Eurasia Group Global Trends Quarterly

Free Markets Versus State Capitalism in Oil and Gas

Executive summary

Over the last decade, state-owned national oil companies (NOCs) have become increasingly important in the global oil and gas sectors. Their rise is also a key part of the trend toward state capitalism in many emerging markets. While NOCs generally lack capacity in some of the industry's cutting-edge technologies, in many cases they have the advantages of low-cost capital from state-controlled banks and strong backing from their home governments. This environment challenges the dominance of privately held Western international oil companies, but presents opportunities for these firms to partner with NOCs on projects of mutual interest.

Overview

Over the last decade, state-owned national oil companies (NOCs) have become increasingly important in the global oil and gas sectors. Their rise is also a key part of the trend toward state capitalism in many emerging markets (EMs). Several NOCs have become top-tier competitors in the acquisition and development of new hydrocarbons reserves. While NOCs generally lack capacity in some of the industry's cutting-edge technologies, in many cases they have the advantages of low-cost capital from state-controlled banks and strong diplomatic backing from their home governments. This environment challenges the dominance of privately held Western international oil companies (IOCs), but presents opportunities for these IOCs to partner with NOCs on projects of mutual interest. The industry will therefore feature an increasingly complex mix of competition and cooperation between IOCs and NOCs.

Analysis

NOCs expand their overseas natural resource acquisitions

The reasons for NOCs to expand beyond their home markets and compete with IOCs vary. Some NOCs are driven by domestic energy security policies that prioritize owning and controlling natural resources abroad. The main Chinese NOCs, CNPC/PetroChina, Sinopec, and the China National Offshore Oil Corporation (CNOOC), are good examples of this. Other NOCs, such as Malaysia's Petronas, were focused on developing resource reserves in their home markets, but have been compelled to seek opportunities elsewhere due to declining production and limited prospects at home.

Many of the competitive advantages that NOCs enjoy derive from relatively easy access to capital from state-controlled financial institutions that governments have directed to support overseas acquisitions to meet national energy security goals. The Chinese NOCs are the strongest financially, but they are hardly alone in benefitting from state-backed capital. This support does not mean that NOCs are indifferent to good returns on capital or are systematically overpaying for assets, but they are more tolerant of risk than many IOCs would be.

Oil

In the oil sector, state financing has been crucial, as has the ability of NOCs to carry out relatively simple technological projects using lower-cost labor and supply chains. In buying up key assets, CNPC has benefited handily from its access to financing from state-owned banks; while CNPC does not always overpay for assets, it does sometimes try to outbid rivals for strategic investments. CNPC's access to state-backed financing was particularly helpful in its acquisition of the Athabasca oil sands stake in early 2009. At the time, Western rivals were mired in the depths of the global financial crisis and had limited access to both credit and bond-market financing. This pattern is likely to continue, with China's inherent financial strength enabling CNPC to be more aggressive than its rivals in acquiring assets and taking on higher-risk projects. China's $20 billion in soft loans to Venezuela in 2010 is another example: The loans made Chinese NOCs' bids for assets in the Orinoco heavy-oil belt more competitive.

On the cost advantage side of the equation, a good example is the Rumaila oilfield redevelopment project in Iraq, where CNPC has a 29% stake. Despite the fact that BP is the operator, CNPC actually has a much larger staff, and the project relies overwhelmingly on CNPC's supply chain, which sources equipment from low-cost CNPC-affiliated suppliers of the relatively low-tech equipment needed for the project.

In a few cases, though, the wealth of opportunities at home has discouraged NOCs from venturing abroad, as they look to secure privileged spots in their home markets instead. A prime example of this is Petrobras: Brasilia recently gave the company the right to be sole operator of new acreage awarded in Brazil's deepwater pre-salt offshore fields. Taking on this role has stretched Petrobras's capabilities, causing it to pull back from much of its overseas activity.

Gas

China's NOCs have made significant investments in overseas gas markets and will continue to do so. This push, which is driven mainly by technology and knowledge acquisition, has been showcased in the North American gas plays. In 2010 alone, Chinese NOCs invested $10 billion in natural resources abroad, more than half of which involved oil sands and shale gas reserves in Canada. China's sovereign wealth

