

Research on the Transformation and Upgrading Strategy of Shaanxi Energy Industry under the Supply-side Structural Reform

Furong Feng

Xi'an Peihua University, Xi'an Shaanxi 710125

Keywords: Supply-side Structure Reform; Shaanxi; Energy Industry; Transformation and Strategy

Abstract: As China's economy enters the new normal and its economic growth slows down, the state has proposed supply-side structural reforms to promote industrial transformation and upgrading. Shaanxi energy industry needs to be transformed and upgraded in order to gain more development space under the background of supply-side structural reform. Firstly, this paper expounds the connotation of "supply-side structural reform", and then analyzes the significance of "supply-side reform" to the development of energy industry, and then analyzes the present situation and existing problems of the development of energy industry in Shaanxi Province. Finally, this paper tries to try Shaanxi energy industry transformation and upgrade strategy and its realization path under "supply-side reform".

1. Introduction

The report of the Nineteenth National Congress pointed out that it is necessary to establish a socialist ecological civilization and adhere to the concept of green development in order to effectively solve the contradiction between the growing good life needs of the people and the unbalanced and inadequate development faced by the people in the new era, to promote energy production and consumption revolution and build clean, low-carbon, safe and efficient energy system. The report of the Nineteenth Congress points out the direction and the road map for the construction of ecological civilization and the strategy of green development and energy development in the future. Shaanxi should maintain its energy industry strategic, strengthen its confidence in its development, firmly grasp the fundamental principle of its development, take supply-side structural reform as its main line, take reform and innovation as its driving force, and take the transformation of new and old kinetic energy as its main direction. Shaanxi will promote the upgrading of industrial development, quality and efficiency, and comprehensively open up a new journey for the construction of a modern economic system and the development of high quality industries.

2. The connotation of "supply-side structural reform"

The purpose of "supply-side structural reform" is to adjust the economic structure, to optimize the allocation of elements and to improve the quality and quantity of economic growth. The elements of supply-side reform include labor force, land, capital, institution creation, and innovation and so on.

3. The importance of "supply-side structural reform" to the development of energy industry

Energy technology innovation has vigorous development; energy production and consumption of clean and low carbonization has become a major trend of development, accelerating the development of energy transformation has become a conscious action of countries in the world, the development of renewable energy has been paid more and more attention, to realize clean and low-carbon development is not only the urgent need of current development, but also the inevitable requirement of future development. The energy industry needs to transform and develop, to further

optimize the internal structure of the energy industry under the "supply-side structural reform", to introduce new technologies into the energy industry, to develop new energy, and to guide the strategic transformation and development of the energy industry. The transformation and upgrading of Shaanxi's energy industry has been accelerated, the supply-side structural reform has been advanced in depth, production capacity, cost reduction, and deleveraging have made positive progress, the pace of intelligent transformation of traditional industries has been accelerated, artificial intelligence, the Internet of things, big data, High-end equipment, energy conservation, environmental protection, digital creativity and other emerging industries and energy industry deep integration to achieve sustainable development of the energy industry.

4. The current situation and existing problems of Shaanxi Energy Industry Development

Shaanxi produced 502 million tons of coal, 28.38 million tons of crude oil and 18.6 billion cubic meters of natural gas in 2015. The average production capacity of single well is over 1.2 million tons in the whole province, the mechanization rate of coal mining is 95%, the recovery rate of mining area is 70%, and the recovery rate of crude oil is 17%. Thermal power installed 3,268 kilowatts, generating coal 325g / kilowatt-hour, 600,000 kilowatts of units up to 42%. Production capacity of coal to olefin, coal to oil 3.1 is million tons, 2.75 million tons respectively. The quality of gasoline and diesel products meets the national V standard. The power grid formed 750 kV backbone grids. The natural gas pipe network forms the skeleton. The total length of the pipeline is about 1,823 kilometers.

Clean and efficient transformation of energy and resources has made a breakthrough. Coal conversion rate reached 32 on-the-spot. Several ways of resource conversion such as olefin production from coal, indirect production of oil from coal, aromatics from coal, comprehensive utilization of kerosene and gas, blending of kerosene and utilization of coal are explored, thus forming an important demonstration base for the deep processing of modern coal in China. Compared with 2010, coal power plant increased 44%; refinery revamping speeded up, gasoline and diesel products as a whole leapfrog up to state V standard.

