform Buddhist tunes using more than 10 musical instruments including flutes and drums.

The Buddhist Music of Wutai, listed among national-level intangible cultural heritage, has a long history. It is passed down orally and incorporates musical pieces popular in different periods since the Tang Dynasty (618-907), according to a website run by China’s intangible heritage protection center.

Wutai Mountains launched its Spring Festival celebrations pro-

661 varieties of plants found in Wutai Mountains

gram back in 2002. It provides an escape for urbanites who want to celebrate the holiday in the traditional ways, according to the scenic area’s website.

In recent years, hundreds of thousands of visitors have spent their Spring Festival holiday at

Wutai Mountains annually, which local hotel owner Bian Zhiguo described as “a land enfolded in Buddha’s light”.

Located in northeastern Shanxi, Wutai Mountains is one of the major four Buddhist mountains in China. The others are Mount Emei in Sichuan province, Mount Jiuhua in Anhui province and Mount Putuo in Zhejiang province.

The name “Wutai”, literally meaning five terraces, stems from the fact that each of the five mountains that constitute Wutai has a flat peak. The



Wutai Mountains is blanketed in snow. JIAO JINQI / FOR CHINA DAILY

Regional specialty noodles are a cut above the rest

By SONG MENGXING
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With its landscape of plateaus bound by mountains, Shanxi province in North China is regarded across the country as being associated with fields of wheat and iconic wheat products.

It is said that the people of Shanxi know as many as 100 different techniques of cooking with wheat flour, using them in the making of many unique and special noodle dishes.

None of Shanxi’s noodle dishes is more iconic than that of *daoxiaomian*, translated as knife-cut noodles.

To add to the allure of the dish the element of spectacle is key, with chefs using a special knife to quickly and elegantly slice dough — the process propelling the thick in the center and thin at the edge noodles in the air until landing with a splash in a pot of boiling water.

Locals say that some of the most skilled chefs can slice up to 200 noodles a minute.

The dish, which is believed to date back to the beginning of the Yuan Dynasty (1271-1368), is often served with a rich, meat-based sauce to the delight of diners across the province and beyond.

In the city of Taiyuan, capital of Shanxi province, any number of fine restaurants can be found serving up delicacies from across the country such as from Sichuan and Hunan.

But it is the local Shanxi food

that really gets most people salivating.

Local eateries such as Shanxi Huiguan, Shunliu’er and Datong Knife-sliced Noodles have been serving satisfied customers in the city for generations.

Like *daoxiaomian*, chefs have intertwined spectacle with the techniques to make other dishes.

At restaurants operated by Taiyuan Qingxurenjia Jinyunlou Catering Culture Development, customers watch in amazement as talented chefs perform a dance while making *lamian*, which means pulled noodles.

The chefs swing the noodles around with elegance as they stretch longer and longer, thinner and thinner before finally making their way to the pot for boiling. The routines are always met with rapturous applause.

Qu Yong, an executive from Taiyuan Qingxurenjia Jinyunlou Catering Culture Development, said Shanxi abounds in wheat crops and other coarse cereals such as buckwheat, maize, sorghum and millet, and so that’s why there is such a wealth of wheat and noodle dishes.

Another specialty of Shanxi is *huamo* — a method of decorating specially shaped steamed buns. So intricate are the designs that the techniques have become a folk art unique to Shanxi, particularly the province’s Wenxi county where hundreds of *huamo* are made during Tomb Sweeping Day in early April shaped as animals such as fish, birds, tigers and dragons.



A performance by a chef preparing noodles at Jinyunlou restaurant in Taiyuan, capital of Shanxi province, impresses foreign visitors.

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Spectacular invention to make every voice heard

By YIN RUOWEI
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Ren Yamin, an entrepreneur from Shanxi province, is using technology to make communication for the hearing-impaired easier than ever before.

Ren, who has been deaf since birth, has developed smart glasses which use artificial intelligence and cloud technology to translate voice into text and project it onto lenses.

The idea for the glasses first came to Ren while he was studying at the University of California, Los Angeles in 2005. However, it was not until after his studies that he could begin bringing his idea to life.

While working at a tech company called Integre, Ren learned a great deal about cloud computing and AI technology. Upon leaving the company and establishing SeeingVoice, Ren launched a cloud platform based on AI and deep learning technologies in 2018 called 40DADOW.

The first product to use 40DADOW were the smart glasses Ren had thought about at university.

Ren said the hearing-aid technology based on the 40DADOW cloud platform has intellectual property rights, on which semantic recognition and acoustic models are stored and executed, and at the same time, automatic deep learning is applied.

“The cloud platform has good recognition and speech separation results by using large models, ultra-high speed computing and other technologies,” he said.

“All calculations and operations are executed in the cloud, which ensures that the product can quickly adapt to the hearing environment and offer an optimized solution,” he added.

With money coming in from angle investors, Ren said the next stage for his company would be raw material procurement and expansion.



A hearing-impaired customer (right) tries on a pair of smart glasses developed by SeeingVoice, with the aid of a company employee.

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sion. A classmate from the University of Science and Technology of China, Zhou Hui, who works as a vice-president at a Fortune 500 company, has provided the parts to make the glasses.

At a recent event held in Toronto, Canada, all 100 of Ren’s prototype glasses sold out. “It is my ultimate goal of realizing real-time recognition of Chinese language, though it is technically difficult. What I need is not wealth, but to help Chinese who can barely hear,” Ren said.

Ren achieved more success after setting up his company SeeingVoice in the Shanxi Transition and Comprehensive Reform Demonstration Zone in Taiyuan, capital of the province. The company began selling the smart glasses last June, and according to its development plan, production bases covering 5.33 hectares will be put into operation by the end of 2021.

In the next five years, SeeingVoice will provide 500 jobs and is projected to generate 20 million yuan (\$2.86 million) in tax revenue after 2023, local media reported.

“My mission is to make the world have no voice that cannot be heard,” Ren said. “Next, we are looking to make visually impaired people see through listening.”

Yang Yu contributed to this story.