3

Chinese Investments to Secure Natural Resource Supplies

Is it possible to discern a strategic focus in Chinese companies' natural resource procurement efforts? In this chapter I examine the 16 largest Chinese arrangements in chronological order, using the procurement patterns introduced in chapter 2 as a framework. Again, though this book focuses on the effects of Chinese procurement on the natural resource industry, other issues—political, social, and environmental—come into play. In addition to the 16 cases, I describe five smaller cases in an appendix to this chapter.

China National Petroleum Company and the Greater Nile Petroleum Operating Company, Sudan, 1996

Sudan's decades-long conflict has obviously complicated its natural resource industry. After active involvement in Sudan from 1974 to 1985 and sporadic involvement in the years after, in June 1992, American energy company Chevron announced its plans to sell all its assets in the country to a Sudanese company, Concorp International.[1] Up until the sale, Chevron had invested some $800 million in its Sudanese interests to develop the 1.4 billion barrels of oil it estimated its concessions possessed. Despite its investment in the country, Chevron decided to make the sale in the face of falling world oil prices, an increasingly unstable situation in Sudan, and pressure from the Sudanese government.[2] From August to September 1992 Concorp acquired Chevron's concessions, ground facilities, and machinery in Sudan for a token $25 million. In October 1992, Concorp sold the production base (blocks 1, 2, and 4 of the Melut Basin) to a Canadian company, Arakis Energy Group, and its partner, State Petroleum Corporation. In 1993, Arakis bought out State Petroleum's interest in the concession (Rone 2003).

In the following years, Arakis struggled to raise the funds to finance exploration and development of its oilfields. Further, the concession was far from the Red Sea and needed a pipeline to be profitable. In December 1996, Arakis sold off 75 percent of its stake in blocks 1, 2, and 4 to form a consortium, the Greater Nile Petroleum Operating Company (GNPOC), with the China National Petroleum Company (CNPC), 40 percent; Malaysian Petronas, 30 percent; and Sudanese Sudapet, 5 percent—all state-owned oil companies. State-owned CNPC is the largest oil and gas producer and supplier in China. It specializes in oilfield development and engineering and has a presence in 29 countries.

On June 18, 1997 GNPOC was officially incorporated to develop blocks 1, 2, and 4, with Arakis as the operator.[3] GNPOC's formation brought $700 million to the project, but Arakis still had trouble securing funding for the project. GNPOC did not begin building its 950-mile Port Sudan pipeline until May 1998.[4] On June 24, 1998 the Canadian firm Talisman Energy made a takeover offer for Arakis, and by early October the transaction had been completed for $200 million.[5] Talisman also committed $760 million over two years to the project, sufficient to fund further oilfield development and the completion of the pipeline to Port Sudan on the Red Sea in April 1999.

Oil production began on the 12 million–acre concession in 1999 at 150,000 barrels per day.[6] By 2007 production was at 300,000 barrels per day, 60,000 of which were for domestic consumption. The Port Sudan pipeline has the capacity to carry 12.5 million tons of oil each year. In 2003 ONGC Videsh Ltd., a wholly owned subsidiary of India's Oil and Natural Gas Corporation (ONGC), acquired Talisman's stake.

CNPC's stake in GNPOC is frequently reported to be China's largest overseas investment, but no figures are available. Investment may very well come from retained earnings; Petronas of Malaysia is said to finance 70 percent of its capital expenditure from cash flow.[7] With Sudan being an outlier oil producer under sanctions, CNPC's export activities fall under the second pattern of procurement.

China National Petroleum Company and Sinopec with Petrodar Operating Company, Sudan, 2001

The Petrodar Operating Company was incorporated on the British Virgin Islands on October 31, 2001 and is composed of CNPC (41 percent), Petronas of Malaysia (40 percent), Sudapet of Sudan (8 percent), China Petroleum and Chemical Corporation (Sinopec) (6 percent), and Al Thani Corporation of the United Arab Emirates (5 percent). Al Thani has since sold its 5 percent stake to the privately owned Tri-Ocean Exploration and Production.

Petrodar is engaged in the exploration, development, and production of oil for blocks 3 and 7 in the Melut Basin in southeast Sudan. These blocks cover 29,000 square miles and have more than 1 billion barrels of confirmed oil reserves. In 2008 daily production capacity was at 200,000 barrels of oil, with annual production at 10 million tons.

Oil is transported from the fields in a Petrodar-owned, 810-mile pipeline that came online in late 2005. The pipeline connects the fields to Port Sudan on the Red Sea and has a carrying capacity of 500,000 barrels per day. The system also includes production facilities and a 300,000-barrel-per-day processing facility.

Despite conflicting reports on the total quantity of oil produced in the country, blocks 3 and 7 are believed to account for about half the oil produced in Sudan in 2006.[8] Sudan's oil exports to China account for about 7 percent of China's total oil imports.[9]

In addition to CNPC, this project involves China's second-largest producer of crude oil and natural gas, Sinopec, which is also the country's largest oil refiner, ranking third in the world in refining capacity. Though Sinopec is listed on the Hong Kong and Shanghai stock exchanges, the Chinese government wholly owns its parent company, Sinopec Group.[10]

While it is not clear what the original investment price was, most subsequent investment appears to have come from the accumulation of retained earnings, similar to the case of GNPOC. This endeavor also qualifies as pattern-two procurement.

China National Offshore Oil Corporation (CNOOC) and North West Shelf Venture, Australia, 2002

The state-owned China National Offshore Oil Corporation (CNOOC), China's largest offshore oil and gas producer, is incorporated in Hong Kong and traded on the New York and Hong Kong stock exchanges. On October 21, 2002 CNOOC announced that it had entered into a definitive agreement with the North West Shelf Venture consortium in Australia.[11] Under the terms eventually reached, CNOOC acquired a 5.3 percent interest in the Venture for $348 million, and the Venture agreed to supply China with more than 3.3 million tons of liquefied natural gas (LNG) for 25 years.[12]

Based on the agreement, a China LNG Joint Venture was formed within the North West Shelf project to supply LNG to China, with CNOOC holding a 25 percent stake. The North West Shelf Venture's six original participants, BHP Billiton, BP, Chevron, Japan Australia LNG (MIMI), Shell, and Australian publicly traded oil company Woodside Energy (North West Shelf's operator) each took a 12.5 percent interest.[13] The oil majors (BP, Chevron, and Shell) who together had held 49.5 percent of the enterprise were reduced, collectively, to no more than a 37.5 percent stake.

Additionally, CNOOC formed a joint venture with BP and seven other Chinese companies to create the LNG buyer in Shenzhen, Guangdong province.[14] This venture, Guangdong LNG (later Guangdong Dapeng LNG Company), built China's first LNG terminal and high-pressure gas pipelines for an estimated $900 million.[15] In May 2006, it received its first LNG delivery from the North West Shelf project.[16] About one-third of the gas goes to Hong Kong; the rest is distributed across the Guangzhou province.[17]

Discovered in 1980, the North West Shelf project is one of the world's largest LNG producers and represents about 65 percent of Australian production. As mentioned above, CNOOC is part of the North West Shelf Venture through the China LNG Joint Venture but does not hold an interest in its infrastructure. Guangdong LNG was begun in 1998 as a pilot program in southern China to relieve energy shortages. After announcing its short list of potential energy suppliers in early 2002, it chose the North West Shelf project to be its sole supplier of LNG.[18] This Chinese arrangement qualifies as pattern-two procurement.

Sinopec and CNOOC, Angola, 2004

On April 9, 2004 India's ONGC announced its plan to buy Royal Dutch Shell's 50 percent stake in Angola's block 18 oilfield for $623 million. Block 18 was expected to come online in 2007 with peak production at 200,000 barrels of oil per day.[19] The deal was subject to first refusal by BP, the field's operator and owner of the other 50 percent stake, and Angolan state-owned Sonangol, the field's concessionaire. Sonangol is Angola's sole concessionaire and involved in the exploration, development, and production of crude oil products in Angola.[20]

By August BP had approved the deal, but Sonangol had yet to do so, and rumors surfaced of a Chinese company also interested in bidding on Shell's 50 percent stake.[21] By October Sinopec had made a counteroffer that Sonangol eventually accepted in December 2004. Most observers attributed the change to China's aid offer of $2 billion compared with India's offer of $200 million to help develop Angola's railways.[22]

In late 2005 Sonangol announced that it would launch another licensing round, including rights to 3,100 square miles of relinquished portions of blocks 17 and 18, as well as other proven oilfields.[23] Sinopec partnered with Sonangol to make a $2.4 billion offer for these blocks; their joint venture, Sonangol Sinopec International, ultimately acquired a 40 percent stake in block 18, a 27.5 percent stake in block 17, and a 20 percent stake in block 15. The three blocks combined have proven reserves of 3.2 billion barrels.[24]

On July 17, 2009 Sinopec and CNOOC entered into a definitive agreement with Houston-based integrated oil company Marathon Oil Corporation, an integrated international energy company with principal operations in the United States, Angola, Canada, Equatorial Guinea, Gabon, Indonesia, Libya, Norway, and the United Kingdom. It is the fourth-largest American integrated oil company and the fifth-largest American refiner. Under the terms of the Marathon deal, Sinopec and CNOOC formed a 50-50 venture and bought two-thirds of Marathon's 30 percent interest in block 32 for $1.3 billion.[25]

Block 32 is a deep-water exploration block located more than 90 miles off the coast of Angola.[26] Marathon holds on to its remaining 10 percent interest in the block.[27] Total holds a 30 percent stake and operates the project. Sonangol, American ExxonMobil, and Portuguese Galp Energia hold stakes of 20, 15, and 5 percent, respectively. The block is expected to begin oil production in 2012.[28]

While Sinopec and CNOOC participation may result in marginal new discoveries and production, these arrangements appear to fit clearly into the first procurement pattern: China's purchase of a stake in an established portion of the industry.

