

### SECTION 3: CHINA'S ENERGY NEEDS AND STRATEGIES

The Commission shall investigate and report on “ENERGY—The effect of the large and growing economy of the People’s Republic of China on world energy supplies and the role the United States can play (including through joint research and development efforts and technological assistance) in influencing the energy policy of the People’s Republic of China.”

#### Key Findings

- China’s strategy of securing ownership and control of oil and natural gas assets abroad could substantially affect U.S. energy security—reducing the ability of the global petroleum market to ameliorate temporary and limited petroleum supply disruptions in the United States and elsewhere.
- In 2005, China became the second largest international oil consumer after the United States, with a daily demand of 5.5 million barrels per day.<sup>241</sup> In 2006, China will account for 38 percent of the total growth in world oil demand.<sup>242</sup> The continuation of China’s dramatic year-over-year increases of nearly half a million barrels per day (an increase of approximately 16 percent in 2005 and 14 percent in 2006)<sup>243</sup> in petroleum consumption will place growing stress on the world’s energy resources and distribution systems, which will affect the supply available to the United States and the cost of that supply.
- China’s energy policies, taken as a whole, are not consistent with the economic or geopolitical behavior of a responsible stakeholder; they distort markets and destabilize volatile regions. As

China's energy needs and consumption grow, its failure to observe these international norms becomes increasingly problematic.

- The air pollution resulting from China's energy use policies and practices not only is exacting a toll on the health of China's population and ecology but also is detrimentally affecting the air quality of the western United States.
- In recent years, China has made progress in instituting, codifying, and enforcing environmental standards and controls relating to fuel consumption and has pursued cleaner coal-burning technologies, but still faces a daunting air and water pollution crisis. If China does not address these problems aggressively, it will exacerbate what is already an environmental catastrophe.
- Some U.S. cooperative efforts with China on energy efficiency and environmental friendliness have realized success, offering limited encouragement that the rate of growth of China's energy consumption can be slowed and the environmental consequences of its energy use mitigated. Such results are profoundly in the interest of the United States as well as China.

### **China's Energy Security Policy**

China's energy security policy has three main objectives: to secure an adequate energy supply to meet industrial, residential, and transportation needs; to keep prices low for domestic consumption; and to ensure secure delivery.<sup>244</sup> The government's determination to continue strong economic growth, intensified by its fear of domestic instability if growth slows, is of key importance in the formulation of Beijing's energy policies.

Because of this sector's importance, the government has been reluctant to relinquish control of the energy sector to private or quasi-private organizations. Similarly, the government has been unwilling to trust the world's free market dependably to meet China's petroleum needs; it views state ownership of energy assets, i.e. production of its own reserves and purchasing oil at the wellhead, as more secure than reliance on the world market for trade oil.<sup>245</sup> This concept is fundamentally at variance with the concept of energy security to which the United States adheres: participation in and dependence on the international market and diversification of resources. This constitutes a significant difference in approach between the United States and China. That difference was raised in mid-2005 when the Chinese National Offshore Oil Corporation (CNOOC) sought to purchase the American oil company Unocal in order to acquire and control its reserves located in various portions of the globe.

China has enunciated and demonstrated a commitment to diversify geographically its sources of petroleum. Deng Zhenghong, Enterprise Manager for Chinese national oil company Sinopec, emphasized the need for petroleum imports and the strategy of Chinese overseas oil activities when he stated that China's overseas oil investments follow a "sixteen character guideline": "Consolidate the Middle East, develop the surrounding regions [border states including those in Central and Southeast Asia and Russia], expand in Africa, and explore the Americas."<sup>246</sup> This principle emphasizes di-

rectly connecting with resources abroad, without relying upon multinational companies.<sup>247</sup>

China's preference for equity oil investments abroad (of purchasing oil at the wellhead) is officially termed the "go-out strategy,"<sup>248</sup> and China is pursuing this strategy vigorously. From the 1990s to 2005, China's cumulative overseas investment in oil and gas was \$7 billion;<sup>249</sup> from June 2005 to June 2006, the value of China's acquisitions was \$11.97 billion.<sup>250</sup> This represents a dramatic upswing in China's equity oil investments, and although China's holdings and current production do not represent a significant proportion of global oil reserves, they document an assertive policy to secure oil at the wellhead.

