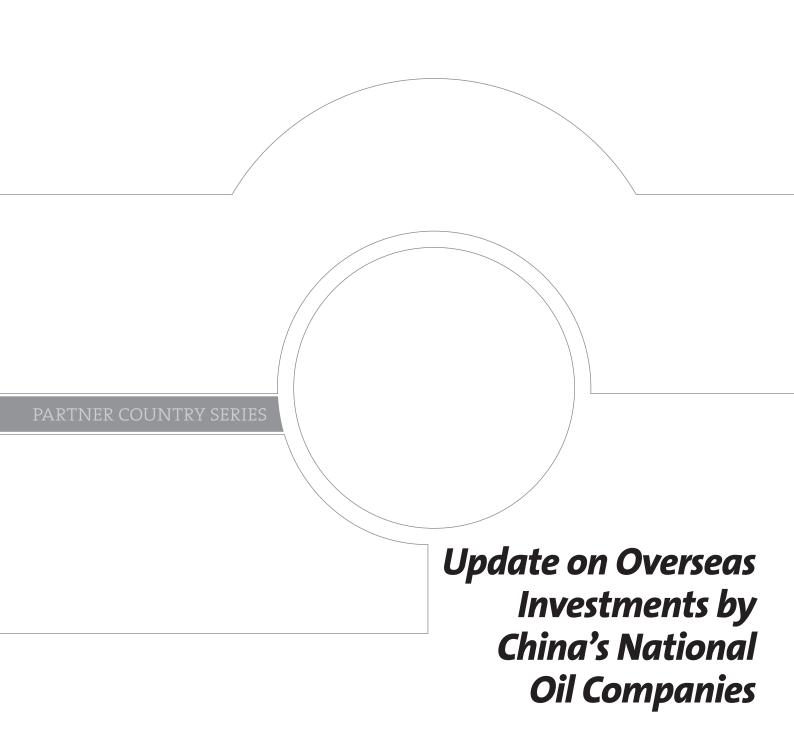




Achievements and Challenges since 2011





Achievements and Challenges since 2011

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## **Background note**

This report provides an update on overseas activity by China's National Oil Companies (NOCs) between 2011 and 2013. It follows the IEA 2011 report, *Overseas Investments by Chinese National Oil Companies: Assessing the Drivers and Impacts.*<sup>1</sup> As explained in that report, China has three NOCs: China National Petroleum Corporation (CNPC), China Petroleum and Chemical Corporation (Sinopec Group), and National Offshore Oil Corporation (CNOOC), all of which are state-owned. It should be noted that both CNPC and Sinopec Group have publicly listed arms, PetroChina and Sinopec, respectively, which have also invested in energy assets overseas. Other companies that have invested outside China include state-owned Sinochem and companies such as YanChang Petroleum and CITIC Energy. This publication covers the major overseas activities of all Chinese companies, with a focus on the Chinese NOCs. Further detail on the origins of China's NOCs and their relationship with the Chinese government can be found in the 2011 report.

Chinese NOCs first ventured overseas in 1993, investing in oil and gas production in Thailand, Canada and Peru, followed by Sudan in 1995. Since those early days, China's NOCs have emerged to become international operators, with activities spreading across more than 40 countries and producing 2.5 million barrels of oil equivalent per day (mboe/d) of oil and gas overseas in 2013. NOCs have contributed much-needed investment in global conventional and unconventional oil and in gas production in places such as Iraq, East Africa, Canada, Central Asia and Russia. Between 2011 and 2013, NOCs invested record amounts of capital totalling USD 73 billion in upstream mergers and acquisitions, and USD 29 billion in long-term loan-for-oil and gas deals with Russia and Turkmenistan to bring additional oil and gas supplies to China.<sup>2</sup>

The 2011 report concluded that, while Chinese NOCs are majority-owned by the government, they are not government-run. Chinese NOCs enjoy a high degree of independence, and their actions appear mainly to be driven by commercial incentives to take advantage of available opportunities in the global market place, especially upstream. This publication provides an update on their overseas investment activities from January 2011 to December 2013, and examines the trends these investments have exhibited and the risks and challenges they face today. The IEA carried out this update based on interviews and secondary sources. A list of interviewees can be found at the end of the References section.

<sup>&</sup>lt;sup>1</sup> This report can be downloaded for free at: www.iea.org/publications/freepublications/publication/overseas\_china.pdf.

<sup>&</sup>lt;sup>2</sup> Long-term loan-for-oil and gas deals were used by Chinese companies to secure long-term supply contracts. The 2011 IEA report explains in detail how such deals work.

## **Executive summary**

China's National Oil Companies (NOCs) have entered a new phase of mergers and acquisitions (M&A) activity and emerged as global players, expanding and diversifying their reserves after more than 20 years of venturing overseas. Simultaneously, Chinese oil and gas companies have made significant improvements in their overseas production levels, mainly through the acquisition of upstream assets. IEA research indicates that, by the end of 2013, combined overseas oil and gas production by Chinese companies totalled 2.5 million barrels of oil equivalent per day (mboe/d). Of this, oil production reached 2.1 million barrels per day (mb/d), a significant increase from 1.36 mb/d in 2010 and equivalent to Brazil's total oil production in 2013 (IEA, 2014a) and to half of Chinese domestic production in the same year. Chinese production in Iraq and new upstream acquisitions between 2011 and 2013 not only added new volumes but also diversified the geographic location of Chinese NOC assets outside China. A total of ten Chinese companies, spearheaded by the three NOCs, own production entitlements in 42 countries, of which half are located in the Middle East and Africa. Although the marketing of this production is largely based on commercial considerations, the increased level of production serves to calm growing concerns within China about the country's inevitable increasing import dependency and, thus, exposure to global oil market volatility.

Chinese companies invested an estimated USD 73 billion<sup>3</sup> in global upstream M&A deals between 2011 and 2013, primarily acquiring unconventional oil and gas, deep-water and liquefied natural gas (LNG) assets. These deals provide better access to crucial technical and managerial know-how in areas in which Chinese NOCs are relatively inexperienced. As China's gas demand grows rapidly, there is an urgent need to tap into its vast reserves of unconventional gas. The landmark acquisition by CNOOC of Canadian independent Nexen in 2013 has transformed the company into an international player able to compete with others on an equal footing. New acquisitions since 2011 clearly demonstrate that China's NOCs are moving away from riskier parts of the world towards more politically stable investment climates such as those in Organisation for Economic Co-operation and Development (OECD) member countries. Taking advantage of the North American energy boom, Chinese companies have enjoyed some degree of success there, but, at the same time, they face growing challenges to overcome significant management and operational issues. As China's NOCs invest more globally and co-operate increasingly with other international oil companies (IOCs), suspicions about their investment intentions appear to be declining. In contrast to the past, Chinese NOC acquisitions in OECD member countries have been met with less scepticism. However, their share of the North American energy scene is relatively small compared to that of the major IOCs.

China's vast potential for shale gas development and the huge Chinese oil and gas markets have encouraged foreign companies to partner with its NOCs. Such co-operation has intensified in recent years. International majors such as Shell, ConocoPhillips, Eni and Total all have reached co-operation agreements with NOCs in China to conduct seismic surveys, exploration, and joint research to develop shale oil and gas blocks. Hess was the first company to sign a production sharing contract (PSC). Both BP and Husky reached agreements with CNOOC to develop China's deep-water blocks. The relationship between Chinese NOCs and these IOCs originally began outside China as the result of overseas investment on the part of NOCs in countries where they could form partnerships. Today, China's NOCs are deepening their partnerships and creating a win-win situation by leveraging China's domestic resource potential in exchange for greater access to IOC assets outside China.

<sup>&</sup>lt;sup>3</sup> This amount is based on announced deals that provide the M&A amount. Some deals were announced where the size of the deal was not published.

China's NOCs have made significant progress in both upstream and downstream investments in resource-rich countries like Russia and Saudi Arabia. A breakthrough year for Sino-Russian energy co-operation occurred in 2013 when Chinese companies reached multiple deals, including a 25-year long-term loan-for-oil deal with Russia's Rosneft to double Russia's crude oil supply to China to 600 000 barrels per day (600 kb/d) through pipelines. On 21 May 2014, CNPC and Gazprom finally inked a historical gas supply contract of 38 billion cubic metres (bcm) from Russia to China for 30 years. A similar long-term loan-for-gas deal was reached with Turkmenistan in 2011 to secure an additional 25 bcm of long-term gas supply to China. Chinese NOCs have enjoyed continued success with other resource-rich countries by applying a market-for-resource strategy,<sup>4</sup> for example, with Saudi Arabia, resulting in joint investment in gasoline stations in China and refineries in both countries. In addition, Chinese NOCs have extended their investment to include the mid- and downstream sectors by building additional pipelines in Central Asia, Iraq and Canada, and by purchasing refineries as well as trading and storage companies in Europe.

Despite their success in both upstream and downstream investments around the world, the Chinese NOCs have faced difficult challenges in parts of the world where political instability is mounting. Security concerns and some ethnic tensions have heightened in Central Asia, and the protection of these NOC oil and gas pipelines across the five countries in this region requires multilateral efforts to balance the interests of all stakeholders. Chinese NOCs are now more experienced in risk management overseas. They are working with the Chinese government under the framework of the Shanghai Cooperation Organization (SCO) to engage in dialogue and enhance co-ordination with host countries.

Over the past three years, events in the Middle East and North Africa have made the energy business environment even more challenging: the Arab Spring and the Syrian civil war, which are reshaping the political landscape of the Middle East; the ongoing Iran nuclear negotiations; and the escalating conflict between Sudan and the newly independent South Sudan, as well as recent violence within South Sudan. China's NOCs have found themselves caught in the middle of geopolitical crises that have caused production to be shut down and personnel to be recalled. These events have imposed new dilemmas upon Chinese leaders and policy makers, who have remained insistent upon their long-held principle of non-interference, but who must now balance protection of Chinese commercial and energy security interests with maintenance of relationships with strategic bilateral partners. These partners include the Unites States, the European Union and Saudi Arabia, all of whom have supported tougher sanctions against Syria and Iran, while China, insisting on maintaining the non-interference principle that has served it so well in the past, has found itself on the opposite side of the argument.

The conflicts and violence in Sudan and South Sudan have proved to be the most severe blow to China's NOCs since they embarked on overseas investment 21 years ago. CNPC now faces unprecedented challenges in relation to its high-profile investment in Sudan as do other Chinese investments. Are the NOCs finally paying the price for investing in the most risky countries in the world? It is unclear how much lobbying leverage the NOCs have applied to Beijing's top decision makers, but it is apparent that China is now a key mediator in negotiations to end the violence. Was China's position as the biggest investor in Sudan and South Sudan a determining factor in the country's decision to intervene? While it is tempting to posit a direct relationship, no evidence currently exists to suggest that China is abandoning its long-held policy of non-interference; so far, the situation in Sudan and South Sudan appears to be a special case.

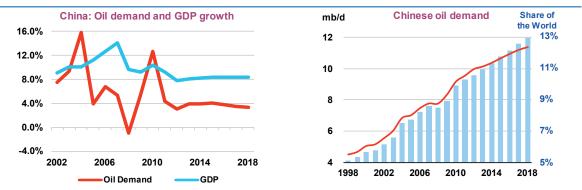
<sup>&</sup>lt;sup>4</sup> The market-for-resource strategy has been used by Chinese NOCs to build relationships with NOCs from resource-rich countries. By offering a piece of the Chinese domestic market, NOCs leverage the relationships and trust they have built, gain preferential treatment for co-operation in these countries, or simply expand their opportunities to purchase more oil (IEA, 2011).

As China emerges as an economic power, with commercial interests spread around the world and increasing integration into global markets, pressure is growing for it to shoulder its share of responsibility for maintaining a stable global economic and diplomatic environment, and to participate constructively in organisations of international governance. Chinese NOC overseas investments may have originated as primarily commercial investments, but recent events have politicised a number of them, and – as is normal for a country with significant assets abroad – they may become significant influences on China's foreign policy. Today, the greatest challenge facing Chinese NOCs is that their business interests in risky countries are highly dependent on how China's foreign policy evolves. Continued close observation is warranted on how China's NOCs and its government find ways to work together to reconcile these political and security issues.

## Overview of oil and gas demand and supply in China

According to China's National Bureau of Statistics, the Chinese economy slowed to a 7.7% gross domestic product (GDP) growth rate in 2013, down slightly from 7.8% in 2012 and 9.3% in 2011. This tempered growth occurred on the back of an uneasy political transition since the new government was formed in early 2013, coupled with difficult reforms and the continued process of massive urbanisation. Chinese energy consumption, on the other hand, has shown no signs of slowing down. According to the January 2014 IEA *Oil Market Report* (IEA, 2014b), as the second largest oil consumer in the world after the United States, China's oil demand continued to grow in 2013 at 10.1 mb/d, a 3% increase over 2012, and it is forecast to reach 10.4 mb/d in 2014 and 10.8 mb/d in 2015. Over the longer term, IEA forecasts suggest that oil demand will reach 12 mb/d by 2018 (IEA, 2013b) and 15.6 mb/d by 2035 (IEA, 2013a). China is expected to overtake the United States as the largest oil consumer by around 2030 (IEA, 2013a).

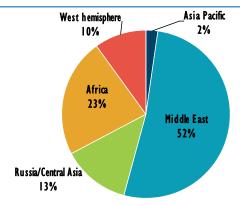
Figure 1 • China's oil demand



Source: IEA (2013b), Medium-term Oil Market Report 2013, OECD/IEA, Paris.

With essentially no growth in domestic oil production last year (4.18 mb/d in 2013), 59% of Chinese demand in 2013 was met by imports. China's top ten crude oil suppliers (in order of import volume) were Saudi Arabia, Angola, Oman, Russia, Iraq, Iran, Venezuela, Kazakhstan, United Arab Emirates and Kuwait. Once again, China relied heavily on supplies from the Middle East, with 52% of its 5.64 mb/d of crude imports in 2013 originating from the region (Figure 2) and 19% of imports supplied by Saudi Arabia alone. According to the United States Energy Information Administration (US EIA), in September 2013 China surpassed the United States to become the world's number one net importer of petroleum and other liquid fuels (US EIA, 2014).

