fossil fuels will be considerable. A shift towards nuclear beyond 2020 provides an answer to this. Most long-term energy scenarios with low carbon emissions incorporate rather unrealistic assumptions about the role of renewables in power generation. But New Delhi's plans are entirely feasible if the technical challenges are overcome and if its current isolation from nuclear trade can be ended.

Both China and India have hugely ambitious plans for nuclear power. In the period leading up to 2020, both countries must exploit their substantial natural coal reserves to achieve their desired rate of economic growth. Nuclear can play only a limited role in satisfying their power generation objectives in this period. But after 2020, nuclear can begin to make a major impact in achieving both energy and environmental objectives. Further improvements in nuclear technology by then may also expand the uses of nuclear—into seawater desalination and hydrogen production, for example—as new generations of advanced reactors come on stream. This will serve to make nuclear an essential part of 21st century energy and environmental policy throughout the world.

In both countries, however, there are some common challenges that must be faced. A huge number of skilled staff will be required in order to allow such ambitious nuclear programs to be undertaken. The complexity of nuclear power requires the very best staff in both operational but also in government regulatory roles. But this comes at a time when there are more attractive career opportunities in other economic sectors. If the experience of nuclear in other countries is anything to go by, public acceptance problems must also be faced in the future. But there is a wealth of experience now on how best to convince people of the nuclear power's merits, particularly by explaining the technology and its advantages in an open, accessible way. When people are given the opportunity to visit nuclear sites, they usually are persuaded that it is a challenging but viable technology.

It will be a lot easier for China and India to achieve their plans if they each adopt a spirit of international cooperation. They can only do so much in isolation. But there is huge amount of assistance available from the rest of the world—assuming political barriers can be overcome.

China's Quest for Overseas Oil

by Erica Downs

IN RECENT YEARS it has been in vogue for some American policy makers and pundits to criticize the overseas expansion of China's national oil companies (NOCs) as mercantilist. Even the Bush administration has joined the chorus, taking the Chinese government to task for attempting to "follow a mercantilism borrowed from a discredited era" through its efforts to "somehow 'lock up' energy supplies around the world."

This rhetoric conjures up an image of a zero-sum competition for oil among the world's major powers—ranging from a New Great Game in Central Asia to a New Scramble for Africa—in which one country's gain is another's loss. But it mischaracterizes the Chinese NOCs' global search for oil and their impact on the world oil market, exaggerates the differences between Chinese and American oil policies

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and runs the risk of heightening Sino-American tensions over oil.

Mercantilism has become a word that serves as a catch-all for a variety of Chinese oil-motivated actions inimical to United States' interests. Some proponents of the myth of Chinese energy mercantilism use the term to narrowly describe Chinese policies, charging that Beijing, in emulation of the European colonial powers, is directing its NOCs to acquire oil assets abroad to exclusively supply China. The U.S. and other Western powers, they maintain, long ago abandoned such pernicious practices in favor of reliance on the world oil market for supply security. They also contend that the NOCs are overpaying for assets to assuage Beijing's energy insecurity. Others apply the term more broadly to lambaste Beijing for any measures taken to help China's NOCs expand overseas that run counter to U.S. foreign-policy objectives. All three usages are problematic.

Oil pumped by Chinese NOCs abroad accounts for less than 1% of global production.

Central to the myth of Chinese energy mercantilism is the misperception that China's NOCs are engaged in a centrally-directed quest to "lock up" oil around the globe for the sole purpose of supplying Chinese consumers. Reality, however, is quite different. Not only are corporate interests distinct from national ones, but Chinese officials generally have neither the time nor the inclination to become intimately involved in the assessment and acquisition of oil assets.

First, although many narratives in the international media about the overseas expansion of China's NOCs have focused on the Chinese government's energy insecurity as the main motivation, it is in fact the companies' quest for reserves and profits that are the primary drivers. While some Chinese officials are undoubtedly uncomfortable with China's increasing dependence on imported oil, China's NOCs, like all other oil companies, need to continuously acquire new reserves to replace what they produce and the opportunities for them to do so within China appear rather limited.

Additionally, exploration and production historically have been the most profitable part of the oil business. This is especially true for China's NOCs which have suffered heavy losses in their refining and marketing operations in recent years because of higher crude oil costs and state-controlled prices for diesel and gasoline. Consequently, China's NOCs, like the major international oil companies (IOCs), seek income from exploration and production assets acquired abroad.