China relies upon its national oil companies to implement this "go-out" policy. As expressed in 2004 by Tan Zhuzhou, President of the China Petroleum and Chemical Industry Association, "This involves Chinese firms proactively going out to other parts of the world such as Africa and South America and applying their technical expertise and financial resources to the exploitation of oil resources there. This will enable us to secure multiple sources, avoid the risks of over-dependency on any one source and reduce the effects of price fluctuations."<sup>251</sup> China seeks geostrategic opportunities through its energy acquisitions, and its companies display more willingness to assume risks above those normally accepted by Western oil companies. Chinese national oil companies prefer to invest where countries have energy resources; where Chinese companies face limited competition due to the absence of U.S. oil companies;<sup>252</sup> or where the United States or other countries will not invest for moral reasons.

Although there have been public offerings of the stock of some of China's oil companies, the central government remains the sole or majority shareholder in most of those companies.<sup>253</sup> A report on China's overseas oil investments commissioned by this Commission concluded, "China's three major state oil firms, which the government has sought to nurture, giving them pride of place among the country's state-owned enterprises, have also acquired considerable influence over energy policy."<sup>254</sup> It is not surprising that this directly affects how they prioritize and strategize their investments.<sup>255</sup> These oil companies operate partially according to commercial principles, but in essence they also act as quasi-government organizations looking to shape and to fulfill a national security strategy.<sup>256</sup>

Their ownership and control also significantly affect the financial strength and flexibility the national oil companies can employ in pursuit of their objectives. Their deep-pocket financing was raised as an issue during the CNOOC bid for Unocal last year. Another concern is that Chinese firms do not face the same reporting obligations to their government or investors, which complicates the ability to track their transactions with foreign governments.<sup>257</sup> As Dr. Erica Downs, a China Energy Fellow at The Brookings Institution, explained in testimony before the Commission, "... China's national oil companies are employing a number of tactics that are unavailable to the international oil companies because ultimately it comes down to different shareholder values ... the government

is willing to accept a lower rate of return than that which international oil companies accept.”<sup>258</sup>

Underlying the “go-out strategy” is China’s hope that, in a time of a global petroleum supply crisis, the direct production of oil in various overseas locations by Chinese oil companies can ensure China will continue to receive the supply of oil it needs.<sup>259</sup> However, Dr. Downs pointed out in her testimony that this concept is complicated by several vulnerabilities China currently faces, namely the price of oil, and its transportation.

Given that such a high proportion—43 percent in 2004<sup>260</sup>—of the petroleum China consumes is acquired externally through imports (and that this proportion is anticipated to increase as demand increases in accord with projections), China’s energy security relies to a considerable extent on the ocean tankers that transport oil and natural gas to China from abroad. The 2006 Department of Defense report on the *Military Power of the People’s Republic of China* noted that more than 80 percent of China’s oil imports passed through the Strait of Malacca.<sup>261</sup> As a result, “China believes that it is vulnerable to disruptions of sea lines of communication (SLOCs) due to U.S. naval dominance, and to potential security problems in the Straits [sic] of Malacca.”<sup>262</sup>

In November 2003, this perceived vulnerability was enunciated by President Hu Jintao when he discussed the “Malacca dilemma” at an economic conference in Beijing. President Hu expressed concern about “certain powers” that have “encroached on and tried to control the navigation route through the strait,” and he urged China to develop a new oil security strategy.<sup>263</sup> Cortez Cooper, Director of East Asian Studies at Hicks and Associates, Inc., described one likely strategy in his testimony to the Commission when he noted that because of China’s increasing reliance upon petroleum imports and international trade, Beijing hopes to concentrate on the Strait of Malacca, the Indian Ocean, and the Persian Gulf, including developing blue water naval capabilities that can operate at such a distance from China.<sup>264</sup> Additionally, China has pursued “acquisition of naval port-call rights along the sea lanes of the Indian Ocean and Arabian Sea, [and] arms sales to countries with which Chinese oil companies have contracts . . .”<sup>265</sup> in an attempt to improve oil transportation security.