Figure 2 • Source of Chinese crude oil imports in 2013 by region



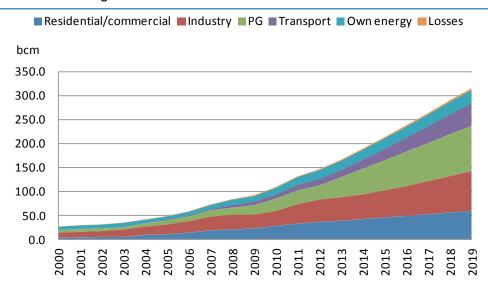
Source: OGP (2014b), China Oil, Gas & Petrochemicals, issue dated 1 February, Xinhua News Agency, Beijing.

China's 12th Five-Year Plan for Energy Industry Development (FYP) (NEA, 2013a), published in early 2013 and covering the period 2011 to 2015, called for the capping of China's oil import dependency rate at 61% by 2015. In 2013, China imported 5.64 mb/d, and the foreign oil dependency rate had already reached 59%. IEA data suggest that China's foreign oil dependency rate is likely to reach 60% in 2014 and 61% in 2015 (IEA, 2014a; IEA, 2013b). This will depend on the growth rate of Chinese oil demand, which is mostly driven by the transport and petrochemicals sectors, but also by the building up of China's strategic and commercial stocks.

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China's natural gas market is one of the fastest growing in the world, with demand of 192 bcm in 2013 (CNPCETRI, 2014). Chinese experts expect demand to reach 230 bcm by 2015, according to IEA interviews. The IEA *Medium-Term Gas Market Report* forecasts demand to reach 315 bcm in 2019 (IEA, 2014c), with a 12% year-on-year increase. The 12th FYP called for gas to comprise 7.5% of China's primary energy mix by 2015, compared to 4.3% in the 11th FYP (Annex 4). This sharp increase is driven primarily by the higher living standards of China's middle class, strong industrial consumption, and China's desire to clean up air pollution by switching from coal to gas for power generation. China is rich in natural gas resources due to its large shale reserves. Many efforts have been made to encourage higher domestic production. China produced about 117 bcm of natural gas in 2013 (OGP, 2014b), making it currently the third largest natural gas producer in the world. However, given the ever-increasing demand, its import dependency rate for natural gas still stood at 31.6% in 2013, with 53 bcm being imported via LNG (25 bcm) and pipelines (28 bcm).

Figure 3 • Chinese natural gas demand



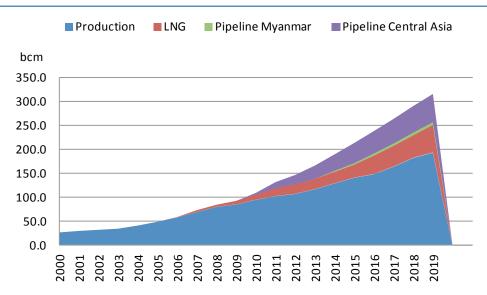
Source: IEA (2014c), Medium-term Gas Market Report 2014, OECD/IEA, Paris.

In January 2014, the National Energy Administration of China (NEA) held meetings to address the natural gas supply shortage issue and promised to maintain supply to residential users. Gas shortages in China are caused by many factors. The major cause is the ever-increasing imbalance between China's major gas demand centres and its supply sources. The estimated gas shortage for 2013 was 22 bcm, caused by lower-than-expected levels of unconventional production and imports.

In its 12th FYP for Shale Gas Development (NEA, 2012), China aimed to produce 6.5 billion cubic metres per year (bcm/yr) of shale gas by 2015. While Chinese officials remained optimistic about reaching this goal in a statement issued at the IEA ministerial meeting in November 2013 (NEA, 2013b), many in the industry considered it to be overly ambitious. Even though China has the largest shale gas resources in the world, at 1.1 trillion cubic feet according to the US EIA (2014), achieving large-scale production is a huge challenge. The second bidding round for shale gas

blocks, offered in 2012 after much delay, did not attract interest from Chinese majors or foreign companies because the blocks offered were considered "left-overs", according to industry insiders. Instead, Chinese coal producers and power companies won most of the blocks. In general, they were companies with less ability to develop the resource. Overall, shale gas exploration remains at the preliminary stage; around 150 wells had been drilled by the end of 2013 with output approaching 200 million cubic metres (mcm). Other challenges include difficult geological features, lack of water resources, technical constraints, a lack of sufficient transport capacity to ship the gas to demand centres, an underdeveloped pipeline network, and an uncertain regulatory framework. Coal-bed methane (CBM) development has been disappointing and coal-based synthetic natural gas is also at an early stage. Given that three years of the 12th FYP period have already passed, the target for unconventional gas appears increasingly difficult to achieve.

Figure 4 • Chinese natural gas supply



Source: IEA (2014c), Medium-term Gas Market Report 2014, OECD/IEA, Paris.

With the delayed development of domestic gas supplies, China is trying to fill the gap by relying more on imported gas. Currently, China imports from Central Asia and Myanmar through transnational pipelines and from various exporters via LNG terminals. Pipeline imports account for 52.8% of total imports and LNG for the remainder. China has been in negotiations with Russia's Gazprom to bring Russian gas to China via pipeline for more than ten years. At the time of the publication of this report, on 21 May 2014, CNPC and Gazprom finally signed a contract to use the eastern pipeline route to supply 38 bcm per year of natural gas from Russia to China.

## Major investment trends and achievements

Chinese NOCs, along with other smaller Chinese companies, invested USD 38 billion, USD 15 billion, and USD 20 billion in 2013, 2012 and 2011, respectively, in global upstream oil and gas M&A deals (Annex 1 contains details of each acquisition). Every Chinese NOC made significant improvements in its global production portfolio, particularly in North America and Australia and increased its focus on unconventional oil and gas production, deep-water exploration and LNG. Direct acquisition has been the main strategy used by NOCs in the past several years to expand overseas oil and gas production and to work side-by-side with IOCs and other NOCs globally to gain experience and reduce risks. Upstream investments by Chinese companies have contributed to the increase in global oil and gas supplies. Chinese companies also made significant investments in Central Asia and Russia to secure more oil and gas supplies to China. Chinese companies further expanded their supply chains by investing in pipelines, storage facilities, refineries and sales and trading capacity. This section provides an update on Chinese companies' overseas activities and achievements, and examines the trends exhibited by these investments.

#### Increased Chinese overseas oil and gas production

Chinese NOCs have significantly increased their overseas production entitlement<sup>5</sup> (hereafter referred as Chinese overseas production) in recent years, mainly through upstream M&A. Based on available data, we estimate that at the end of 2013, combined overseas oil and gas production by Chinese companies totalled 2.5 mboe/d. Oil production accounted for 2.1 mb/d, which is the equivalent of approximately 50% of Chinese domestic production in 2013 and a big increase from 1.36 mb/d in 2011 (IEA, 2011). Described another way, it is equivalent to Brazil's total oil production in 2013 (IEA, 2014a). Chinese production in Iraq and new acquisitions from 2011 to 2013 not only added new volumes, but also diversified the geographic sources of Chinese NOCs' assets outside China. A total of ten Chinese companies, spearheaded by the three NOCs (parent companies and publicly listed arms), have production in 42 countries. As shown in Figure 4, half of Chinese production is located in the Middle East and Africa, although an increasing percentage comes from the Americas. In 2010, Chinese overseas oil production was largely concentrated in Kazakhstan, Sudan, <sup>6</sup> Venezuela and Angola (IEA, 2011). Thanks to their success in Iraq and their targeted strategy to invest in the Americas, the overseas portfolios of the NOCs has become much more diversified and, to some degree, has mitigated the risks they have encountered in countries like Sudan and South Sudan.

Among the ten Chinese companies that produce oil outside China, PetroChina, the publicly listed arm of CNPC, owns the largest amount of Chinese overseas oil and gas production at 883 000 barrels of oil per day (883 kb/d). CNOOC, the most internationalised of the three NOCs, ranked number three thanks to the Nexen acquisition (see Box 1), which added 160 kb/d to CNOOC's overseas production total (Figure 6).

By the end of 2013, Chinese companies had a combined 553 kb/d of oil production in Iraq, 26% of total Chinese overseas oil production in 2013. Chinese companies have been active in Iraq's oil sector since winning bids to service contracts together with IOC and NOC partners in 2009.

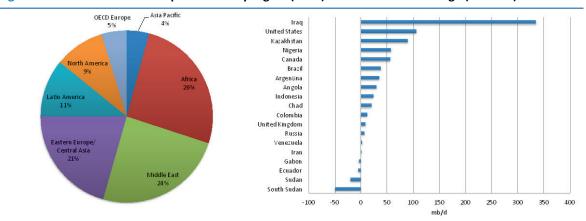
Chinese companies, especially PetroChina, have extensive experience in developing mature onshore oil fields. PetroChina is a partner in the consortium development of the Rumaila field and the operator of the Halfaya and Al-Ahdab fields, while CNOOC operates the Missan oilfields. Sinopec

<sup>&</sup>lt;sup>5</sup> The production entitlement used in this paper refers to oil and gas production volume outside of China by Chinese companies. Most of this volume includes production where Chinese companies have control over how and to whom to sell their shares.

<sup>&</sup>lt;sup>6</sup> Before South Sudan became independent in 2011.

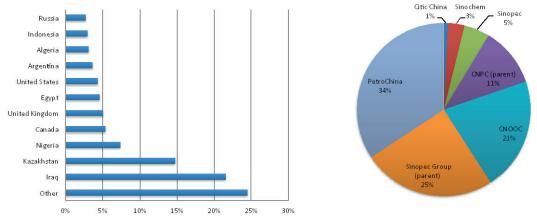
also produces oil in the Iraqi Kurdistan Regional Government area. Chinese NOCs, like other oil companies, consider Iraq a key strategic country in which to gain a foothold because of the lack of other investable quality assets globally (IEA, 2011). PetroChina, which benefited from its upstream experience and early-entry position into Iraq, holds the leading position among the three Chinese NOCs. In 2013, PetroChina joined ExxonMobil by purchasing 25% of its share in Iraq's giant West Qurna oilfield, which is 50 kilometres (km) northwest of the southern oil hub of Basra. This will add synergies to PetroChina production capacity in Iraq and could make the company the biggest single foreign investor in Iraqi oil (Reuters, 9 August 2013). PetroChina is also reportedly in talks with Lukoil for a share in West Qurna-2. With the newly added share, PetroChina oil production equalled 452 kb/d in Iraq at the end of 2013. CNOOC and Sinopec accounted for the remainder.

Figure 5 • Chinese overseas oil production by region (2013) and incremental change (2011-13)



Sources: Rystad Energy; IEA data.

Figure 6 • Chinese overseas oil and gas production by country and by company (2013)



Sources: Rystad Energy; IEA data.

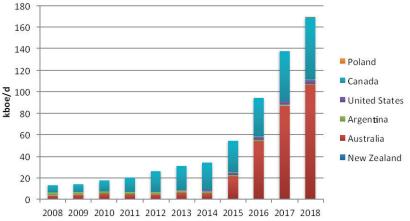
The successful boost in Chinese oil production in Iraq has been the highlight of recent overseas investment by Chinese NOCs. Chinese investments contributed much-needed capital to increase Iraqi oil production, which recently reached an all-time high and is projected to reach 9 mb/d by 2035 (IEA, 2012). In the long term, Iraq is set to become one of the main pillars of global oil output, and will also become the largest contributor to global oil export growth. According to the IEA *Iraq Energy Outlook*, much of Iraq's export crude will go to markets in Asia where demand is growing most quickly and where the large, modern refineries can handle Iraqi crudes with a range of specifications (IEA, 2012). In 2013, Iraq was the fifth largest crude oil supplier to China with 470 kb/d, a sharp 50% year-on-year increase from 2012.

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Chinese companies continue to maintain a strong presence in Kazakhstan's oil and gas sector. In 2013, CNPC successfully gained an 8.33% share (USD 5 billion) in the giant Kashagan oil project in Kazakhstan's Caspian Sea, followed by an additional USD 3 billion to finance the second phase of development of Kashagan (Reuters, 7 September 2013). This acquisition allowed CNPC to own a minor share in a giant project in the largest oil discovery in the past 30 years. The Kashagan oil project is located in the Kazakhstan zone of the Caspian Sea and has suffered from eight-year delays and cost overrun of USD 30 billion since 2005 (Forbes, 2014). CNPC may benefit from the situation as IOCs who participated in this project are frustrated with delays and need to answer to their shareholders on quicker return on investment. CNPC took over ConocoPhillips' share in the project and is likely to focus on the long-term potential of the project. Chinese companies have combined production of 315 kb/d in Kazakhstan, the second largest after Iraq. It is worth noting that smaller Chinese companies have also invested in upstream production in Kazakhstan. Hainan Zhanghe, Xinjiang Guanghui, MIE Holdings and CITIC China all invested in upstream production in Kazakhstan.

In fact, smaller private companies have emerged as a new force in China's oil and gas sector. Since around 2008 they have been trying to invest outside China, just like China's large NOCs. In 2013, five companies spent a combined total of USD 1.5 billion to acquire assets in the United States, Canada, Argentina and Kazakhstan. Private companies may benefit from the current wave of reforms that is taking place in China today, and have opportunities to gain more assets both in China and overseas. After the 12th National Congress in March 2014, the Chinese central government proposed reforms to the capital structure of major state-owned enterprises (SOEs). A key target for China's policy makers is to transform companies like CNPC and Sinopec Group into pure holding companies to improve the oil sector's capital efficiency and avoid corruption. CNPC and Sinopec are also reportedly planning to sell some of their stakes to social and private investors. (OGP, 2014a)

Figure 7 • Chinese overseas unconventional gas production (2013)



Sources: Rystad Energy; IEA data.

Chinese NOCs also advanced their overseas production in OECD member countries, such as the United Kingdom, Canada and the United States, due to new investments in the UK sector of the North Sea blocks and in unconventional production in North America. Chinese overseas gas production, increasingly in unconventional, is still low at 404 kboe/day, although it is expected to increase in coming years due to new upstream acquisitions of gas assets. Figure 7 shows the forecast of Chinese overseas unconventional gas production to 2018 and its locations, which are mostly concentrated in Canada and Australia due to recent acquisitions in these countries.

The IEA report (2011) disproved the common misconception that China's NOCs were acting overseas under the instruction of the Chinese government. Decisions about the marketing of oil concerning the degree of control over how and to whom Chinese companies sell their share of production appear to be dominated by market considerations (IEA, 2011). Again, further research

conducted for this updated publication has uncovered no evidence to suggest that the Chinese government imposes a quota on the NOCs regarding the amount of their overseas oil that they must ship to China. Marketing decisions concerning NOC oil are based on the details of each PSC and on short-term commercial considerations.