Planned Chinese investments in North American oil and gas

US	Investor	Company	Stake	Resource type	Cost ($ million)
Jan 2011	CNOOC	Chesapeake Energy (Colorado, Wyoming)	33%	Shale/liquids	$1,300.00
Oct 2010	CNOOC	Chesapeake Energy (Eagle Ford, Texas)	33%	Shale/liquids	$2,200.00
Mar 2010	BGP (CNPC)-ION joint venture	INOVA Geophysical Equipment	51%	Equipment	$190.00
Canada	**Investor**	**Company**		**Resource type**	**Cost (CDN$ million)**
Oct 2011	Sinopec	Daylight Energy	100%	Oil and shale gas	$2,200.00
Jul 2011	CNPC	Joint venture with Shell Canada, South Korean Kogas and Japan's Mitsubishi	n.a	Infrastructure, shale gas	$1,000.00
Jul 2011	CNOOC	Opti Canada	100%	Oil sands: 35% share of the Nexen-operated Long Lake thermal oil sands project in Northern Alberta	US$2,100
Jan 2011	Sinopec	Northern Gateway pipeline with Enbridge	n.a	Infrastructure, LNG	$5,500.00
May 2010	CIC	Penn West	5%	Oil sands	$1,220.00
Apr 2010	Sinopec	Syncrude Canada Ltd. From ConocoPhillips	9%	Oil sands	$4,650.00
Feb 2010	PetroChina	Athabasca Oil Sands Corp.	60%	Oil sands	$1,900.00
Apr 2009	Sinopec	Northern Lights from Total	50%	Oil sands	

Source: Eurasia Group research

fund, the China Investment Corporation (CIC), opened its first overseas office in Canada last year, suggesting that it views its investments in the country and China's needs for Canadian resources and expertise as long-term.

The motivations behind this aggressive acquisition strategy are fourfold. First, the state-owned firms are mindful of Beijing's ambitious gas plans, which aim to double China's gas consumption in the coming five years and satisfy demand with more diverse supplies from abroad and additional unconventional production at home. The government's target for consumption demand is 260 billion cubic meters (bcm) in 2015, with shale gas production targets at 6.5 bcm. Second, China needs to develop its massive unconventional gas potential with the help of foreign firms; China's NOCs need to acquire expertise and technology—particularly that used for horizontal drilling and hydraulic fracturing—from foreign partners. Fourth, Chinese firms can take advantage of the weak global economy, low Henry Hub prices, and depressed equity valuations for North American gas-leveraged E&P firms to make strategic acquisitions in the North American unconventional gas market. And fifth, Chinese companies want to transition from downstream to upstream and from the domestic market to overseas markets. So far, US E&P companies struggling to fund drilling in the current low gas price environment have welcomed Chinese capital. But China has not yet been bold enough to take stakes in US LNG projects (in order to send LNG back home to China)—a move that could unleash nationalistic opposition in the US.

Other Asian NOCs that have invested in the North American unconventional gas play include India's GAIL, South Korea's Kogas, and Malaysia's Petronas. GAIL and Kogas have taken it a step further by signing long-term contracts to purchase US LNG from Cheniere's Sabine liquefaction project on the US Gulf Coast, with each taking 3.5 million tons of LNG per year. Both state-owned companies will prioritize sending US LNG back home. Given India's escalating energy needs (the country's projected GDP growth rate for 2013–2014 is 8%–9%), New Delhi will need to tap various energy sources abroad—from US shale gas–based LNG to Russian LNG.

Kogas, the world's largest LNG buyer, will send US LNG home. This new supply will expand the company's portfolio and help it meet South Korea's ambitious energy security goals. The South Korean government announced in December that domestic companies will invest $11.8 billion in oil and gas assets in 2012, an increase of 34% from

2011, to shore up the country's energy security. Of the total amount, Kogas will invest $7.8 billion, and the company said in January that it will invest $3 billion of that amount in overseas LNG projects. Kogas sold 33.57 million tons of LNG at home last year, up 7.6% from 2010. The company already has gas and LNG assets in exploration and production in Qatar, Oman, Yemen, Australia, and Indonesia, and is involved in major projects in Iraq and Mozambique that could translate into future LNG supply. US LNG exports will reinforce Kogas's sourcing diversification. Indeed, with South Korea poised for free trade with the US, Kogas will be able to buy US LNG from planned projects that have received export licenses from the US Department of Energy for exports to FTA nations.

In reaction to these state-owned companies locking up supplies with state funds, the Japanese government is structuring a new natural resource acquisition strategy that will allocate funds to the country's utilities in order to enhance supply security and compete with foreign NOCs. Acquiring cheaper, more secure gas supplies will depend on two pillars: increasing competition within Japan's domestic gas market and encouraging Japanese offtakers to form consortia to buy upstream equity in LNG liquefactions projects abroad. The government is ready to double its assistance budget to induce companies to buy equity stakes in export projects. In this way, Japanese companies will be able to insert themselves throughout the supply chain—from production to consumption—thereby boosting supply security and increasing flexibility in volume and destination. Beyond the LNG projects that Japanese trading and production companies already participate in, Japanese utilities will become increasingly involved in new projects to bring supply back home. Planned investments include Nigeria's Brass LNG, for which LNG Japan, Itochu Corporation, and Sojitz Corporation might arrange a loan in exchange for equity shares. Another promising project is Kitimat LNG in Canada's British Columbia, for which the Japanese trading house Mitsubishi has teamed up with Shell. And a consortium of Japanese companies called Japan Far East Gas—including Japan Petroleum Exploration, Itochu, Marubeni, Inpex and Itochu Oil Exploration—will buy equity and capacity in Russia's planned Vladivostok LNG proj-