Further, in 2005 only nine percent of Chinese oil imports were transported to China using Chinese-owned ships;<sup>266</sup> it must rely substantially on other countries’ vessels for the majority of its oil and gas imports. This situation undoubtedly is a source of discomfort and concern to the Chinese leadership, and has prompted Chinese leaders to recognize the importance of a “strategic transport system” and call for an expanded supertanker fleet to increase China’s oil transport capacity.<sup>267</sup>

Another way China is responding to these transportation vulnerabilities is to try to construct or acquire pipelines that can be used to transport oil and gas directly from oilfields to China. Recently China has worked aggressively to obtain or construct pipelines to or through Central Asia,<sup>268</sup> including lines from Iran and Kazakhstan. As Dr. Downs noted, China perceives “overland imports” as more secure than “seaborne imports”<sup>269</sup> because “overland imports” do not traverse sea lines of communication that China

cannot protect. Moreover, construction and use of direct pipelines between Central Asia and China are not dependent on Russia's agreement.<sup>270</sup> Notwithstanding its concerns about Russia, China also has sought construction of a pipeline that would carry petroleum directly from Russia.<sup>271</sup> In these ways, China is attempting to minimize the risk of significant supply disruptions. U.S. concerns about pipelines with a Chinese terminus stem from the fact already described: Wherever it can do so, China is developing petroleum fields so it fully controls the oil and gas they produce, and pipelines facilitate its actualization of this strategy.

Historically, China's energy policy has emphasized "supply expansion over demand moderation,"<sup>272</sup> and this has produced a dramatic rise in energy consumption over the past 15 years. Energy efficiency and conservation have not been major objectives. According to the National Development and Reform Commission, one of China's energy policy-making bodies, China's energy efficiency falls 10 percentage points below that of the aggregate of developed nations, indicating a significant waste of the energy resources China currently has and is using.<sup>273</sup>

China's energy situation and policies are greatly complicated by the severe environmental pollution of the air, water, and soil resources that results from the emissions from burning fossil fuels. This is having calamitous effects on the health of the Chinese people and producing acid rain, polluting the water and soil, and producing carbon dioxide. Among the consequences for China are increased health problems and consequent demands for medical care, environmental degradation, and social unrest that threatens the stability and order so valued by China's leadership. This unrest is illustrated by a December 2005 incident near the border with Hong Kong that occurred when villagers who feared construction of a coal-fired energy plant would increase pollution confronted police and reportedly were fired upon.<sup>274</sup>

The evidence suggests that China's leadership is awakening to a number of these problems and is taking steps to try to mitigate them. The government has begun to encourage energy consumers to moderate their energy demands rather than reflexively to assume the only acceptable response to increased demand is to find a way to increase the energy supply.<sup>275</sup> This has included some "aggressive energy initiatives" aimed at simultaneously improving energy efficiency while increasing domestic energy production.<sup>276</sup> Principal Deputy Assistant Secretary of Energy Katharine Ann Fredriksen described these to the Commission, including large-scale coal liquefaction projects, new power plants fueled by natural gas, energy efficiency improvements in large buildings, and use of alternative and renewable energy resources.<sup>277</sup> In addition, China has adopted aggressive automobile gasoline mileage standards and has instituted a new tax structure on passenger cars designed to reward owners of economical vehicles.<sup>278</sup> While new laws have been enacted to address environmental and efficiency concerns, problems with implementation and enforcement persist.

