

**UNITED STATES SENATE  
COMMITTEE ON FOREIGN RELATIONS**

**ASIA'S ENERGY INSECURITY, CHINA, AND INDIA:  
IMPLICATIONS FOR THE U.S.**

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Testimony

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Senator Lugar, Members of the Committee, thank you for this opportunity to appear before the Committee today to discuss energy security concerns in China and India and the implications for Asia and the U.S. It is an honor to be here.

Energy demand in Asia is mushrooming to fuel the region's dynamic economic growth. As a result, dependence on energy imports is rising, particularly for oil, and governments are scrambling to meet booming consumption and to prevent energy from becoming a bottleneck undermining economic growth and social stability. Looking forward, there is every indication that Asia's import dependence will accelerate over the next two decades.

The result is a deepening sense of energy insecurity in Asia that promises to have important long-term geopolitical implications for the region and for the U.S. China and India are the two largest energy consuming economies in the region and have the fastest growing energy demand. In the case of oil, most of China and India's rising future oil imports must inevitably come from politically turbulent and unstable regions, most importantly the Persian Gulf, and be transported along potentially vulnerable sea-lanes and/or complex pipeline routes crossing several national borders. Although both China and India have traditionally been self-sufficient in natural gas, a growing volume of their future gas supplies also is likely to come from the Persian Gulf, Russia, Central Asia, and, in India's case, South Asia. And the need to satiate relentlessly rising electricity demand in the face of oil and natural gas supply constraints is forcing heavy reliance on coal and growing reliance on nuclear power in both China and India that is aggravating future environmental and nuclear proliferation risks.

For China and India both, as well as the other Asian powers, energy is becoming a matter of "high politics" of national security and no longer just the "low politics" of domestic energy policy. Governments in both countries have decided that energy security is too important to be left entirely to the markets as their economic prosperity increasingly is exposed to the risks of global supply disruptions, chronic instability in energy exporting regions, and the vagaries of global energy geopolitics. Both governments are responding to their growing sense of insecurity with a broad range of similar strategies regionally and globally to try to guarantee greater supply security and reduce their vulnerability to potential supply and price shocks. These efforts are growing in scale and scope and they range from largely cooperative and market oriented strategies to those that are deeply neo-mercantilist and competitive. Both China and India are accelerating their efforts to gain more secure national control of overseas oil and gas supplies by taking equity stakes in overseas oil and gas fields, promoting development of new oil and gas pipelines to feed their booming markets, developing broader trade and energy ties, and following up with diplomatic ties to cement relations with the major oil and gas exporting countries.

The events of 9/11, the Global War on Terrorism, and the wars in Afghanistan and Iraq have heightened both China and India's sense of insecurity and vulnerability. Both governments are increasingly concerned about the risks of possible terrorist attacks on oil production and export facilities in the Persian Gulf and attacks on key maritime transit points, such as the Straits of Hormuz and the Straits of Malacca.<sup>1</sup> Both governments are concerned that the aggressive U.S. response to the attacks on America risks further destabilizing the Persian Gulf and Central Asia and increasing the risks of supply disruptions, worsening Islamic extremism, and political instability. And both governments sense they are excluded from the major institutions that govern global oil cooperation, such as the IEA, and feel largely excluded from the global oil industry they feel is dominated by the large oil companies from the industrial countries. Both feel they are playing "catch-up".

Nevertheless, the difference in each country's relationship with the U.S. defines their different perceptions of how U.S. policies might impact their efforts to secure their future energy needs. China views the U.S. largely as an increasingly aggressive strategic competitor and, therefore, the deeper extension of U.S. military power and influence in Central Asia and the Persian Gulf aggravates underlying fears of "encirclement", fears over U.S. global "hegemony", and increases Beijing's sense of vulnerability to U.S. control over oil and gas flows vital to China's strategic room for maneuver, its economy, and its social stability. India's views towards the U.S. are more ambivalent reflecting the gradual improvement in traditionally contentious U.S.-India relations since the end of the Cold War but also the controversial issue of India's nuclear weapons program. Unlike China, India does not view the U.S. as a fundamental obstacle to its search for energy security but there are elements of U.S. foreign policy that collaterally impact India's energy efforts. For example, U.S. opposition to India's nuclear program and its links to its nuclear weapons program has been seen by India as an obstacle to efforts to meet booming electricity demand. In addition, recent Indian discussions about possible future large natural gas pipelines from Iran and Burma to meet rapidly expanding natural gas demand, have run up against U.S. pressure to isolate these two unsavory regimes.