Second, contrary to popular opinion, the overseas expansion of China's NOCs is not driven from the "top-down" but rather from the "bottom-up." The liberalization and decentralization of China's energy sector over the past two decades has resulted in a shift of power and resources away from the central government toward the state-owned energy companies and a substantial reduction in the ability of the government to monitor these firms. When it comes to deciding which overseas assets to acquire, the NOCs are in the driver's seat and the Chinese government is often just along for the ride with little idea of the final destination. While the international media has made much of the omission of Sudan from the Chinese government's recently published catalog of countries in which Chinese companies are encouraged to invest, this document has not stopped China National Petroleum Corporation

President Hu Jintao and Sudan's President al-Bashir wave during a visit to a Chinese-built oil refinery in Khartoum earlier this year.

(CNPC) from expanding its assets in Sudan. Additionally, the Chinese government is not the only backseat driver; a variety of other actors, including the companies' minority shareholders, international banks and the governments of oil-producing states also seek to influence the investment decisions of China's NOCs.

Third, the reputation that China's NOCs have acquired for prioritizing the accumulation of physical barrels of oil over the growth of profits in their acquisition of overseas exploration and production assets is not entirely warranted. It is true that the Chinese NOCs are able to settle for lower rates of return than the IOCs because, as state-owned companies, they have access to subsidized capital (although the majority of their projects in 2006 were done on balance sheet). They also do not pay dividends to their primary shareholder, the Chinese government (although this may be changing). However, declarations that the Chinese NOCs have overpaid for assets, in many cases, are premature because the rates of return on the companies' investments depend in large part on the future price of oil. Indeed, the sustained increase in oil prices since late 2002 has made many Chinese purchases previously written off as foolish now look rather smart. The British consultancy Wood Mackenzie recently concluded that "there is little evidence that the Asian NOCs have completely discarded financial returns in order to acquire oil output at any price."

Fuzzy thinking about the world oil market has led to further allegations that China's NOCs, in shipping much of their overseas production to China, have reduced global supplies and put upward pressure on world oil prices. In fact, the opposite is true.

China's NOCs, whose foreign production sharing contracts are not fundamentally different from those signed by the IOCs, pumped a combined total of 685,000 barrels per day of oil abroad in 2006—less than 1% of world oil production—and appear to have sold at least two-thirds of it on the international market. If China's NOCs were to send home all of their overseas production, oil imports from other exporters such as Saudi Arabia and Angola would be reduced by the same amount. China's NOCs are actually expanding, rather than contracting, the amount oil available to other consumers by pumping oil abroad, especially at oil fields in which other companies are unable or unwilling to invest.

Another myth of Chinese energy mercantilism concerns its dealings with oil-exporting states whose policies run counter to American interests. China's oil ties to Sudan are usually the poster child for such discussions. CNPC is the largest foreign investor in the Sudanese oil patch and its operations transformed Sudan from a net oil importer to a net oil exporter in 1999, enabling both CNPC and Khartoum to reap windfall profits from the sustained rise in world oil prices. The company's substantial and lucrative investments in Sudan—its second largest source of foreign oil production after Kazakhstan—have been a factor behind China's obstructionist behavior in the United Nations Security Council in recent years. However repugnant Beijing's willingness to allow CNPC's oil interests to influence its response to the killing and dislocation of civilians in Darfur, it does not a mercantilist make. While the very use of the term mercantilist may further the cause of those who want to paint China as a menacing and retrograde power, it does not accurately capture China's policy toward Sudan. There are better words—such as amoral and short-sighted—to describe China's attempt to separate business from politics in Sudan.

The third myth of Chinese energy mercantilism is that its approach to securing oil supplies is radically different from that of the U.S. To cite one prominent example, in its 2005 report to Congress, the U.S.-China Economic and Security Review Commission states that "[t]he United States secures its supplies via open international markets while China wants to own oil at the wellhead." Upon closer inspection, this is a false dichotomy. Both Chinese reliance on the world oil market and U.S. interventions in that market are greater than the commission maintains.

Contrary to popular perceptions, most of China's imported oil is procured in the same way as the U.S.'s. Both Chinese and U.S. buyers purchase oil on the spot market and through long-term contracts (typically no more than 12 months) which are based on spot prices. The oil that China's NOCs produce abroad—regardless of whether it is sold locally or sent to China—is likely to be valued by the host country at the world price for the purpose of calculating royalty and tax payments.