## **China's Energy Supply**

### ***Coal***

Reflecting the significance of coal in China's energy picture, Dr. Downs testified that "Coal is king in China." Coal provides approximately two-thirds of China's total energy needs, and demand continues to increase, spurred by urban growth and industrialization.<sup>279</sup> China consumes more coal than the United States, the European Union, and Japan combined.<sup>280</sup> China's large domestic reserves enable it to be essentially self-sufficient in coal production, and the government monitors coal prices to keep them artificially low for the public.<sup>281</sup>

Environmental pollution and risks to public health are prominent results of China's high coal consumption. As a comparison, China's fossil fuel combustion released 22.5 million tons of sulfur in 2004, more than twice the amount released by the United States.<sup>282</sup> It produces acid rain and contributes to 400,000 premature deaths a year in China.<sup>283</sup> Dr. Downs testified that China recognizes the significant environmental and political costs of burning coal.<sup>284</sup> The Chinese government has been working with the U.S. Department of Energy's Fossil Energy Office to develop and implement pollution controls,<sup>285</sup> but the objective of lowered emissions can only be achieved if major investments are made in clean coal technologies, and to date China has been unable or unwilling to make sufficient investments of this kind.

Coal has a very low cost relative to the cost of other energy resources in China, partly due to government pricing policies. Those who use it are either unable or unwilling to afford the cost of more expensive cleaner fuels. Continued dependence on coal, in turn, creates a disincentive for increased investment in developing fuel processes that are cleaner but also affordable. Nonetheless, there are some glimmers of hope. As Principal Deputy Assistant Secretary Fredriksen noted in her testimony, China has participated in the U.S. Department of Energy's FutureGen initiative, which "seeks to realize the world's first near-zero emissions power plant that will produce electricity and hydrogen from coal while capturing and storing carbon dioxide."<sup>286</sup> China also has been considering investing approximately \$24 billion in large-scale coal liquefaction projects which, if completed, could replace up to one million barrels of oil per day.<sup>287</sup>

### ***Oil and Natural Gas***

Oil accounts for approximately 23 percent of China's energy consumption. In 2005, China became the second largest global oil consumer after the United States, with a daily demand of 6.5 million barrels per day.<sup>288</sup> By 2030, the Department of Energy predicts that China's oil needs will equal 13 percent of global demand.<sup>289</sup> Facing a decline in domestic production,<sup>290</sup> China has increased offshore production and is attempting to enhance residual oil recovery in existing fields. China hopes that offshore production eventually will become its largest source of domestic oil.<sup>291</sup> To bridge the gap between domestic demand and supply, China relies upon oil imports, which have risen in recent years. Overall, China imports at

least 43 percent of the oil it needs.<sup>292</sup> Until 2006, Saudi Arabia had been China's largest source for crude oil imports, but in February, Angola moved into first place.<sup>293</sup>

To secure sufficient petroleum imports, China has focused on equity investments, and has been looking beyond its traditional principal suppliers in the Middle East. China made new petroleum investments from June 2005 to June 2006 in thirteen countries, including Angola, Nigeria, Equatorial Guinea, Venezuela, Canada, Peru, and Syria.<sup>294</sup> However, these investments do not necessarily represent immediate increases in production; rather, they indicate potential production and an expansion and diversification of China's oil investments.

Below is a chart representing China's equity investments from June 2005 to June 2006:

**China—Upstream Investment and Reserve Holdings**<sup>295</sup>  
**June 1, 2005–June 1, 2006**  
**(bbl = barrels)**

Country	Interest	Investment Category	Contract Details	Value of Investment	Proven Reserves	Date of Transaction
Angola	Block 15	Oil	Joint venture (20% stake, Sinopec)	\$982 million	700 million bbl	May-06
Angola	Block 17	Oil	Joint venture (25.5% stake, Sinopec)	\$1.1 billion	255 million bbl	May-06
Angola	Block 18	Oil	Concession (40% stake, Sinopec)	\$1.1 billion	280 million bbl	May-06
Canada	Northern Lights (Athabasca) project	Oil sands	40% Sinopec stake in Synenco oil sands project	\$84 million	596 million bbl (bitumen)	Jun-05
Ecuador	Block 15	Oil	PSA (40% stake, CNPC and Sinopec)	\$1.42 billion	36.4 million bbl	Sep-05
Ecuador	Tarapoa and Shiripuno fields, block 14, block 17	Oil	Concessions (100% of Tarapoa and Shiripuno, 75% block 14, 70% block 17)	Value Included in the line above (\$1.42 billion)	125.6 million bbl	Sep-05