Energy consumption structure changes to clean green transformation. It is the first to carry out the transformation of ultra-low emission of thermal power in the whole country and to realize the natural gas in counties and counties more than two years ahead of the time prescribed by the state. The upgrading of the quality of national V standard oil products is completed more than two years before the time prescribed by the state. The proportion of natural gas consumption increased to 9, non-fossil energy consumption increased to 10. Xi'an, Yulin was included in the first batch of national new energy model city list.

The total installed scale of renewable energy is 7.45 million kilowatts, of which hydropower, wind power; photovoltaic power generation and biomass energy are 3 million kilowatts, 258 million kilowatts, 1.8 million kilowatts and 70,000 kilowatts respectively. The single unit capacity of the main wind power model is increased to 2,500 kilowatts, the wind speed can be reduced to 5.5 m / s, and the conversion efficiency of commercial photovoltaic modules is improved to 16.5 kilowatts. In particular, renewable energy industry development presents three major characteristics: first, the rapid growth of the industry. By the end of 2015, the total installed scale of hydropower, wind power, photovoltaic and biomass power generation reached 7.45 million kilowatts, 2.7 times the cumulative installed capacity in 2010. The total investment of the whole industry in five years is about 53 billion Yuan, with an average annual growth rate of more than 30%. Renewable energy equipment accounted for the proportion of total power generation installation reached 18.5. The second is the initial formation of the layout. At present, three characteristic industrial clusters have been formed in Shaanxi Province, including wind power and photovoltaic power generation, renewable energy equipment in Guanzhong Area, and hydropower in southern Shaanxi. Thirdly, the level of technology has been steadily improved. In the wind power market, the single unit capacity of the mainstream wind turbine has increased from 1MW in 2009 to 2.0-2.5MW at present, and the available wind speed has been reduced from more than 6m / s to 5.5m / s; The conversion efficiency of commercial photovoltaic modules has been improved from 14.5% in 2010 to 16.5am at present.

The conversion efficiency of single crystal photovoltaic cells with Longji shares is the leading level in China. The non-interference geothermal heating technology developed by enterprises in the province has been preliminarily listed as the popularizing technology in the 13th Five-Year Plan of China.

However, Shaanxi energy industry transformation and upgrading also has a shortage of subsidy funds lag behind, inadequate financial support. Shaanxi is an important energy and chemical industry in China. Coal is transported from west to east, electricity from west to east and gas from west to east. Shaanxi is an important link and support point on the energy Silk Road. The development of industry is in the crucial period of transformation and upgrading.

5. Transformation and upgrading Strategy of Shaanxi Energy Industry under "supply-side structural Reform"

Shaanxi energy industry transformation and upgrading strategy includes sustainable development strategy, innovation development strategy, and "going out" strategy and so on under the "supply-side structural reform".

5.1 Sustainable development strategies

The realization of sustainable development has become an important basic policy of China's social and economic development. Sustainable development emphasizes the protection of the environment and the reduction of energy pollution. Coal is the main energy structure in Shaanxi Province, which is an important cause of low energy efficiency and serious environmental pollution. The optimization of Shaanxi energy structure is the inevitable trend of social and economic development. Shaanxi energy industry needs to adhere to the strategy of sustainable development under supply-side structural reform.

5.2 Innovative development strategies

It is necessary to carry out innovation-driven development strategy in depth, regard scientific and technological innovation as the first motive force to lead the development of industry, speed up the cultivation of innovation subject, gather innovation resources, create innovation platform, optimize innovation environment, and speed up the creation of "innovation and entrepreneurship upgrade version". More rely on innovation to lead high-quality development. Shaanxi energy industry adheres to the guidance of the government, establishes a cooperative innovation system of energy science and technology combined with "government, industry, education and research", adheres to the principal position of technological innovation of enterprises, and promotes the independence of major energy technologies and equipment by relying on projects, and adhere to the introduction of digestion and absorption innovation and integration innovation model, take the way of leapfrog development.

5.3 Going-out strategy

The transformation and upgrading of Shaanxi's energy industry has carried out the strategy of "going out", attaching importance to promoting industrial development through the expansion of opening up, actively exploring new modes of international cooperation, and by means of global resource utilization, business process reengineering, industrial chain integration, etc. Strengthen communication and exchange with other countries and regions, enhance mutual trust, strengthen cooperation, jointly formulate strategic planning and policy mechanisms related to the development of the energy Internet, and promote the formation of a new pattern of energy governance, to develop technology exchange, deepen technical cooperation, learn advanced new energy technology, and formulate energy technology standard system. Promote facilities connectivity, promote Belt and Road's international energy cooperation, and speed up the implementation of a number of clean energy developments with mature conditions and significant benefits.