As the traditional guarantor of stability in Asia, the United States has major strategic stakes in how China and India respond to their energy insecurity and how this impacts the region and global energy geopolitics. Energy needs will transform both countries into major players in the world's major oil and gas exporting regions and global energy geopolitics. This is likely to fuel a much more complex web of diplomatic ties and alliances that could either complicate or complement the United States' own energy

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<sup>1</sup> The two major chokepoints for Asia's supplies are the Straits of Hormuz exiting the Persian Gulf and the Malacca Straits between Indonesia and Malaysia entering the South China Sea. In 2003 roughly 16 million barrels of oil per day (MMBD) passed through the Straits of Hormuz, with around 11 MMBD of that headed to Asia through the Straits of Malacca. Another one MMBD passes through the Straits of Malacca from Africa. As a result, more than 50% of Asia's daily oil supplies must transit the narrow Malacca Straits.

and security interests. For example, both countries' rapidly growing involvement in helping Iran develop its energy sector is already helping to undermine U.S. efforts to isolate Iran. Moreover, as both countries court Russia in hopes of accessing its large energy supplies they are inexorably drawing Russia back into Asia as a key strategic and commercial player with a range of potentially important implications for U.S. interests in Asia and for future U.S. relations with Russia

Second, the growing potential for an increasingly mercantilist competition between China and India over control of energy supplies and transport routes risks fueling tensions between the two. Although Sino-Indian relations have improved recently, each country clearly sees the other as a major long-term regional rival and potential future strategic threat. Moreover, as a region Asia lacks institutions to manage regional conflict and already faces a sensitive transition to accommodate China's rising power over the next several decades. There are several recent examples where China and India came head-to-head over energy supplies. Moreover, each is warily assessing the other's future intentions regarding building naval power and control of the vital sea lanes in the Indian Ocean and control of the Malacca Straits. Nevertheless, competition doesn't necessarily have to dominate the energy relationship between China and India. Some recent developments and trends suggest that energy needs may have the potential to reinforce cooperation between the two.

It is vitally important for U.S. policymakers to understand the linkages between China and India's energy insecurity and a much broader range of important U.S. geopolitical, energy, and environmental interests. The balance of my testimony will discuss China and India's energy security dilemmas and the potential for impacting U.S. long-term geopolitical and energy interests in the post 9/11 era. First will be a survey the linkages between each country's energy situation and its energy security strategies and assess prospects for future cooperative or competitive efforts. This will be followed by suggesting a range of potential implications for the U.S., in terms of future oil markets and prices, Asia's geopolitical future, and U.S. strategic interests in key energy exporting regions of the world. I will conclude with a series of policy recommendations.

## **ENERGY INSECURITIES AND STRATEGIES**

Asia's overall regional energy dilemma reflects a set of consistent trends, but conditions vary substantially in each country depending on a variety of resource, energy policy, and historical factors. These individual circumstances and policy frameworks largely shape the evolution of national energy security strategies. China and India represent a large share of Asia's current and future energy needs, future import needs, and both will also be major actors in the region's future geopolitical evolution.

## CHINA

China is the second largest energy consumer in the world, after the U.S. and has traditionally been largely self-sufficient in energy supplies. Large domestic supplies of coal have dominated domestic energy use and coal continues to account for two-thirds of China's overall consumption. However, strong economic growth since the early 1980's has fueled oil demand growth and the government's decision to expand the use of natural gas promises to boost future gas consumption. These developments will boost China's future energy import dependence and fuel growing energy security concerns.

China has been Asia's largest oil producer since the mid-1960s, in recent years producing well over 3 MMBD. However, the acceleration in oil demand during the economic boom of the 1980s and early 1990s rapidly outran production during the 1990s. Oil demand doubled between 1985 and 1995 from 1.7 million barrels per day (MMBD) to 3.4 MMBD and doubled again by 2005 to reach an expected 6.8 MMBD for 2005. By 2003 China surpassed Japan to become the world's second largest oil consumer behind the U.S and the third largest importer. China now imports roughly 40% of its total oil needs and this import share is rising rapidly.

China's leadership has responded with both domestic reforms and aggressive global energy security policies. Nevertheless, given limited resource prospects and high costs, domestic oil production is unlikely to rise significantly while oil demand and oil imports are very likely to continue growing relentlessly. The IEA forecasts that China's oil imports will rise five-fold by 2030, from slightly less than 2 MMBD in 2002 to 10 MMBD, when imports will account for 80% of China's total oil needs. China's leadership now faces the long-term realization that oil import dependence is unavoidable and will grow. Moreover, China will become heavily dependent on the Persian Gulf for future supplies and its oil will increasingly have to transit a series of vulnerable maritime choke points. It is likely that by 2015 70% of China's oil imports will come from the Middle East. Other significant shares of China's oil imports will come from Russia by pipeline and rail, from Central Asia by pipeline, and from Africa.