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The higher levels of production being reached by NOCs outside China should help to calm the growing nervousness within China regarding its inevitable growing import dependency and greater exposure to global oil market volatility. Some in China argue that NOCs have not fulfilled their responsibility to China's energy security needs and that they should bring their oil back to China. However, Chinese overseas production increases supplies to the global market, which China has become a part of and, increasingly, relies on.

#### Notable geographic shift: New investors in OECD member countries

2013 was a record year for Chinese NOCs since they started venturing overseas in 1993. Chinese companies signed M&A deals valued at USD 30 billion to acquire offshore, LNG and unconventional oil and gas assets, the majority of which were in the OECD member countries. From 2011 to 2013, Chinese NOCs have emerged to become global players in M&A, with the aim to expand and diversify their reserves, internationalise their operations and gain technical know-how. These three points are listed in the IEA 2011 paper as key motivations for NOC investment overseas (see Annex 3).

The United States and Canada accounted for the bulk of Chinese NOC overseas M&A activity in this period, totalling USD 27 billion, with almost all assets focused on unconventional resources. In February 2013, CNOOC completed its USD 15.1 billion takeover of Nexen, representing China's largest NOC takeover of an oil and gas company (see Box 1). Earlier in January 2012, Sinopec Group also made its first entrance into the US upstream oil and gas business, with the conclusion of a USD 2.5 billion joint venture with US-based Devon Energy for a one-third share of five shale blocks. Devon is the world's largest independent oil and gas exploration and production company and is also the largest LNG supplier in North America. Sinopec could also benefit from Devon's advanced technical and managerial know-how for developing unconventional oil and gas. The company moved again in February 2013 to seal a USD 1.02 billion joint venture deal with Chesapeake Energy for a 50% interest in the Mississippi Line asset with nearly 2.2 million acres. State-owned Sinochem also tested the waters for the first time in early 2013, signing a USD 1.7 billion joint venture deal with US Pioneer Natural Resources for its assets in the Permian basin.

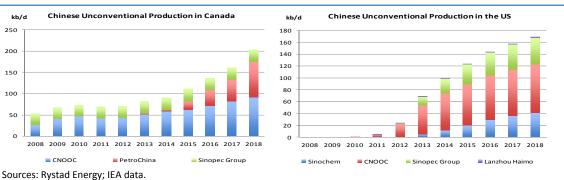


Figure 8 • Chinese overseas unconventional production in North America

To date, only CNPC/PetroChina remains to enter the US unconventional sector, although it already has a long history of joint ventures in Canada, concluding a USD 2.2 billion deal for a 49.9% stake in Encana's shale assets in Duvernay, Alberta, in December 2012. According to industry insiders, as the dominant holder of domestic unconventional acreage and with more technical expertise than its peers, CNPC has had less pressure to acquire overseas unconventional assets at all costs.

Rather, its strategy has always been to seek out larger assets with more sustainable production prospects, such as Iraqi oilfields and East African gas fields. However, CNPC set up its first overseas training, R&D and business development centre in Houston, Texas, United States, in 2010 to attract global talent.

Overall, while Chinese companies have made progress in North American upstream assets, they remain small players and newcomers compared to the major IOCs. Table 1 below illustrates the percentage of Chinese production in Canada and the United States compared to that of the major players in these two countries.

Table 1 • Shares of oil and gas production (out of total country production) in the top companies of the United States and Canada

United States	2009	2010	2011	2012	2013
Chinese companies	0.13%	0.11%	0.11%	0.18%	0.44%
ExxonMobil	6.6%	6.6%	6.1%	5.9%	5.6%
Chevron	4.4%	4.2%	3.8%	3.5%	3.2%
ConocoPhillips	4.8%	4.3%	3.8%	3.7%	3.6%
BP	5.0%	4.6%	3.6%	3.3%	3.3%
Shell	2.6%	2.5%	2.6%	2.4%	2.2%
Canada	2009	2010	2011	2012	2013
Chinese companies	2.1%	2.3%	2.2%	2.0%	2.1%
ExxonMobil	5.1%	5.3%	5.3%	4.4%	4.8%
Chevron	4.3%	4.5%	5.2%	4.9%	4.8%
Suncor	7.1%	6.9%	7.2%	6.7%	6.9%
Husky	5.7%	5.1%	4.8%	4.5%	4.2%

Note: Data used in this table include oil and gas production in both conventional and unconventional.

Sources: Rystad Energy; IEA data.

#### Box 1 • CNOOC's landmark Nexen acquisition

CNOOC's landmark USD 15.1 billion acquisition of Canadian independent Nexen marked a new phase in Chinese NOCs' development: their entrance into genuine competition with IOCs, according to Professor Wang Zhen from China University of Petroleum (interview, December 2012). Based on CNOOC's investor presentation and interviews with company employees, the deal provided a rare opportunity to acquire long-life reserve assets and expand the cmpany's offshore asset portfolio and technical expertise. According to CNOOC, the deal increased the company's production and reserve base by 20% and 30%, respectively. The deal also strengthened CNOOC's positions in Canadian shale and oil sands, and offshore in the Gulf of Mexico, Nigeria, and the North Sea. Political stability was another consideration; 90% of the newly acquired reserves are in OECD member countries with more developed and stable regulatory and fiscal regimes. While the deal has many positives, there are still significant management and operational challenges. CNOOC's inherited Long Lake project in the Athabasca Oil Sands, for example, has struggled to increase production to its targeted 72 kb/d of bitumen. According to Credit Suisse, the project has recorded negative earnings contributions. CNOOC also has the tall order of improving production efficiency in the Buzzard field, which has been plagued by unplanned outages in the past several years (Credit Suisse, 2012). On the management side, a major question is whether CNOOC can effectively manage its cross-cultural team while improving operational efficiency without cutting human resources (a pledge CNOOC made to the Canadian government as part of the deal).

After emerging from the failed attempt to acquire Unocal back in 2005, CNOOC was the first Chinese NOC to tap into the US shale gas industry without the negative reception of the host country. It reached acquisition deals with Chesapeake in 2010 and 2011. However, the size of the takeover of Nexen attracted public attention in Canada and the United States. The approval process in Canada took nearly five months due to the debate over whether the Canadian oil sand business should be controlled by SOEs. CNOOC identified a number of plans to demonstrate its commitment to Canada, including retaining Nexen's management and employees, establishing its head office for North and Central America in Calgary, and listing its shares on the Toronto Stock Exchange (TSX). Concern was raised in Canada about the state-owned nature of CNOOC, and some in the United States were also concerned that having a Chinese company controlling assets in the United States Gulf of Mexico might pose a threat to national security. Final approval of the CNOOC's takeover of Nexen in Canada and the United States signalled a generally positive attitude on the part of policy makers in both countries towards welcoming Chinese investors, state-owned or private, to North America. However, some concerns about Chinese SOEs investing in North America still exist.

What were the critical differences between the successful Nexen acquisition and CNOOC's failed bid to purchase Unocal in 2005? Erica Downs of the Brookings Institution ascribes the changes to the new environment in North America in 2012. Following the unconventional revolution in the United States and Canada in 2012, foreign investments are now welcome in the oil and gas sector. In addition, Nexen being a Canadian company, instead of a traditional US oil company, also made approval easier in the United States, according to Downs (IEA interview, 2014). The US government established its "Invest in America" initiative in 2007 to promote foreign direct investment. The Heritage Foundation's China Global Investment Tracker shows that from 2007 to 2013, Chinese investment in the United States totalled an estimated USD 62 billion, with energy investment (that only started in 2007) amounting to USD 15.6 billion of this. The energy sector ranked number two after the finance sector (Heritage Foundation, 2014). CNOOC also reportedly made a significant concession by giving up operating control of Nexen's Gulf of Mexico assets in order to receive approval from the Committee on Foreign Investment in the United States (CFIUS) (Financial Times, 19 December 2013). According to the Wall Street Journal, CNOOC would still own the contracts and receive profits from production. The new contract structure could be similar to one in which the minority shareholder is the primary operator while the majority shareholder receives a major portion of profits and finances most of the costs (Wall Street Journal, 1 March 2013). In December 2012, the Canadian government made an announcement unveiling revised guidelines applicable to future acquisition of control of Canadian business by SOEs. According to the government policy statement, the acquisition of control of a Canadian oil sands business by an SOE will be found to be of net benefit "on an exceptional basis only". One week after the release of the revised guidelines, CNPC announced a new joint venture with Canadian company Encana, with a USD 2.2 billion and 49.9% minority stake to develop the Duvernay shale gas field in West Alberta. Since Encana will retain a 50.1% interest in the newly created joint venture, and will act as project operator and oversee development of the project, this deal was not subject to the revised rules. Interviews with Canadian officials confirm that foreign investments, including by SOEs, continue to be welcome. Transactions are reviewed by the Minister on a case-by-case basis and each transaction is considered on its own merits. Canada's policy is to maintain an open, market-based approach and strongly encourage foreign investments in its mining and energy sectors, which, over the next decade, will require more than USD 650 billion in capital investment. Investments from SOEs are, and will continue to be, an important component of realising Canada's natural resource potential (interview with Canadian officials via email, February 2014).

Australia has also become a targeted investment destination for Chinese companies. In the past three years, Chinese companies invested an estimated USD 8 billion in Australian natural gas assets, focusing on CBM and LNG. Chinese gas production in Australia is expected to grow faster than that in Canada and to reach 106 kboe/d, more than double the amount in Canada (Figure 7). Australia considers China a major export destination for its natural gas, coal and other resources and its economy has benefited greatly from the surging demand for resources from China. Currently, about 17% of Australia's LNG exports land in China. From 2011 to 2013, each of the

three Chinese NOCs acquired Australian LNG assets with the aim of exporting LNG to China. Sinopec's major purchase in the Asia Pacific Region (see Annex 1) was an LNG project in Australia that would not only allow them to acquire shares in the project, but also help secure the long-term supply of 3.3 million tonnes of LNG per year to 2035. However, Chinese investors in Australian CBM and LNG face many challenges. For example, the Arrow LNG project jointly owned by PetroChina and Shell has been delayed, possibly to 2014, due to rising costs for energy projects in Australia. Many LNG projects are being built at the same time, causing shortages of experienced workers and bottlenecks in infrastructure. Regulatory changes (when the government introduced a carbon tax in 2011 to reduce pollution), currency appreciation and inflation also contributed to the rising costs of building LNG projects.

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In 2012 and 2013, two Chinese companies made a debut in the United Kingdom's mature offshore fields. In July 2012, Sinopec, through its subsidiary Addax Petroleum UK, acquired a 49% interest in Talisman Energy's North Sea assets. The joint venture deal, valued at USD 1.5 billion, will help strengthen Canada-based Talisman's balance sheet while securing much-needed capital for the firm's North Sea development projects. The deal also gives Sinopec just under 16 kb/d of North Sea production, as well as significant operational experience operating offshore. The Nexen acquisition also strengthened CNOOC's foothold in the North Sea. CNOOC gained control of the Buzzard oil field, the United Kingdom's largest oilfield and the biggest contributor to the Forties blend and the global Brent benchmark. Through Nexen, the company also acquired 36.5% of the Golden Eagle project, 70 km northeast of Aberdeen, Scotland, which is expected to be the second largest oilfield after Buzzard with an expected output of 70 kb/d in 2014. While there has been some speculation that CNOOC's ownership of Buzzard may give it influence in the Brent market and increase its knowledge of how the benchmark is priced, interviews with CNOOC employees indicate that this is unfounded. According to them, CNOOC's main focus in the North Sea is to gain offshore operational and technical expertise.

New acquisitions made by Chinese NOCs in recent years clearly demonstrate that they are moving away from investing in risky parts of the world in favour of a more politically stable investment climate. Chinese NOCs and other companies have enjoyed some degree of success in North America, the United Kingdom and Australia. It comes at a time when China's NOCs are facing increasingly complicated geopolitical situations in the Middle East and Africa (explained in detail in a later section). As they invest more globally and increasingly co-operate with IOCs, suspicions about their investment intentions seem to be declining. Contrary to the past, today Chinese NOC acquisitions in OECD member countries are met with less scepticism. Foreign investors have increasingly been welcome to participate in the oil and gas industry in these countries as the result of the energy boom in North America and Australia in recent years. However, some resistance to Chinese NOCs taking over Canadian and US companies still exists. For example, for the moment at least, the door remains shut to their acquisition of a 100% interest in Canadian oil sand assets.

Besides OECD member countries, other stable economies have also attracted Chinese NOC investment. Chinese companies have been participating in Brazil's oil and gas industry in recent years. In 2012, Sinochem purchased 10% stakes in five offshore oil blocks in Brazil's Espirito Santos basin to participate in exploration. In 2010, Sinochem acquired a 40% stake in Norwegian company Statoil's Peregrino field for USD 3.07 billion. Sinopec has also invested in Brazil. It was the beneficiary of China's loan-for-oil deal with Petrobras in 2009 and 2010, with loans provided by the China Development Bank. Sinopec also paid USD 5.19 billion for a 30% stake in the Brazilian unit of Portugal's Galp and USD 7.1 billion for a 40% share of the Brazilian arm of Spanish oil company Repsol. By 2013, Sinopec and Sinochem had a combined 48 kb/d of oil production in Brazil. M&A investments allowed Chinese companies to access Brazilian upstream assets, including projects in deep-water blocks in the pre-salt Santos basin and significantly increased NOC presence in the Brazilian oil and gas sector (IEA, 2013c). In 2013, CNOOC and CNPC made a breakthrough into the Brazilian oil sector by jointly winning a 35-year PSC in a consortium with Petrobras, Shell and

Total to develop a pre-salt discovery in Brazil's Libra oil field (see Annex 1). Previously, Sinopec's co-operation with Petrobras had been only partially successful, as Petrobras had been reluctant to share its pre-salt technology (IEA, 2013c). Globally, China's NOCs have been seeking to gain deep-water technical and managerial know-how by participating as minority shareholders in a large project to work side-by-side with experienced players. The Libra acquisition provided the perfect such opportunity and marked CNOOC and CNPC's first entry into Brazil's oil sector.

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#### Creating a win-win situation to develop domestic resources

Chinese co-operation with IOCs and other countries' NOCs has increased over the years. Foreign companies are targeting growing Chinese demand for oil and gas and the vast potential of shale gas development in China, while Chinese NOCs are hoping to partner with these companies in overseas projects to gain technical and managerial know-how in unconventional oil and gas, deep-water drilling and LNG. Apparent assets swaps have taken place between Chinese NOCs and IOCs, and acquisitions made by Chinese NOCs from 2011 to 2013 included 14 direct acquisition deals that involved the NOCs purchasing a share of assets owned by IOCs working in China today (see Annex 1).

