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COMMITTEE ON FOREIGN RELATIONS**

**“The Emergence of China Throughout Asia:
Security and Economic Consequences for the U.S.”**

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Testimony

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Senator Murkowski, Members of the Committee, thank you for this opportunity to appear before the Committee today to discuss China's energy situation and the implications for Asia and the U.S. It is an honor to be here.

If I may, a few words about my organization may be helpful. The National Bureau of Asian Research (NBR), is a nonprofit, nonpartisan research institution dedicated to informing and strengthening policy in the Asia-Pacific. NBR conducts advanced research on security and globalization issues, with emphasis on those of interest to the United States. Drawing upon an extensive network of the world's leading specialists and leveraging the latest technology, NBR bridges the academic, business, and policy arenas. The institution disseminates its research through briefings, publications, conferences, congressional testimony, and email fora, and by collaborating with leading institutions worldwide. I direct NBR's Asian Energy Security Program which focuses on the future geopolitical, economic, energy market, and environmental issues raised by Asia's rapidly growing energy consumption, growing dependence on imported energy, and growing reliance on fuels sources which raise other serious problems, such as coal and nuclear energy.

We believe at NBR that the issues emanating from China's growing energy needs are so important that we are organizing a small, invitation only conference for this September here in Washington, D.C., entitled "China's Search for Energy Security and Implications for the U.S." We will have some of the top energy and geopolitical experts in attendance to discuss a wide range of issues, including the outlook for China's energy needs and energy imports, it's emerging and active energy security strategy, the implications for Asia, and the implications for the U.S.

Energy has become central factor in shaping China's deepening engagement and diplomatic strategy in Asia and this is virtually certain to grow rapidly in the future. Moreover, energy has become a central factor in shaping China's global geopolitical and diplomatic architecture in key oil and gas exporting countries and regions, such as the Persian Gulf, Central Asia, Russia, Africa, and, more recently, the Western Hemisphere. China is on a path to becoming a major player in the geopolitics of global energy.

Given the range of vital U.S. political, economic, and energy interests in the Asia region and in the world's key energy exporting regions, China's energy drive will undoubtedly have important implications for the U.S. However, at this point, it is not clear to what extent energy, on balance, will become a source of friction and tension in U.S.-China relations or, alternatively, a source of future cooperation. This will be determined both by China's policies on securing its energy security as well as on U.S. policies in response. And it will also depend heavily on the overall "tenor" of the U.S.-China relationship in the future, whether overall relations are largely cooperative and constructive or, alternatively, competitive and contentious. Nor is it pre-ordained that energy will be a source of conflict in Asia, although present trends are clearly worrisome. This too depends on both China's policies and actions in Asia towards securing its future energy needs, as well as the policies and responses of other key states in Asia, most importantly Japan, Russia, and South Korea. And it will depend on whether Asia manages the rise of China in a peaceful and constructive way or China's rise is disruptive and destabilizing. At present, energy nationalism is on the rise in Asia with ominous implications for Asia's future. In sum, energy and strategic relations in the region are becoming increasingly intertwined in the wake of Asia and China's booming energy demand and growing reliance on imported energy.

The Roots of China's Energy Dilemma

First, it's important to understand the underlying context for China's growing impact on energy markets and geopolitics. China is now the second largest energy consumer in the world, after the U.S. Booming energy demand growth is a reflection of its two-plus decades of rapid economic and trade growth, urbanization, population growth, and rising per-capita incomes. In this it is no different than the rest of developing Asia which is also experiencing a period of extraordinary energy demand growth reflecting its rapid economic growth and industrialization. The primary difference is simply the sheer scale of China's energy demand due to the size of its economy and population and the peculiarities of China's domestic energy supply base.

Rapid demand growth is reflected across the fuel spectrum including oil, natural gas, electricity, coal, nuclear and hydroelectric resources. Large domestic supplies of coal have dominated domestic energy use and coal continues to account for two-thirds of

total energy consumption. However, rapid economic growth has accelerated the pace of 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 its efforts to secure energy supplies in Asia and globally.

Oil is a special concern. Oil demand is rapidly outrunning China's domestic oil resources leading to rising oil imports which have surged over the past several years. China has been Asia's largest oil producer since the mid-1960s, in recent years producing roughly 3.5 million barrels per day (MMBD). However, oil demand accelerated during the economic boom of the 1980s and early 1990s while oil production lagged. Demand doubled between 1984 and 1995 from 1.7 million barrels per day (MMBD) to 3.4 MMBD and has doubled again to 6.8 MMBD in 2005. China became a net importer in 1993 and by 2003 it surpassed Japan to become the world's second largest oil consumer behind the U.S and is now the third largest oil importer behind the U.S. and Japan. China now imports more than 40% of its total oil needs.