**China—Upstream Investment and Reserve Holdings**<sup>295</sup>—  
Continued  
**June 1, 2005–June 1, 2006**  
(bbl = barrels)

Country	Interest	Investment Category	Contract Details	Value of Investment	Proven Reserves	Date of Transaction
Equatorial Guinea	Block S	Oil	PSC signed by CNOOC	Undisclosed	Unknown (exploration contract; block surrounds the 300 million bbl Ceiba field)	Feb-06
Kazakhstan	PetroKazakhstan	Oil	CNPC purchased Canadian firm PetroKazakhstan	\$4.2 billion	550 million bbl	Oct-05
Kenya	Blocks 1, 9, 10A, L2, L3, L4	Oil	PSCs signed by CNOOC, covering 115,000 km <sup>2</sup>	Undisclosed	Unknown (exploration contract)	May-06
Nigeria	OPL 471, 721, 732, 298	Oil	CNPC purchased Canadian firm PetroKazakhstan	\$16.04 million (low signature bonuses in return for large downstream investments)	Unknown (exploration contracts)	May-06
Nigeria	Akpo Field (offshore license 130)	Oil	PSA (45% stake held by CNOOC)	\$2.4 billion	600 million bbl	Jan-06
Peru	Blocks 111 and 113	Oil	E&P contracts signed by CNPC	\$83 million	Unknown (exploration contract)	Dec-05
Syria	Stake in Al-Furat Petroleum Co.	Oil	17% stake held by CNPC in Al-Furat Petroleum Co.	\$586 million	66.3 million bbl	Dec-05
<b>TOTALS:</b>				<b>\$11.97 billion</b>	<b>3.2093 billion bbl</b>	
				1147.71 bn bbl	Global proven reserves	
				3.21 bn bbl	Chinese overseas acquisitions (2005–2006)	
				0.3%	Chinese acquisitions as percentage of total world reserves	

Of China's national oil companies, the China National Petroleum Corporation (CNPC) has been most active and successful in acquiring assets abroad; CNPC currently holds exploration and production contracts in 21 countries.<sup>296</sup> Sudan is the site of China's largest overseas production,<sup>297</sup> and CNPC has invested more than \$8 billion there; these investments include a field in southern Darfur.<sup>298</sup> China not only invests in exploration and production in Sudan, but also in Sudanese pipelines to transport pumped oil to Red Sea refineries.<sup>299</sup> In October 2005, CNPC purchased PetroKazakhstan, a Canadian-owned company whose assets include pipelines that will be used to transport oil from Kazakhstan to China.<sup>300</sup> In August 2006, CNPC and the China Petroleum and Chemical Corporation (Sinopec) agreed to jointly invest \$5 billion in exploration and production projects in Venezuela.<sup>301</sup>

Sinopec, however, operates primarily in Iran. In 2004, Iran awarded Sinopec the rights to develop the Yadavaran oil field, expected to produce 150,000 barrels per day, in exchange for China's commitment to purchase ten million tons of liquefied natural gas each year for 25 years.<sup>302</sup> By means of this combined upstream-downstream investment project, China significantly increased its supply of oil and natural gas. In 2006, Sinopec signed another deal with Iran to explore the Gamsar oil block, valued between \$20 million and \$59 million over a four-year period.<sup>303</sup> Also, in August, Sinopec and an Indian national oil company jointly acquired a stake in Colombia's Ominex oil company. This illustrates a decision by China and India to partner in the search for energy resources.<sup>304</sup>

