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Beijing**



## **China Energy Monthly Report**

July 2014

- China and the US increase energy cooperation
- China signs USD4 billion oil deal with Venezuela
- China's State Grid to invest USD6.8 billion in Italy's power grid
- China's third-largest hydropower station in full operation
- China starts new multibillion-dollar power line
- China to curb investment into coal-to-gas
- China signs nuclear deals with Romania and Argentina
- China's CNPC said to seek creation of natural gas champion
- More crude carriers to transport China's increased oil imports

## NUMBERS

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**USD 5.7 TRILLION:** The International Energy Agency (IEA) has predicted that China could invest as much as US\$5.7 trillion by 2035 to find, produce and save energy, accounting for 15% of the global spending (USD 40 billion) in the sector. Fatih Birol, chief economist of the Paris-based IEA, said that the transport sector will be the largest target for China's investment in energy efficiency, accounting for about 71% of the USD 1.6 trillion, followed by the industry and the building sectors. According to IEA data, China avoided 900 million tons (Mt) of carbon emissions by curbing coal demand from 2011 to 2013. The amount saved was equivalent to about one-year global emissions. (China Daily)

**16.2 TWh:** China's Wind Power Development 2014 Report revealed in July that approximately 16.2 billion kWh (TWh) of wind power (10%) was abandoned mainly due to inadequate local consumption and short of power transition infrastructure. In 2013, China generated 135 TWh of wind power electricity, making wind power the third largest electricity source in China following coal-to-electricity and hydropower. (Economic Information Daily)

**107 BCM:** China's Ministry of Land and Resources (MLR) has verified proven shale gas reserves of 107 billion cubic metres (bcm) in Sinopec's Fuling shale gas field in the south-western municipality of Chongqing. Sinopec currently has 29 producing wells in the field, with an output of 3.2 million cubic metres per day (around 1.16 bcm per year), according to media reports. The Chinese government has targets of 6.5 bcm of shale gas per year by 2015 and plans to reach 100 bcm per year by 2020.

**24.8 MT:** By the end of 2013, CNOOC's LNG receiving capacity reached 24.8 Mt, and the under-construction terminals – in total 18 Mt – is sufficient to meet the increasing demand in the following years. Currently most imported LNG comes from Malaysia, Indonesia or Australia, and/or Qatar, although the US' blooming shale gas exploration is set to change the LNG importation landscape dramatically.

## IN BRIEF

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### Key Policies

#### China and the US enhance energy cooperation

On 10 July, China's National Energy Administration (NEA) and the US Department of Energy signed a Memorandum of Understanding to bolster China's strategic petroleum reserves. Wu Xinxiong, head of the NEA, and Ernest Moniz, US secretary of energy, both welcomed further cooperation opportunities in energy sectors such as shale gas, liquefied natural gas trading, nuclear projects and non-fossil energy. The details of the MoU were not made public.

Creating a well-functional oil storage system is crucial for China's energy security. China National Petroleum Corporation (CNPC) estimated that by the end of 2013, China had established 24 crude oil storage bases with total storage capacity of 22.4 million cubic metres, equivalent to 22 days of China's net oil imports. In comparison, the IEA sets each member country's net oil reserve capacity as to 90 days. (China Daily and Reuters)

#### China to curb investment into coal-to-gas

On 22 July, the NEA published a guideline aiming to curb the development of small coal-to-oil and coal-to-gas projects. According to the guideline, the country will ban SNG projects with an annual output of less than 2 bcm and coal-to-oil schemes that produce 1 Mt or less. Projects larger than those will be subject to regulatory approval from the State Council, China's cabinet. The guideline was made public at a time when the Chinese government is streamlining administration and delegating decision making to the Provinces. The NEA also revealed that it is working with the National Development and Reform Commission (NDRC) on other measures to steer an orderly development of coal-to-oil/coal-to-gas projects.

Touted as a solution for choking air pollution in its cities, China plans to turn its vast coal reserves into gas by setting a production target of 15-18 bcm of coal-to-gas by 2015 in its 12<sup>th</sup> Five-Year-Plan (FYP). Stimulated by the enthusiasm of local governments, the number of coal-to-gas and coal-to-oil plants in planning and under construction, however, has largely outpaced the 12<sup>th</sup> FYP target in only three years. But this could potentially lead to significant water consumption, pollution, and CO<sub>2</sub> emissions. (Xinhua)

### Fossil fuels

#### China signs USD4 billion oil deal with Venezuela

On 21 July, during Chinese President Xi Jinping's visit to Venezuela, CNPC and Venezuela's state owned oil company PDVSA signed a loan-for-crude oil agreement under a bilateral finance fund. According to the agreement, China National United Oil Corporation Co., a joint

venture controlled by CNPC, will purchase additional 16,000 cubic metres of crude oil from Venezuela in the coming three years. The new deal will see China take in 125,600 cubic metres of crude oil each day in total from Venezuela. PDVSA will use the proceeds from selling crude oil to pay back loans issued by China Development Bank (CDB), who recently provided USD4 billion of new loans to Venezuela. The new deal will make China Venezuela's No. 1 crude oil importer. (Xinhua)

### More crude carriers to transport China's increased oil imports

Caixin reported on 22 July that China's increase in crude oil imports has prompted Chinese shipping companies to build more very large crude carriers (VLCCs). China Shipping Tanker Co. Ltd. was seeking domestic ship makers to build at least two to four VLCCs, and China Merchants Energy Shipping Co. Ltd. announced a plan to spend USD510 million over ten years building ten VLCCs. Insiders analysed that rising demand for VLCC shipping was not the only reason that Chinese companies are building VLCCs on a large scale. Building a strong fleet of VLCCs is also part of the Chinese government strategy as it could help the country ship in ever-increasing oil and LNG importation.