China's leadership has responded with both energetic domestic reforms and aggressive global energy security policies. Domestically, efforts are underway to maintain production in the traditional northeastern oilfields while boosting production in western China where prospects for growing production are better, the so-called "stabilize the East, develop the West" policy. Offshore oil development also has been a high priority in both the South China Sea and East China Sea, although with relatively modest results. The domestic oil industry also has been repeatedly restructured to try to boost competition and efficiency and oil pricing has been brought more closely in line with global and regional oil markets.

Nevertheless, domestic oil production is unlikely to rise significantly in the foreseeable future while there is a widely held consensus among energy forecasters that oil demand, and therefore imports, are very likely to continue growing relentlessly. The IEA forecasts that China's oil imports will rise more than five-fold by 2030, from slightly under 2 MMBD in 2002 to nearly 11 MMBD, when imports will account for 80% of China's total oil needs.¹ The leadership now faces the long-term realization that oil import dependence is unavoidable and will grow. Moreover, as in the rest of Asia, China

¹ International Energy Agency, World Energy Outlook, 2004, OECD, Paris.

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. The East-West Center forecasts 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 by tanker.

Electricity demand has also accelerated in recent years forcing the government to scramble to find fuels to generate more electricity. Rising electricity demand is the key driver behind China's heavy reliance on its largest domestic energy resource, coal. China is the largest producer and consumer of coal in the world and coal accounts for over 80% of electricity generation and accounts for two-thirds of China's total energy use. Coal consumption is expected to double over the 2001-2025 period with truly frightening environmental and health implications. China is also expected to account for one-quarter of the world's CO₂ emissions over that period. Although presently a modest net coal exporter, it is likely to become a net importer of coal as early as 2015.

The electricity demand boom is also driving plans for the largest single country nuclear power building program in the world. China plans to build two large nuclear plants per year over the next 20 years. Extensive hydroelectric development is planned for the future, as well. Policies are also being developed to accelerate the use of renewables, such as solar and wind, but these will only make a small dent in the electricity demand curve even under the most optimistic of forecasts.

China is presently largely self-sufficient in natural gas but this is only because it uses so little: gas represents less than 3% of China's total energy consumption compared with a global average of 23%. However, the government has embarked on an aggressive policy to increase gas use to help replace coal to generate electricity, diversify overall commercial and household energy use, and provide cleaner-burning fuel for environmental needs. Current plans call for gas to make up 8-10% of total energy demand by 2020. The government is accelerating domestic natural gas exploration and development and expanding the national pipeline system to transport more gas from fields in north central and western China to the major cities on or near the east coast. A major 2,500 mile west-east gas pipeline has just recently been completed to move natural gas from the sparsely populated Xinjiang Uyghur Autonomous Region to Shanghai. The

government also is working to develop gas markets by creating more effective regulatory structures and increasingly flexibility in the gas pricing system.

Over the long-run, although gas is an important element of China's overall energy needs and environmental concerns, it also will add to dependence on energy imports in the future. Beyond 2010 demand is likely to begin to outrun domestic production. China's first gas imports will commence in 2007 with the opening of a Liquefied Natural Gas (LNG) import terminal in Guangdong Province, with plans for a string of LNG terminals along China's booming coastal region. The DOE forecasts that imports will account for 40% of China's gas needs by 2025. LNG supplies will come largely from Asia, including Australia, Indonesia, Malaysia, Brunei, and East Timor, but China will also likely rely on a growing volume from the Persian Gulf, including Qatar, Iran, Oman, and probably Yemen. China is also likely to import gas via pipeline from Russia's East Siberian Irkutsk or Sakha regions where a large regional gas pipeline scheme is being planned. Consequently, a significant portion and will have to be transported largely from the same volatile regions as oil imports, namely the Persian Gulf and Russia.

In sum, despite significant efforts to stimulate domestic energy production China faces an inevitable trend toward greater energy import dependence to fuel its dynamic economic growth. Import dependence will be most acute for oil but will become a growing concern over the longer term for natural gas supplies. Moreover, electricity needs are driving China towards fuel choices with serious environmental, safety, and nuclear non-proliferation implications for the region and the U.S.