China's international petroleum activities have not been limited to supply acquisition. Deputy Assistant Secretary Fredriksen noted that China's "lack of adequate refining capacity suitable for heavier Middle Eastern crude oil" is a major concern for its leadership.<sup>305</sup> To address this, China is collaborating with Saudi Arabia to build joint-venture refineries in Quanzhou and Qingdao, and is building a refinery in Xinjiang province to refine oil transported by pipeline from Central Asia.<sup>306</sup> In July 2006, PetroChina completed an expansion project on a Dalian-based refinery, making that refinery the largest in China.<sup>307</sup> Additional projects are under construction in Fujian and Guangdong provinces. China is also investing in the refining capabilities of countries with which it currently has equity investments. It is helping Angola build a refinery, expected to begin operation in 2010;<sup>308</sup> in July 2006 China signed a \$2.7 billion agreement with Iran to upgrade Iranian refining capacity.<sup>309</sup>

Natural gas has not yet become the major actor in the energy sector in China that it has become in the United States, primarily because China lacks an adequate distribution system for natural gas; this limits its use and contributes to its price being higher than that of coal.<sup>310</sup> Even so, consumption of natural gas is steadily increasing. In June 2006, China became a natural gas importer when the Guangdong liquefied natural gas import terminal opened.<sup>311</sup>

To ensure an adequate supply, China also has attempted to expand its access to natural gas. This is presumed to be one of the factors in last year's attempt by CNOOC to purchase U.S. oil company Unocal that holds significant natural gas assets. China has committed to purchase approximately 1 trillion cubic feet of gas in

Turkmenistan beginning in 2009. It also is seeking natural gas from Uzbekistan.<sup>312</sup> China also has entered a 30-year contract with Burma to purchase 6.5 trillion cubic feet of natural gas,<sup>313</sup> which may complicate U.S. and U.N. efforts to obtain changes in the political situation there.

As explained previously in this section, China is working to construct or acquire pipelines, especially in Central Asia, for both oil and natural gas in order to reduce the risks of transporting these commodities to China. China's primary partner in this initiative is Kazakhstan, which China views as the "gateway to Caspian oil and gas reserves."<sup>314</sup> A 620-mile pipeline from Atasu in northern Kazakhstan to Xinjiang province became operational in May 2006, although Dr. Martha Brill Olcott of the Carnegie Endowment for International Peace testified that sufficient oil to fill the pipeline is not yet available.<sup>315</sup> China also has proposed building a pipeline across Burma into Yunnan province in southwestern China that would transport Burmese natural gas and possibly serve as an alternate route for Middle Eastern oil to reach China, thereby minimizing use of the Strait of Malacca.<sup>316</sup>

In 2004, China announced plans to construct a strategic-petroleum reserve (SPR) intended to hold stockpiles equivalent to 90 days of imports.<sup>317</sup> Construction of the Zhenhai reserve, one of four being built in China, was completed in the summer of 2006 and was expected to be ready for use in October 2006.<sup>318</sup> Although China is not a member of the International Energy Agency (IEA), the stockpile China is developing comports with IEA's standards for the SPRs of IEA member nations. Deputy Assistant Secretary Fredriksen stated that this project is "one of the most significant developments" in China's energy policy,<sup>319</sup> because it will give China the ability to respond to an oil supply crisis by releasing its own reserves.

Because China is not bound by the obligations of IEA membership, it is uncertain if that is the purpose, or one of the purposes, for establishing its SPR. The Department of Energy has been discussing this issue with China, most recently in September in the U.S.-China Energy Policy Dialogue. Deputy Assistant Secretary Fredriksen noted that, "[w]hile commending China's efforts to build their first state-owned SPR, we have constantly reiterated that the SPR needs to be used to address supply disruption, not to affect global petroleum markets."<sup>320</sup>

### ***Nuclear Energy***

Although nuclear energy currently provides only a fraction of China's energy, China intends to build an additional 30 nuclear reactors within the next 15 years, allowing nuclear power to provide approximately five percent of the country's total energy needs.<sup>321</sup> Deputy Assistant Secretary Fredriksen stated that China is in the final stage of constructing a pressurized water reactor, and the United States is encouraging China to consider Westinghouse Electric Company's bid, the only one it received from a U.S. company.<sup>322</sup> In July 2006, China joined the Generation IV International Forum (GIF) Policy Group that collaborates on "nuclear energy system concepts" for future energy needs.<sup>323</sup>