Government policies aimed at substantially increasing the use of natural gas, while indispensable in environmental terms, promise to accentuate China's import dependence and long-term energy security concerns. Beijing has embarked on an aggressive policy to increase gas use to help replace coal to generate electricity, diversify overall energy use, and provide cleaner-burning fuel for environmental needs. Current plans call for gas to make up 8% of total energy demand by 2010. But, although China does have significant domestic gas reserves, beyond 2010 demand is likely to begin to outrun domestic production and a growing share of gas needs will need to be met through imports. The DOE forecasts that imports will account for 40% of China's gas needs by 2025.

While China's gas use will grow, rising electricity demand will also force continued growth in coal consumption along with efforts to expand nuclear and hydroelectricity production. China is the

largest producer and consumer of coal in the world and coal still makes up roughly two-thirds of total energy use. Driven by relentlessly rising electricity demand China's coal consumption is expected to double over the 2001-2025 period. As a consequence, China is also expected to account for one-quarter of the world's CO2 emissions over that period. China may become a net importer of coal as early as 2015. Electricity needs also are driving China's future nuclear power development. China has the largest planned increase in nuclear power globally over the next two decades, with plans to add 40 large new nuclear power plants by 2020. Electricity demand will also drive strong hydroelectric development although ultimately this can only meet a small fraction of China's electricity needs

In sum, despite wide-ranging and strenuous efforts China faces an inevitable trend toward greater energy import dependence to fuel its dynamic economic growth. This trend will be most acute for oil but will become a growing concern over the longer term for natural gas supplies. Hence, energy security has become a central concern for Beijing and the thrust globally to secure future energy supplies has taken on great urgency.

In response, China has launched an aggressive strategy to secure its future energy supplies globally and regionally. With economic growth becoming the central focus of China's national agenda, the country's leadership increasingly fears that exposure to energy shortages and volatile world energy prices could threaten social stability and undermine the main claim to authority and legitimacy of the Communist Party. China's strategy has become increasingly coherent and wide-ranging over the past decade and is growing in reach and sophistication. For China's leaders, energy security clearly is too important to be left to the markets and so far its approach has been decidedly neo-mercantilist and competitive.

Globally the program has been dubbed the "Going Out" strategy and it is based on three major concerns. First has been the fear that sudden global oil supply disruptions could trigger serious energy shortages and sharp price spikes that would be difficult to insulate the economy from as was possible in the past when China was self-sufficient in oil. Second, China faces a growing vulnerability for the majority of its oil needs on tanker flows from the chronically unstable Persian Gulf and other potentially unstable exporting regions such as Central Asia and Africa. Third, China has felt increasingly threatened by U.S. strategic dominance in the Persian Gulf and other key oil exporting regions and U.S. control of critical transportation routes giving the U.S. the power to deny vital oil supplies to China in the event of a confrontation, particularly over Taiwan. These concerns have been further aggravated by deeper extension of U.S. power into the Persian Gulf and Central Asia in the wake of 9/11, the GWOT, and the Afghanistan and Iraq wars.

China has pursued its energy security on a wide range of fronts. First, it has sought to strengthen its supply relationships in key areas, such as the Persian Gulf, while diversifying the geographic

distribution of its crude oil suppliers and transportation routes. For example, Chinese state oil companies have broadened their crude sources by increasing imports from West Africa and even Latin America to offset a heavy dependence on the Persian Gulf and Southeast Asia. In the Persian Gulf the Chinese have rapidly expanded their role in various phases of Iran's oil industry while boosting long-term crude supply contracts with Saudi Arabia, Oman, and Yemen. In the longer run, China is seeking to increase pipeline supplies from Russia's East Siberia and Western Kazakhstan through long-distance pipeline projects, which would have the added advantage of reducing vulnerability to disruptions in tanker flows from the Persian Gulf and Africa. Second, state oil companies CNPC, Sinopec, and CNOOC have been aggressively buying equity stakes in many existing or prospective oil fields around the globe. In the mid-1990s China scrambled to buy stakes in a mixed bag of fields and countries, including Kazakhstan, Sudan, Venezuela, Iraq, and Peru. Inexperience led to overpayments in some cases but buying has become more selective and competitive with later experience. China has now established fairly strong positions in its largest operation, Sudan, including production, pipelines, and refineries, as well as a growing position in western Kazakhstan. They recently are focusing on broadening their equity stakes into North Africa, Southeast Asia, especially Indonesia, Latin America, and most recently in North America, where they have acquired stakes in Canada's western oilsands developments, and in the controversial bid by CNOOC to acquire Unocal. Small stakes have been acquired in the Caspian Sea area in Azerbaijan and Turkmenistan. Another element of this equity strategy is to target countries subject to unilateral U.S. sanctions which improves the competitive landscape and offers China better opportunities, but also works to undermine U.S. sanctions policies. Current estimates are that the three companies have managed to establish control over about 300 MBD of crude production, which could reach up to 600 MBD by 2008. China has also pursued a similar equity strategy regarding natural gas imports by demanding and getting upstream equity stakes in LNG projects destined to bring LNG to China beginning in 2007 from Australia and Indonesia.

