The Rapidly Growing World and Chinese Natural Gas Markets

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I feel very honored to attend the 25th WGC here in Kuala Lumpur. And I would like to thank the organizer for inviting me to make a speech at the conference. By this chance, I am going to share with you my views on the development of world and Chinese natural gas markets.

Firstly, the structure of world natural gas market is undergoing major changes, and Asia-Pacific market is especially in the spotlight.

In the past two decades, the world natural gas sector keeps growing rapidly and showing many new prospects, which reflect the world's latest energy development concepts and the new trends of energy evolution. Actually, these prospects are exerting major influence on the world energy evolution pattern.

The supply and demand structure of "Two Belts plus Three Centers" has already taken shape in world natural gas sector. Two Belts indicate the two regions of the highest natural gas output. The first Belt is Russia-Central Asia-Middle East in the Eastern Hemisphere, which produces 40% of the world's total output; the other one is U.S. and Canada in the Western Hemisphere, with 30% of the global production. Three Centers refer to the three biggest natural gas consumers of the world, namely, Europe, North America and Asia-Pacific, who consume 34%, 28% and 20% of the world's gas output respectively.

The global natural gas supply and demand relationship tends to be generally balanced, while the regional differentiation gets further increased. The world's total natural gas consumption reached 3.3 tcm in 2011 with an overall balance between supply and demand, but this also varies from region to region. Due to the major breakthrough of shale gas in North America, natural gas output has been going up sharply, which leads to a downward trend of gas price there. The U.S. Henry Hub price averaged just 4 U.S. Dollars per MMBtu in 2011. This year, U.S. gas price is even lower, and once got reduced to 2 U.S. Dollars per MMBtu. As for Europe, its gas production keeps declining, and the gas consumption slightly goes down due to the debt crisis. But Europe remains heavily dependent on imported natural gas, which results in the gas price increase there. UK's NBP price averaged 9 U.S. Dollars per MMBtu last year, up 32.8% year-on-year. For Asia-Pacific, driven by the demand growth in Japan, India and China, the region's gas consumption went up by as much as 11.5% in 2011, far higher than the regional production growth rate. This has caused last year's LNG price hike. In 2011, Japan's LNG import price averaged 14.2 U.S. Dollars per MMBtu, up 31.8% year-on-year. From the above, we can clearly see the coexistence of globalization and regionalization of the world's natural gas supply and demand relationship, and the regional differentiation will give rise to different industrial chains and value chains.

The robust growth of natural gas consumption in Asia-Pacific provides a broad market space for developing the natural gas sector. Similar to the shift of world economic powerhouse, the gravity center of natural gas market is being gradually transferred to Asia-Pacific. Within the past 10 years,

Asia Pacific's annual gas consumption has doubled, growing from less than 300 bcm to 630 bcm. And its proportion in global gas consumption has rapidly increased to 20% from 12%. The gas consumption in this region is expected to be doubled again over the next 20 years, and Asia Pacific is very likely to surpass the U.S. and Europe to become the largest gas consumer in the world.

Secondly, China injects new life into the world natural gas market.

China's natural gas sector is undergoing booming development. Ever since the start of the new century, China's gas production has been growing by 13% annually. Our gas output reached102.5 bcm in 2011, and represented a 3.9-fold increase over our output in the year of 2000. And our ranking in the world's gas producing countries has risen to the 6th place from the 16th place in 2000. On the consumption side, the annual growth rate of our gas consumption has been as high as 16% since the beginning of this century. Last year, we consumed 130.7 bcm natural gas, a 5.3 times increase over the year of 2000. Now, China has already become the world's fourth largest natural gas consumer only after the U.S., Russia and Iran. The proportion of natural gas in China's primary energy consumption mix has grown to 5% in 2011 from 2.4% in 2000. Regarding gas infrastructure construction, we have made very rapid progress and a national gas pipeline network has been built to link east to west, north to south, and China to neighboring countries. By the end of 2011, China's total length of gas trunk lines has been over fifty thousand kilometers, and our total gas transmission capacity has surpassed 160 bcm per year. So far, five LNG receiving terminals have been put into operation with a total capacity of 15.8 million tons per year. In 2011, we imported 31.4 bcm natural gas from abroad, accounting for 24% of our domestic consumption. China's diversified gas supply structure has already taken initial shape.

China has a very broad natural gas market. China's natural gas consumption pattern is being changed from "supply-driven" to "demand-driven". Looking ahead, China's demands for gas will keep going up rapidly by 2030. With proper incentives, our gas demands are going to grow by about 8% annually, which is to increase our consumption to 350 bcm and 550 bcm in 2020 and 2030 respectively, accounting for 10% to 12% of China's primary energy consumption. By that time, China may overtake Russia to become the world's second largest gas consuming countries.

China is quite rich in natural gas resources, and we mainly rely on our domestic production to ensure the supply security. According to the latest resources assessment by our Ministry of Land and Resources, China's technically recoverable resources of conventional gas amount to 32 tcm. By the end of 2011, our rate of proven resources is just 16%, a quite low degree of exploration. Therefore, we are still in the peak period of reserves growth, and our future exploration is highly potential and will be the main force to increase our reserves and production. China is also rich in unconventional gas resources. The technically recoverable resources of our tight sandstone gas are about 12 tcm, and scale development has been achieved with our 2011 production reaching 20 bcm. China's technically recoverable resources of CBM stand at 10.9 tcm. Our CBM is still in the development stage of industrialization and we have built a production capacity of nearly 10 bcm. For China's shale gas, the technically recoverable resources are 25.1 tcm according to our initial estimate. We are now conducting the development pilot tests. By integrating technologies and expertise of foreign companies with our own research results, CNPC drilled a horizontal well in the marine facies shale gas reservoir in southwestern China's Sichuan Basin, and we obtained an initial daily output of 200 thousand cubic meters at a stable wellhead pressure of 20MPa. This has shown very good prospects for future development of shale gas resources in our country.