In March 2013, CNPC became the first Chinese NOC to enter Mozambique's huge offshore natural gas field after reaching a deal with Italy's Eni for USD 4.1 billion to acquire a 29% share of its offshore Area 4. This is a mutually beneficial deal; Eni is looking to reduce its funding commitment and at the same time find a potential buyer for the LNG exports from East Africa. But there is another layer to this co-operation. Both companies announced a co-operation agreement for shale gas exploration in the Rongchang block in China's Sichuan province. Eni is hoping to enter into a production-sharing agreement (PSA) with CNPC. Eni is not the only foreign company with its eyes set on China's shale gas potential. Shell has signed a variety of agreements with all three Chinese majors to develop unconventional and offshore projects, including one with CNPC in November 2013 (Table 2). A similar deal was reached between ConocoPhilips and PetroChina in February 2013. Interviews conducted with executives from IOC offices in China confirmed that this type of asset swap has become an unspoken rule for foreign companies to work with Chinese majors. The recent purchase by PetroChina of a 25% share in the West Qurna-1 oil project in Iraq from ExxonMobil was the result of several years of negotiation. ExxonMobil is working with PetroChina in China's Ordos Basin to conduct a joint study on the Changdong block.

In March 2012, the NEA released the National 12th FYP for Energy Technology, covering R&D and demonstration projects. The plan supports the development of shale gas, heavy oil and non-conventional energy development. According to Chinese experts from China's Ministry of Land and Resources, China has a shale gas reserve larger than that of the United States. After conducting surveys and test drilling for two years, China's own evaluation shows that China has recoverable shale reserves of more than 10 trillion cubic metres. However, the geological characteristics of Chinese shale gas reserves are very different from those of the United States, and therefore the drilling technologies used in North America need to be adapted to the geological specifications of China, requiring more time and investment.

Ambitious plans for developing shale gas resources were announced, and since 2011 two rounds of shale gas auctions have been offered. By the end of 2013, China had drilled 150 wells. Chinese officials believe the current exploration work to have been encouraging and remain optimistic of reaching the production target of 6.5 bcm by 2015. In an official speech delivered at a recent IEA meeting, a high-level official stated that China welcomed foreign companies' participation in Chinese shale gas development (NEA, 2013b).

Small- and medium-sized companies from North America that were in the front line of the shale revolution in the United States, such as Newfield, were among the first movers to seize shale gas opportunities in China. However, they have not seen as much benefit as IOCs from co-operating with Chinese NOCs, because they have fewer opportunities outside China to offer to NOCs (Gao, 2012). Strategies identified by the IEA (2011) (see Annex 3) and agreements announced (see Annexes 1 and 2) confirm the finding that NOCs prefer to partner with IOCs to benefit from their experiences and networks outside China.

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Table 2 • Selected foreign upstream shale agreements with Chinese NOCs in China

Date	NOC IOC		Detail of agreement	Туре
November 2013	CNPC	Shell	Unveiled a joint R&D centre for shale oil to work on China's continental shale oil blocks and the US oceanic shale oil blocks.	Shale oil
July 2013	PetroChina	Hess	Signed a PSC to explore and develop the Malang block of the Santanghu basin in Xinjiang Province. This was China's first joint agreement to develop a shale oil block.	Shale oil
March 2013	Sinopec	Total	Jointly conducting seismic survey in Anhui, hoping to reach PSC.	Shale gas
March 2013	CNPC	Eni	Announced a co-operation agreement for shale gas exploration in the Rongchang block in China's Sichuan province.	Shale gas
February 2013	PetroChina	ConocoPhillips	Entered a joint study agreement to study unconventional gas resources in the Neijiang-Dazu block in the Sichuan basin.	Shale gas
December 2012	Sinopec	ConocoPhillips	Entered a joint study agreement to study shale gas resources in the Qijiang block. ConocoPhillips will carry out two-dimensional seismic surveys and drill two wells.	Shale gas
June 2012	Sinopec	Shell	Signed a joint study agreement to study shale resources in the Xiang E Xi block.	Shale gas
March 2012	CNPC	Shell	Signed a shale gas PSC in the Fushun-Yongchuan block in China's Sichuan basin. This was the first shale gas PSC ever signed in China.	Shale gas

Sources: Company announcements; media reports; interviews.

Among the three Chinese NOCs, CNPC has the most advanced technical capacity due to its experience in oil and gas production. But Sinopec and CNOOC are trying hard to catch up, and this explains their greater motivation to invest in North American unconventional assets with the intention of gaining the technical and managerial know-how that they can then apply in China.

China's NOCs are also motivated to gain experience in deep-water drilling and LNG technologies. Partnership with experienced foreign companies via the acquisition of project shares has been the main strategy. For example, CNOOC partnered with Total and others in Nigeria on the 1 750 metre deep Egina oil field. Sinopec is also working in Nigeria with Total and Chevron. Since the establishment of CNOOC in 1982, the company has signed 200 PSAs with 78 companies from over 20 countries to develop China's offshore reserves. Most recently, BP and Canada's largest energy company, Husky, reached an agreement with CNOOC to develop China's deep-water blocks. But their partnership started outside China when CNOOC purchased interests in Husky's Indonesia project (2008), and BP's projects in Australia (2003) and in Latin America (2010) (see Annex 2). This win-win co-operative relationship is the result of the long-term strategy Chinese NOCs have used to partner with IOCs and other NOCs in order to expand their reserves and production globally (see Annex 3).<sup>7</sup>

<sup>&</sup>lt;sup>7</sup> The motivations of Chinese NOC overseas activities are explained in the IEA publication (2011), along with the types of strategies used to achieve these goals. Annex 3 comprises a table that outlines these motivations and strategies.

#### Deepened co-operation with resource-rich countries

In the period 2011 to 2013, Chinese NOCs have made significant achievements in both upstream and downstream investment in resource-rich countries, bringing more oil and gas supplies to China and building strong partnerships with NOCs from resource-rich countries like Russia and Saudi Arabia, which are China's largest crude oil suppliers.

2013 was a breakthrough year for Sino-Russian energy co-operation. Chinese companies reached multiple oil and gas deals with Russian companies, ranging from upstream oil and gas exploration to long-term crude oil and LNG contracts, all with the aim of increasing and diversifying oil and gas supplies to China. CNPC and Russia's Rosneft signed a memorandum of understanding (MOU) to form a joint venture to develop Russia's Eastern Siberia and Far East areas in October 2013. Owning 49% of the joint venture, CNPC will be participating in the development of Russia's Eastern Siberia mega reserves that will supply local demand and Chinese and other Asian markets. Earlier in the year, the second loan-for-oil deal<sup>8</sup> was reached between the China Development Bank and Russia for USD 25 billion to secure a further 300 kb/d for 25 years (Table 3). Loan-for-oil and gas deals have been used by Chinese companies to secure long-term supplies from a range of resource-rich countries. Four such deals have been reached since 2011 (Table 3). However, the two loan-for-oil deals with Russia totalling USD 50 billion have been the largest such deals and have made a significant impact on the diversification of China's crude oil import mix and enhanced the country's energy security.

Table 3 • China's loans for long-term oil and gas supply signed since 2011

Lender	Borrower	Amount (USD billion)	Purpose
China Development Bank	Russia's Rosneft and Transneft	25	Signed in 2013 to double oil imports from Russia. USD 15 billion will go to Rosneft to lock in 300 kb/d crude oil supply for 25 years to CNPC and USD 10 billion will go to Transneft for pipeline construction.
China Development Bank	Venezuela	4	Reached in 2013 to increase production level of the Orinoco oil fields. The loan is to be paid back with 310 kb/d of oil for four years.
China Development Bank	Venezuela	10	Reached in 2012. Part of it was to be used to develop the Orinoco oil fields and part for agriculture, industry and housing projects. USD 4 billion is believed to relate to oil. This part of the loan is to be paid back with 230 kb/d of oil for three years.
China Development Bank	Turkmenistan	4.1	Reached in 2011 to secure an additional 25 bcm gas to feed into the Central Asia-China gas pipeline.

Note: The date of the Venezuela loan may be different from other news reports because the Venezuelan government sometimes announces deals before they are signed.

Sources: Cisneros-Lavaller, Alberto (2014), "Venezuela: Demystifying China Involvement", *Geopolitics of Energy*, Volume 36, No. 1, January, Canadian Energy Research Institute (CERI); CNPCETRI (China National Petroleum Corporation Economic and Technical Research Institute) (2013), *Report on Domestic and Overseas Oil and Gas Industry Development 2012*, Beijing; CNPCETRI (2012), *Report on Domestic and Overseas Oil and Gas Industry Development 2011*, Beijing; news reports.

These large deals also fostered relationships with Russian companies and resulted in other opportunities. For example, Sinopec also signed a contract with Rosneft in October 2013, whereby Sinopec will buy up to 200 kb/d of crude oil and/or petroleum products from Rosneft for ten years based on advance payment (Rosneft, 2013). According to reports, the value of the crude Sinopec secured could be USD 85 billion (Bloomberg News, 22 October 2013). These long-term contracts could allow China to secure an additional 500 kb/d crude supply from Russia, resulting

<sup>&</sup>lt;sup>8</sup> The first loan-for-oil deal between the China Development Bank and Russia was reached in 2009 with USD 25 billion to secure long-term crude oil supply to China and to finance the construction of the East Siberia-Pacific Pipeline System (ESPO) pipeline to China. CNPC was the beneficiary of this deal. Rosneft agreed to repay the loan with oil to CNPC at 300 kb/d from 2011 to 2030. For an explanation of the deal, see the IEA report (2011).

in a total of 800 kb/d (600 kb/d via pipelines) and allowing China to diversify its crude imports mix that is currently highly dependent on Middle Eastern suppliers (Figure 2).

Rosneft will use the funds received from these long-term contracts for the development and production of oil fields and the construction of downstream infrastructure. Furthermore, Rosneft is also seeking to tap into the Chinese domestic market. Partnering with CNPC, it had planned to jointly build a refinery in Tianjin<sup>9</sup> and to build gasoline filling stations in Northeast China, where oil pipelines filled with Russian crude will pass by. At the moment, a final decision on these investments is unlikely before 2017 due to overcapacity in China's refining sector and fears of weakening Chinese demand growth as the Chinese economy slows down.

CNPC is the first Chinese company to move into Arctic exploration. In early 2013, CNPC joined ExxonMobil, Statoil and Eni in breaking into Russia's immense offshore Arctic frontier via a joint venture with Russia's Rosneft. Later in the year, CNPC bought a 20% stake estimated at USD 27 billion in the Yamal LNG project in the Arctic from a Russian gas producer, Novatek. CNPC's move into the Arctic is not surprising as China is interested in the Arctic's resource potential. China has been accepted as a permanent observer on the Arctic Council, a group that promotes co-operation on environmental protection, oil and mineral exploitation, shipping, tourism and fishing. The Arctic region is abundant in resources, including oil and gas, rare earth elements, iron ore and uranium (Degeorges, 2013). 10

On 21 May 2014, at the time of the publication of this report, the historical and long-awaited Sino-Russian gas supply deal was finally signed in Beijing. Gazprom agreed to supply 38 bcm per year to CNPC for 30 years via the eastern pipeline route. After negotiating for more than ten years, this contract is reported to be worth USD 400 billion. The deal will enable Gazprom to secure some capital needed to develop Eastern Siberian gas fields and build gas pipelines. In the very near future, Russia will become the second largest gas supplier to China after Turkmenistan.

CNPC also ventured into a new country in 2011, Afghanistan, after winning that country's first bidding round for the oil extraction project in the Amu Darya river basin oil and gas deposits in Northern Afghanistan. Oil production was reported to have started in October 2012. Crude produced is likely to be transported to a refinery in Turkmenistan and then shipped back to Afghanistan or sold into the international market (SINOGCEN, 2013). The gas produced from this basin could potentially be linked to the Central Asia-China gas pipeline.

Saudi Arabia's Saudi Aramco has already entered into a co-operation agreement with Sinopec to build 750 gas stations and a refinery in Fujian province. In March 2011, CNPC and Saudi Aramco signed an MOU to co-operate on a refinery in Yunnan. As part of the Myanmar oil pipeline project, crude oil used for this plant will come from the Middle East or Africa, transferred through the Myanmar pipeline to this refinery to supply the local markets in Southwest China (Table 4).

Sinopec entered the refining industry in Saudi Arabia by investing USD 4.5 billion to form a joint venture with Saudi Aramco on the Yasref refinery at Yanbu on the Red Sea. Sinopec will have a 37.5% share. It is notable how quickly Sinopec reached agreement to enter this project; ConocoPhillips was the Saudis' intended partner but pulled out in mid-2010. Sinopec and Saudi Aramco signed the joint venture in January 2012. The refinery is scheduled to start operations at the end of 2014 and will be able to process 400 kb/d of Arabian Heavy crude. This project marked Sinopec's first international downstream investment, and has strong strategic significance for Chinese NOCs' market-for-resources strategy aimed at attracting co-operation opportunities with other NOCs from resource-rich countries (see Annex 3). The strategic partnership between the world's largest oil exporter and second largest oil consumer has been mutually beneficial.

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<sup>&</sup>lt;sup>9</sup> The ground-breaking ceremony for this refinery took place in 2010.

<sup>&</sup>lt;sup>10</sup> CNOOC has been given a licence to hold a 60% share and act as operator of a 12-year exploration project in Iceland in early 2014 (OGP, 2014a).

Table 4 • Existing and planned downstream co-operation with companies from resource-rich countries in China

Investor Chinese partner Number of filling stations planned Location Saudi Aramco/ Exxon Mobil Sinopec 750 **Fujian** Rosneft **CNPC** 300-500 Northeast China Saudi Aramco **CNPC** In negotiation Unknown Refinery product types and **Chinese partners** Location Investor processing capacity (Mt/yr) Ethylene: 0.8 Saudi Aramco/ Exxon Mobil Sinopec Crude: 12 Quanzhou, Fujian Polyethylene: 0.8 CNPC Crude: 10 Saudi Aramco Yunnan Ethylene: 1.0 Saudi Basic Industries Corporation Sinopec Polyethylene: 0.6 Tianjin Glycol: 0.4 Rosneft **CNPC** Crude: 13 Polystyrene Tianjin **Kuwait National Petroleum** Sinopec Crude: 15 Ethylene: 1 Zhanjiang, Guangdong Petróleos de Venezuela, SA **CNPC** Crude: 20 Jieyang, Guangdong **CNPC** Crude: 10 Ethylene: 1.2 Taizhou, Zhejiang **Qatar Petroleum** 

Note: Mt/yr = million tonnes per year.