The third leg of the strategy involves extensive cross-investment and commercial ties between China and key exporting countries in order to cement stronger long-term ties. China's state oil companies and related construction and oil services companies have aggressively bid for oilfield development contracts, pipeline contracts, and refinery projects in Iran, Sudan, Kazakhstan, Kuwait and a growing list of countries. Conversely, the Chinese government and oil companies have invited the state oil companies in key exporting countries to invest in downstream oil and petrochemical projects in China. For example, China recently finalized plans for a large joint refining investment in Fujian province in partnership with Saudi ARAMCO and ExxonMobil.

The fourth leg of the strategy involves Beijing's active oil and gas diplomacy which serves to strengthen the oil supply contracts, equity stakes, and cross-investments with deeper and broader

diplomatic and trade ties. China now has signed some form of “Strategic Energy Partnership” with nine countries, including Russia, Sudan, Iran, Venezuela, Brazil, Angola, and Kazakhstan. Beijing’s leadership has follow-up with a long list of high-level diplomatic visits to cement stronger diplomatic, energy, and trade ties. China has also used state diplomacy to secure future LNG supplies in contracts with Australia, Indonesia, and Iran. China’s leadership sees the development of broader diplomatic and trade ties and alliances as a key element in securing its access to future oil and gas supplies. This also includes military sales and cooperation, sales of nuclear equipment, and other potentially problematic trade ties.

A fifth strand of the strategy has been China’s continuing active pursuit of its territorial claims in the maritime region surrounding China, both to assert Chinese sovereignty more generally but also to assert China’s control over potential oil and gas resources in these areas. China has repeatedly asserted its maritime territorial interests in disputes over control of exploration and licensing blocks with Vietnam, Indonesia, and Japan over the past decade. Increasing military and fishing activity in the South China Sea in staking China’s claims to the Spratley and Paracel Islands goes hand in hand with these energy interests. China also continues to assert its sovereignty over the Senkaku/Diaoyu Islands in the East China Sea against Japanese claims and is embroiled in a bitter dispute with Japan over an East China Sea gas field. China has no “Blue Water” naval capability to secure these areas in the face of U.S. naval supremacy in the region but it has begun to realign its naval strategy to these needs by emphasizing submarine development and port access agreements in the South China Sea and along the coast of the India Ocean.

Finally, China has recently decided to follow the example of the industrialized countries and neighbors Japan and South Korea in beginning construction in 2004 of a Strategic Petroleum Reserve to establish state-controlled stocks of crude oil that would be available in the event of a supply disruption. Supplies will begin to flow to the first of these locations in August 2005.

Beyond this, China’s willingness to promote regional solutions to Asia’s energy security concerns has been very limited. It has been involved in discussions with Russia led largely by South Korea on proposals to build a large regional natural gas pipeline from East Siberia, southeast through China and across the Yellow Sea to South Korea to link Russian gas supplies to both markets. It also has been involved as a member of APEC’s in recent discussions and proposals to improve Asia’s energy security.

In sum, China’s energy security strategy is wide-ranging and increasingly sophisticated. It is deeply state-centric and mercantilist, built on coordination between senior government policymakers and China’s state oil companies and it is increasingly linked to broader diplomatic relations and alliances. Through its search for energy security China also is on the way to becoming a major geopolitical player in



the Persian Gulf, Central Asia, and Russia, with a growing capability to complement or complicate U.S. interests in these regions.

## **INDIA**

India is now the sixth largest energy consumer in the world. Much like China, coal dominates the energy picture in India accounting for 51% of total energy use with most of that going into the production of electricity where demand has been growing at extremely high rates. India has large indigenous supplies of coal, most of it relatively low in heat value and high in sulfur and ash, and given limited domestic availability of oil and natural gas, coal is likely to remain the dominant fuel in the economy for the foreseeable future. The DOE expects Indian coal consumption to rise by 70% over the next 25 years to meet booming electricity demand which is expected to rise by 150%. India alone is likely to account for over 10% of the entire world's increase in coal consumption.