CNOOC and Union Oil Company of California (Unocal), 2005 *(Aborted)*

On June 23, 2005 CNOOC announced an $18.5 billion all-cash acquisition bid for American oil and gas company Unocal.[29] This bid followed Chevron's April 2005 announcement of its own bid to purchase Unocal and represented a $1.5 billion premium over Chevron's offer.[30] Unocal output was running at approximately 160,000 barrels of oil per day and 1,500 million cubic feet of natural gas. Thirty-three percent of its oil and natural gas production was within the United States, 67 percent outside.

CNOOC's bid to acquire Unocal sparked much political consternation in the United States. Many worried that CNOOC's acquisition of Unocal would give it access to technology that could have a military application in the future. Others disliked that the Chinese government owned 70 percent of CNOOC and saw the company's massive bid as being effectively bankrolled by China in an attempt to tie up US energy assets[31] and offer Chinese consumers—including China's armed forces—a cheap source of energy as the newly acquired company diverted Unocal's American-based energy supplies exclusively to meet Chinese needs (Unocal's non-US production originated in Asia and was sold to Asian buyers).[32] In early July 2005 the US House of Representatives overwhelmingly voted for a nonbinding resolution that the acquisition "would threaten to impair the national security of the United States."[33]

CNOOC tried to improve the deal and appease those with national security concerns. Countering the claim that this was an attempt by China to tie up US assets, CNOOC's chairman and chief executive officer said, "It is important to know that 70 percent of Unocal's current reserves are located in Asia, and that is one of the reasons why this transaction makes sound business sense for our company." CNOOC repeatedly emphasized that it intended to keep Unocal's US-produced oil on the American market and that Unocal's oil and gas production represented less than 1 percent of American oil and gas consumption. CNOOC also committed several times to maintaining Unocal's workforce, which Chevron already had announced it would not do. Further, they offered to divest any of Unocal's US-based nonexploration and production assets that US regulators requested.[34] Finally, in July the company agreed to put $2.5 billion in an escrow account that Unocal could access in the event that something went wrong with the deal.[35]

Despite these efforts, in late July 2005 Unocal's board recommended Chevron's bid to its shareholders.[36] Even though CNOOC's offer was superior, the board expressed that the extended review process and uncertain outcome associated with CNOOC's bid made Chevron's deal more attractive.[37] On August 2 CNOOC withdrew its bid, saying the political opposition was "regrettable and unjustified…in light of CNOOC's purely commercial objectives" and willingness to address American security concerns.[38]

Worries about Chinese diversion of Unocal output simply did not match the facts about Unocal production. Almost all Unocal's US-based oil and natural gas production was located in the Gulf of Mexico. US oil and gas pipelines across western states flow west-to-east, rendering them unavailable for shipping gulf oil to the US west coast for export to China. Oil from the Gulf of Mexico destined for China would have to be shipped by tanker through the Panama Canal, making it a high-cost source for the Asian market. Natural gas would have to be liquefied. Unocal's seismic and engineering skills, plus Chinese capital, might have given CNOOC an opportunity to expand production in Asia or elsewhere. But tying up US output and capturing it for Chinese consumers, armed forces or otherwise, would have been a complicated, expensive, and rather implausible strategy.[39] CNOOC ultimately withdrew its offer under the scrutiny around the deal, but had it gone through, CNOOC's strategy—backed by the Chinese government—would have fit under the second procurement pattern: acquiring and energizing an independent producer.

Unocal, the world's ninth-largest oil company at the time, was considered particularly valuable for its oil and natural gas reserves, more than two-thirds of which were in Asia.[40] If it had merged with CNOOC, it would have increased CNOOC's reserves by 80 percent and more than doubled its oil and gas production. The merger was also expected to improve CNOOC's oil and gas balance to 53 percent oil and 47 percent natural gas.[41] It boosted Chevron's reserves by 15 percent.

China National Petroleum Company and PetroKazakhstan, 2005–09

PetroKazakhstan is an integrated oil company involved in the exploration, production, and refining of oil and gas products. It is registered in Canada, but all its assets are in Kazakhstan. At the time of CNPC's acquisition, PetroKazakhstan was producing 141,000 barrels per day of crude oil and 80,000 barrels per day of refined products.[42] It was, however, suffering from poor management, outdated oil-drilling technology, and confrontations with the Kazakh government over issues of anticompetitive behavior and failing to follow environmental and labor laws.

On August 22, 2005 the CNPC announced a $4.18 billion all-cash offer to buy a 100 percent stake in PetroKazakhstan. At $55 a share, the offer represented a 21 percent premium over PetroKazakhstan's closing share price on August 19, the last day of trading before the announcement.[43] The bid surpassed the CNPC's rival in the acquisition, India's ONGC. In the weeks after the CNPC-PetroKazakhstan deal was announced, Kazakh lawmakers expressed concerns about lack of control over their nation's natural resources.[44] PetroKazakhstan's shareholders approved the deal on October 19, followed by the Kazakh government on October 26.[45]

Upon acquisition, the CNPC transferred 33 percent share of PetroKazakhstan back to the Kazakh national oil and gas company, KazMunayGas, for $1.4 billion.[46] At the time, this was China's largest overseas acquisition ever and its first acquisition of a foreign energy company.[47]

A key ingredient in the deal was the completion of an already begun, $700 million, 613-mile pipeline with capacity of 200,000 barrels per year to carry oil east from landlocked Kazakhstan to China, with the possibility of doubling the capacity by 2011. By 2006 Kazakhstan began to rival Sudan as China's largest source of imported equity oil (Rosen and Houser 2007).

Since taking over the company, the CNPC has also resolved many of the aforementioned issues PetroKazakhstan had with the Kazakh government and has maintained a favorable working relationship with it.[48] The PetroKazakhstan project qualifies as a second-pattern arrangement.

CNOOC and Akpo Oilfield, Nigeria, 2006

Nigeria is the largest oil producer in Africa and the eighth-largest in the world. It produces 2.4 million barrels of oil per day, the profits of which make up 80 percent of the Nigerian government's revenues.

On January 8, 2006 CNOOC signed a definitive agreement on the Akpo oilfield with the privately owned Nigerian company South Atlantic Petroleum (Sapetro). At the signing of the agreement, CNOOC's chairman and chief executive officer said, "This transaction is perfectly aligned with CNOOC's long-term strategy of achieving growth through the exploration and development of offshore fields and achieving geographic diversification of the company's portfolio."[49]

The Akpo oilfield is operated by Total, Europe's third-largest oil company. Discovered in 2000, it is 125 miles off the coast of Nigeria and has the capacity to produce 185,000 barrels of oil per day. Total expected to reach a plateau production level of 175,000 barrels of oil per day and 530 million standard cubic feet of gas per day by summer 2009.[50] The field's total reserves are estimated at 260 million barrels of condensate and more than one trillion cubic feet of gas.[51]

CNOOC agreed to purchase a 45 percent interest in the Akpo offshore oilfield (OML 130) for $2.27 billion and announced plans to invest an additional $2 billion to develop it.[52] In April 2006 the deal was finalized, representing CNOOC's largest acquisition ever.[53] CNOOC also agreed to pay an additional $424 million "for financial, operating and capital expenses."[54] In return, it has received 79,000 of the field's 225,000 barrel-per-day output beginning in 2009.[55]

Besides CNOOC's 45 percent stake, Total, the Nigerian state-run Sapetro, and Brazil's Petrobras all have interests in the Akpo oilfield. Analysts predict that prohibitively high transportation costs will prevent China from importing its share of the oil produced for domestic consumption; it is expected to export the oil to Europe and the United States.[56]

This acquisition is one of several instances where China and India were competing for rights to the same project. India's ONGC had also bid on the 45 percent stake in the Akpo project but had been blocked by the Indian government, citing issues of valuation and risk.[57]

This Chinese acquisition probably fits best into the first pattern of procurement: purchase of access to oil under the control of a major company in a major country.

Chalco and Aurukun Bauxite Project, Queensland, Australia, 2007

In 2004 the Queensland, Australia government moved to end its contract with the Canadian major Alcan, which had owned the rights to the bauxite reserves at Aurukun, Queensland for over a decade but had failed to commence development, tying up the project. In September 2006, to secure the rights to the Aurukun bauxite project, the Chinese state-owned aluminum company Aluminum Corporation of China (Chalco) defeated ten other international bidders to be granted "preferred developer status."[58] Chalco is the largest aluminum producer in China and the second largest in the world. It is listed on both the New York and Hong Kong stock exchanges, though its controlling shareholder is the Chinese state-owned Chinalco.