For the next 20 years, China's gas production is going to remain in the peak period of growth. Our country's gas production capacity is expected to surpass 200 bcm and 300 bcm in 2020 and 2030 respectively. In addition, such remote areas with rich coal resources as Xinjiang and Inner Mongolia Autonomous Regions have been formulating coal-to-gas development plans, and they have started to build demonstration projects. Actually, CTG has the cost advantage compared with imported gas, so it has a quite good future as well. China's domestic gas output will be able to meet the bulk of our demand growth, and it will be the main body to satisfy our needs over the coming decades.

Thirdly, CNPC remains committed to building up natural gas business as our new growth driver.

CNPC is China's largest natural gas producer and supplier. At present, our gas reserves and production make up about 75% of the national total. We own and operate 36 thousand kilometers of gas pipelines, over 70% of the country's total mileage. In recent years, our gas output has been growing continuously, and its weight in our company's domestic production at oil and gas equivalent has risen from 12.3% in 2000 to 36% in 2011. CNPC will keep establishing natural gas as a business of strategic significance and high growth potential for the future. We will strive to achieve the target of increasing gas output to 50% of our company's total production in 2015, and maintain our market share of 70% in China's domestic gas market.

We will further strengthen our domestic natural gas exploration and development, and continuously enhance our resources self-supplying capacity. In the near term, CNPC will still prioritize conventional gas exploration and development, and maintain the steady growth of reserves and production through further increasing our investment. Meanwhile, we also place great importance on the unconventional gas, and we are actively exploring and developing tight gas, CBM and shale gas in different stages. As for tight gas, we have found a large reserve base and owned mature development technologies, and we are now achieving a rapid increase of production. Regarding CBM, the resources distribution is already known and the technologies are basically mature, so we are well positioned to realize sizable increase of output. For shale gas, our resources assessment just started, and we see a great resources potential. But we are also facing even greater challenges in unlocking the shale gas resources. Different than North America, China's shale gas resources are of more complicated geological conditions, and our resources-rich regions are mainly the populous and environmentally sensitive areas in southwestern China. Therefore, we should not simply copy the technologies and experiences of North America. Instead, we must develop our own applicable technologies and methods, and blaze a new trail of low-cost, high efficiency and environmental friendliness. In the near term, we will focus on resources evaluation, technological breakthroughs and pilot tests, so as to obtain the resources and technologies for massive development in the future. Through advancing the development of unconventionals in different stages, CNPC's domestic gas production is going to reach 120 bcm in 2015 and 150 bcm in 2020.

CNPC will speed up the construction of natural gas infrastructure to ensure the effective connection between resources and markets. Our company will deploy the construction of pipeline networks, gas storages and other infrastructures by regions, phases and with focuses. And we will apply market-oriented approaches and take into account resources supply in this process. At present, we have put into operation the First and Second West East Gas Pipelines going across our country and connecting with China-Central Asia Gas Pipeline. And we are planning to build the Third and Fourth West East Gas Pipelines, speeding up the construction of China-Myanmar Natural Gas Pipeline, and studying the pipeline routes for receiving gas from Russia

in the future. Meanwhile, we are speeding up the construction of peaking shaving facilities. The working gas volume of the storages being built is more than 10 bcm. By 2020, the total working gas volume of our storages will make up over 10% of CNPC's gas marketing volume. Eventually, a modern nationwide pipelines network of high connectivity is to be completed and put into operation, and it will greatly facilitate the efficient and flexible connection between upstream resources and downstream markets to ensure the safe and stable market supply.

CNPC will carry out more extensive international gas cooperation to achieve mutual benefits and win-win. Our company is a proactive practitioner of international petroleum cooperation. We do attach great importance to the cooperation with host countries and world petroleum sector, and have had strategic gas cooperation with many countries and major companies. In China, we partner with Chevron, Shell, TOTAL and ExxonMobil to develop sour and unconventional gas. Internationally, we have been pursuing a win-win gas cooperation model in regions and countries like Central Asia, Russia, Middle East, Canada and Australia. In addition, CNPC also partners with Schlumberger, Halliburton, Bake Huges and other leading service companies. For the future, we will hold even more open attitude to encourage and support the greater flows of capital, technologies and talent, and reinforce international cooperation in such fields as E&D, engineering technical services, R&D, pipelines and gas storages construction.

China's gas business requires rapid growth. Our current per capita gas consumption is far below the world average, which does not match our economic and social development. For this reason, prioritizing the gas resources development is a strategic choice for China's energy evolution. CNPC has set out our new development concept, that is, to pursue a green, internationalized and sustainable growth. We will keep following our mission of "Caring for Energy, Caring for You", intensify technology and management innovation, deepen our international cooperation and increase capital investment, so as to make our gas business bigger and stronger. CNPC looks forward to joining hands with various countries and companies to further promote the harmony and prosperity of world natural gas market. Let us work together to make the best use of natural gas, a high-quality fossil energy for the future, and bring its maximum benefits to our mankind.

Thank you!