Sources: CNPCETRI (2013), Report on Domestic and Overseas Oil and Gas Industry Development 2012, Beijing; CNPCETRI (2012), Report on Domestic and Overseas Oil and Gas Industry Development 2011; Interfax and other news reports.

#### **Expansion of value chain: Refining and pipeline investments**

Today, China's NOCs have expanded their supply chain by further investing in pipelines, refineries and storage. CNPC expanded its downstream business by partnering with TransCanada to build a pipeline, and with Shell and Asian partners to build LNG exporting facilities in Canada with the aim of exporting to Asian markets. In 2011, PetroChina reached a USD 1 billion agreement with INEOS to form a partnership in the form of new trading and refining joint ventures related to the refining operations in Grangemouth (United Kingdom) and Lavéra (France). Both companies also announced a new strategic co-operation agreement to share refining and petrochemical technology. CNPC has also been building natural gas processing centres and pipelines in Tanzania since 2012 and gained a foothold in East Africa's gas boom (see above on Mozambique).

In July 2013, PetroChina was awarded the engineering, procurement and construction contract for the 272 km pipeline project to connect Iraq's Halfaya, Buzurkan, Fuka and Abu Ghareb oil fields to the Al-Fao export terminal on the Persian Gulf. PetroChina was also shortlisted to build Iraq's new USD 18 billion oil export pipeline to Jordan, the country's first such pipeline in decades. PetroChina continues to improve its management of the Halfaya project as operator. The Halfaya export pipeline will be completed in 2014 and the Halfaya Central Processing Facility Phase 2 is due become operational in 2015. PetroChina and its partners are planning to double production on the field from the current 100 000 b/d to 200 000 b/d. Halfaya Phase 3 is still in the planning stage and is likely to include a pipeline, processing facilities and storage tanks. A new 1 700 metre runway in the Halfaya area was built in 2013, to be used to transport employees of companies such as CNOOC and PetroChina to and from the international airport at Basra. The runway will increase security for oil workers from China, as Chinese companies are rotating large groups of employees in and out of Iraq.

After investing in its first overseas refinery in Saudi Arabia, in 2012 Sinopec signed a framework agreement with PetroSA (Petroleum Oil and Gas Corporation of South Africa) to conduct a feasibility study into the construction of South Africa's biggest refinery, the Mthombo refinery

project in Port Elizabeth. The framework will also give Sinopec the opportunity to enter oil and gas exploration in South Africa and surrounding countries (Bloomberg News, 26 March 2013), thus adding synergy to Sinopec's existing investments in Africa. Sinopec has also invested in the construction of storage facilities in Indonesia and the United Arab Emirates. In 2012, a subsidiary of Sinopec, Sinomart, paid EUR 100 million to form a joint venture with Europe's leading independent liquid bulk storage operator, Vesta Terminals. A subsidiary of Mercuria Group, Vesta Terminals owns a total of approximately 1.6 mcm of petroleum products and biofuels storage capacity at three terminals in Antwerp, Flushing and Tallinn. The joint venture allows Sinopec to access Mercuria's vast sales network and global trading experience. Mercuria's main business focus is global trading in energy and commodity markets, including crude oil and refined petroleum products and natural gas.

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China's NOCs also advanced their overseas activities in other forms of co-operation. In 2011, new loan-for-gas deals worth USD 4.1 billion<sup>11</sup> were reached with Turkmenistan to secure an additional 25 bcm of gas to feed into the Central Asia-China gas pipeline. This will raise potential import capacity from Turkmenistan to 65 bcm/yr by 2020. CNPC is working very hard to make sure that Turkmenistan production meets its target. Although CNPC controls little below the ground in Turkmenistan, it is involved in the entire supply chain, from financing project via loans, to drilling, designing and procuring, to construction and financing of the Central Asia-China pipeline (Sberbank Investment Research, 2014). In 2013, the presidents of Turkmenistan and China launched the construction of the second phase of the Galkynysh gas field and signed a "Joint Declaration on Establishing a Strategic Partnership between Turkmenistan and China". Galkynysh is the second largest gas field in the world, and is expected to supply more than half of the 65 bcm from Turkmenistan to China by 2020.

Lines A and B of the original Central Asia-China gas pipeline have a combined capacity of 30 bcm. At the end of 2011, construction of the Uzbek section (529 km long) of line C started in Bukhara Oblast of Uzbekistan. This 1 840 km-long gas pipeline, with 25 bcm/yr capacity, will cost an estimated USD 2.2 billion. It runs parallel to lines A and B. Line C is expected to be completed by 2014 and reach its designed capacity by the end of 2015. Line D will take a new route and construction is scheduled to start in 2014. It will pass through the territories of Uzbekistan (205 km), Tajikistan (415 km) and Kyrgyzstan (225 km); it will have a capacity of 30 bcm/yr, is expected to be completed by 2020, and will pump gas to China from the Galkynysh gas field in Turkmenistan (CNPCETRI, 2014).

Uzbekistan started to supply gas to China in April 2012. By 2020, the sources of the gas sent through the Central Asia-China gas pipeline are expected to be: Turkmenistan, 65 bcm; Kazakhstan, 5 bcm; and Uzbekistan. A potential new Central Asian gas source, Tajikistan, has been discovered and may be able to supply gas to China in the future via line D.

In March 2014, the China Development Bank agreed to loan Kazakhstan's KazTransGas USD 700 million for 15 years. The loan would be used to complete a second, 311 km portion of a gas pipeline from southern Kazakhstan and would transport additional volumes of natural gas to China through the existing Kazakhstan-China pipeline.

<sup>&</sup>lt;sup>11</sup> The loan was issued by China Development Bank to Turkmengaz to finance the second phase of development at the Galkynysh gas field. In return, CNPC, the beneficiary of the loan, will secure an additional 25 bcm/yr to be transported via the Central Asia-China gas pipeline to China. In 2009 a similar deal was reached, valued at USD 4 billion for 40 bcm/yr for 30 years. CNPC has a target to import 65 bcm from Turkmenistan by 2020.

## **Risks and challenges**

In recent years, China's NOCs have enjoyed continued success in acquiring new assets and securing downstream projects worldwide, especially in OECD member countries where investment opportunities have been favourable. However, their operations in other parts of the world have run up against increasing political instability and security threats.

The majority of the upstream investments from 2011 to 2013 were driven by commercial interests, where Chinese NOCs were acting independently from the Chinese government. However, events since the beginning of 2011, such as the "Arab Spring" uprisings that swept through North Africa and the Middle East, the sanctions imposed on Iran, and fighting since the independence of South Sudan, as well as security concerns in countries like Nigeria, have seriously threatened the NOCs' activities. Consequently, the NOCs are relying more heavily on the Chinese government's diplomatic support in these countries to minimise their losses. More than half of Chinese overseas oil production is located in Africa and the Middle East (Figure 4), where NOCs first invested in their early years of going abroad. While aware of the higher risks involved in investing in these countries, Chinese NOCs, like their peers from other countries, have found themselves in the middle of unprecedented political unrest and security threats. Key examples are described below.

#### Security of transnational pipelines and personnel

In Central Asia, where CNPC (along with its public arm, PetroChina) is a major investor enjoying an early-entry competitive advantage, the Central Asia-China gas pipeline (lines A to D) goes through multiple countries: Turkmenistan, Uzbekistan, Tajikistan and Kyrgyzstan, before entering China's Xinjiang Uyghur Autonomous Region. Violence was recently reported in some of the regions the pipelines pass through, and NOCs have had to overcome terrorist threats and ethnic tensions. Addressing security concerns has become a major challenge for the oil and gas pipelines that CNPC has invested in throughout the region, calling for close co-ordination and co-operation among different stakeholders (governments of these countries and the companies that operate or have shares in the pipelines) on a bilateral and multilateral basis. China needs to find a multilateral instead of bilateral approach to engaging Central Asian Countries, according to Xu Xiaojie. In his book, *Energy Black Swan: Global Games and Chinese Options*, Xu strongly suggests the establishment of a China-Central Asia Transportation Security Co-operation Mechanism (Xu, 2011). In fact, China reportedly individually negotiated the pipeline with each country involved (The Diplomat, 5 December 2013).

Some of the actions taken by the Chinese suggest that China's foreign policy is shifting towards a more multilateral approach. The Chinese government is aiming for greater co-operation with members of the SCO<sup>12</sup> in order to form an SCO Energy Club, an initiative originally proposed by Russia. The IEA was invited by the NEA to attend an SCO high-level roundtable meeting in Xi'an in September 2011. At this event, member states of the SCO adopted the "Xi'an Initiative" to fast-track the creation of the energy club. So far, the SCO has established a joint anti-terrorism centre.

The parallel oil and gas pipelines in Myanmar were planned in 2009 and the deal was agreed to under Myanmar's military government. Since then, Myanmar has undergone a democratic transition that transformed the country and opened up its markets to international investors. Under the new government, a hydroelectric project supported by Chinese investment was halted

<sup>&</sup>lt;sup>12</sup> SCO is an inter-governmental organisation founded in Shanghai on 15 June 2001 by six countries: China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. Afghanistan, India, Iran, Mongolia and Pakistan have been granted observer status. Turkmenistan is not a member.

in 2011. This sudden reversal of fortune for China has sparked concerns about the viability of CNPC oil and gas pipelines as they pass through regions in Myanmar's Shan State, where the central government exercises no control (Seaman, 2013). The unresolved conflict in this region of Myanmar, due to rebellion by elements of the local population, poses a long-term threat to the security of Myanmar oil and gas pipelines.

There have been other signs of anti-Chinese feelings surfacing in Myanmar, because China was seen as the friend of the old military government. Some members of civil society, non-governmental organisations (NGOs) and others often voice their opposition to the pipelines over employment, environment and labour rights issues (CNPCETRI, 2014). During an interview conducted for this paper, Xu Xiaojie of China's Academy of Social Science said that the NOCs needed to improve their public relations in host countries, and that they should build ties not just with ruling parties, but also with their opponents, NGOs and civil society. "Chinese companies need to be sensitive to local cultures and place emphasis on their corporate social responsibilities to be sustainable and fully successful in the region" (Xu, 2011). Despite these challenges, the Myanmar gas pipeline started to transport gas into China in 2013 and completion of the oil pipeline is expected in 2014.

Chinese NOCs have significant investments in Nigeria. Sinopec and CNOOC have a total of 187 kb/d in oil production in Nigeria resulting from a recent acquisition in the Nigerian offshore oilfield OML138 (see Annex 1) and past acquisitions. Sinopec is expected to start to produce gas in 2015. However, Nigeria's production capacity has suffered from the increasing violence of criminal gangs and Islamic extremists (IEA, 2013b). In recent years, Nigeria has become one of the most dangerous places for Chinese companies to operate. Chinese business interests in Nigeria have been overshadowed by violence and loss of life. Piracy and kidnapping of oil workers and others are common around the Niger Delta, the centre of the country's onshore oil industry. In 2000, two Chinese oil workers from CNPC were kidnapped. In 2006, five Chinese telecommunication workers were kidnapped for 13 days and later released. China Daily reported that then Chinese President Hu Jintao and Premier Wen Jiabao ordered the foreign ministry and China's embassy and consulate in Nigeria to do everything possible to rescue the kidnapped workers (China Daily, 18 January 2007). In 2012, 28 Nigerian employees of Sinopec were kidnapped, but later escaped and were rescued by the Nigerian Navy. The same year, two Chinese construction workers were killed by gunmen around Maiduguri, the north-eastern city in Nigeria where the radical Islamic group Boko Haram was active. The incident happened just weeks after a Chinese cook and a Nigerian working for a Chinese firm were killed. China filed a formal protest with the Nigeria Foreign Ministry, urging substantial measures to protect Chinese personnel and institutions in Nigeria. Once again, in January 2014, another Chinese construction worker was killed and two others were injured.

As oil industry staff has been increasingly targeted, Chinese companies and the Chinese government have repeatedly demonstrated their willingness to protect the safety of Chinese personnel in Nigeria through all diplomatic means. Nonetheless, improving the security situation on the ground has remained very difficult.

## Uprisings and sanctions in the Middle East and North Africa: A balancing act for China's evolving foreign policy

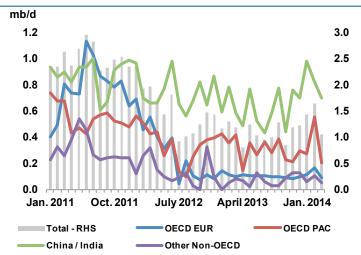
After civil war in Libya erupted on 17 February 2011, the Chinese government organised an emergency plan to evacuate 35 000 Chinese nationals living there, including NOC workers. In 2010, Libya represented 3% of China's total crude oil imports, falling to just 1% in 2011. Once the civil war ended in October that year and production began to be restored, crude oil imports from Libya remained low at 47 kb/d and accounted for only 0.8 % of total Chinese oil imports in 2013.

CNPC partnered with Libya's NOC to build pipelines and carry out exploration projects, and was seen to have a strong relationship and business ties with the Qaddafi regime. China abstained from the United Nation Security Council Resolution #1973 and did not agree to support NATO intervention. Nevertheless, the Chinese government reportedly initiated contacts with the Libyan National Transitional Council while fighting was ongoing. After the new government took power, it declared that it would honour all legal contracts made during the Qaddafi regime, but has indicated that countries that were supportive during the revolution would be given preferential treatment in future deals.

A Chinese trade delegation was sent to Libya in early February 2012 to try to safeguard Chinese business interests worth USD 20 billion in outstanding contracts. The Libyan government affirmed China's right to reclaim their money but noted that there was a shortage of government funds (Xinhua News, 8 February 2012).

The Middle East has become an unstable region for Chinese NOCs to invest and operate in. The three-year long civil war in Syria has put their investments there in jeopardy. In 2011, Chinese companies (CNPC, Sinopec and Sinochem) owned total production in Syria of 53 kb/d, a figure much reduced from production levels in 2010 of 84 kb/d. By the end of 2013, only Sinochem maintained a small output of 2.5 kb/d (Rystad data), as the situation in Syria became more worrisome and violence spread around the country. NOC operations in Syria were not substantial, and for safety reasons most NOC personnel were evacuated. Should Syria see a change of government in the future, the fate of these investments could be very uncertain, since the Chinese government stood out in its opposition to international sanctions against President Bashar al-Assad's regime.