Chalco signed a project development agreement with the Queensland government in March 2007, and the following May it signed a land leasing agreement with the Australian aborigines in the Aurukun region.[59] After overcoming this final hurdle, in September 2007, the Queensland government's mineral department granted Chalco a permit for the $3 billion Aurukun bauxite exploration project, covering over 150 square miles. The project includes a bauxite mine at Aurukun as well as an aluminum refinery and port facilities at Abbot Point near Bowen. Chalco began its $40 million feasibility study in the fourth quarter of 2007. Pending results expected in 2010, Chalco intends to develop the bauxite mining project and build a $2.2 billion aluminum refinery at Abbot Point.[60]

The Aurukun project is expected to produce over 6 million tons of bauxite per year, while its associated refinery's aluminum production capacity is expected to exceed 2 million tons per year. The project is also expected to help combat the economic and social difficulties of Australia's aborigines in the region, as it will employ over 4,000 workers during production and maintain a permanent workforce of about 600.[61] This project, the largest foreign investment ever in Queensland,[62] qualifies as a second-pattern procurement project.

Sinopec and Yadavaran Oilfield, Iran, 2007

Iran has the second-largest crude oil reserves in the world, after Saudi Arabia, as well as the second-largest natural gas reserves, after Russia. It is China's third-largest supplier of oil, behind Saudi Arabia and Angola. The majority of the Iranian government's $51 billion in revenue comes from its natural resources.

In December 2007 Sinopec signed an agreement with the National Iranian Oil Company (NIOC) to invest $2 billion in the Yadavaran oilfield, a consolidation of the Koushk field discovered in 2000 and the Hosseinieh field discovered in 2002. Sinopec is to be the project operator, with a 51 percent ownership stake, while NIOC holds the remaining ownership interest.

This Sinopec-Iran agreement followed plans set forth in a 2004 memorandum of understanding between the two countries, under which Sinopec would be the lead operator and developer of the then mostly undeveloped Yadavaran oilfield; China also agreed to buy 10 million metric tons of LNG annually for 25 years from Iran, beginning in 2009.[63]

Based on the 2007 agreement, Sinopec will develop the Yadavaran oil field in two stages. During the first stage, lasting four years, production will be at 85,000 barrels of oil per day. In the second stage, lasting three years, 100,000 barrels of oil per day will be added. The Yadavaran oilfield is estimated to have 3.2 billion barrels of recoverable oil and 2.7 trillion cubic feet of recoverable natural gas. The expected ultimate production of 300,000 barrels of oil per day is about the amount China was importing from Iran at the time the agreement was signed.[64]

This deal came amid US-led pressure against commercial deals in Iran in an effort to isolate the country for its nuclear activities. Iran's oil minister claims, however, that this was not the cause for the delays in the agreement, which took several years to reach.[65] Disagreements over how much oil to produce, China's rate of return, and technical issues all were reported at various points in the negotiation process.[66] Ultimately, Beijing and Tehran agreed upon a Chinese rate of return of 14.98 percent.[67]

Under ordinary circumstances this Sinopec-Iran agreement might be considered a first procurement pattern project, taking place in an established member of the Organization of Petroleum Exporting Countries (OPEC), even though the project involves additional production. However, given the international sanctions imposed on Iran and the inability of most Western oil companies to invest in the country, this extra production in an embargoed state seems to fall more naturally into the second pattern of procurement, helping to underwrite additional supplies from a producer struggling to export as much as it can, as capacity in existing fields declines.[68]

Socomin Joint Venture, Democratic Republic of the Congo, 2008

In September 2007 China announced its intention to invest massively in the infrastructure of the Democratic Republic of the Congo in return for copper and cobalt concessions. In April 2008 two Chinese state-owned enterprises, China Railway Engineering Company (CREC) and Sinohydro, formed a joint venture with Gecamines, the Congolese state-owned mining company. The joint venture, named Socomin, is to develop copper, cobalt, and nickel mines, beginning with a copper mine in Kolwezi in the province of Katanga.

Based on the terms of the Socomin deal, China's state-owned enterprises will own more than two-thirds of the joint venture. On the Congolese side, the agreement stipulates that Socomin will provide at least 10 million tons of copper to China.[69] Further, the Congolese government is required to ensure the safety of the Chinese investments. In the event of conflict, the agreement requires a hearing before the International Chamber of Commerce rather than the Congolese courts.[70]

The Kolwezi mine was previously owned by the Belgian Forrest Group, the profits of which are to repay the first $3 billion tranche of a $9 billion loan from China's Exim Bank to supposedly build 2,400 miles of roads and 2,000 miles of railway (much of it to rationalize the country's mining transportation system). The loan is expected to be repaid with profits from the Congo's lucrative copper and cobalt mines.[71] In May 2008, the Congo's national assembly approved the deal.

Despite having 10 percent of the world's copper reserves and a third of its cobalt, the Democratic Republic of the Congo has struggled with war, political strife, and poor living conditions for many years. Many condemn the deal because it gives more than half the wealth generated in the country's lucrative mines to China. Others point to the fact that the $9 billion loan is more than three times the Congo's 2007 budget and claim that the investment will finally move the country to a positive growth track. Congolese President Joseph Kabila said, "For the first time in our history, the Congolese will really feel what all that copper, cobalt and nickel is good for."[72]

Prior to this arrangement, as much as 35 percent of Congo's mining output in some sectors may have been diverted at various stages to private parties.[73] In response to this, the China Exim loans go directly to CREC and Sinohydro, rather than through the Congolese bureaucracy. CREC and Sinohydro, in turn, have committed to subcontract 10 to 12 percent of the work to Congolese companies; in addition only one in five workers can be Chinese. China's loan will also be used to invest in the Congo's infrastructure generally—besides the aforementioned rehabilitation of roads and railways, it also involves 32 hospitals, 145 health centers, two universities, two airports, and two hydroelectric dams. Estimates vary immensely regarding the profit China can expect to earn from the transaction, but if the disbursements go as planned, it will be China's largest investment in Africa ever.[74] Whether the deal merits its hopeful characterization as a Marshall Plan for the Congo—or the more pejorative Second Colonization of the Congo—the arrangement is a more effective means to use the country's resource base as collateral to expand production, rationalize transportation, and make export more efficient through resource-backed financing.[75] It falls into the second pattern of procurement.

Chinalco and Rio Tinto, 2008–09 *(Aborted)*

The Chinese state-owned Aluminum Corporation of China (Chinalco) is China's largest diversified mining company, with major projects in Peru, Australia, and Saudi Arabia and developing projects in Russia, Vietnam, Mongolia, Guinea, Myanmar, Indonesia, and India. The UK-Australian mining company Rio Tinto Group, listed on both the London and Australian stock exchanges, is one of the top five international producers (by volume) of aluminum, iron ore, copper, gold, diamonds, and other industrial materials; in iron ore, Rio Tinto is the second largest supplier to world export markets. Its major projects are in Australia and North America, though it also has businesses in South America, Asia, Europe, and southern Africa.

In February 2008, Chinalco, together with US aluminum producer Alcoa, acquired 12 percent stake in Rio Tinto for $15.5 billion.[76] A year later, on February 12, 2009 Chinalco and Rio Tinto announced that Chinalco would make a $19.5 billion investment in Rio Tinto. It involved a $12.3 billion investment in joint ventures and development opportunities in aluminum, copper, and iron ore, as well as a $7.2 billion purchase of subordinated convertible bonds.[77] If the bonds were fully converted, Chinalco's stake in Rio Tinto would rise from 12 to 18 percent. The deal also gave Chinalco the right to nominate two new nonexecutive Board members to add to the 15 Board members of Rio Tinto.[78] (Independent nonexecutive Board members comprise a majority of the Rio Tinto Board.) Chinalco's financial backing came in large part from the Chinese Exim Bank and Bank of China.[79]

Besides providing much needed cash to shore up Rio Tinto's weak balance sheet resulting from the purchase of Alcan in 2007 (with $8.9 billion in debt coming due in October 2009 and more in 2010), the deal was expected to give Rio Tinto increased exposure to the growing market in China and greater access to funding.[80] If completed, this transaction would have represented the largest investment deal in both Australian and Chinese corporate histories.[81]

In the months following the February 2009 announcement, the transaction received approval from the Australian Competition and Consumer Commission, the German Competition Authority, and the Committee on Foreign Investment in the United States.[82] Opposition, however, came on other fronts. Political pressures mounted as investors and other key stakeholders became concerned that China would gain too much power from such a large investment in Rio Tinto.[83] Shareholder opposition grew as Rio's own stock price began to rise, making the convertible bonds relatively unfavorable.[84]

At first glance, these transactions would appear to fit into pattern one procurement, with Chinalco trying to consolidate a special relationship with a "major" in the natural resource sector (in particular iron ore and aluminum). But this Chinese maneuver has to be seen, according to Peter Drysdale and Christopher Findlay (2009), in light of BHP Billiton's hostile bid in 2008 to take over Rio Tinto. Chinese steelmakers estimated that a merged BHP Billiton–Rio Tinto corporation would enjoy a market share of world iron ore output as large as that of all OPEC members together in the global oil market. At a meeting of government officials, steelmakers, big coal mining companies, and the China Development Bank in Beijing, Xiao Yaqing, then president of Chinalco, proposed that his company presented itself as a "white knight" in Rio Tinto's strategy at that moment of trying to avoid the unwanted takeover.[85] Chinalco's explicit objective was "to stymie" any BHP Billiton–Rio Tinto super-merger. Rather than pattern one industry consolidation, the Chinalco–Rio Tinto deal would have probably been assigned to pattern two of trying to keep a large player functioning in a more competitive manner.[86]

With Rio Tinto shareholder disapproval rising and Rio Tinto share prices improving, the two companies announced on June 5, 2009 that the plan had been aborted and that Rio Tinto would pay the break fee of $195 million to Chinalco.[87] Still in need of cash to pay off its debt, Rio Tinto announced plans for a $15.2 billion rights issue to raise funds.[88] Additionally, it announced a 50-50 production joint venture with former (hostile) suitor BHP Billiton, covering "the entirety of both companies' current and future Western Australian iron ore assets."[89] The result was a more consolidated Australian-headquartered mining industry, with a smaller Chinese equity stake (Chinalco's prior 12 percent in Rio Tinto would be diluted by the rights offering, and the company would not be able to exercise veto power over the consolidation of the two great iron ore producers). This episode represents a failed pattern-two strategy on the part of the Chinese.