China wanted domestic shipping to transport 85% of its imported oil from 2011 to 2015, but Customs data suggested that the figure was only 40% of 282 Mt of oil in 2013.

### China's CNPC said to seek creation of natural gas champion

Bloomberg reported on 16 July that CNPC is seeking to combine Kunlun Energy and Kunlun Gas Co. to create a single gas company to compete with private rivals. The plan under consideration would be for Kunlun Energy to buy unlisted Kunlun Gas. Kunlun Energy is CNPC's main commercial gas supplier in China, while Kunlun Gas distributes fuel to households in more than 100 Chinese cities. Kunlun Energy is CNPC's Hongkong listed subsidiary, and Kunlun Gas is an unlisted subsidiary of PetroChina---CNPC's public listed arm.

An analyst estimated that Kunlun Energy could pay more than USD3 billion for Kunlun Gas. Further details are not made public. Officials from CNPC revealed that CNPC's desire to combine commercial sales of liquefied natural gas with retail gas distribution is a longstanding one. Whether this move is in line with the Chinese government's overall reform and open-up on the energy market is yet to see.

## Unconventional

### Sinopec completes first LNG project in East China

On 7 July, Sinopec revealed that it had completed its first LNG project, in Qingdao, Shandong, East China. The project, which began construction on 16 March 2012, consists of receiving stations, wharves, as well as outbound transporting pipelines.

Sinopec hopes that the completion of the project will help ease the tight supply of natural gas in Shandong. According to a framework contract signed by Sinopec and ExxonMobil in 2009, ExxonMobil will supply 2 Mt of LNG annually to Sinopec via Qingdao LNG terminal upon completion. (Xinhua)

## Renewables

### China's third-largest hydropower station in full operation

On 10 July the Xiangjiaba hydropower station began full operations in the border region of southwest China's Sichuan and Yunnan provinces, only 10 days after the Xiluodu hydropower station (ref Energy Monthly June 2014). Located on the Jinsha River, the 6.4 megawatts hydropower station can generate 30.9 billion kWh of electricity per year, making it China's third largest after the Three Georges and Xiluodu hydropower stations.

By the end of 2013, China's hydropower capacity reached 280 GW (22.49%), up 12.3% year on year, of China's energy supply, while thermal power capacity reached 860 GW (69.08%). (Xinhua)

## Nuclear

### China signs nuclear deals with Romania and Argentina

World nuclear news reported on 25 July that two Chinese nuclear utilities have signed agreements to cooperate in the construction and financing of new Candu units at Romania's Cernavoda nuclear plant and at Argentina's nuclear Atucha plant.

China Nuclear Power Engineering Co (CNPEC) has signed a cooperation agreement with China's Candu Energy Inc for the construction of two more reactors (units 3 and 4) at the Cernavoda nuclear power plant in Romania. Cernavoda is home to two operating Candu 6 pressurized heavy water reactors (PHWRs). The two reactors currently generated almost 20% of Romania's electricity.

The agreement comes days after China and Argentina signed a new high-level agreement towards construction of a third PHWR at the Atucha plant in Argentina. It was signed between China National Nuclear Corporation (CNNC) and Nucleoeléctrica Argentina during Chinese president Xi Jinping's visit to Argentina in July. Through the agreement, CNNC would assist by providing goods and services under long-term financing.

These two agreements allow Chinese firms to both invest and operate in future nuclear power plant projects in Romania and Argentina and beyond. In recent years, China has stepped up efforts to invest in overseas nuclear power plants including the UK's Hinkley Point C.

### China starts new multibillion-dollar power line

China Energy News reported that China started operating another multibillion-dollar ultra-high voltage (UHV) power line in early July, connecting Xiluodu hydropower plant, the country's second-largest hydropower plant, in the west to Zhejiang, a province in the East. The latest 1,653-kilometre UHV line, operated by State Grid Corporation of China (SGCC), spans five provinces: Sichuan, Guizhou, Hunan, Jiangxi and Zhejiang, and cost about USD3.2 billion. An UHV power line refers to 800 kV (for DC) and 1000 kV (for AC) transmission. By the end of 2013, China had built four UHV lines for DC, two UHV lines for AC, and three UHV lines for AC are under construction.

In May 2014, the SGCC revealed that energy authorities might soon approve a plan to build 12 electricity transmission lines. The SGCC will be responsible for building 11 of these electricity transmission lines, while the China Southern Power Grid will construct the one distributing power from Yunnan to southern China.

China's decision to construct UHV transmission lines is largely because the majority of the hydropower resources are in the west, and coal is in the northwest, but huge loadings are in the distant east and south. To reduce transmission losses to a manageable level, UHV transmission is believed to be an ideal choice. It allows China to build power plants near coal mines or gas fields thus send electricity rather than coal across the country. This will clear out rail capacity and reduce the need for coal and gas imports, and reduce carbon dioxide emissions. The UHV projects, however, have been controversial with critics arguing China is betting too much on costly and untested technology that could expose the system to blackouts.

### China's State Grid ready to invest USD6.8 billion in Italy's power grid

The Financial Times reported on 25 July that Italian state lender Cassa Depositi e Prestiti (CDP) is close to selling a 35% stake of Italy's energy grids to SGCC. The potential US\$6.8 billion deal is part of an Italian privatisation drive to reduce the country's debts which currently stand at over USD 6.8 trillion.

SGCC is one of China's state owned grid operators and the world's largest state utility. The company aims to more than quadruple its overseas assets to USD30-50 billion as it seeks to diversify away from the domestic market in order to make higher returns. (FT)



Map of China (source: [www.mybeijingchina.com](http://www.mybeijingchina.com))