As in the rest of Asia oil is looming as the key import concern. Oil demand in India grew by over 6% annually during the past decade, more than three times the world average, while at the same time oil production rose barely at all. Consequently, imports jumped from 500 thousand barrels per day to 1.3 million barrels per day by 2004, or from 42% of consumption to 62% of total consumption. Roughly one-half of India's current oil imports come from the Middle East. Over time India's import dependence will grow. Both the DOE and IEA expect Indian oil demand to be among the fastest growing in the world, along with China, at nearly 4% annually to 2025, rising from 2.1 to 5.3 MMBD. Combined with essentially flat or declining oil production, this suggests that imports will account for 85% of total oil demand by 2025, most of which will have to come from the Middle East, with the balance from Central Asia and Africa.

India has been self-sufficient in natural gas historically but given limited domestic gas resources and rising demand this will change rapidly in the future. Gas demand is expected to continue increasing making India a major importer in the form of LNG and possibly pipeline supplies. The DOE expects Indian gas consumption to triple from 0.8 trillion cubic feet (TCF) in 2001 to 2.5 TCF by 2025 driven by the growing need for electricity and the need to substitute for dirty coal. At the same time domestic gas production is likely to rise more slowly, meaning that 40% of India's gas needs are likely to be imported by 2025. India is already moving to develop the infrastructure to boost imports. India's first LNG import terminal Petronet, a joint venture between India's state oil and gas companies ONGC, GAIL, and IOC, along with Gaz de France, began operation in late 2003 and is importing gas from Qatar. Another Shell sponsored terminal is planned for 2005 in Gujarat to bring LNG from Oman. In all, the government has approved plans for 12 possible import terminals in the future. Recently, there has been new progress on natural gas pipeline proposals to bring gas from Iran via Pakistan, and from Burma via Bangladesh. Each

of these proposals has serious geopolitical problems and the outlook for pipeline supplies will depend on resolving key regional geopolitical rivalries and constraints. The large majority of India's future gas imports will necessarily come as LNG from the Persian Gulf, with some increment possible from Burma and Iran.

Like the other Asian energy importers, India is also looking to nuclear power development as an important source of electricity generation. Nuclear now accounts for less than 5% of electricity needs in India but 5-8 new plants are planned which would triple nuclear generation from 3 to 9 gigawatts (GW). Even so, nuclear will only be able to meet a small fraction of India's energy and electricity needs.

India's rapidly growing dependence on imported oil supplies has recently catalyzed a more aggressive strategy to secure supplies overseas and India seems to be emulating China in its overseas energy security strategy. ONGC, India's major state-owned oil exploration and production company, is beginning to stake out new overseas oilfield investment plans through its international subsidiary ONGC Videsh Ltd. India's largest oil stakes to date are its 25% share in the Greater Nile Oil Project in Sudan, ironically in partnership with China's CNPC, which it bought into for \$750 million and its 20% share of the ExxonMobil led Sakhalin 1 project in Russia, which it bought for \$1.7 billion. ONGC is also beginning to source large supplies of LNG from the Persian Gulf through deals with Qatar and Oman. ONGC also recently signed a preliminary deal with Iran to buy LNG later in the decade for which ONGC would get the option to develop a large Iranian oil field. Videsh has been bidding for Cairn Energy assets in Bangladesh, been awarded exploration blocks in Syria, and has been negotiating with Myanmar, Iran, Iraq, Libya, Kazakhstan, and U.S. for exploration blocks. With more than 50% of its total oil supplies now sourced from the Middle East, India has announced plans to build a strategic oil stockpile but has not moved very far in doing so yet.

### **Geopolitical Issues**

Both China and India are scouring the globe to secure better access to oil and gas supplies and are building broader diplomatic and trade ties that serve to strengthen these energy links. While they are ranging widely around the globe, their most important efforts have been focused largely on three key petroleum rich regions where growing energy ties are likely to have a significant impact on future geopolitical developments.

Not surprisingly the primary area of focus for both China and India is the Persian Gulf. The region holds two-thirds of the world's proven oil reserves and already accounts for two-thirds of India oil imports and more than one-half of China's. In the longer run, the Gulf is likely to account for 80% of each country's oil imports and 50% of their natural gas imports. Both countries are building long-term energy ties but also are rapidly building diplomatic, trade, and military ties in the region. The main focus

so far has been on Iran and, to a lesser extent, Saudi Arabia. The rapid development of ties between China and India and the Persian Gulf also is a two-way street and both countries are taking on great importance from the Gulf oil and gas exporters' perspective. Currently, nearly two-thirds of the Gulf's oil exports go to Asia and this will grow sharply in the future. The growing nexus of diplomatic, trade, and military ties with China and India appeals to the Gulf producers who are looking to diversify their economic and geopolitical base beyond traditional dependence on the U.S. and European markets and diplomatic relationships. All these trends suggest that energy will propel China and India into becoming major players in the Persian Gulf and broader Middle East in the future.