China Development Bank Loan to Rosneft and Transneft, Russia, 2009

On February 17, 2009 China and Russia announced a partnership involving the construction of a new pipeline, long-term crude oil delivery to China, and loans for Russia. The China Development Bank agreed to 20-year loan contracts with the Russian state-owned oil companies Rosneft and Transneft totaling $25 billion.[90] In exchange, Russia's oil pipeline operator Transneft is designing, building, and operating a crude-oil pipeline from Skovorodino in eastern Siberia to Daqing in China's northernmost province.[91] This will be Russia's first pipeline to Asia, with destinations both in China and toward the Pacific Ocean. Upon completion in late 2010, it is expected to carry 600,000 barrels per day, 300,000 of which will go to China.[92] Rosneft anticipates oil delivery to China as early as January 2011. It is then expected to deliver an additional 15 million tons of crude oil a year to China for 20 years, for which China will pay the market price of oil at the time of delivery. Russia is expected to repay the loans in cash, separately from the sale of oil and at market-based interest rates.[93] China receives no equity stake in either Russian company.

The Chinese-Russian agreement came after failed negotiations in 2008. In an effort to diversify away from the West, Moscow sought to build a pipeline east to take advantage of China's growing energy demand,[94] and Rosneft and Transneft were in need of financial backing. But disagreements arose over the loans' interest rates and whether or not the Russian state would guarantee the loans. Russia threatened that, if they could not find a compromise, it would build the pipeline directly to the Pacific coast to transport oil coming from eastern Siberia.[95]

Rosneft is Russia's largest oil producer, with primary exploration and production projects across Russia and secondary projects in Kazakhstan and Algeria. The state owns 75 percent of the company, which in 2008 produced 776 million barrels of crude oil (or 2.2 million barrels per day). Set to receive $15 billion of the $25 billion in loans, Rosneft plans to use the Chinese funds to develop its new massive oilfields in eastern Siberia and to pay off some of the debt it accrued in its acquisition of the bankrupt oil company Yukos in 2006 and 2007.[96] Also state-owned, Transneft owns a pipeline monopoly in Russia, transporting more than 90 percent of the oil Russia produces and operating one of the world's largest oil pipeline networks.

While Russia faces a decline in oil output due to underinvestment, this arrangement should nonetheless probably be judged as a deal falling into the third procurement pattern of loans to a major producer to secure a share of the major's output.[97]

Sinopec and Petrobras, 2009

Petrobras is a state-owned Brazilian integrated oil company with operations in 27 countries, more than 100 production platforms, and 16 refineries. The company's principal operations outside Brazil are in Angola, Argentina, Bolivia, Colombia, Nigeria, and the United States. In a deal finalized on May 19, 2009 Petrobras announced a $10 billion, 10-year loan from the state-owned China Development Bank. In return, Petrobras is to supply Sinopec with 150,000 barrels of oil a day in the first year and 200,000 barrels a day for the remaining nine years (currently Petrobras supplies about 60,000 barrels a day). According to Petrobras Chief Executive Officer Jose Sergio Gabrielli, the loan's interest rate, at less than 6.5 percent, is lower than the rate Petrobras is paying for other debt.[98] While the loan uses oil as collateral, Petrobras will make payments in cash[99] by selling the oil at market price to Sinopec, with trading volumes expected to increase from 3 million tons in 2008 to between 10 million and 12.5 million tons by the end of 2010.[100]

Before China's $10 billion loan, earlier in 2009 Petrobras announced a $174 billion investment plan over five years to develop its pre-salt fields recently discovered in Brazil's offshore Santos Basin.[101] Though Brazil has seen some recent discoveries of large oilfields, most are in difficult locations that require a significant initial investment. Petrobras had been in loan negotiations with China since 2008, seeking an alternative source of funding for this massive investment given falling crude prices and the international credit crunch.[102] China's loan has allowed Petrobras to finance this investment without using the US dollar.[103]

At the same time, Sinopec and Petrobras also signed a memorandum of understanding, "which covers for the cooperation in several areas of mutual interest comprising exploration, refining, petrochemical, and the supply of goods and services."[104] Less than ten days after the deal was finalized, Sinopec and Petrobras announced negotiations involving offshore Brazilian oil and natural gas concessions.[105]

The $10 billion loan aroused many of the worries that had surrounded the earlier proposal of CNOOC to acquire American energy company Unocal (described earlier)—that the transaction would allow China to lock up output in the Western Hemisphere, forcing the United States "to lose access to vast portions of the world's energy supplies."[106] Unlike the CNOOC or Chinalco proposed acquisitions, however, the Sinopec arrangement involved no equity stake in Petrobras whatsoever. It was instead a rather standard procurement contract. The increased Brazilian exports come from an increment of existing fields—Marlim crude oil in 2009, Marlin and Roncador crude thereafter. The capital, meanwhile, is devoted to Petrobras's massive $175 billion development plan for the 80 billion–barrel Santos Basin, and—according to Gabrielli—might constitute only the first of several large loans from China. "Chinese dollars will help prime the pump" in the offshore pre-salt field, concluded Paul Ausick, but not "buy the pump."[107] Rather than fitting into the industry-consolidating first or third patterns, the Sinopec-Petrobras transaction falls into the second pattern of gaining new market shares by strengthening independents.

Sinopec's Acquisition of Addax Petroleum, 2009

Based in Calgary, Canada, Addax Petroleum is a rapidly growing international oil and gas exploration and production company focusing on West Africa and the Middle East. It has properties in Nigeria and Gabon and development opportunities in West Africa and the Kurdistan region of Iraq. Addax shares are listed and traded on the Toronto Stock Exchange, with a secondary listing on the London Stock Exchange.

On June 24, 2009 Sinopec and Addax Petroleum announced Sinopec's all-cash $7.2 billion negotiated takeover bid of Addax.[108] Sinopec finalized the offer on July 9, a 47 percent premium on the closing market price when the offer was first announced, and the deal closed in August. The Sinopec transaction fits into the second pattern of procurement—expanding the competitive fringe—and is the largest international takeover ever by a Chinese company.[109]

Some analysts suggest that the acquisition is somewhat risky for Sinopec. Though the takeover could bolster Sinopec's strategy to expand in West Africa and Iraq, both Nigeria and Iraq are politically sensitive regions, where it may prove difficult to maintain oil production. Sinopec is also relying on continuing rising oil prices to ensure a wise investment.[110]

In 2008 Addax averaged 136,500 barrels a day, over three-quarters of which came from its 94 producing wells in Nigeria. Gabon wells contributed about 28,500 barrels a day in 2008.[111] Addax's 136,500 barrels a day represent about 1.7 percent of China's daily consumption of oil.[112]

In its 2009 second quarterly report, Addax reported a "record production performance."[113] Earlier that year, the Iraqi and Kurdish governments announced a resolution ending the ban on direct international export of Kurdish oil, to Addax's benefit, as it had been developing prospects there.[114] On May 14, 2009 Addax announced an acquisition to begin further exploration drilling in Gabon.[115] And on June 1 it announced that it had begun internationally exporting oil from the Taq Taq license area in Kurdistan.[116] The company has licenses to begin production in Cameroon.

China National Petroleum Company's Development of South Pars Gasfield, Iran, 2009

Covering an area of 500 square miles and containing about 15 trillion cubic meters of natural gas reserves, South Pars in Iran is the world's largest gas reservoir. It accounts for 60 percent of Iran's gas reserves and 10 percent of the world's gas reserves.[117] In early June 2009 the National Iranian Oil Company (NIOC) announced a $4.7 billion contract with the CNPC to develop Phase 11 of the South Pars gasfield between Iran and Qatar.[118] The deal followed nine months of negotiations and replaced an arrangement with French oil company Total SA, which had signed a memorandum of understanding in 2004 to develop Phase 11 of the field.[119] Total had delayed making a financial commitment to Iran mainly due to international sanctions prohibiting investment in Iran and had received an ultimatum from Iran in April 2008.[120] After significant delays by Total, Iran sought other investors to develop its huge reserves in the face of rising domestic demand and fear of reserve migration as Qatar developed its portion of the gasfield.[121]

Even though Iran has the world's second-largest natural gas reserves, the country has been slow to develop them. Currently Iran exports only LNG to Turkey, which is roughly offset by Iran's own imports from Turkmenistan. The development of the South Pars gasfield is expected to make Iran a major gas exporter.[122]

In winning the deal with Iran, China also beat out India's ONGC. Despite the enormous gas production potential, Iran's deal with the CNPC qualifies as a second-pattern arrangement because of Iran's inability to rely on investment by major oil companies from countries that disapprove of Iran's nuclear and other policies. Phase 11 development is expected to operate for about 52 months, producing 2 billion cubic meters of natural gas and 70,000 barrels of gas condensate per day.[123]

Under the terms of the deal, the CNPC will build two platforms, digging 20 shafts; two sea pipelines to transfer gas to the shore; two pipelines to transfer monoethylene glycol to sea factories; optical fibers to connect sea and land factories; and a pipeline to transfer liquid gas.[124] As is typical in Iran, the deal is couched in buyback terms, whereby the CNPC will eventually relinquish control of operations and receive payment from production to recoup investment costs.