Japan's investments in planned LNG projects

Country	Project	Status	Shareholders/Japanese companies	Total Japanese participation
Venezuela	Delta Caribe	on hold	Itochu, MIMI (Japan Australia LNG is a 50-50 joint venture between Mitsubishi and Mitsui)	NA
Nigeria	Brass LNG	FID expected in 2012	Japanese companies could help financing by arranging a loan in exchange of equity shares (LNG Japan (4%), Itochu Corporation (3%) and Sojitz Corporation)	7%
Indonesia	Donggi-Senoro LNG, Sulawesi	FID taken in Jan. 2011, start-up expected in 2014	Sulawesi LNG Development 59.9% (joint venture between Mitsubishi 75% and Kogas 25%)	50%
	Abadi LNG	start-up 2016	Inpex (60%)	60%
Papua New Guinea	PNG LNG	start-up 2014	JX Nippon Oil & Gas Exploration	
Australia	Gorgon LNG	start-up 2014	Osaka Gas (1.25%), Tokyo Gas (1%), Chubu Electric (0.417%)	2.67%
	Pluto LNG	2012	Kansai Electric (5%) Tokyo Gas (5%)	10%
	Ichtys LNG		Inpex (76%)	76%
Canada	KM LNG	2017	Mitsubishi	NA
Russia	Vladivostok LNG	2017	Japan Far East Gas Co (a joint venture between Japan Petroleum Exploration Co. (32.5%), Itochu (32.5%), Marubeni (20%), Inpex (10%) and by Itochu Oil Exploration Co. (5%))	NA
Mozambique	Mozambique LNG		Mitsui (20%)	20%

Source: Eurasia Group Research

ect. In Mozambique, meanwhile, Mitsui is partnering with Anadarko to develop an LNG venture and potentially ship 5 million tons of LNG back to Japan.

Forming alliances between IOCs and NOCs to increase technology transfers

In addition to their financial strength, many of the NOCs seeking to expand internationally hope catch up with the IOCs' technological prowess. This desire has driven several NOCs to set their sights on projects that provide access to key technologies, which presents both opportunities and challenges for the IOCs: NOCs can be key sources of capital and risk-sharing, but may also become more technologically competitive over the long term, particularly in unconventional oil and gas. Indeed, in some cases, IOC-NOC partnerships allow the NOC to gain experience with unconventional oil and gas or deepwater production. In some other cases, NOCs grant IOCs access to home-market exploration, acreage, or reserves that the NOCs do not have the capacity to develop themselves, in exchange for technology transfers.

Oil

The largest number of these partnerships has involved NOC capital flowing into backing projects, which require IOC expertise in unconventional oil, or NOCs paying to acquire a major stake in such projects once they are producing. Chinese NOCs have made extensive acquisitions in recent years, motivated by technology acquisitions more than concerns about energy security. CNPC and Sinopec have both bought major stakes in oil sands projects in Alberta that offer experience in heavy-oil extraction. CNPC's 2010 acquisition of acreage in Venezuela's Junin-4 block, which is due to begin producing this year, marks the beginning of CNPC's ability to apply steam-assisted gravity drainage (SAGD) technology independently. As noted, CNPC was aided in its bid for the acreage by soft loans from Beijing—an important advantage.

Sinopec and CNOOC have been by far the most active NOCs in pursuing deepwater expertise, initially by acquiring minority stakes in overseas projects. Sinopec has extensive interests in deepwater offshore projects in Angola and Brazil, for example. And Beijing's provision of loans to Petrobras to support the company's ambitious investment program was, again, an important competitive advantage for Sinopec; the company obtained contractual provisions committing Petrobras to extensive deepwater technology transfers.

One example of a technology-driven strategic alliance flowing in the opposite direction is the strategic partnership and equity-swap deal that Russia's Rosneft and ExxonMobil announced in August 2011. In this case, the Russian side offered access to reserves it could not develop by itself, particularly in the Arctic, in exchange for technology transfers. While the long-term focus is squarely on exploration of the Russian Arctic, in the short term, Rosneft will benefit from technologies that enable it to attenuate the decline rates at mature onshore fields, a key concern for the company. Through the new partnership, Rosneft will be able to reduce its spending on service providers such as Schlumberger for brownfield work. According to company data, Tomskneft, one of Rosneft's three core producing subsidiaries in Western Siberia, has four fields with a water cut of 80%. Russian insiders believe that 7.5 billion barrels of additional reserves can be accessed using existing technology.