Figure 9 • Iran's exports to China and other countries



Notes: OECD EUR = OECD Europe; OECD PAC = OECD Pacific; RHS = right-hand scale; data include condensate. Source: IEA (2014a), IEA Monthly Oil Market Report, February, OECD/IEA, Paris.

Beyond Syria, the international community sought to address rising tension over Iran's nuclear ambitions by announcing new sanctions targeted at Iran's major income sources: the oil and gas industry. Chinese companies have been very active in Iran since 2002, with NOCs (CNPC and Sinopec) reaching agreement with Iran to commit at least USD 14 billion to explore and/or develop four oil and gas fields (IEA, 2011). Although production levels have remained low in Iran, at only 35 kb/d by the end of 2013, Iran had in previous years been the third largest crude oil supplier to China, subsequently dropping to sixth. In 2013, Iran exported 429 kb/d, representing 7.6% of China's crude oil imports. United States sanctions have called on countries to ban or reduce oil imports from Iran. The response from the Chinese government stated that "its

economic, trade and energy exchanges with Teheran should not be affected" (China Daily, 5 January 2012). In the meantime, official customs data show that the level of imports from Iran gradually declined from Q3 of 2012 and only bounced back after Q2 of 2013, while Iran's total export level dropped significantly, such that Iran was increasingly dependent on the Chinese market (Figure 9). By late 2013, Iran had announced that it was willing to use the Chinese renminbi (CNY) as the currency for trade.

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Chinese companies have claimed the reason for the sharp drop in imports from Iran in early 2012 was because of a price dispute with its supplier in Iran. However, evidence suggests that shipping insurance companies were not keen to issue insurance policies to cover the Chinese oil shipments, and it had become more difficult to pay for the oil purchased from Iran. Customs data showed that China imported more from other countries like Russia and Iraq to compensate for the lost volume from Iran.

Interviews with industry insiders conducted in early 2012 suggested that international sanctions had not prevented Chinese companies from doing business in Iran. Payments for business were also made in Chinese renminbi instead of US dollars. 13 Some had suggested that Chinese companies could benefit from the vacuum left by their western competitors, but this has not been substantiated. Chinese companies were hurt by the ongoing sanctions and the absence of IOC partners. In mid-2012, the situation changed quickly when reports suggested that CNPC was to pull out of Phase 11 of South Pars project because of harsh contract conditions and also because critical equipment, such as natural gas compressors for the offshore South Pars project, which needed to be bought from the United States or European countries, could not be shipped to Iran (Caixin Online, 26 September 2012). By early 2014, CNPC faced the prospect of losing another project in Iran when the Iranian government complained about the lack of development progress in the giant Azadegan oil field. Sinopec reportedly requested more time to develop the Yadavaran field and was refused (Argus China Petroleum, 2014). At the time of writing, the USD 14 billion 14 that Chinese companies have committed to invest in four projects in Iran now face delays and potential reversal of contracts. However, NOCs have long relied on the Chinese government's support in Iran and as of yet there is no evidence to suggest that they will pull out of Iran entirely.

By the end of 2013, Iran and the five permanent members of the Security Council (the United States, the United Kingdom, France, Russia and China) along with Germany returned to the negotiating table and reached an historical interim agreement. Some sanctions were lifted. The follow-up negotiations started again on 18 February 2014 with the purpose of reaching a comprehensive nuclear agreement. The Chinese Foreign Ministry spokeswoman's statement in a press conference in Beijing stated, "We have been making tremendous efforts and playing an active and constructive role in the negotiation process". It remains to be seen if this round of negotiations results in any agreement.

The unstable political situation in the Middle East poses great challenges to Chinese companies. A destabilised Middle East could have serious consequences for China's energy security, as the region supplied 52% of China's oil imports in 2013. The Chinese government's positions on Libya, Syria and Iran are similar, that is to exercise its traditional non-interference policy, encourage dialogue, oppose unilateral sanctions and seek peaceful solutions. What is clear is that any change of government in Syria and further sanctions imposed on Iran would seriously threaten China's NOCs and the commercial interests of other Chinese companies in these countries. From the point of view of NOCs, an unstable Middle East would not be good for their goal of improving overseas business activity to increase global production, and would destroy the relationships they have already built with these countries' current governments. In these circumstances,

<sup>&</sup>lt;sup>13</sup> By late 2013, Iran announced publicly that it is willing to accept Chinese renminbi (CNY) as the currency for trade.

<sup>&</sup>lt;sup>14</sup> These contracts were reached from 2008 to 2009.

**Achievements and Challenges since 2011** 

Chinese NOCs could be expected to call on the Chinese government for greater support and protection of their activities in the region.

What is happening in the Middle East has created a new dilemma for Chinese policy makers, who insist on non-interference but need to strike a balance between protecting Chinese commercial and energy security interests while maintaining or even improving relationships with China's main strategic partners. These strong partners include the United States, the European Union and Saudi Arabia, which all support tougher sanctions against Syria and Iran.

Saudi Arabia is China's number one crude oil supplier. It plays a far more crucial role in China's energy security than does Iran, supplying 19% of China's crude oil imports in 2013. The missing volumes that could not be imported from Iran could be supplied by Saudi Arabia, which views China as an important market. During the visit of previous Chinese Premier Wen Jiabao to three Gulf Co-operation Council countries in 2012, China and Saudi Arabia committed to enhancing bilateral co-operation under a strategic framework, which included developing an all-around co-operative partnership in the energy sector. As mentioned in the earlier section, both CNPC and Sinopec are jointly building refinery projects with Saudi Aramco in China. Sinopec's significant entry into the Saudi refinery sector (valued at USD 4.5 billion) is only possible under such favourable political conditions. Both China and Saudi Arabia are likely to try hard to avoid differences over regional issues that could impinge on their growing commercial relationship.

This situation gives rise to a number of critical questions. How can China walk a fine line between regional powers in the Middle East, maintaining close trade links to fulfil its energy security goals while not falling too far out of step with its western partners? What role will China's powerful NOCs and their growing economic investments be able to play in shaping the evolving policy? Is China's non-interference policy in conflict with its commercial interests and no longer practical? Interviews conducted for this publication found that there are two voices within the academic community in China. Some consider that China's longstanding policy of non-interference has served it well previously, but should now be re-evaluated. "We should be part of global governance, take more responsibilities, do more and speak more," said Xu Xiaojie in an interview with IEA. Others believe that this policy should not, or at least will not, be changed and that it is a matter of principle. Staff from the Ministry of Foreign Affairs in China confirmed that China is maintaining the policy for the moment.

Meanwhile, some scholars believe that China can still influence outcomes without interfering. Matt Ferchen of the *Carnegie Endowment for International Peace* explained why China could still influence without interference, for example in Venezuela: "Singular focus on interference often causes Chinese officials to miss the fact that from the perspective of their resource-rich partners, China's influence has risen dramatically. Recent anxiety about China's slowing growth and what that will mean for commodity demand and prices is just one sign of how 'influence' is a greater concern than 'interference' for many countries."

As China emerges as an economic power, as its commercial interests spread around the world and it integrates further into global markets, pressure is stepping up for it to shoulder its share of responsibility for maintaining a stable global economic and diplomatic environment and to participate constructively in organisations of international governance.

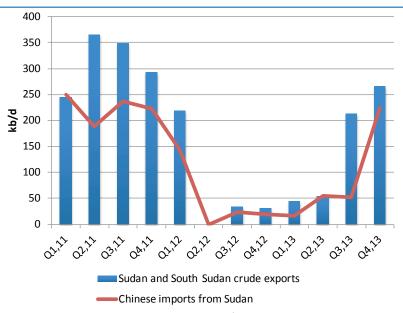
## Sudan and South Sudan: The headache that never went away

The current situation in Sudan and the world's youngest nation, South Sudan, poses serious threats to what was once considered to be the jewel of overseas investments by China's NOCs. It is also proving to be another challenge to China's foreign policy.

Sudan was one of the first countries that CNPC ventured into. Since 1995, CNPC has been the major player in Sudan's oil industry, and has weathered both the crisis in Darfur and scrutiny by international opinion. CNPC is majority shareholder in blocks 1/2/4, 3/7, 6, 13 and 15 and is also the major player in refining and pipelines. On 9 July 2011, supported by the United Nations, South Sudan declared independence from Sudan. But at that time, Sudan and South Sudan failed to reach oil-sharing agreements and resolve border issues. Over 75% of pre-independence oil production was located in South Sudan, and Sudan attempted to charge South Sudan a USD 32 per barrel to USD 38 per barrel transit fee for using Sudan's pipeline for export. Negotiations reached a deadlock in early 2012, upon which Sudan impounded two cargoes. South Sudan then stopped production. According to the IEA *Oil Market Report* of 10 February 2012, all 274 wells in block 1/2/4 and 600 wells in block 3/7 were shut or forced to reduce production by 25 January 2012. Liu Yingcai, the president of Petrodar, the Chinese-Malaysian oil consortium, became the first person ever to be expelled from South Sudan on the grounds of "non-co-operation".







Data sources: IEA (2012b), IEA Monthly Oil Market Report, February, OECD/IEA, Paris; OGP data; other IEA data.

In mid-April 2012, the South Sudanese army attacked Heglig, located north of the border. Sudan declared war and retaliated. Heglig is where block 2 and the Greater Nile Petroleum Operating Company<sup>15</sup> central processing facility are located. Block 2 adjoins block 1, which is located to the south of the border. On 4 May 2012, the UN Security Council passed a resolution warning Sudan and South Sudan to halt hostilities within 48 hours with possible sanctions attached. While the two countries eventually reached agreement, ethnic conflicts within South Sudan continued.

Instability and violence in Sudan and South Sudan have been the most severe blows to Chinese NOC overseas investment activities, at a time when NOCs were also facing challenges in other parts of the world. In 2010, CNPC production in Sudan was 210 kb/d, and, in 2011, its combined production in both Sudan and South Sudan was 211 kb/d (Sudan 59 kb/d; South Sudan 152 kb/d). China imported 260 kb/d of crude from Sudan and South Sudan in 2011, accounting for 5% of total imports, but this level fell sharply as conflict escalated, culminating in late 2013 with an alleged coup attempt in South Sudan and the resulting factional conflict leaving some 500 people

<sup>&</sup>lt;sup>15</sup> Greater Nile Petroleum Operating Company (GNPOC) is a joint operating company owned as follows: CNPC, 40%; Petronas Carigali Overseas of Malaysia, 30%; ONGC Videsh (the overseas arm of ONGC [Oil and Natural Gas Corporation Limited of India]), 25%; Sudapet (Sudan National Petroleum Corporation, the national oil company of Sudan), 5%.

dead. On 21 December 2013, the South China Morning Post reported that CNPC had evacuated workers from South Sudan (South China Morning Post, 21 December 2013). By the end of 2013, CNPC and Sinopec recorded oil production of 84 kb/d in South Sudan, half of its 2011 level (Figure 10). However, CNPC maintained its production level in Sudan at 56 kb/d.

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The continued political and ethnic violence in the two Sudans came at a time when China was already facing pressure to reduce imports from Iran and diversify its oil imports away from the unstable Middle East. The ongoing security issues in South Sudan may force a complete shutdown of some of China's fields due to safety concerns, especially in the border areas where 29 Chinese workers (from state-owned Sinohydro) were kidnapped in 2012.

The Sudan/South Sudan situation poses an unprecedented challenge for Chinese foreign policy as China has tremendous economic interests in both countries. The international community is expecting China to play a leading role in seeking a solution and restoring security, while China's powerful NOCs are likely to pressure the government to find a way to protect their investments and personnel. Chinese NOCs are the biggest investors in South Sudan's oil industry. Contrary to the position it adopted in the Arab Spring, particularly in Syria, the Chinese government has stepped in and become a major mediator. China is very willing to use its role in the UN Security Council and to work with the international community to find an immediate solution to this conflict. "China should be engaging more in peace and security solutions for any conflict there", said Zhong Jianhua, China's special representative on African affairs when interviewed by Reuters (Reuters, 11 February 2014). Does this mean that China is abandoning its longstanding policy of non-interference because too much of China's commercial investments are at risk? To some, recent violence in South Sudan is no longer an internal affair but an international crisis. So far, however, the situation in Sudan/South Sudan appears to be a special case rather than the beginning of a major shift in Chinese policy.

According to news reports in China, more than 100 Chinese companies were working in Sudan and South Sudan in 2012, with at least 10 000 Chinese nationals present. In addition to oil, Chinese companies also invested in hydro power, construction and other industries. The fate of these investments now depends on whether security can be restored with the help of the international community, including the Chinese government.

### **Conclusions**

The overseas ventures of China's NOCs, since the beginning of 2011, have seen a mixture of success and turbulence. In OECD member countries and other stable economies, the maturing NOCs, using experience gained in joint ventures with IOCs elsewhere, have significantly increased their production levels and diversified their investment portfolios across geographic locations and asset types, into unconventional oil and gas, deep-water and LNG. They have used direct M&A as their main strategic approach to achieving expansion goals. The NOCs and other Chinese companies spent USD 73 billion from 2011 to 2013 on upstream M&A, which increased Chinese oil and gas production to 2.5 mboe/d. Their combined oil production reached the level of Brazil's national production in 2013 and was equivalent to 50% of Chinese domestic production. NOC overseas production contributed to the increase in global oil and gas supply to the global market of which China has become a part and increasingly relies upon.

The CNOOC landmark acquisition of Canadian independent Nexen ushered Chinese companies into a new phase of investing and operating abroad. The NOCs are undergoing a transition, reassessing and re-organising their new investments more towards unconventional oil and gas resources, learning about and acquiring expertise in new technologies and investing in countries with more stable investment climates. The NOCs have matured and are emerging as international businesses that will compete with IOCs on an equal footing, while facing the growing challenge of significant management and operational issues. Chinese companies have enjoyed a degree of success in OECD member countries by taking advantage of investment opportunities in North America and other countries. As the Chinese NOCs invest more globally and co-operate more with IOCs, suspicions about their investment intentions seem to be declining. Their acquisitions in OECD member countries are now met with less scepticism. However, Chinese NOCs are still small players and relative newcomers in the North American energy scene compared to major IOCs.