China National Petroleum Company's Development of South Azadegan Gasfield, Iran, 2009

In September 2009 the CNPC acquired a 70 percent stake in Iran's South Azadegan oilfield from the National Iranian Oil Company's Swiss-based subsidiary, Naftiran Intertrade Company (NICO). NICO's stake fell to 20 percent, with Japan's Inpex keeping the remaining 10 percent. Holding 42 billion barrels of oil, the 900-square-kilometer Azadegan field is the world's largest united oilfield discovered in the past 30 years. It is expected ultimately to produce 260,000 barrels of oil per day: 150,000 barrels per day, or 7.5 million tons annually, in the first stage of production, and 110,000 barrels per day, or 5.5 million tons annually, in the second stage.[125]

Under the terms of the deal, the CNPC will supply 90 percent of the $2.5 billion needed for the development project—all of NICO's commitment to the project.[126] The two companies signed a memorandum of understanding to this effect in spring 2009, after it became clear that NICO could not finance the project.[127] As is typical of this kind of transaction in Iran, the purchase was made under buyback terms, whereby the CNPC will relinquish operation of the field to NICO after it is developed but receive payments from oil production in the following years as a return on the investment.[128] Iran supplies 14 percent of China's oil demand.[129]

The South Azadegan deal followed CNPC's $1.76 billion acquisition in January 2009 of the rights to develop the North Azadegan oilfield[130] and came at the expense of India's ONGC, which had expected to receive a 45 percent stake in the South Azadegan field. The deal with ONGC reportedly was passed up when the CNPC offered soft loans for the investment.[131] Iran had initially indicated that, after the CNPC won the rights to the northern section of the field, it wanted a different investor in the south.[132] Some analysts have speculated that India lost out after delays, possibly under pressure from the United States.[133]

Iran's tactic of playing Indian and Chinese oil companies off each other is part of a larger strategy to develop its resources independent of Western investors—a second-pattern arrangement.

Notes

1. *Petroleum Economist*, "Sudan Pipeline Operational," August 26, 1999, www.petroleum-economist.com; *Sudan Update*, "Arakis and the NIF," www.sudanupdate.org (accessed on March 12, 2010).

2. *Petroleum Economist*, "Sudan Pipeline Operational"; Rone (2003).

3. Source Watch, "Greater Nile Petroleum Operating Company," 2009, www.sourcewatch.org (accessed on March 11, 2010).

4. Source Watch, "Arakis Energy Corporation," 2009, www.sourcewatch.org (accessed on March 11, 2010).

5. Business Wire, "Talisman Acquires Arakis Energy," October 8, 1998.

6. Greater Nile Petroleum Operating Company (GNPOC), "Brief History," www.gnpoc.com (accessed August 13, 2009); *Oil & Gas Journal*, "The GNPOC Project," November 13, 2000.

7. *Sudan Update*, "Sudan Oil Companies," www.sudanupdate.org (accessed on March 12, 2010).

8. *APS Downstream Review Trends*, "Sudan—The Oil Sector," October 29, 2007.

9. School of Oriental and African Studies, University of London, "Bloomsbury Expert on BBC TV China-Sudan Oil Expose," August 8, 2008, www.soas.ac.uk (accessed on March 11, 2010).

10. Chris Nicholson, "China's Sinopec Offers $7.22 Billion for Oil Firm," *New York Times*, June 24, 2009.

11. CNOOC Ltd., "CNOOC Ltd. Signs a Definitive Agreement to Acquire Interest in Australian LNG JV," press release, October 21, 2002.

12. Woodside Australian Energy, "China LNG Contract—Prime Minister's Release," August 2, 2002; CNOOC Ltd., "CNOOC Limited Acquires a Stake in the Australian North West Shelf," press release, May 15, 2003.

13. Woodside Australian Energy, "North West Shelf Venture," www.woodside.com.au; Woodside Australian Energy, "New Joint Venture Established for LNG Supply to China," October 21, 2002.

14. Woodside Australian Energy, "Australia Signs China LNG Agreements," October 18, 2002.

15. "Guangdong Liquefied Natural Gas (LNG) Terminal, China," www.hydrocarbons-technology.com (accessed August 9, 2009).

16. Woodside Australian Energy, "First LNG Cargo for China Loading at Australia's North West Shelf," May 17, 2006.

17. Eli Greenblat, "Chinese Join Shelf Partners," *The Age*, August 26, 2002, www.theage.com.au (accessed on August 9, 2009).

18. Guangdong Dapeng LNG Company Ltd., "GDLNG Project—Project Profile," www.dplng.com (accessed on August 8, 2009); "Great Plutonio, Block 18, Deepwater Drillship Pride, Angola," www.offshore-technology.com (accessed on August 9, 2009).

19. *India Business Insight*, "OVL to Buy into Angola Block," April 9, 2004.

20. Subsea Oil and Gas Directory, "Sonangol," www.subsea.org (accessed on August 8, 2009).

21. Press Trust of India, "India to intensify diplomatic efforts for Angolan oil field," August 23, 2004.

22. *Chemical News & Intelligence,* "In Monday's Asia Papers," October 18, 2004; Olivia Amaewhule, "India to Take Another Shot at Oil Diplomacy in Angola," *World Markets Analysis,* January 20, 2005; Downs (2007).

23. Olivia Amaewhule, "Angola to Launch Licensing Round for Seven Offshore Fields in December," *World Markets Analysis,* October 25, 2005; Jacinta Moran, "Sinopec is big bidder for Angola blocks; Chinese major teams with Sonangol in two billion-dollar bids," *Platts Oilgram News,* May 11, 2006.

24. China Business News On-Line, "Sinopec acquires stakes in three Angolan oil blocks," June 13, 2006.

25. Rigzone, "Chinese Oil Majors Collect Stake in Angola's Block 32 for $1.3B," July 17, 2009, www.rigzone.com (accessed on August 8, 2009).

26. CNOOC Ltd., "CNOOC Ltd. and Sinopec Jointly Acquire 20% Interest of Block 32 in Angola," July 17, 2009.

27. Marathon Oil Corporation, "Marathon Announces $1.3 Billion Sale of 20 Percent Interest in Angola Block 32," July 7 2009; Tom Bergin and Michael Erman, "CNOOC, Sinopec to Buy Angola Stake from Marathon," Reuters, July 17, 2009, www.reuters.com (accessed on August 8, 2009).

28. *Petroleum Economist,* "March 2008: Analysis—Angola," www.petroleum-economist.com (accessed on August 8, 2009).

29. CNOOC Ltd., "CNOOC Proposes Merger with Unocal Offering US$67 per Unocal Share in Cash," June 23, 2005.

30. Bill Powell, "The Energy Game," *Time*, May 23, 2005.

31. Associated Press, "China's CNOOC Drops Bid for Unocal," August 2, 2005.

32. Press statements on CNOOC's proposed acquisition of Unocal by Representative Joe Barton (R-Texas) and Representative Duncan Hunter (R-CA).

33. *China Daily*, "US lawmakers meddle in CNOOC's Unocal bid," July 6, 2005, www.chinadaily.com.cn (accessed on August 8, 2009).

34. CNOOC Ltd., "CNOOC Proposes Merger with Unocal"; CNOOC Ltd., "Statement by Fu Chengyu, Chairman and CEO of CNOOC Limited," June 24, 2005.

35. Katherine Griffiths, "Chinese assault on Unocal raises hackles in energy-obsessed US," *Independent*, July 15, 2005.

36. Xinhua News, "CNOOC Withdraws Unocal Bid," August 3, 2005, www.chinaview.cn (accessed on August 8, 2009).

37. Associated Press, "China's CNOOC Drops Bid for Unocal."

38. CNOOC Ltd., "CNOOC Ltd. to Withdraw Unocal Bid," August 2, 2005.

39. Daniel Rosen and Trevor Houser (2007) find that most of the oil pumped outside of China by Chinese companies is sold into international markets, not sent back to China.

40. Associated Press, "China's CNOOC Drops Bid for Unocal"; Powell, "The Energy Game."

41. CNOOC Ltd., "CNOOC Proposes Merger with Unocal."

42. *Forbes*, "China's CNPC to acquire PetroKazakhstan for 55 USD per share," October 19, 2005.

43. PR Newswire, "PetroKazakhstan Announces Sale to CNPC International Ltd. for Approximately US$4.18 Billion," August 22, 2005.

44. *China Daily*, "PetroKazakhstan shareholders OK CNPC bid," October 19, 2005.

45. *Forbes*, "China's CNPC to acquire PetroKazakhstan"; China Internet Information Center, "CNPC Announces PetroKazakhstan Acquisition," October 27, 2005, www.china.org.cn (accessed on August 8, 2009).

46. BBC News, "CNPC secures PetroKazakhstan bid," October 26, 2005; *China Daily*, "PetroKazakhstan shareholders OK CNPC bid."