Additionally, many of the concerns expressed by American policy makers and pundits about what China is doing to meet its oil requirements are things that the U.S. itself has done. Yes, China's growing demand for oil and the international expansion of China's NOCs have contributed to China's deepening engagement with regimes that commit egregious human-rights violations (Sudan), harbor nuclear ambitions and sponsor terrorism (Iran) and are rife with corruption (Angola). Yet, China is not alone in subjugating its foreign policy to its oil interests. The U.S. has fought wars for oil (Iraq), rolled out the red carpet for visiting heads of state from oil-producing countries with poor human-rights records (Equatorial Guinea) and wide-spread corruption (Kazakhstan) and overthrown governments to further U.S. oil interests (Iran).

Both Beijing and Washington—not to mention the governments of other major oil-importing states—have also lobbied officials in oil-exporting nations to advance their oil interests. Beijing's efforts to persuade Moscow to prioritize the construction of an oil export pipeline from East Siberia to China, rather than one to the Pacific Coast championed by Japan, are broadly reminiscent of Washington's ultimately successful diplomatic pressure on Central Asian governments to support the routing of an export pipeline from the city of Baku in Azerbaijan, through Georgia, to the Turkish port of Ceyhan, rather than an alternate route through Iran.

The Cnooc Debacle

PERHAPS MORE THAN any other example, the unsolicited bid made by China National Offshore Oil Corporation (Cnooc) for the U.S. firm Unocal in 2005, and the protectionist outcry it triggered in Washington, turns the conventional wisdom about Chinese and American oil policies on its head. Contrary to popular opinion, Cnooc's attempt to purchase Unocal was not motivated by a Chinese government dictate, backed by the full resources of the Chinese state, to secure oil and natural gas assets for the motherland. Lacking strong political support from Beijing, Cnooc sought to acquire Unocal not only for its reserves but also to facilitate its transformation into a truly multinational energy company. The furor that erupted in the U.S. in response to Cnooc's bid revealed that some U.S. policy makers and pundits misunderstood how oil markets work and adhered to the very mercantilist ideas which they ascribed to the Chinese. These include the assumption that the nationality of an oil company matters because firms, especially state-owned ones, prioritize national over corporate interests and the notion that the acquisition of oil assets is the best way to enhance supply security.

The fact that China and the U.S. intervene in the world oil market is hardly surprising. After all, the world oil market is not free; the Organization of Petroleum Exporting Countries sets production quotas for member countries—which in turn influence prices—based in large part on the economic and political needs of those countries. Similarly, oil consumers also attempt to influence the market to serve their interests.

The myth of Chinese energy mercantilism may exacerbate the increased bilateral frictions that both Beijing and Washington seek to avoid. First, the use of the adjective mercantilist to describe the foreign investments of China's NOCs conflates commercial competition with geopolitical competition and may lead some observers to see Chinese challenges to U.S. interests where they don't exist. To be sure, China's NOCs—like companies around the world—rely on their government for diplomatic support of foreign acquisitions. The state-ownership of China's NOCs certainly blurs the line between national and corporate interests, but more often than not, a bid by a Chinese oil company for an overseas asset is simply a bid to grow reserves and profits and not to advance Chinese global or regional influence. Furthermore, while an oil asset may be a source of zero-sum or mixed-sum competition between companies; this is not necessarily the case for their home countries. As long as the oil continues to flow, all consumers benefit.

Second, treating China like a mercantilist state may prompt it to behave like one. Case in point: the U.S. outcry over Cnooc's bid for Unocal. If the objective of the deal's opponents was to convince China's oil companies and policy makers that the U.S. views oil as a source of zero-sum competition between nations and that national ownership of energy assets matters, then they succeeded admirably. Opposition to the deal prompted China's NOCs to view investment opportunities in other countries, including some deemed "rogue" by the United States, more favorably.

Third, the assumption that corporate interests are synonymous with national interests can result in policy prescriptions that fail to cure the "disease" they are intended to treat. For example, some analysts—under the assumption that the foreign investments of China's NOCs, especially in states at odds with the U.S., are primarily driven by the Chinese leadership's energy insecurity—have argued that the U.S. should encourage China to join the International Energy Agency and to use oil more efficiently. While both of these recommendations should be pursued to enhance global energy security, they are unlikely to deter China's NOCs from investing overseas for the same reason that they have not prevented U.S., Japanese or French oil companies from acquiring oil assets abroad. Even if the national "energy security" motivation disappears, the corporate need to increase reserves and profits remains.

The challenge, then, for Washington and other capital cities seeking to influence China's policies toward states such as Sudan is not to attempt to convince Beijing to smother the corporate ambitions of China's NOCs but instead to persuade Beijing to use whatever influence it has over Khartoum to help shape policy outcomes.