### ***Renewable Energy***

China recently expressed interest in pursuing renewable energy as an option for diversifying its energy supply.<sup>324</sup> In February 2005, China passed the Renewable Energy Law that legalizes the regulatory framework for alternative energy sources and supports research and development and the creation of new facilities.<sup>325</sup> By 2010 China intends to supply 10 percent of its energy needs with renewable energy and has obtained financing for this endeavor from the World Bank and other institutions.<sup>326</sup> In addition, China has become the second-largest producer of hydroelectric power after Canada. With the construction of the controversial Three Gorges Dam and a series of dams on the Yellow River, China's hydroelectric capabilities will continue to grow.<sup>327</sup> Despite these developments, Dr. Downs testified that obtaining widespread use of renewable energy sources in China will be a significant challenge, especially because other fuel sources cannot compete with the low market price of coal, often because of the cost of equipment (e.g., windmills or solar panels) renewable energy sources require.<sup>328</sup>

### **The Debate About Equity Oil Investments**

As China increases its equity stakes rather than purchasing oil on the international market, questions have surfaced as to the effect of China's investments on U.S. energy security. In this discussion, two divergent positions have emerged.

One line of thought is that China's oil acquisition strategy diverts oil that otherwise would enter the world oil market, and that this can result in harm to the market and the energy security of its participants including the United States. Those holding this view believe China's strategy is to try to "lock up" petroleum supplies for its exclusive use.<sup>329</sup> In contrast, the United States relies primarily on the international oil market for its oil imports. As international demand for oil increases in the face of a limited supply, economic theory predicts heightened competition that will drive prices higher. If China does not add to the world market the petroleum in the fields it owns and controls, other states must compete for what is left in that market, making the market's prices and supply more vulnerable to shocks and increasing the likelihood of conflicts over limited supplies in the event of a crisis.

If this is the Chinese strategy, it will be harmful to U.S. interests in other ways. Chinese petroleum acquisition efforts have resulted in Chinese actions to protect regimes in nations where China is obtaining petroleum, such as those in Khartoum and Tehran. According to Dr. Downs, "... the risk for Washington is that China's growing dependence on imported oil will increasingly prompt Beijing to give higher priority to oil than to international issues such as the protection of human rights, nuclear nonproliferation, and good governance."<sup>330</sup> As discussed previously in this section, China's oil companies often are active in countries such as Iran, Sudan, and Burma where U.S. oil companies are not present because of boycotts, sanctions, or high political and security risks. These regimes often expect—and receive—a quid pro quo from China. An Iranian newspaper explained that since "we have assured China that its energy and oil needs will be met, we should ask that country to

complete its position and go beyond mere expressions of opposition to the referral of Iran's dossier to the Security Council."<sup>331</sup> An additional concern is the extent to which China could affect domestic politics within a country where it is obtaining petroleum to ensure a favorable climate for its activities there.

The alternative line of thought in this debate about China's oil acquisition strategy is that China imports oil from its equity fields that it otherwise would purchase on the international market. This suggests that the effect of China's petroleum acquisition strategy is essentially neutral on the supply of energy available in the international energy market and on those nations that purchase through that market, including the United States. Therefore, China's strategy does not threaten U.S. energy security. Some go further to suggest that China's acquisition strategy may actually benefit the international market. As Deputy Assistant Secretary Fredriksen testified, China usually enters markets with "a higher geopolitical risk than a lot of private sector companies are willing to take on . . . , and so . . . every drop of oil that they now are mining . . . in those countries . . . is oil they're not taking off the international market."<sup>332</sup>

China's acquisitions currently are not significant in terms of the overall international oil market. Its acquisitions between 2005 and 2006—higher than total acquisitions in the previous 15 years—only totaled 0.3 percent of total world reserves.<sup>333</sup> This amount of oil is very unlikely to affect the world market appreciably even in a time of crisis. Additionally, a report on China's energy activities commissioned by this Commission concluded that China's oil companies could "lock up" resources only by "consistently outbidding other international energy interests and paying above-market rates. Such a policy, however, would strain China's already heavily subsidized retail fuels market, lead to unnecessarily high oil prices, and harm China's overall economy."<sup>334</sup>