47. China Economic Net, "CNPC turns PetroKazakhstan Around," March 2, 2009, http://en.ce.cn (accessed on August 8, 2009); James Daley, "PetroKazakhstan board accepts £2.32bn China offer," *Independent*, August 23, 2005.

48. China Economic Net, "CNPC turns PetroKazakhstan Around."

49. CNOOC Ltd., "CNOOC Limited acquires 45% stake in offshore Nigerian oil mining license 130 for US $2.268 billion cash," January 9, 2006.

50. Total Nigeria, "Akpo Field Inauguration," company news, June 3, 2009, www.ng.total.com.

51. John Duce, "CNOOC Rises Most in Two Months on Nigerian Oil Field," Bloomberg News, March 10, 2009, www.bloomberg.com (accessed on August 7, 2009).

52. CNOOC Ltd., "CNOOC Limited acquires 45% stake"; Wang Ying, "CNOOC taps into Nigerian resources," *China Daily*, January 10, 2006.

53. Wang Ying, "CNOOC buys share in Nigerian oil area," *China Daily*, April 21, 2006.

54. CNOOC Ltd., "CNOOC Limited Closes Nigerian Deal," April 20, 2006.

55. Ying, "CNOOC taps into Nigerian resources"; Martin Ayankola, "Akpo field to boost oil reserves in 2009," Business Daily Online, December 15, 2008, available at www.businessdailyonline.com; Klare (2008).

56. Don Lee, "China Making Big Oil Moves," *Los Angeles Times*, January 23, 2006.

57. Peter Klinger, "CNOOC beats Indian rival to stake in Nigerian oil field," *Times Online*, January 10, 2006, www.timesonline.co.uk (accessed on August 7, 2009); *China Daily,* "China, India sign energy agreement," January 13, 2006, www.chinadaily.com.cn (accessed on August 7, 2009).

58. Honorable Anna Bligh, premier, Queensland Government, "Chalco sees prosperity in Queensland," June 25, 2008.

59. Chalco, "Announcement of 2007 Interim Results," August 20, 2007.

60. Honorable Geoff Wilson, minister for mines and energy, Queensland Government, "Major Milestone for $3 Billion Chalco Investment," September 10, 2007, and "Chinese firm to boost Queensland coal exploration," November 28, 2008; Premier Bligh, "Chalco sees prosperity in Queensland."

61. James Regan, "Chalco inks Aboriginal pact for bauxite mine," Reuters, May 25, 2007, www.reuters.com (accessed on August 6, 2009).

62. Wilson, "Major Milestone."

63. *Tehran Times International Daily*, "Sinopec Starts Yadavaran Oildfield BOD Operation," September 18, 2008; University of Alberta China Institute, "Iran, Sinopec reach technical agreement for Yadavaran oil field," May 27, 2007.

64. Reuters, "Sinopec Yadavaran team to visit Iran next week," April 30, 2007, www.reuters.com (accessed on August 6, 2009).

65. Parisa Hafezi, "Iran and China's Sinopec sign oil-field deal," Reuters, December 9, 2007, www.reuters.com (accessed on August 6, 2009).

66. University of Alberta China Institute, "Iran, Sinopec reach technical agreement"; Elaine Kurtenbach, "China's Sinopec, Iran ink Yadavaran deal," *USA Today*, December 10, 2007.

67. Yao Runping, "Sinopec, Iran to sign deal to develop huge oil field," Xinhua News, September 15, 2006, www.chinaview.cn (accessed on August 6, 2009).

68. See statement of Seffidah Jashnsaz, managing director, National Iranian Oil Company, May 11, 2009: "The available information indicates that the use of internal resources does not meet investment needs. We must seek foreign investments," available at www.upstreamonline.com (accessed on March 10, 2010).

69. BBC News, "China Steps Up African Investment," April 23, 2008.

70. John Vandaele, "China Outdoes Europeans in Congo," *Asia Times*, February 12, 2008.

71. Ibid.

72. Ibid.

73. The Enough Project Team with the Grassroots Reconciliation Group, "A Comprehensive Approach to Congo's Conflict Minerals," Strategy Paper, April 24, 2009, www.enoughproject.org (accessed on June 8, 2009); United Nations Security Council. Report of the Secretary-General pursuant to paragraph 8 of resolution 1698 (2006) concerning the Democratic Republic of the Congo, S/2007/68, February 2007.

74. Wenran Jiang, "A Chinese 'Marshall Plan' or Business?" *Asia Times*, January 14, 2009, www.atimes.com (accessed on May 18, 2010).

75. Vandaele, "China Outdoes Europeans"; Jiang, "A Chinese 'Marshall Plan' or Business?"

76. Jiang Yuxia, "Chinalco, Alcoa buy 12% stake of Rio Tinto's UK-listed firm," Xinhua News, February 1, 2008, www.chinaview.cn (accessed on August 4, 2009).

77. Rio Tinto Plc, "Rio Tinto announces pioneering strategic partnership with Chinalco," February 12, 2009.

78. Ibid.

79. Xin Zhiming and Zheng Lifei, "Exim Bank to extend loans to Chinalco's Rio Tinto deal," *China Daily*. March 10, 2009.

80. Dana Cimilluca, Shai Oster, and Amy Or, "Rio Tinto Scuttles Its Deal With Chinalco," *Wall Street Journal*, June 5, 2009; Rio Tinto Plc, "Strategic partnership with Chinalco."

81. John Garnaut, "Chinalco, Rio deal collapses," *Sydney Morning Herald*, June 5, 2009.

82. Chinalco press releases from March 25, 27 and May 15, 2009, www.chinalco.com (accessed on August 4, 2009).

83. Rowena Mason, "Pressure grows on Rio Tinto-Chinalco deal," *Telegraph*, March 16, 2009, www.telegraph.co.uk (accessed on August 4, 2009).

84. Cimilluca, Oster, and Or, "Rio Tinto Scuttles Its Deal with Chinalco."

85. Shai Oster and Rick Carew, "China Inc.'s Top Deal Maker Provokes a Backlash Abroad", *Wall Street Journal*, April 16, 2009, A1. The larger equity stake allowed Chinalco to exercise veto power over the "Great Acquisition."

86. Days after making the offer to increase Chinalco's stake in Rio Tinto in 2009, Chinalco's President XiaoYaqing was "promoted" to a new post in China's cabinet.

87. John Beverage, "Rio Tinto deal leaves a list of winners and losers," *Herald Sun,* June 6, 2009; Michael Wines, "Australia, Nourishing China's Economic Engine, Questions Ties," *New York Times*, June 3, 2009, A1.

88. Cimilluca, Oster, and Or, "Rio Tinto Scuttles Its Deal with Chinalco."

89. BHP Billiton Plc, "Rio Tinto and BHP Billiton announce Western Australian Iron Ore Production Joint Venture," June 5, 2009.

90. Rosneft, "Rosneft Attracted a USD 15 bln Loan from China," February 17, 2009.

91. Market Watch, "Rosneft," www.marketwatch.com (accessed on August 5, 2009); Rosneft, "USD 15 bln Loan from China."

92. *Oil & Gas Eurasia*, "China Makes 25mln Loan to Trans/Rosneft," February 17, 2009, www.oilandgaseurasia.com (accessed on August 5, 2009); Wenran Jiang, "China's oil partners hang onto assets," *Asia Times*, July 30, 2009.

93. Jiang, "China's oil partners."

94. Upstream Online, "Russia seals $25bn China cash for oil deal," February 17, 2009, www.upstreamonline.com (accessed on August 5, 2009).

95. *Oil & Gas Eurasia*, "China Makes 25mln Loan."

96. Ibid.

97. Arrangements between China and Russia for oil and minerals have a history of not delivering as promised. Jing Yang, "Sinopec Considering Pulling Out of Sakhalin III Project," *Resource Investor*, October 16, 2007, www.resourceinvestor.com (accessed on June 10, 2009); Tina Wang, "China-Russia Oil Deal: Take it with a Grain of Salt," *Forbes*, February 18, 2009, www.forbes.com (accessed on June 17, 2009); Michael Lelyveld, "China-Russia Oil Deal Masks Frictions," Radio Free Asia, May 18, 2009, ww.rfa.org (accessed on June 9, 2009).

98. Matt Daily and Joshua Schneyer, "Petrobras could get more funding from China: CEO," Reuters, May 21, 2009, www.reuters.com (accessed on August 5, 2009).

99. Shai Oster, "China Wields Credit Clout Again to Lock In Brazilian Oil," *Wall Street Journal*, May 20, 2009.

100. Paul Ausick, "Petrobras to Get Chinese Dollars," 24/7 Wall St., February 20, 2009, www.247wallst.com (accessed on March 11, 2010); Xinhua News, Petrobras to borrow $10 bln from CDB, increase oil exports to China," May 19, 2009, www.chinaview.cn (accessed on August 5, 2009).

101. John Liu and Andres R. Martinez, "China, Brazil Agree to $10 Billion Loan, Exploration," Bloomberg News, May 19, 2009, www.bloomberg.com (accessed on August 5, 2009); Ausick, "Petrobras to Get Chinese Dollars."

102. Iuri Dantas and Jeb Blount, "Petrobras Gets $10 Billion China Loan, Sinopec Deal," Bloomberg News, February 19, 2009, www.bloomberg.com (accessed on August 5, 2009).