Gas

Gas developments and export projects to unlock untapped resources will increasingly be located in unfriendly environments with harsh weather (such as the extreme cold of the Barents Sea, the Arctic, and Siberia), challenging technological requirements (for deep offshore and unconventional resources), or unsafe surroundings (due to wars and terrorist attacks on facilities and personnel). As a result, successful partnerships between IOCs and NOCs will be critical to unlocking those new energy supplies, by applying breakthrough technologies and effectively managing safety and environmental risks.

As in the oil sector, there are several cases of technology-driven strategic alliances in the gas sector. Russia's planned Shtokman project, with reserves in the Barents Sea and well within the Arctic, is a joint venture of Gazprom, Total, and Statoil. Total has been producing LNG offshore at Snohvit in the Barents Sea, and the group has operations in cold regions of Kazakhstan and Canada as well, giving it experience with very low temperatures (below negative 50 degrees Celsius), logistics in remote sites (including overcoming storms and icebergs), and difficult-to-exploit resources. Total has also joined the Novatek-led Yamal

LNG project in Russia's Western Siberia, with a 20% stake. Although Novatek is an independent gas producer, it is backed by the Kremlin and benefits from special tax treatment. This partnership will benefit from the combined experience and technology of the two companies.

The traditional equal partnership framework for IOC-NOC ventures needs to be revisited, however, as demonstrated by the failed cooperation in 2008 between BP and TNK-BP in Russia (differing interests between the Western and Russian partners led to disputes over corporate governance). The host country also needs to offer sufficient risk-reward opportunities and a predictable regulatory environment in order to satisfy investors. One illustration of a fruitful partnership is that between Qatar's state-owned companies (Qatar Petroleum, RasGas, and Qatargas) and ExxonMobil. By participating in two Qatargas joint ventures and three RasGas joint ventures, ExxonMobil has secured interests in 12 liquefaction trains. This partnership is the result of a welcoming business climate, as well as policies established by Qatari government that make it possible for investors, scientists, and engineers to collaborate and execute capital- and technology-intensive projects.

Another accelerating trend in IOC-NOC cooperation is partnerships in third countries as a result of declining resources in NOC home countries and their need for technology transfers. Petronas, which has historically been a large gas producer, is considering importing gas into Malaysia as output from its aging fields declines and domestic demand for power generation rises. The company is hoping to secure LNG imports by building import infrastructure at home and forging long-term supply agreements overseas; it is investing in upstream gas ventures all around the world, including Canada, Mozambique, and Australia, where Petronas is part of the GLNG joint venture along with Santos, Total, and Kogas to develop the Gladstone LNG project. (First gas is expected to come on line in 2015.)

Business implications

- **Opportunities are increasing for IOCs and NOCs to collaborate on challenging or untapped oil and gas plays.** NOCs are trying to catch up with IOCs technologically, and many are therefore focusing on projects that will give them access to key technologies—particularly horizontal drilling and hydraulic fracturing—in order to develop unconventional resources at home. Despite Chinese NOCs' aggressive acquisitions of overseas stakes to increase their exposure to unconventional plays, Beijing remains concerned about its NOCs' capacity for innovation. And these firms' ability to digest foreign technology could be limited by Western service providers' concerns about intellectual property rights. Indeed, IOCs may have reason to worry that the trend toward technologically sophisticated NOCs could render IOCs' competitive advantages less relevant.

- **Oil service companies pose a competitive threat to IOCs.** There is a growing risk that IOCs could be sidelined by increasingly technologically savvy oil service companies as demand for the latter's services grow. NOCs are asking oil service firms to provide many of the services traditionally supplied by IOCs. One of the competitive advantages that oil service companies enjoy is the simple nature of their partnerships with NOCs: The NOCs remain in full control of their reserves. (In contrast to oil service companies, IOCs are keen to hold reserves to support their share-price valuations.) That said, oil service companies are insufficient substitutes for IOCs on high-risk projects, given IOCs' experience with capital-intensive and technologically challenging ventures.

- **Arctic gas will open up new engineering and technological opportunities.** To ship LNG out of the recently planned Arctic LNG projects (in Alaska, Canada, and Russia), a new type of icebreaker that can resist multi-year sea ice will have to be built, and the shipping industry is gearing up to meet the challenge. For example, South Korea's Samsung Heavy Industries has built three icebreakers able to endure 1.5 meters of ice for Russia's Sovcomflot shipping company, which used them to ship oil from Lukoil's Varandey terminal on the shores of the Pechora Sea to Murmansk, from where the oil is sent to international markets.

Photo credit: Reuters