China's Growing Energy Insecurity

China's rapid economic growth is highly dependent on finding the growing energy supplies needed to fuel this economic "Dragon". The erosion of the ability to rely largely on domestic energy supplies has created a powerful sense of energy insecurity rooted in a deep-seated fear among the leadership that energy supply disruptions and unpredictable price spikes could undermine China's rapid economic growth and job creation. To the leadership, slow economic and job growth raise the real specter of social instability which, in turn, calls into question the continued power and political control of the Communist Party. Hence, there is a visceral and profound connection in the minds of

the leadership between reliable energy supplies, political and economic stability, and continued Party control.

In this context, energy has become a matter of “high politics” of national security and no longer just the “low politics” of domestic energy policy. Energy security is too important to be left entirely to the markets as China’s economic prosperity is increasingly exposed to the risks of global supply disruptions, chronic instability in energy exporting regions, and the vagaries of global energy geopolitics. Energy has become a central concern for Beijing and the global search to secure future energy supplies has taken on great urgency.

The events of 9/11, the Global War on Terrorism, and the wars in Afghanistan and Iraq have heightened this sense of insecurity and vulnerability. First, China is increasingly concerned about the risks of potential terrorist attacks on energy infrastructure and attacks on key maritime transit points like the Straits of Malacca.² More broadly, from China’s perspective, the aggressive U.S. response to the attacks on America risk further destabilizing the Persian Gulf and Central Asia and increasing the risks of supply disruptions, worsening Islamic extremism, and political instability. Moreover, China views the U.S. as a long-term strategic competitor meaning that the deeper extension of U.S. military power and influence in Central Asia and the Persian Gulf aggravates their already significant fears of strategic “encirclement” by the U.S. The U.S. dominates the Persian Gulf, from their point of view, and uses this to maintain control over global oil supplies and geopolitics. The U.S. navy dominates the Sea Lines of Communication (SLOC) in Asia and the Indian Ocean through which a growing share of China’s oil supply will flow in the future. These things aggravates their fears over what they view as U.S. global “hegemony” and increases the sense of vulnerability over oil and gas flows vital to China’s long-term strategic room for maneuver, its economy, and its social stability. Their fears over U.S. control of the sea lanes coalesce most

² 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 15 million barrels of oil per day (MMBD) passed through the Straits of Hormuz, with around 10 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. See “World Oil Transit Chokepoints”, Energy Information Administration, U.S. Department of Energy, April 2004.

clearly in their deep concerns that the U.S. would cut off their oil imports during any confrontation with the U.S. over Taiwan.

A variety of other factors aggravate this sense of insecurity. China has a strong sense of exclusion from the global energy management institutions, such as the IEA, and also sees itself as dependent on global oil markets and a global oil industry that is dominated by the U.S. and the major international oil companies of the industrial countries. Also, high oil prices and a growing fear of long-term global oil supply “scarcity” are feeding this sense of insecurity and the compulsion to try to unilaterally secure its future oil and gas needs in Asia and elsewhere by direct state intervention.

China is responding with a broad range of energy strategies internationally to try to guarantee greater supply security and reduce their vulnerability to potential supply and price shocks. On balance, these efforts reflect a “zero-sum” energy supply strategy which is deeply neo-mercantilist and competitive. It is built on efforts to gain more secure direct national control of overseas oil and gas supplies by taking equity stakes in oil and gas fields, promoting the global expansion of the three national oil companies, CNPC, Sinopec, and CNOOC, and promoting development through state-to-state deals of new oil and gas pipelines to channel supplies directly to China. The government is also employing an active “Energy Diplomacy” by developing broader government-to-government diplomatic, trade, financial, economic aid, and military ties with key exporter governments, promoting energy cross-investments between China and key exporters, and beginning to shape its naval and maritime military strategy to try to protect the SLOCs from the Persian Gulf and through the South China Sea to China. These efforts naturally converge on the Persian Gulf, Central Asia, Russia, Africa, Latin America, and, recently, Canada. For example, the Chinese government has signed “Strategic Energy Alliances” with at least eight countries over the past five years which include a varying mix of energy, trade, aid, and military agreements depending on the case.

Implications for Asia and the U.S

China’s energy security drive is likely to significantly impact Asia and broader global developments in a number of ways which could become of concern to the U.S.