103. Manuela Zoninsei, "Brazil Turns East," *Newsweek*, June 11, 2009.

104. Petrobras, "Contracting of a Credit Line Worth $10 billion from the China Development Bank," May 19, 2009.

105. Jeff Flick, "Petrobras, Sinopec Discuss China's Entry into Brazil's Oil Exploration," Rigzone, May 28, 2009, www.rigzone.com (accessed on August 5, 2009).

106. Shai Oster, "China Wields Credit Clout Again to Lock in Brazilian Oil," *Wall Street Journal,* May 20, 2009; Chris Mayer, "The United States economy cannot easily afford to lose access to vast portions of the world's energy supplies," Gold News Bullion Vault, www.goldnews.bullionvault.com (accessed on June 11, 2009).

107. Ausick, "Petrobras to Get Chinese Dollars."

108. Chris Nicholson, "China's Sinopec Offers $7.22 Billion for Oil Firm," *New York Times*, June 24, 2009.

109. Addax Petroleum Corporation, "Consolidated Interim Financial Statements as at June 30, 2009 and for the three- and six-month periods ending June 30, 2009 and 2008"; Stephen Grocer, "Deal Profile: Sinopec-Addax–China's Big Oil Play," *Wall Street Journal*, June 24, 2009.

110. Rick Carew, "Sinopec-Addax: The Dragon Flexes Its Deal-Making Muscles," *Wall Street Journal*, June 24, 2009.

111. Addax Petroleum Corporation, "Frequently Asked Questions," www.addaxpetroleum.com (accessed on August 4, 2009).

112. Guy Chazan and Shai Oster, "Sinopec Pact for Addax Boosts China's Buying Binge," *Wall Street Journal*, June 25, 2009.

113. China Petroleum and Chemical Corporation, "Notice to Shareholders: Offer to Purchase for Cash all of the issued and outstanding common shares of Addax Petroleum Corporation," July 9, 2009.

114. Chazan and Oster, "Sinopec Pact."

115. China Petroleum and Chemical Corporation, "Notice to Shareholders."

116. Addax Petroleum Corporation, "Addax Petroleum and Genel Energy Commence International Export from Kurdistan Region of Iraq," June 1, 2009.

117. Offshore-technology.com, "South Pars, Qatar North Field, Iran," www.offshore-technology.com (accessed on March 12, 2010); Comtex News Network, Inc., "CNPC Said to Take Over Iran South Pars Gas Field Development," June 5, 2009.

118. Samuel Ciszuk, "Total Displaced by CNPC on Upstream Phase of Iran's Giant Pars LNG Project," *Global Insight*, June 4, 2009; BBC Monitoring Asia Pacific, "Iran signs 5bn-dollar gas agreement with China," June 8, 2009.

119. Offshore-technology.com, "South Pars, Qatar North Field, Iran."

120. Ibid.

121. Ciszuk, "Total Displaced by CNPC."

122. Tasmin Carlisle, "Iran enlists China for South Pars gas project," *The National*, June 3, 2009.

123. Sanchez Wang, "Iran, China Sign $5 Billion Contract on South Pars Gas Field," Bloomberg News, June 10, 2009; BBC Monitoring Asia Pacific, "Iran signs 5bn-dollar gas agreement with China."

124. BBC Monitoring Asia Pacific, "Iran signs 5bn-dollar gas agreement with China."

125. *China Daily*, "CNPC signs pact to develop South Azadegan oilfield," August 1, 2009.

126. *Business Standard,* "ONGC-Hinduja JV loses rights to develop Iran's oilfield to China," October 6, 2009; *China Daily*, "CNPC signs pact to develop South Azadegan oilfield," August 1, 2009.

127. *Tehran Times*, "CNPCI inks deal for 70% stake in S. Azadegan." September 29, 2009.

128. BBC Monitoring, "Iran, China Sign Major Deal to Develop South Azadegan," September 29, 2009; *Business Standard,* "ONGC-Hinduja JV loses rights."

129. BBC Monitoring, "Iran, China Sign Major Deal."

130. *Tehran Times*, "CNPCI inks deal."

131. *Business Standard,* "ONGC-Hinduja JV loses rights"; Steel Guru, "OVL-Hinduja JV loses rights to develop to CNPC," October 2, 2009, http://steelguru.com.

132. *Business Standard,* "ONGC-Hinduja JV loses rights."

133. *Economic Times*, "India may lose a gas project in Iran," October 4, 2009.

Appendix 3A
Background on Smaller Cases

Reviewing smaller Chinese procurement arrangements does not suggest that the 16 largest projects are atypical of China's general strategy toward procurement of natural resources. CNOOC's acquisition of a 12.5 percent share of Indonesia's Tangguh LNG project from BP for $275 million, which began delivery in 2009, may follow the first pattern of procurement. But Sinosteel's acquisition of more than 50 percent of Australia's Midwest Company, an iron ore prospector, for $1.4 billion in 2008; China Nonferrous Metal Mining Group Company's $600 million Tagaung Taung nickel mine in Myanmar in 2008; and the CNPC-Sinopec Andes oil purchase of Canadian oil exploration company EnCana in Ecuador for $1.42 billion in 2005 all fall under the second pattern of procurement.

Sinosteel's Acquisition of Australia's Midwest Company, 2008

State-owned steelmaker Sinosteel is China's second-largest iron ore importer. It develops, processes, and trades metallurgical mineral resources. In December 2007 Sinosteel announced its $1.05 billion bid for Australian iron ore mining firm Midwest Company. This bid followed Australian iron ore company Murchison Metal's bid for Midwest in October. Based on Murchison's stock price in December, Murchison's bid valued Midwest at $710.2 million, or $3.35 per share compared with Sinosteel's offer of $4.91 per share.[1] In early February 2008 Murchison abandoned its offer because of low acceptance, leaving Sinosteel the front-runner for the acquisition.[2]

Despite Murchison's withdrawal, Midwest announced on February 20, 2008 that Sinosteel's offer was unsatisfactory because it undervalued the company and its prospects. When Sinosteel refused to sign a confidentiality agreement, negotiations further stalled as Midwest denied Sinosteel access to its books for due diligence inquiries.[3]

In mid-March Sinosteel launched the first ever hostile takeover bid by a Chinese company in Australia. It offered $905 million for the 80.1 percent of Midwest that it had not yet acquired, for a total valuation of the company at $1.13 billion or $5.28 per share. This represented a 35 percent premium to Midwest's shares' closing price the previous day.[4] In the following months, Sinosteel continued to buy up shares in the company until on July 11 it announced that it had acquired a controlling 50.97 percent stake.[5] Finally, on September 25 Sinosteel announced that it held 98.52 percent of Midwest, after American hedge fund Harbinger Capital gave up its 15.2 percent stake.[6] China's Exim Bank provided the full debt funding for Sinosteel in its acquisition of Midwest.

Midwest's mine in western Australia currently produces the relatively small amount of 1.1 million tons of iron ore a year. Midwest is also working to bring online a new project that is expected to produce about 16.5 million tons per year.[7] Before Sinosteel's bid for Midwest, the two companies had been working together in a joint venture exploring and developing the Weld Ranch hematite project and Koolanooka magnetite project in western Australia.[8]

CNOOC and Indonesia's Tangguh LNG Project, 2002–09

The Tangguh project is Indonesia's third-largest LNG project. It is located in West Papua, Indonesia and its fields have 14.4 trillion cubic feet of certified proven gas reserves. It has the capacity to produce 7.6 million tons of gas annually, and, as of July 2009, sales agreements to sell 7.4 million tons per year.

On September 26, 2002 the partners in Indonesia's Tangguh LNG Project signed a sales and purchase agreement with CNOOC to supply 2.6 million tons of LNG to China's Fujian LNG terminal project for 25 years beginning in 2007. CNOOC also acquired a 12.5 percent stake in the project for $275 million on February 4, 2003, reducing BP's stake from 49.7 to 37.2 percent.[9] The remaining partners maintained their stakes: Mitsubishi at 16.3 percent, Nippon 12.2 percent, BP 10.7 percent, Kanematsu Corp 10 percent, and LNG Japan 1.1 percent. BP remained the project's operator.[10] On May 13, 2004 CNOOC announced it had acquired an additional 4.4 percent interest in the project from BP for $105.1 million,[11] though on June 28, 2008, it sold a 3.06 percent stake for $212.5 million, reducing its own stake to 13.9 percent.[12]

The Tangguh LNG project shipped its first commercial cargo on July 6, 2009, and on July 27, CNOOC's Fujian terminal received LNG from the project for the first time.[13] Based on CNOOC's 2002 contract, the terminal will receive 14 more project shipments in 2009 to supply a total of 2.6 million tons of LNG. Construction to increase the Fujian terminal's annual receiving capacity began in 2008 and is expected to increase the terminal's receiving capacity to 5.6 million tons per year by 2011.[14]

China National Petroleum Company and Sinopec in Ecuador, 2005

On September 13, 2005 Calgary-based EnCana Corporation announced its plan to sell all its oil and gas assets in Ecuador to the newly formed Chinese consortium Andes Petroleum Company for $1.42 billion. Under the terms of the deal, the consortium, led by Chinese firms CNPC and Sinopec, would acquire all of EnCana's shares in subsidiaries that owned oil or pipeline interests in Ecuador.[15] Reports had emerged the previous August that EnCana intended to sell all its assets outside North America to concentrate on its strategic interests within North America.[16] India's state-owned ONGC was among the bidders for the Ecuadorian assets.[17]