China's NOCs have benefited from the relationships they have built with IOCs over the years by working in partnerships outside China. Today, China's own vast shale gas potential has attracted IOCs to co-operate with NOCs on exploration and joint research. This win-win situation is mutually beneficial and as a result China's NOCs have landed more deals to enter strategic locations in places such as East Africa and Iraq. Since 2011, more loan-for-oil and gas deals have been reached with resource-rich countries, especially with Russia, Turkmenistan and Venezuela. Success in Central Asia and Russia should bring significant long-term oil and gas supplies to China and diversify the country's source of oil and gas imports. The market-for-resource strategy has also been used by Chinese NOCs to deepen their co-operation with resource-rich countries, for example Saudi Arabia.

In Central Asia, Chinese NOCs continue to benefit from an early-entry competitive advantage. However, as their activities grow and pipeline capacity is upgraded, they are more likely to encounter terrorist threats and ethnic tensions in the five-country region through which the Central Asia-China gas pipeline transits. The Chinese government feels an urgent need to establish a co-ordinated initiative with these Central Asian states under a multilateral framework – such as the SCO – to provide protection for the NOCs' assets and secure the oil and gas supplies the Chinese economy needs. Other security challenges have also surfaced in Myanmar and Nigeria. While China has demonstrated a serious desire to protect its citizens and local nationals working for Chinese companies, as seen in Nigeria, improving the security situation on the ground remains a significant challenge.

After 21 years of investing abroad, China's NOCs can be expected to re-evaluate their strategies. As they invest in more countries around the world and become bigger players, it is inevitable that they will run into more risks and challenges. It is clear that NOCs have been relying heavily on the

Chinese government's support in the Middle East and in Sudan and South Sudan. Two questions stem from these events: will China's commercial interests help shape Chinese foreign policy in these regions, and to what extent do the existence of substantial energy and other commercial investments already influence China's diplomatic decisions? Today, perhaps the greatest challenge facing the Chinese NOCs is that their business interests in risky countries around the world are highly dependent on the evolution of China's foreign policy. China seems to be insisting on maintaining its non-interference stance in some cases, while intervening as a mediator in Sudan and South Sudan, where it wants to protect Chinese citizens and Chinese investments. There are thus mixed signals, consistent with a case-by-case approach. Continued close observation is warranted on how the country's foreign policy evolves under pressure from commercial lobbying for the government's protection of overseas holdings, and from rising calls by other nations for China to assume responsibilities on the global stage more commensurate with its enormous worldwide commercial role.

What the rest of 2014 holds is unpredictable, as troubles in the Middle East and in South Sudan are likely to persist. China's NOCs and its government appear increasingly to be in the same boat, trying to navigate through geopolitical crises to protect China's commercial and political interests. New challenges may also surface in other parts of the world where NOCs have heavily invested, such as in Myanmar, where policy may shift under the new democratic government, and potentially in Venezuela, where the current government is being challenged by protestors who are dissatisfied with the country's economic situation. Elsewhere, some of the NOCs' investments in Africa face reversal of contracts, such as in Niger and Chad. Domestically, NOCs face uncertainty in the shape of the government's ongoing energy reform, while recent allegations against CNPC's senior management could overshadow the company's overseas investment ambitions and bring the profitability of its assets under close scrutiny. Despite these circumstances, there are no signs to suggest that the Chinese NOCs, or indeed other Chinese companies, will slow down their overseas expansion. As such, pressure will remain high both on China's companies and its government to continue their path to expand their dealings in the international energy arena.

# Annex 1: Chinese overseas oil and gas upstream acquisitions from January 2011 to December 2013

Date	Company	Assets	Share	Deal size (USD billion)
December 2013	Hainan Zhenghe Industrial Group	Purchased 95% stake in Kazakh oil production company Maten Petroleum.	95%	0.5
November 2013	PetroChina	Bought 100 % of Petrobras' Peruvian subsidiary, Petrobras Energia Peru, which owns three oil and gas fields in Peru, producing 16 kb/d. The deal enables PetroChina to further enhance its scale of oil and gas co-operation in Latin America.	100%	2.6
November 2013	PetroChina	Acquired 25% of interest in the West Qurna-1 oilfield project from Exxon Mobil, a move to strengthen PetroChina's presence in Iraq and achieve synergies with other projects in Iraq. The field produced an estimated 600 kb/d at the end of 2013.	25%	n/a
October 2013	CNOOC and CNPC	Jointly won a 35-year PSC to develop a pre-salt oil discovery in Brazil's Libra oil field. Other partners in the consortium are Petrobra, Shell and Total. CNOOC and CNPC will each have 10% shares.	20%	1.4 e
October 2013	Yangtze River Investment	Announced a joint venture with Canadian Sunshine Oilsands Ltd through Yangtze River Investment's affiliate Renergy Petroleum (Canada) Co Ltd. The deal involves the development of Sunshine's early stage Muskwa and Godin oil sands leases.	50%	0.24
September 2013	CNPC	Signed agreement to buy 8.33 % of giant Kashagan oil project, Kazakhstan's offshore oilfield in the Caspian Sea from ConocoPhillips. Other partners in the project are Shell, Eni, Total, ExxonMobil, KazMunaiGas and INPEX.	8.33%	5
September 2013	CNPC	Bought 20% stake in the Yamal liquefied natural gas project from Novatek, Russia's second largest gas producer. Project is located in the Russia's offshore Arctic Region.	20%	n/a
September 2013	Shaanxi Yanchang Petroleum	Announced the takeover of Canadian Novus Energy Inc., a junior exploration and production (E&P) oil company with leases in Saskatchewan and Alberta, Canada.	100%	0.31
August 2013	Sinopec	Acquired one-third of American oil company Apache's Egyptian assets, located in desserts in West Egypt. This is to be Sinopec's first acquisition in Egypt.	33%	3.1
July 2013	Meidu Holding	Chinese conglomerate Meidu Holding acquired Woodbine Acquisition that owns assets with estimated proved reserves of about 28.3 million barrels of oil equivalent and current production of about 5 kboe/d on 15 100 net acres in Texas, United States.	100%	0.535
June 2013	Sinopec	Sonangol Sinopec International, Sinopec's local joint venture in Angola, purchased a 10% stake of Marathon Oil Company's offshore oil block 31 in the country. The block has estimated proved and probable reserves of 533 million barrels (mb).	10%	1.52
March 2013	CNPC	Purchased 28.57% stake in Eni's subsidiary in East Africa. CNPC would indirectly hold 20% interest of four offshore blocks in Area 4 in Mozambique.	28.57%	4.1
February 2013	New Times Energy Corp.	Acquired additional 9.25% of Taragal Oriental & Morillo concessions in Argentina at a total of USD 19.35 million. New Times Energy holds a total of 69.25% interest in the concessions.	9.25%	0.02
February 2013	CNPC	Agreed to acquire 20% and 29% interest in ConocoPhillip's Browse basin and Canning basin assets, respectively. In addition, the two parties agreed to conduct joint gas exploration in the Sichuan basin in China.	20% 29%	n/a
February 2013	Sinopec	Purchased 50% stake of Chesapeake Energy Corporation's Mississippi Lime oil and gas assets in Northern Oklahoma. The deal gives Sinopec 425 000 acres in the Mississippi Lime shale formation with an estimated proven and probable oil equivalent of 245 mb.	50%	1.02
February 2013	CNOOC	Purchased 100% of Canadian oil and gas developer Nexen Inc. Calgary-based Nexen had an average production of 207 kb/d as of Q2 2012. The acquisition will expand CNOOC's overseas business in Canada, the United Kingdom, West Africa and the Gulf of Mexico.	100%	15.1

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January 2013	Sinochem	Acquired 40% stake in Pioneer Natural Resources Co.'s shale assets in the Wolfcamp shale play in the Permian basin. Pioneer will remain the operator of the 82 800 net acres, while Sinochem will pay the company an initial USD 500 million and up to USD 1.2 billion of Pioneer's drilling costs for horizontal wells.	40%	1.7
January 2013	Sinopec	Joint Venture agreement with Devon Energy of the United States that covers five emerging unconventional oil and gas fields in the United States.		2.5
Total 2013				38.04
December 2012	PetroChina	Purchased minority stakes in two joint ventures of Australian BHP Billiton. The deal secured an 8.33% interest in East Browse JV and a 20% interest in the West Browse JV in Western Australia. The acquisition of non-strategic stakes is expected to secure greater supplies of LNG for China.	8.33% 20%	1.63
December 2012	PetroChina	Acquired a 49.9% stake in Encana Corporation's holdings at Duvernay. Under the agreement, Encana would continue to be the operator of the JV while PetroChina would pay CAD 1.18 billion at the closing of the deal and another CAD 1 billion in the next four years. The JV plans to invest CAD 4 billion in drilling, completion, and processing facilities. Duvernay is estimated to hold 9 billion barrels of petroleum.	49.9%	2.21
December 2012	Sinopec	Purchased Total's 20% stake in Nigerian offshore oilfield OML138. Besides Total, Chevron, Esso, and Nexen also hold interests. The deal gives Sinopec 36 000 b/d at maximum output. Chinese NOCs may end up holding 40% of the block considering CNOOC's 100% takeover of Nexen, which owned a 20% stake.	20%	2.5
October 2012	CNOOC	Purchased additional interest in Queensland Curtis LNG project from BG.		1.93
August 2012	PetroChina	Purchased 100% of Molopo Energy Ltd's CBM assets in the Bowen basin, Queensland. Molopo is a leading oil and gas exploration company in Australia. The sale includes Molopo's CBM exploration permits covering 529 square miles over five project areas.	100%	0.043
August 2012	Sinopec	Purchased Repsol's Ecuadorian Subsidiary Amodaimi Oil Co. which holds 20% in heavy oil blocks in the country. Chinese Tapei's Overseas Petroleum and Investment Corp. and Sinochem hold the remaining interests in the blocks.	20%	0.0137
July 2012	PetroChina	Purchased 40% of the E&P rights from GDF Suez Qatar for the company's offshore block 4.		n/a
July 2012	Sinopec	The group's subsidiary Sinopec Petroleum Exploration and Production Corp. acquired a 40% interest in Talisman Energy Inc.'s assets in the North Sea. Under the agreement, Sinopec will appoint personnel within key positions of the JV while Talisman Energy will operate the assets.	40%	1.5
May 2012	PetroChina	Purchased 20% stake in the LNG Canada project near Kitimat, British Columbia. Shell Canada Ltd. holds 40% stake in the JV while Korea Gas Corporation (KOGAS) and Mitsubishi each hold another 20%. With an expected start-up date by 2020, the project will have a total of 12 Mt in annual processing capacity. PetroChina is expected to ship its share of the LNG produced to China.	20%	n/a
February 2012	PetroChina	Signed a binding agreement to buy a 20% stake in the shale gas project of Royal Dutch Shell in Canada. The Groundbirch property has the potential to produce 1 billion cubic feet per day for 40 years. As part of the agreement, the two companies also plan to increase drilling to tap China's shale reserves.	20%	1
February 2012	Sinochem	Agreed to buy 10% stakes in five offshore oil blocks in Brazil's Espirito Santo Basin from London-based Perenco. These blocks are currently under exploration.	10%	n/a
January 2012	PetroChina	Purchased remaining 40% of Athabasca Oil Sands Corporation's MacKay River oil sands project. PetroChina purchased 60% of Athabasca's MacKay and Dover oil sands projects in September 2009.	40%	0.680
January 2012	Sinopec	Purchased an additional 10% interest in the Australian Pacific LNG (APLNG) project, bringing its total to 25%. Additionally, Sinopec signed a 20-year binding agreement with APLNG to increase its LNG purchases from 4.3 Mt to 7.6 Mt starting in 2016.	10%	1.1
January 2012	Sinochem	Purchased Total SA's wholly owned Colombian subsidiary Tepma BV. The deal gives Sinochem an interest in Colombia's Cusiana field, producing 7 kboe/d, along with stakes in the Oleoducto del Alto Magdalena and Oleoducto de Colombia pipelines.	n/a	1

January 2012	Sinochem	Acquired 10% stake in five deep-water gas and oil exploration blocks in the Espirito Santo Basin in Brazil from Perenco SA. The agreement leaves Perenco with a 40% operator stake, with OGX Petróleo e Gás Participações owning the remaining 50%.	10%	n/a
January 2012	Sinopec	Bought one-third of US company Devon's five new ventures in the Niobrara; the Mississippian; the Utica, Ohio; Michigan Basin; and Tuscaloosa shale gas business.	33.3%	2.2
Total 2012				14.93
December 2011	Sinopec	Purchased 18% stake from Chevron's deep-water gas fields (three blocks) in the Gendalo-gehem natural gas development in East Kalimantan of Indonesia. In addition to gas, oil is also produced in these blocks.	18%	0.680
December 2011	Sinopec	Purchased another 10% share in LNG project in Australia led by ConocoPhillips and Origin Energy (first purchase in April 2011), bringing Sinopec share to 25%. Sinopec also agreed to buy 3.3 million metric tons of LNG per year through to 2035.	10% Plus 15% bought in April 2011	1
November 2011	Sinopec	Purchased 30% stake in Galp Energy's Brazilian unit, which has stakes in 33 blocks in 7 onshore and offshore basins in Brazil.	30%	5.16
October 2011	Sinopec	Took Shell's 80% stake in Pecten Cameroon Company, which owns 12 production and exploration blocks at the coastal Rio de Ray Basin in Cameroon.	80%	0.540
October 2011	Sinopec	Bought 100% of Canadian oil and gas explorer Daylight Energy, which has core assets in 69 oil and gas fields in northwest Alberta and northeast British Columbia. Its production for the first half of 2011 averaged 38 kb/d.	100%	2.1
August 2011	China Investment Corp. (CIC)	As part of MOU with GDF Suez, CIC to buy 30% share of GDF Suez E&P division.	30%	3.26
July 2011	CNOOC	Acquired Canadian oil sands developer OPTI Canada, which holds 33% stakes in three oil sands properties in bitumen-rich Athabasca region of north-eastern Alberta.	33%	2.1
May 2011	CNPC/ PetroChina	Arrow Energy, jointly owned by Shell and PetroChina, bought Australia's Bow Energy, a gas producer in Queensland.	100% with Shell	0.540
May 2011	Sinopec	Bought 10% share of the Angola block 32 project from Marathon Oil, and 5% share from Total in Angola block 31 project. Both blocks have rich deep-water oil and gas reserves.	10% 5%	n/a
April 2011	Sinopec	Purchased 15% share in LNG project in Australia led by ConocoPhillips and Origin Energy.	15%	1.5
March 2011	CNOOC	CNOOC joined Total to purchase two-thirds stakes each from United Kingdom's Tullow Oil in the three Ugandan oil exploration areas 1, 2 and 3A. Early production is expected in 2013.	22% with Total	1.47
January 2011	CNPC	CNPC's engineering unit bought 19.9% of Australia's LNG Ltd. CNPC becomes the largest shareholder and will gain preferential rights in using LNG Ltd's patented optimised single mixed refrigerant liquefied natural gas technology.	19.9%	n/a
January 2011	CNOOC	Purchased 33% stake in the Denver-Julesburg (DJ) and Powder River Basins project from US-based Chesapeake Energy. It will also finance most of Chesapeake's drilling costs for another USD 1.1 billion.	33%	2.2
Total 2011				19.55
Total 2011-13				72.52

Notes: e = estimated value; n/a = not available; Mt = million tonnes.