During the Commission's 2006 hearings, Commissioners asked if China's equity oil is transported exclusively to China or if some is being sold on the market. If China is selling the oil it produces on the market, China cannot be charged with "locking up" supplies for its exclusive use. In support of this argument, Dr. Downs testified that "host countries tend to value the barrels of oil that are produced in their countries at the world market price."<sup>335</sup> Consequently, in a time of crisis, even if China can ensure the oil it produces abroad is delivered to China, the price it will pay likely will be comparable to the price it would have had to pay in the world market—and thus its acquisitions likely will be comparable to what they would have been if it participated in that market.<sup>336</sup>

However, the report on China's overseas investments commissioned by the Commission suggests the opposite. The contractor tracked China's investments through open sources in an attempt to document the number of barrels produced by the fields it owns and the number of those barrels that were transported to China. Although Chinese customs data only indicate countries of origin for China's oil imports, and do not identify the specific projects that were its sources, and Chinese oil companies do not reveal detailed information about their activities, the report concluded that "the amount of equity oil flowing into China in 2006 is only about

320,000 [barrels per day], out of total imports of 3.6 million bpd and total Chinese consumption of 7.4 million bpd . . . [M]ore than 90% of its imports do not originate with equity oil projects in which Chinese firms have invested.”<sup>337</sup> Furthermore, the report found that while China has increased its investment activity, only two projects in Kazakhstan and Sudan currently produce more than 100,000 barrels per day in equity oil. Several projects in development, including the Yadavaran field in Iran, have the potential to produce more, but as yet that potential has not been realized.<sup>338</sup> Thus, while representing a small share of world reserves and Chinese imports, China’s current production of equity oil approximately equals the amount of its equity imports,<sup>339</sup> implying that very little Chinese equity oil is being sold on the market.

For its part, Chinese leaders dispute charges that it is trying to “lock up” petroleum resources and have made a concerted effort to “allay U.S. fears of neo-mercantilist policy” by means of government pronouncements and cooperation with the United States in petroleum “upstream” and “downstream” projects.<sup>340</sup>

### **Is China a Responsible Stakeholder in the Energy Sector?**

China’s growing energy needs, and the necessity for it to seek energy supplies abroad, have created opportunities to gauge whether Beijing’s energy sector policies and activities are those of a responsible stakeholder. In its international petroleum acquisition activities, Beijing is not acting as a responsible stakeholder, although its self-interested actions may reflect rational behavior intended to protect its own supply. The health of energy markets is crucial for sustaining the international economy, and acquiring oil through the market and according to internationally accepted norms for market behavior ensures a fair playing field for oil-importing countries. Yet, China’s acquisition strategy does not support the world market and may prevent efficient allocation of resources, especially in times of global supply disruptions. Its strategy reflects a mercantilist view of global energy resources and does not promote international cooperation in addressing limited supplies of petroleum.

China has made progress in enacting laws and regulations that promote environmental protection and in developing and implementing energy efficiency technologies. Yet its progress continues to be impeded by China’s domestic pricing policies that preserve coal’s status as the cheapest energy source. Without establishing economic incentives for development and use of cleaner fuels and renewable energy sources, and for increasing energy efficiency, China’s environmental problems will continue to worsen, and the transnational effects of China’s pollution increasingly will affect other nations including the United States.

A derivative effect of China’s energy acquisition policy and activities is that China has made it more difficult for the world community to secure acceptable resolutions to genocide and other humanitarian crises, nuclear proliferation, human rights violations, anti-democratic political activities, and corruption in several locations where it is active in petroleum extraction, including Sudan, Burma, and Iran. This is the case because China provides support to the purveyors of these deplorable circumstances in order to facilitate

its acquisition of petroleum and other resources those purveyors control.