Russia is the second key area where the China and India are jockeying for position and where energy will have important geopolitical implications. The natural complementarity between Russia's huge surplus supplies of oil and gas with China and India's huge deficit contains the seeds of a growing set of energy, trade, and geopolitical relationships. Russia's importance to China and India arises from its potential to at least partly offset reliance on the Persian Gulf and other tanker supplies that must transit a vulnerable series of maritime choke points. The ability to diversify supplies sources as well as diversifying transport routes is vitally important in their respective energy security calculations. India has a big position in the Sakhalin 2 oil and LNG project, while China is deeply involved in proposals to bring East Siberia oil and gas supplies to China. Both are busy upgrading and broadening their political ties with Russia to support future energy ties. This complementarity extends to the Russian side as well. Vladimir Putin and the Kremlin would like to diversify Russia's growing energy export base away from total dependence on European markets for both oil and gas exports. The Kremlin has become quite explicit under Putin's newly statist orientation toward the energy export sector about their desire to use oil and gas as strategic diplomatic and commercial tools to return to becoming a major player in East Asia. Interestingly, China and India's heavily mercantilist approach to energy security concerns matches well with Putin's increasingly mercantilist objectives for Russia's energy sector.

The third key area of energy resource competition and growing ties and where the geopolitical overlay is likely to take on increasing importance is in the Central Asia and Caspian Sea region. The attraction of diversifying imports away from the Persian Gulf and toward overland pipeline supplies is irresistible. China is in the best geographical position to benefit and is moving to make Kazakhstan a key oil supply source for the future through its growing equity investments in oil fields in western Kazakhstan and promises to build a long-distance pipeline to western China. A pipeline would also give the Kazakhstan government stronger incentives to help stabilize the potentially restive Islamic region along China's border, something that China is increasingly concerned about in the wake of growing Islamic unrest on the Chinese side of the border. As part of this effort, China has been active in developing broader diplomatic alliances with Kazakhstan and in the broader region. The Shanghai Cooperation

Organization, which China has spearheaded to build broader ties with Central Asia and Russia clearly also is aimed at boosting energy cooperation. India has fewer options to access Central Asian resources due to geographical limitations, although they have been involved in long-running proposals to bring oil and gas from Central Asia via pipelines across Afghanistan and Pakistan.

## **GEOPOLITICAL AND ENERGY MARKET IMPLICATIONS FOR THE U.S.**

China and India's responses to their deepening energy insecurity have a range of important implications for the region and for the U.S. across a broad swath of geopolitical, energy, and environmental issues.

First, as the key stabilizing and balancing force in Asia, the U.S. has a vital stake in how energy insecurity impacts future relations between China and India, whether energy issues aggravate and reinforce Sino-Indian rivalries or provide a basis for greater cooperation. The Sino-Indian relationship is one of the most critical dimensions in Asia's future geopolitical architecture. The marked inclination toward a relatively narrow, zero-sum, neo-mercantilist approach to energy security by both China and India clearly holds the risk that energy could become a major source of future tension between the two countries. There have been several cases of direct competition for the same oilfield assets, for example in Angola, that have provoked a sense of direct competition between the two. India has been very vocal recently about having to compete with China for oil and gas resources and has, at least publicly, appealed to China for discussions to promote greater bilateral cooperation on energy. Moreover, both China and India are relying on bilateral approaches that link energy, trade, strategic, and often military, cooperation rather than multilateral and regional approaches to linking energy and security interests. Bilateral approaches clearly risk reinforcing the potential for competitive outcomes.

Also, zero-sum approaches to energy security increase the risk of spillover into competition over maritime energy transport routes in the Indian Ocean and Straits of Malacca. China is increasingly wary of India's naval capabilities in the Indian Ocean and its ability to interdict tanker traffic headed for China. This has been heightened recently by India's improving naval cooperation with the Southeast Asian states and the U.S. India, on the other hand, is increasingly wary of China's growing efforts to acquire port access along the Indian Ocean coast, with new port access arrangements in Pakistan, Bangladesh, and Myanmar.

A second set of issues for the U.S. concerns the impact of the growing long-term role of China and India in key oil and gas exporting regions. Their role will inevitably grow in these regions; the only question is what it how this could impact U.S. interests and policies. Foremost here is the Persian Gulf and Middle East. On one hand, China and India's growing dependence on Persian Gulf oil suggests that their growing interests in Persian Gulf stability will converge with our own. Consequently, it would

seem unlikely that China or India would see it in their interest to do things likely to seriously destabilize the region, such as stepping up arms and missile sales or contributing to nuclear proliferation, and would be more likely to free ride on U.S. efforts to maintain stability in the region. Moreover, while the conservative Persian Gulf states may welcome the opportunity to diversify their strategic, energy, and trade relationships with the growing presence of the Asian players, only the U.S. can provide the military and strategic umbrella to protect them in this very volatile region and provide the strategic naval and air power projection to protect vital tanker routes and chokepoints like the Straits of Hormuz. From this perspective, it seems unlikely that the U.S. will see a wholesale challenge to its traditional military hegemony in the Persian Gulf.