6. The path to realize the Strategy of Transformation and upgrading of Shaanxi Energy Industry under "supply-side structural Reform"

It is necessary to adhere to the concept of green low carbon and sustainable development, to develop renewable energy, to innovate energy technology and equipment, and to improve the intelligent level of energy industry in order to realize the transformation and upgrading strategy of Shaanxi energy industry under the "supply-side structural reform".

6.1 To adhere to the concept of green, low-carbon and sustainable development

Shaanxi energy industry transformation needs to adhere to the concept of green low-carbon and sustainable development, energy production from fossil energy leading to clean energy leading transformation, energy consumption from coal, oil and gas to electricity as the center, clean substitution and electricity substitution. Shaanxi will vigorously develop energy conservation, environmental protection and green low-carbon technologies, promote the green transformation of the traditional energy industry, and guide the industry in the direction of cleaner, more energy-efficient and safer development.

6.2 To develop renewable energy

The transformation and upgrading of Shaanxi energy industry needs to vigorously develop renewable energy, and vigorously developing renewable energy is an important task for Shaanxi to improve its energy structure, promote green development and build ecological civilization. It is also an important measure to promote the revolution of energy production and consumption. Emphasis is placed on developing renewable energy sources, such as wind power generation, biomass briquetting fuel, and solar energy utilization and so on.

6.3 To innovate energy technology and equipment

Compared with the traditional fossil energy, Shaanxi makes great efforts to develop renewable energy, and the development and utilization technology of renewable new energy is more complex. Accordingly, higher technical requirements for new energy equipment are put forward. Shaanxi government and enterprises must respect the technical attributes, concentrate limited financial resources, embody industrial orientation, and concentrate resources to tackle key technologies. Improve the technical level of renewable energy utilization and actively develop renewable agricultural transportation and use of machinery and equipment. Gasification and liquefaction of coal are likely to be used as long-term technical reserves.

6.4 To raise the level of intelligence in the energy industry

The new technological revolution tells us that the intelligent energy of the Internet is coming to us. In the future, Shaanxi needs more intelligent energy, which is renewable energy, distributed energy, democratic energy, information energy, shared energy. By integrating the energy industry with the Internet, big data, cloud computing, artificial intelligence, the building of the Shaanxi energy industry big data port, and the use of resources such as Tencent's application of cloud big data and the application of artificial intelligence, the energy industry equipment enterprises in Shaanxi have been promoted. Petrochemical, coal enterprises and other energy industry enterprises with faster speed, lower cost on Tencent cloud, build the digital basis of Shaanxi energy, and improve the intelligent level of Shaanxi energy industry.

7. Conclusion

In a word, the combination of Internet and energy and the breakthrough of energy technology have changed the pattern of energy industry and the traditional energy use. Shaanxi needs to strengthen the thinking of supply-side structural reform, conform to the concept of sustainable development, speed up the transformation and upgrading of energy industry, promote the energy revolution in an all-round way, take the initiative to get rid of coal dependence, and consciously

cross the oil and gas era facing the future development of energy, to warmly embrace the zero-carbon future, realize the integration of the two in depth, generate more clean new energy, and realize the goal of transformation and upgrading of Shaanxi energy industry.

Acknowledgements

Fund project: This paper belongs to the stage achievement of the 2017 Special Scientific Research Project of Shaanxi Provincial Education Department. The project name: Research on the Transformation and Upgrading Strategy of Shaanxi Energy Industry under the Supply-side Reform; Project No.: 17JK1045

References

- [1] Qiang Cheng, Ying Song, Qinqin Zhao. Research on Science and Technology Innovation Driving the Transformation and Upgrading of China's Traditional Industry under the Supply-side Structural Reform [J]. Science, Technology and Economy, 2017,30 (4): 26-30.
- [2] Zhengguang Hu, Wei Wu. A probe into the on the Supply-side Structural Reform of the Coal Industry [J]. Journal of Inner Mongolia Radio and TV University, 2017 (2): 38-39.
- [3] Xidong Yang. Strategic Choice of Coal Enterprises' Transformation and Upgrading under the Background of Supply-side Structural Reform [J]. Study on Coal economy, 2016,36 (4): 50-52.
- [4] Xiaohong Hou. Strategic Analysis on the Transformation and Upgrading of China's Coal Enterprises under the Background of Supply-side Structural Reform [J]. Commercial Economy, 2018 (5): 104-105
- [5] Tingting Yan. Strategic Choice of Coal Enterprises' Transformation and Upgrading under the Bckground of Supply-side Structural Reform [J]. Modern Industrial Economy and Informatization, 2016, 6 (20): 17-18.