Sources: CNPCETRI (2014), Report on Domestic and Overseas Oil and Gas Industry Development 2013, Beijing; CNPCETRI (2013), Report on Domestic and Overseas Oil and Gas Industry Development 2012, Beijing; CNPCETRI (2012), Report on Domestic and Overseas Oil and Gas Industry Development 2011, Beijing; IEA research; media reports; company websites.

# Annex 2: Chinese overseas oil and gas upstream acquisitions from January 2002 to December 2010

Date	Company	Assets		Deal size (USD billion)
December 2010	Sinopec	Acquired 18% of Chevron's Gendalo-Gehem deep-water gas project in Indonesia.		0.68
November 2010	CNOOC	Purchase 33.3% interest in Chesapeake's 600 000 net acres in the Eagle Ford Shale.		2.16
October 2010	Sinopec	Purchased 40% stake of Brazilian subsidiary of Spanish oil company Repsol.	40%	7.1
May 2010	CIC	Will hold 45% of Canada's Penn West Energy Trust to jointly develop its bitumen assets in the Peace River region of Alberta, Canada.	45%	0.8
May 2010	CNPC	Purchased 35% stake of Shell's wholly owned subsidiary, Syria Petroleum Development BV, which owns three production licenses in Syria covering 40 oil fields with 23 kb/d output in 2009.		Reportedly 1.2-1.5
May 2010	Sinochem	Purchased Statoil's 40% stake in Brazil's Peregrino Oilfield. Statoil will still retain 60% share and remain as the field operator.	40%	3.07
April 2010	Sinopec	Purchased 9.03% in Canadian oil sands company Syncrude from ConocoPhillips. Total is the partner holding 50%.	50%	4.675
March 2010	CNPC/ PetroChina and Shell	Joint bid for 100% share of Arrow Energy, Australia-based CBM producer.		1.9 CNPC 3.13 Joint
March 2010	CNOOC	Purchased 50% stake in the Argentinean oil company, Bridas Corp., which has oil and gas exploitation operations in Argentina, Bolivia and Chile.		3.1
October 2009	CNOOC	Purchased partial share of Norwegian's Statoil's US assets in deep-water areas of the Gulf of Mexico.		0.1
October 2009	CIC	Purchased 45% stake in Nobel Oil Group to fund Russian expansion plans.		0.3
September 2009	CIC	Purchased 11% stake in KazMunaiGas by purchasing global depository receipts.		0.939
September 2009	Xinjiang Guanghui Investment	Purchased Kazakhstan TBM's 49% share to jointly develop Zaysan block in eastern Kazakhstan.		0.3
September 2009	CNPC/ PetroChina	Purchased 60% of Athabasca Oil Sands Corp's Mackay River and Dover oil sands projects in Alberta, Canada.	60%	1.9
August 2009	Sinochem	Purchased 100% Emerald for assets in Syria and Colombia.	100%	0.878
June 2009	CNPC/ PetroChina	Purchased 96% of Singapore Petroleum Corporation.	96%	2
June 2009	Sinopec	Purchased 100% of Addax.	100%	8.8
April 2009	CNPC and KazMunaiGas	Purchased MangistauMunaiGas in Kazakhstan assets, with KazMunaiGas.	100%	1.7 CNPC 3.3 total
2009	CNOOC and Sinopec	Purchased 20% stake for block 32 (Angola) from Marathon Oil.	20%	1.3
2008	Sinopec	Purchased 100% of Tanganyika for assets in Syria.	100%	1.8
2008	CNOOC	Purchased 100% of Awilco.	100%	2.5
2008	Sinopec	Purchased 60% of Australia's AED Oil Limited oil for assets in Australia.	60%	0.561
2008	CNOOC	Purchase of 50% interest in Husky (Madura) Energy's assets in Indonesia.	50%	0.125
2008	Sinochem	Purchased 100% Soco Yemen for assets in Yemen.	100%	0.456
2006	CNOOC	Purchased 45% interest of OML 130 from South Atlantic Petroleum Ltd in Nigeria.	45%	2.3

2006	CNPC/ PetroChina	Purchased 100% of block H in Chad from Swiss company Cliveden.	100%	0.48
2006	CNPC and Sinopec	Purchased 100% of Encana for oil and pipeline interest in Ecuador.	100%	1.47
2006	Sinopec	Purchased 97% of Udmurtneft for assets in Russia; then sold 51% to Rosneft.	46%	Approx. 1.7
2006	CITIC Resources Holdings	Purchased 50% of JSC Karazhanbasmunai for assets in Kazakhstan.	50%	0.950
2006	CITIC Resources Holdings	Purchased 51% in Seram block in Indonesia through acquiring the assets from Kuwait Foreign Petroleum Exploration Company.	51%	0.0975
2006	Sinopec	Purchased oil sands projects by acquiring 50% of Ominex de Colombia with ONGC.	25%	0.4
2005	Sinopec	Purchased 50% interest in Northern Lights oil sands project.	50%	Approx. 0.05
2005	CNPC (50%) and ONGC	Purchased 38% of Al Furat Production Company from PetroCanada.	19%	0.574
2005	CNOOC	Purchased 14.52% stake in MEG Energy for oil sand business.	15%	0.22
2004	CNPC	Purchased block 18 (Angola) from Angolan government when Shell exited Angola.	50%	2
2004	Sinopec	Purchased petroleum assets from First International Oil Corporation in Kazakhstan.	100%	0.153
2003	CNOOC	Purchased 16.93% interest of Tangguh LNG project from BP and then sold 3.06% to Talisman.	14%	0.340
2003	Sinochem	Purchased 100% Atlantis from Norwegian Petroleum Geo-Service.	100%	0.105
2003	Sinochem	Purchased 14% interest in block 16 in Ecuador from ConocoPhillips.	14%	0.1
2002	CNPC/ PetroChina	Purchased Devon Energy Corporation for six blocks in Indonesia.	100%	0.585
2002	CNOOC	Purchased Repsol's Yacimientos Petrolíferos Fiscales upstream assets (Southeast Sumatra etc.) in Indonesia.		0.585
Total				Approx. 83.2

Sources: CNPCETRI (2012), Report on Domestic and Overseas Oil and Gas Industry Development 2011, Beijing; CNPCETRI (2010), Report on Domestic and Overseas Oil & Gas Industry Development 2009, Beijing; FACTS Global Energy (2010), personal communication with analyst, April; Interfax; company websites; IEA research; media reports.

# Annex 3: Motivations for NOCs to invest overseas and strategies used

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Motivations for investing abroad	Main strategies used to expand
Expand oil and gas reserves and production.	Diversify energy supply sources and take advantage of new business opportunities.
Diversify energy supplies to avoid risks.	Target assets to add synergy to existing assets.
Become "international NOC".	Partner with other NOCs and IOCs, build relationships and diversify risk.
Develop an integrated supply chain.	Pursue market-for-resources deals that exchange access to China's market for access to resources.
Gain technical know-how and streamline managerial capacities.	Utilise strong financial resources and government policy support.

Sources: FACTS Global Energy (2009), "China's Overseas Oil and Gas Investment, Recent Developments", FACTS Global Energy, Issue 33; PFC Energy (2010), Chinese NOCs, Global Expansion Drivers, PFC Energy, Washington, D.C.; Xu, Xiaojie (2007), Chinese NOCs' Overseas Strategy, Background, Comparison and Remarks, James A. Baker III Institute of Public Policy, Rice University, Houston; IEA research.

## **Annex 4: Main development targets of China's 12th FYP for Energy**

Category	Indicator	Unit	2010 value	2015 target	Annual rate of change*	Туре
pu	Total primary energy consumption	Mtce	3 250 (2 270 Mtoe)	4 000 (2 800 Mtoe)	4.3%	Indicative
umed a	Share of non-fossil energy	Percentage of total	8.6%	11.4%	[2.8 pp]	Mandatory
energy cons efficiency	Total electricity consumption	TWh	4 200	6 150	8.0%	Indicative
Quantity of energy consumed and efficiency	Energy consumption per unit GDP	tce/million CNY (USD 160 323	81	68	[-16% total]	Mandatory
Quantii	Fossil power plant fuel use (net)	grammes of coal equivalent / kWh	333	323	-0.6%	Indicative
	Overall grid line loss rate	percent	6.5%	6.3%	[-0.2 pp]	Indicative
Alddn	Domestic primary energy production	Mtce	2 970 (2 080 Mtoe)	3 660 (2 560 Mtoe)	4.3%	Indicative
s pue	Coal production capacity	Mt coal	3 240	4 100	4.8%	Indicative
tion	Oil production capacity	Mt oil	200	200	0%	Indicative
Energy production and supply	Natural gas production capacity	Billion cubic metres	94.8	156.5	10.5%	Indicative
Energy	Non-fossil energy production capacity	Mtce	280 (200 Mtoe)	470 (330 Mtoe)	10.9%	Indicative
nt	Power generation installed capacity	GW	970	1 490	9.0%	Indicative
pmer	Of which: Coal-fired	GW	660	960	7.8%	Indicative
Electricity development	Hydro	GW	220	290	5.7%	Indicative
ty de	Nuclear	GW	10.82	40	29.9%	Indicative
ctrici	Gas-fired	GW	26.42	56	16.2%	Indicative
E	Wind	GW	31	100	26.4%	Indicative
	Solar	GW	0.86	21	89.5%	Indicative
	CO <sub>2</sub> emissions per unit GDP				[-17% total]	Mandatory
Protection of ecological environment	SO <sub>2</sub> emissions by coal-fired power plants	g/kWh	2.9	1.5	-12.4%	Mandatory
Proti ecc envii	NO <sub>x</sub> emissions by coal-fired power plants	g/kWh	3.4	1.5	-15.1%	Mandatory
ıt in hood	Residential electricity consumption	kWh/yr	380	620	10.3%	Indicative
Improvement in people's livelihood	Green Energy demonstration countries	Number	108	200	13.1%	Indicative
Impr	Population with access to natural gas	Million people	180	250	6.8%	Indicative

Notes:  $CO_2$  = carbon dioxide; g/kWh = grammes per kilowatt hour; GW = gigawatt; kWh/yr = kilowatt hour per year; Mtce = million tonnes of coal equivalent; Mtoe = million tons of oil equivalent; NO<sub>x</sub> = nitrogen oxides; pp = percentage point; SO<sub>2</sub> = sulphur dioxide; tce = tonnes of coal equivalent; TWh = terawatt hour.

<sup>\*</sup> The original table included only absolute changes between 2010 and 2015 for items in italics. Source: NEA (2013a), China's 12th Five-Year Plan for Energy Industry Development, Beijing.

### Acronyms, abbreviations and units of measure

### **Acronyms and abbreviations**

APLNG Australian Pacific Liquefied Natural Gas Project

CBM coal-bed methane

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CFIUS Committee on Foreign Investment in the United States

CIC China Investment Corporation

CNOOC China National Offshore Oil Corporation
CNPC China National Petroleum Corporation

CO<sub>2</sub> carbon dioxide

E&P exploration and production

ESPO East Siberia-Pacific Pipeline System

EU European Union FYP five-year plan

GDP gross domestic product IOC International Oil Company

JV joint venture

LNG liquefied natural gas M&A merger and acquisition

MOU memorandum of understanding
NATO North Atlantic Treaty Organization
NGO non-governmental organisation
NEA National Energy Administration

NOC National Oil Company

NO<sub>x</sub> nitrogen oxides

OECD Organisation for Economic Co-operation and Development

ONGC Oil and Natural Gas Corporation Limited of India

PSC production-sharing contract
PSA production-sharing agreement
R&D research and development

SCO Shanghai Cooperation Organization

Sinopec China Petroleum and Chemical Corporation

SO<sub>2</sub> sulphur dioxide

SOE state-owned enterprise TSX Toronto Stock Exchange

UN United Nations

US EIA United States Energy Information Administration

#### Units of measure

bcm billion cubic metres

bcm/yr billion cubic metres per year g/kWh grammes per kilowatt hour

GW gigawatt

GWh/yr gigawatt hour per year kb/d thousand barrels per day

kboe/d thousand barrels of oil equivalent per day

km kilometre kWh kilowatt hour kWh/yr kilowatt hour per year mcm million cubic metres mb million barrels

mb/d million barrels per day

mboe/d million barrels of oil equivalent per day

Mt million tonnes

Mt/yr million tonnes per year

Mtce million tonnes of coal equivalent
Mtoe million tonnes of oil equivalent
tce tonnes of coal equivalent

TWh terawatt hour

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December 2012, interview with Mr Wang Zhen in Beijing.

January 2014, interview with Ms Erica Downs, by telephone, Paris.

February 2014, interview with Canadian officials via email, Paris.



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Chinese national oil companies (NOCs) first ventured overseas to invest in oil and gas production more than 20 years ago. Today, they are international players, active across more than 40 countries and producing 2.5 million barrels of oil equivalent per day (mboe/d) in oil and gas outside of China. Chinese companies have contributed much-needed investments in conventional and unconventional oil and gas production in places like Iraq, East Africa, Canada, Central Asia and Russia. From 2011 to 2013, NOCs invested amounts of capital totaling USD 73 billion in upstream mergers and acquisitions and much more in long-term oil and gas supply deals with resource-rich countries (not to mention the USD 400 billion gas deal with Russia announced in May 2014).

As a follow-up to the 2011 IEA publication, Overseas Investments by Update on Overseas Investments by China's National Oil Companies: Achievements and Challenges since 2011, this new report provides an update on overseas activity by China's NoCs between 2011 and 2013. It examines the success Chinese NoCs enjoyed in acquiring new assets and securing long-term oil and gas supplies and downstream projects. The report also explains in detail how Chinese NoC operations in Sudan/South Sudan, the Middle East and other parts of the world run up against increasing political and security threats, and why these risks and challenges have created a new dilemma for Chinese policy makers who insist on a policy of non-interference but who also need to protect Chinese commercial and energy security interests.