However, conflicting visions among China and India, on the one hand, and the U.S. on the other, over the conditions that are conducive to long-term stability in the Gulf and Middle East are likely to introduce a more complex and challenging situation for the U.S. One telling example is the willingness of both China and India to become deeply engaged with Iran in energy and broader economic and diplomatic ties despite the U.S. embargo and the U.S. contention that Iran is a major source of regional terrorism, nuclear weapons development, and a threat to its neighbors. China has seen it in its interest to be a major arms supplier to Iran consistently over the past decade, frequently including potentially very destabilizing missile sales, much to the chagrin of the U.S. Neither has supported the U.S. war in Iraq, which was strongly opposed by China. Depending on how the Iraq post-war transition goes, there may be new and potentially divisive issues regarding how to deal with an unstable and potentially fractured Iraq as China and India step up their efforts to access Iraqi oil supplies. Asia has not been particularly supportive of U. S. policy on the Palestinian-Israeli conflict historically. So, as the Sino-Indian-Middle East nexus grows rapidly over the next two decades, it seems inevitable that the range of potentially significant disagreements over how to ensure the stability of the Gulf region will grow and with it will grow the complications for U.S. policy in the region.

There is a potential for some of the same issues regarding U.S. energy diplomacy and influence in the Caspian Sea/Central Asia region but they do not look to be as pointed at as is the case in the Persian Gulf. In many ways, U.S., Chinese, and Indian energy interests in the region converge somewhat more closely. The U.S. has reason to support pipeline proposals to move Central Asian oil and gas to China and India to promote the Eurasian states' independence from Russian control and to promote regional energy cooperation. The one potential source of problems from this perspective is the U.S. effort to isolate Iran. The most commercially viable means to get Caspian and Central Asian oil and natural gas to India and the rest of Asia is by pipeline south through Iran. For both China and India, Central Asian/Caspian oil represents a potentially important alternative to Persian Gulf oil, whether it moves by pipeline or by tanker. In fact, China has already been instrumental in building pipeline infrastructure that

currently allows oil swaps to occur between Turkmenistan and Iran that effectively allow exports through Iran. U.S. opposition to Indian proposals for a major natural gas pipeline from Iran across Pakistan to India is already a source of friction in U.S.-Indian relations. Similarly, Indian proposals to build a gas pipeline from Burma to India would create problems for U.S. efforts to isolate Burma.

China is concerned about the increased U.S. presence and power in Central and South-Central Asia in the wake of the Afghan war because it aggravates their broader worries about security along a key border region in Central Asia. This is part of the thrust behind the Shanghai Cooperation Organization to re-organize its security space to the west in the post-Cold War era. Clearly China desires to get the U.S. to leave the region as soon as possible but it is not clear how and whether this could affect their policies toward energy development in the region.

Another set of future issues are related to how growing energy ties with China and India could feed Russia's re-emergence as a major player in Northeast Asian geopolitics. On the one hand, there is a strong argument that development of an extensive regional network of oil and gas pipelines and energy trade linking Russia with the major powers in the region could expand all the players interests in broader regional cooperation and stability. It could also help support Russian economic development in this thinly populated part of Russia and reduce the Kremlin's fears of eastern Russia being overrun by dynamic economic and trade forces and population momentum emanating from China. However, the Kremlin also is trying to use energy as a key instrument of diplomacy and influence with China and India. The impact of Russia's growing energy role will depend heavily on how Russia, China, and India manage their energy ties, either fueling competition or cooperation.

Another area of concern involves a range of impacts of China and India's booming oil demand as well as the impact of their implied strategy of "locking up" national control of certain oil supplies to fuel their own economies, in effect, "taking oil off the market". Both countries clearly aim to lock up their own national oil supplies with many of their investments in places like Sudan and this practice is likely to contribute to higher oil prices and price volatility by reducing global market flexibility to handle tight markets, shortages, and supply disruptions. The recent controversy over CNOOC's bid to acquire Unocal is partly driven by concerns among many U.S. politicians that China is attempting to "steal" U.S. oil supplies to send to China. Secondly, many in the U.S. feel that China and India are "competing" in open global oil markets with the U.S. for scarce global oil supplies and driving up world prices. Nevertheless, the fact is that growing U.S. demand for imported oil has been as important in driving global prices as China or India. A more important problem revolves around Asia's lack the regional institutions to manage supply crises on a regional cooperative basis and key buyers in the region are prone to panic buying during crises, fueling market instability. Both China and India were key factors in panic buying globally in the run-up to the Iraq war in January and February of 2003. The lack of effective demand

policies or policies to manage supply disruptions makes the combined demand impact of the two a growing potential source of instability in global oil markets.