EnCana and the Andes Petroleum Company closed the deal on February 28, 2006. The Chinese consortium paid $1.42 billion for the Ecuadorian assets, which had a net book value of $1.4 billion[18] and included full ownership of the Tarapoa block, producing 38,000 barrels of oil per day, as well as a 40 percent stake in another block producing 30,000 barrels per day. Additionally, the consortium acquired EnCana's 36.3 percent stake in a 310-mile pipeline carrying 450,000 barrels per day.[19] At the end of 2004, EnCana had 143 million barrels of proven oil reserves in Ecuador.[20]

The Andes Petroleum Corporation was formed specifically to purchase EnCana's assets in Ecuador. After the September 2005 transaction announcement, the CNPC, Sinopec, and other Chinese firms negotiated the distribution of interest in the consortium; the CNPC ultimately acquired 55 percent and Sinopec 45 percent. The CNPC was to focus on the oilfields' operation while Sinopec would focus on refining.[21] Following the deal the Andes Petroleum Corporation became the largest foreign operator in Ecuador.[22]

China Nonferrous Metal Mining Company and Tagaung Taung Nickel Mine, 2008

On July 28, 2008 China Nonferrous Metal Mining Group (CNMC) signed a production sharing contract with Myanmar's state-owned Number 3 Mining Enterprise to develop the Taguang Taung nickel mine north of Mandalay. The CNMC is to provide all the capital for the project while the Number 3 Mining Enterprise provides the mining rights to the Taguang Taung mine. The mine is scheduled to begin operation in 2011 for a total of 20 years. The project follows the joint venture formed in 2004 between the CNMC and the Number 3 Mining Enterprise, which called for a 75-25 distribution between the CNMC and the Myanmar company.[23]

In early August 2008 the CNMC announced that work on the long-delayed mining project would begin before the end of the year, though officials initially refused to confirm that the 75-25 distribution had been maintained.[24] Further, the estimated cost of the project had risen from $600 million to $800 million and was expected to increase even more by the time the mine was operational. By late August, it became clear that the project's distribution had been altered, with Myanmar receiving a 50 percent stake.[25] Observers of the project attributed the delays up until then to negotiations over the government's stake in the project.[26]

The Taguang Taung mine is estimated to have 40 million tons of lateritic nickel ore. Ultimately the project is expected to include mining and smelting facilities and to produce annually 80,000 tons of ferro-nickel, used in stainless steel production. The CNMC claims that, once the project is online, it will raise Myanmar's GDP by 2 percent. This is the largest co-operative mining project ever undertaken between China and Myanmar.[27]

China-Myanmar Oil and Gas Pipeline, 2009

In late March 2009 China announced an agreement with Myanmar to build oil and gas pipelines connecting the two countries and signed a memorandum of understanding in June through the CNPC concerning the construction, operation, and management of the cross-border project.[28] The CNPC is to have a 50.9 percent stake but is expected to carry virtually all the costs of the project and is responsible for its construction. Myanmar Oil and Gas Enterprise will hold the remaining 49.1 percent interest.[29]

According to China's official news agency Xinhua, construction on the project began in 2009. Both pipelines will begin at Kyaukryu Port on Myanmar's west coast and cross into China at Ruilin in Yunnan Province. The oil pipeline will end in Kunming, the capital of Yunnan, spanning a distance of nearly 700 miles. It is expected to carry 20 million tons of crude oil annually from the Middle East and Africa. The natural gas pipeline will continue past Kunming to Guizhou and the Guangxi Zhuang Autonomous Region, for a total of more than 1,700 miles. It is expected to carry 12 billion cubic meters of gas annually.[30] The project also includes a crude unloading wharf as well as transportation and storage facilities at Kyaukryu Port.[31]

The new pipelines will comprise a fourth method of oil and gas importation into China, after the Sino-Kazakhstan line, Sino-Russian line, and ocean transportation. Apart from reducing the transportation route of oil and gas coming from Africa or the Middle East by some 750 miles, the pipelines also give China the increased security associated with bypassing the crowded and potentially risky Malacca Straits, through which over 70 percent of China's fuel imports currently pass.[32] The pipelines are scheduled to be completed by 2013 at a total cost of $2.5 billion.[33]

Myanmar has 510 billion cubic meters of proven recoverable reserves of gas and 3.2 billion barrels of recoverable crude oil. In December 2008 it signed a 30-year contract to sell natural gas to China.[34]

Notes

1. Vivian Wai-yin Kwok, "Sinosteel Mounts $1.5B Bid for Australian Miner," *Forbes*, December 10, 2007.

2. Asia Pulse News, "Australia's Midwest Knocks Back Sinosteel Takeover Bid," February 20, 2008.

3. Ibid.

4. Shu-Ching Jean Chen, "Sinosteel Goes Hostile on Iron Miner Midwest," *Forbes*, March 14, 2008.

5. *Herald Sun*, "Sinosteel Ups Stake in Midwest," June 13, 2008, www.news.com.au (accessed on August 10, 2009); Sinosteel Corporation, "Sinosteel Takes Majority Stake in Australia's Midwest Corporation," July 11, 2008.

6. Sinosteel Corporation, "Sinosteel Takes Purchase in Australia's Midwest Corporation," September 25, 2008; Associated Press, "China's Sinosteel to proceed with Midwest takeover," September 18, 2008.

7. Associated Press, "China's Sinosteel to proceed."

8. Kwok, "Sinosteel Mounts $1.5B Bid."

9. BP Indonesia, "BP at Forefront of China's LNG Strategy as Fujian Chooses Tangguh," September 26, 2002; CNOOC Ltd., "CNOOC Limited to Acquire Interest in Indonesia Gas Joint Venture," press release, September 27, 2002.

10. CNOOC Ltd., "CNOOC Limited Completes Acquisition of Tangguh LNG Equity Stake," February 4, 2003; BP Indonesia, "CNOOC Limited Acquires Stake in Tangguh," February 4, 2003.

11. CNOOC Ltd., "CNOOC Limited Completes Acquisition of Additional Equity Interest in the Tangguh LNG Project," May 13, 2004.

12. CNOOC Ltd., "CNOOC Ltd. Ink a Deal with Talisman on Tangguh LNG Project," January 28, 2008.

13. CNOOC Ltd., "CNOOC Limited Announces the First LNG of Tangguh Project," July 6, 2009; Eric Watkins, "CNOOC's Fujian terminal receives first Tangguh LNG cargo," *Oil & Gas Journal*, July 27, 2009.

14. Watkins, "CNOOC's Fujian terminal."

15. Wang Ying, "Oil Consortium Buys EnCana Ecuador Assets," redOrbit, September 15, 2005, www.redorbit.com (accessed on March 11, 2010).

16. Argus Media Ltd., "China raises profile in Ecuador," *LatAm Energy*, September 21, 2005, www.argusmedia.com; Argus Media Ltd., "China strengthens presence in Ecuador," *LatAm Energy*, March 8, 2006, www.argusmedia.com.

17. Ying, "Oil Consortium."

18. EnCana, "EnCana to sell its oil and pipeline business in Ecuador to Andes Petroleum Company for US$1.42 billion," September 13, 2005; EnCana, "EnCana closes sale of Ecuador interests to Andes Petroleum Company for about US$1.42 billion," February 28, 2006.

19. Argus Media Ltd., "China raises profile in Ecuador."

20. EnCana, "EnCana to sell its oil and pipeline business in Ecuador."

21. Mark Xiong, "China's CNPC Led Consortium to Buy EnCana's Ecuador Assets for 1.42bln USD," *Forbes*, September 14, 2005; Argus Media Ltd., "China strengthens presence in Ecuador."

22. Argus Media Ltd., "China strengthens presence in Ecuador."

23. Mines and Communities, "China moves on Burma and rescues foundering Kenya project," August 1, 2008, www.minesandcommunities.org (accessed on March 11, 2010); *Myanma Thadin*, "China group says $800 million in Myanmar mine on track," April 23, 2009, www.myanmathadin.com (accessed on March 11, 2010).

24. Mines and Communities, "China moves on Burma."

25. Eric Snider, "Billion dollar nickel mine in Burma to go ahead," August 25, 2008, www.minesandcommunities.org (accessed on August 10, 2009).

26. *Myanma Thadin,* "China group."

27. Ibid.

28. *Straits Times*, "China, Myanmar in Oil Deal, March 27, 2009; CNPC, "MoU Signed on Myanmar-China Oil Pipeline," press release, June 16, 2009.

29. *Straits Times*, "China to Myanmar Pipelines," November 20, 2008.

30. Shasha Deng, "Construction of Sino-Myanmar oil-and-gas pipelines to begin in September," Xinhua News, June 16, 2009, www.chinaview.cn (accessed on August 11, 2009).

31. CNPC, "MoU Signed."

32. Deng, "Construction of Sino-Myanmar oil-and-gas pipelines"; Aljazeera, "China Investment in Myanmar Soars," July 16, 2009, http://english.aljazeera.net (accessed on March 11, 2010).

33. *Straits Times*, "China to Myanmar Pipelines"; Jyoti Malhotra, "Myanmar pipelines confirm China's place in Bay of Bengal," *Business Standard,* June 29, 2009, www.business-standard.com (accessed on August 11, 2009).

34. Arakan Oil Watch, "Gas and oil pipelines to start in '09," January 22, 2009, www.arakanoilwatch.org. (accessed on March 11, 2010).