One set of concerns revolves around the growing perception that China’s booming oil demand and oil imports are driving the recent sharp rise in world oil prices

and, by implication, that U.S. oil consumers are paying the price for China's outsized demand growth. While China's oil demand growth, particularly in 2004, when demand rose by 14%, has been a key factor in recent price hikes, it is only one of a number of factors. Even in 2004 China only accounted for roughly 30% of the world's enormous demand growth of 2.8 MMBD, about the average for China's share of global growth over the past decade. From 2000-2004, the growth in China's oil imports has been only slightly larger than the U.S., 1.5 MMBD vs. 1.3 MMBD for the U.S. Oil demand growth has been strong globally since the economic recovery began in mid-2003. In the view of many, the most important factor in today's high oil prices is the lack of increases in global oil production capacity in recent years to meet rising demand. The lack of global spare production capacity is the critical issue. Other issues like the lack of spare capacity in the global refining system are also central to today's high prices.

A corollary to this concern is the widespread notion that the U.S. is increasingly "competing" with China for its oil imports. However, this makes little real sense: the U.S. is no more competing with China for its oil than it is competing with Germany or any other large oil importer. There is only one global oil market and prices and supplies equilibrate every nano-second responding to demand, transportation costs, and quality differentials.

Another aspect of this oil competition issue may be of more concern. One element of China's mercantilist oil strategy is to gain direct state company control over equity oil production in key exporting countries to ship directly to China rather than moving it into the global market, as most international oil companies would do. To the extent China succeeds in the future in turning certain countries into their own personal "gas stations", it risks reducing the flexibility of global oil markets to adjust to sudden supply shocks or demand surges. The industrial world learned during the 1973-74 oil shock that a zero-sum scramble for oil supplies during a crisis simply worsens the problem by reducing market flexibility and efficiency and intensifying national conflicts over supplies. This led to the creation of the IEA to avoid the risks of national competition for supplies that only drive prices higher and accentuate scarcity. U.S. policy since then has focused on promoting diversified sources of oil supplies to flow to the global market, letting the market determine the most efficient allocation of those supplies.

A second set of important concerns over China's energy security strategy revolve around the potential impact on Asian geopolitics and stability. China's increasingly mercantilist strategy to assert control of oil and natural gas supplies and transport routes risks fueling tensions and conflict in a region where the lack of regional institutions to manage conflict is already a major problem and a region which is facing a sensitive transition to accommodate China's rising power over the next two decades. Energy competition is beginning to seriously aggravate existing and, in some cases, deepening rivalries between China and her neighbors. For example, China and Japan are currently locked in long-running and potentially highly combustible diplomatic battles over the routing of a proposed East Siberian oil pipeline that would move oil to Asia, and the ownership of a small offshore natural gas field in the East China Sea between China and Japan. These disputes are combining with other political and diplomatic disputes between the two to sharply worsen the overall state of relations. Nevertheless, this is not just China's problem alone. A virulent form of energy nationalism is taking form in Asia today that threatens to aggravate Asia's underlying national rivalries. Each of the major Asian states, China, Japan, India, South Korea, and increasingly some of the Southeast Asian states, are pursuing a largely mercantilist, nationalistic, competitive approach to securing future energy supplies and transit routes. This is preventing development of more cooperative and market-oriented approaches to the region's common energy security problems. The United States has major strategic and economic stakes in how China responds to its energy insecurity and how this impacts Asian stability and geopolitics.

Another dimension of China's energy insecurity that is of concern to Asia and the U.S. is its impact on China's military and naval strategy. The growing volume of oil that will be flowing to China by tanker through the Indian Ocean and South China Sea appears to be driving efforts to develop naval capabilities and arrangements that would allow it to project its impact well beyond the Taiwan Strait. China has been developing a major submarine capability and potential port access agreements with Pakistan, Bangladesh, Myanmar, and the South China Sea which appear aimed at protecting future Chinese oil tanker routes. In this sense, China's energy insecurity risks aggravating the potential future problem of military maritime competition to control the Sea Lines of Communication in Southeast Asia.