It is also quite apparent that China and India's growing consumption of coal and the air quality impact of booming transportation consumption have grave environmental implications regionally in terms of air quality and health, and globally in terms of raising the risks that carbon emissions could be fueling global warming. Concerns over long-term global carbon emissions simply cannot be effectively addressed without greater involvement from China and India. This needs to be addressed both on the demand side, by slowing the rise in electricity demand growth in Asia, as well as improvements in clean coal technology and government policies regarding the preparation, handling, and transportation of coal.

A final serious and obvious area for concern is the growing role for nuclear energy in both China and India and the resulting risks of nuclear proliferation and safety problems. This will create strong pressures for improving the global regime to contain proliferation pressures and research on improving safety and disposal technology. The recent agreement between the U.S. and India on nuclear technology and proliferation shows the importance of these issues. As in the case of coal, there is vital need to improve electricity demand side and pricing reforms to slow the rate of growth in electricity demand.

## **POLICY RECOMMENDATIONS**

China and India's growing energy insecurity has broad ramifications for the region and for the U.S. across a wide range of geopolitical, energy, and environmental issues. There is a high degree of inter-connectedness between energy and these other issues. Booming energy demand is likely to deeply impact the roles of China and India in Asia and globally.

There are several general policy areas that U.S. policymakers need to begin thinking about. First, U.S. policymakers need to step up efforts to help both China and India improve energy efficiency and slow the rise in consumption which is driving their insecurity. Each government needs to be engaged at the highest level on the importance of managing energy demand to reduce the near panic emphasis on acquiring global supplies that is likely to be the source of serious future geopolitical problems. Second, the U.S. needs to look for ways to bring China and India into the global emergency oil sharing system currently dominated by the IEA, which, since it can only include members of the OECD, by definition excludes them. Both China and India feel excluded from these global energy management institutions and this aggravates their zero-sum view of global energy trade and politics. This again requires senior policy level engagement. China is presently beginning to build its own strategic oil reserves in four locations along the eastern coast. India has announced plans to do the same. But it is vital that their efforts to build and use strategic reserves be coordinated with IEA and western strategic reserves to maximize their effectiveness during any supply crisis. At a minimum, the U.S. should be encouraging

some form of regional Asian oil sharing mechanism. Third, the U.S. needs to aggressively seek ways to encourage building regional energy cooperation institutions in Asia that would include China and India in order to facilitate multinational energy projects and encourage cooperation and markets over competition and mercantilism. APEC is not an effective forum for this; it is too large and heterogeneous and India is not a member. Nor is the ASEAN Regional Forum (ARF) likely to be effective in this regard. New institutions need to be built, but without U.S. involvement, the risks are rising that nationalistic competition for energy supplies and naval control over transit routes could lead to serious political and military tensions among Asia's key powers, especially China and India. Fourth, related to the issue of cooperation, U.S. policymakers need to find ways to discourage China and India from seeking to "lock-up" global equity oil supplies in a futile, mercantilist effort to monopolize those supplies for their own economies, i.e. "take oil off the market". Global oil markets and long-term supply contracts can provide as much security as any equity oil supplies, i.e. markets work. At the same time, the U.S. cannot preach markets convincingly while at the same time blocking CNOOC's possible acquisition Unocal in what is largely a market-driven transaction. Fifth, U.S. policymakers need to begin planning for managing and channeling China and India's growing diplomatic and economic influence in the world's key energy exporting regions, most importantly the Persian Gulf and Middle East. A dialogue on forging some consensus on the fundamentals of stability in these key regions is vital to avoiding problems in the future. Sixth, the U.S. needs to become more active in helping both China and India find alternatives to rising coal consumption to meet their electricity needs. There needs to be strong U.S. support for clean-coal technology development and the transfer of this technology to China and India to burn coal more efficiently and cleanly. Moreover, assistance in developing natural gas-fired power generation and safe nuclear generation are vital in the electricity equation.

Asia's booming energy consumption will be the driver for a number of interrelated energy, environmental, and diplomatic challenges in the future for the U.S. It is vital that U.S. policymakers at the highest level begin to engage China and India on these issues and seek creative ways to avoid a growing set of looming challenges outlined here.