A third area of real concern for the U.S. beyond Asia comes from the fact that energy needs inevitably will propel China to become a major player in the world's key oil and gas exporting regions and in global energy geopolitics. There are a series of issues here. The most immediate concern is China's growing energy investments and alliances with a number of problem states, including Sudan, Iran, Myanmar, Venezuela, and Uzbekistan. In the case of Sudan and Iran, China's involvement is helping to undermine U.S. sanctions (although China is among a number of countries doing so) and is also complicating U.S. efforts in the United Nations. For example, China is the prime roadblock to taking Iran to the Security Council for sanctions over its nuclear program. Efforts to sanction Sudan for its human rights violations in the Darfur region are also stymied by China's opposition. Sudan happens to be China's largest foreign oil investment operation. China is on its way to greater involvement in Myanmar, recently signed a major energy investment deal with Uzbekistan, and has signed a Strategic Energy Alliance with Hugo Chavez and Venezuela.

A second set of issues is likely to arise from what inevitably will be China's greater diplomatic and political involvement in the Persian Gulf and Middle East in the future. China will become a major competitor for political influence in the Persian Gulf and the U.S. will increasingly need to come to grips with growing diplomatic and political ties between the key Gulf states and China, particularly Iran, where China is increasingly active. For their part, the key Gulf states are increasingly turning to growing diplomatic ties with Asia and China as their base of oil exports to Asia grows. Already, nearly two-thirds of the Gulf's oil exports go to Asia and this share will grow. The Gulf states are increasingly looking to balance their ties to the U.S. with ties to China. As the traditionally dominant outside power in the Gulf, the U.S. will find its regional diplomacy becoming even more complex.

Similar issues are likely to arise in relation to Eurasia as China deepens its long-term energy ties with Russia and the energy exporting Central Asian states. China's push to develop the Shanghai Cooperation Organization bringing together the key states of Eurasia is in no small part driven by its desire to forge stronger energy ties and more secure future supplies, particularly from Kazakhstan. China has major oil investments in Kazakhstan and is currently building a large oil pipeline from Kazakhstan to Western China.

China's energy needs, along with the rest of the large Asian oil and gas importers, are also 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. Energy has the potential to strengthen long-term ties between China and Russia. However, this hasn't really happened yet due largely to Russian fears over China's growing regional power and fears that Russia's Far East region may be overrun in the future by Chinese economic power, influence, and population growth. Consequently, despite a series of strategic energy agreements between the two countries, Russia has largely frustrated China's efforts to forge major new energy deals and diplomatic ties. The most obvious case of this was Russia's announcement that it would build the planned East Siberian oil pipeline to the Pacific Coast where it would export oil to Japan and the rest of Asia, rather than live up to its previous agreement with China to build the pipeline to Northeastern China.

A fourth set of concerns over China's growing electricity needs arises from the environmental and nuclear safety and proliferation issues coming from China's rising consumption of coal and its major nuclear energy building program. China's coal consumption is expected to roughly double over the next 15 years. This raises a range of serious environmental and health concerns not just for China but for the region and the U.S. Acid rain from China's coal burning is already a major problem in Northeast Asia causing diplomatic tensions with Japan and South Korea. From the U.S. perspective, there is already evidence of mercury from China's coal burning being drafted by the jetstream all the way to North America. As coal consumption grows, these concerns are likely to rise. Moreover, rising coal consumption along with booming oil consumption will make China the largest source of carbon dioxide emissions globally in the future which raises serious concerns about the effectiveness of any global effort to deal with controlling carbon emissions.

Policy Issues for the U.S.

China's booming energy demand and growing energy insecurity are likely to deeply impact China's role in Asia and globally, with some of these impacts having serious implications for Asia and the U.S.

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 China improve energy efficiency and slow the rise in consumption which is underlying China's insecurity. This needs to proceed at the highest level. Second, the U.S. needs to look for ways to bring China 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 China. This again requires a senior policy level effort. China is presently beginning to build its own strategic oil reserves in four locations along the eastern coast. But it is vital that its efforts to build and use strategic reserves be coordinated with IEA and western strategic reserves to maximize their effectiveness during any supply crisis. Third, the U.S. needs to aggressively seek ways to build regional energy institutions in Asia to facilitate multilateral energy projects and encourage regional cooperation over competition. APEC is not an effective forum for this, nor is the ASEAN Regional Forum (ARF). New institutions need to be built and the U.S. needs to be involved in this. 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. Fourth, U.S. policymakers need to begin planning for managing and channeling China's growing diplomatic and economic influence in the world's key energy exporting regions, most importantly the Persian Gulf and Middle East. Fifth, the U.S. needs to become more active in helping China find alternatives to rising coal consumption to meet its electricity needs and to support technology and investment to help China burn coal more efficiently and cleanly.

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