

WORLD OF PLENTY: ENERGY AS A BINDING FACTOR

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From Daniel Yergin's award winning book "The Prize" to Kent Calder's less notable, but still influential volume "Asia's Deadly Triangle," authors who have tackled the difficult subject of oil have tended to emphasize the competition for scarce resources as the driving force of oil geopolitics, especially where Asia is concerned. Calder warned in his 1997 book, "Expansionist, confrontational strategies, not to mention the acquisition of nuclear weapons, offer some attractive prospects of gain to regional powers, such as preferential access to energy resources and sea lanes in the South China Sea."¹ In an analysis that became common wisdom among China watchers, Calder noted that this strategic rivalry, if unchecked, represents "a recipe for disaster" and will increase the likelihood of conflict in Asia. Author Michael Klare jumped on this bandwagon more recently with his similarly sexily titled book, "Resource Wars." In it, he proclaims, "Clearly it is not possible to explain the dynamics of global security affairs without recognizing the pivotal importance of resource competition."²

But energy markets could just as easily be oversupplied as undersupplied in the coming decades especially if large consuming nations band together on key issues such as environmental protection, energy technological development, demand management and joint stockpiling.³ In this cooperative, innovative world, a more sanguine view is possible of the rapid growth in energy demand expected to come from the rise of the middle classes of Asia.

Asia as a whole appears poised for a period of sustained expansion—with important ramifications for world energy consumption. By 2005, Asia—defined to include the Indian Subcontinent, Southeast Asia, East Asia, Australia and New Zealand but excluding the countries of the former Soviet Union and the Mid East—could consume more energy than Europe. Five years after that, regional energy consumption could top one-third of the global total.

Asia's rapid economic growth, explosive urbanization, its dramatic expansion in the transportation sector, and politically important electrification programs, will have a particularly dramatic effect on Asian consumption of oil and natural gas and the region's dependence on oil supplies from outside the region. Already, at over 19 million barrels per day (b/d), Asia's oil

use exceeds that of the United States. At present, about 60% of this amount must be imported from outside the region. By 2010, total Asian oil consumption could reach 25 million b/d to 30 million b/d - of which 18 million b/d to 24 million b/d will have to be imported from outside the region. China alone can be expected to see its oil imports rise from around 1.5 million b/d currently to between 3 million b/d and 5 million b/d by 2010. It is this latter eventuality that has awakened fears in Tokyo, Seoul and New Delhi about competition or even confrontation over energy supplies and lines of transport.

This quest for fuel will create new economic and strategic challenges as well as alter geopolitical relations. But as will be discussed in this paper, the outcome could be constructive rather than of divisive depending on the policy choices made by the key players in the region and by the United States. It is by no means a foregone conclusion that the nineteenth century pattern of neo-mercantilist competition for territory and diminishing oil reserves need fit analogously with 21st century oil geopolitics. As Robert Manning notes in his book "The Asian Energy Factor," U.S. oil imports grew from 1.8 million b/d in 1960 to 8.8 million b/d more recently "without creating crisis competition with other importers."⁴

However, issues of territory and nationalism loom large as defining issues in Asian inter-state relations and thus, energy security for all concerned must be managed carefully if these other pathologies are not to spread into policy responses in the energy area. This paper will discuss the issues and challenges and offer some suggestions for the policy framework that needs to be developed if energy is to become a bridge between rather than a source of conflict for the major powers.

Asia's Rising Oil Dependence: Imports to Rise

In recent years, Asia has imported about 60% of its oil from outside the region. Local oil exploration trends indicate there may be a widening of this dependence to as high as 80-90% over the next decade or so as regional production fails to post major gains. Asian oil demand averaged around 21 million b/d in the first quarter of 2001 while local oil production totaled only around 7.2 million b/d, leaving a gap of over 13.8 million b/d which was met by imports from the Middle East and Africa.⁵ This is up from a gap of over 11 million b/d in 1998.⁶

¹ Kent E. Calder, *Asia's Deadly Triangle*, Nicholas Brealey Publishing, London 1996

² Michael Klare, *Resource Wars*, Henry Holt & Co, New York 2001

³ Jaffe, Amy Myers and Robert Manning, "The Shocks of a World of Cheap Oil" *Foreign Affairs*, January February 2000, Vol. 79 No. 1 p. 16-29

⁴ Robert A. Manning, *The Asian Energy Factor*, Palgrave, New York 2000

⁵ *Petroleum Intelligence Weekly*, Oil Market Intelligence Database 2001

⁶ *Ibid.*

The potential for continued breakneck growth in oil use in Asia remains great despite recent economic setbacks. As countries like China, Thailand, India and the Philippines achieve higher levels of economic development, the call for oil from to meet the needs of their citizenry will increase exponentially. Instructively, at present, the more developed Asian economies—Japan, South Korea, Taiwan, Hong Kong and Singapore—consume nearly half of the oil used in Asia even though they account for only 7% of the regional population. Oil accounts for about 55% of energy use in these economies.⁷

By contrast, to date, high population countries have relied more heavily on coal supplies. Chinese coal consumption, for example, represents 74% of its energy use while oil accounts for only 20%. Similarly, coal represents nearly 60% of India's energy consumption.⁸ Such proportions will shift as the composition of energy demand changes with economic development.

More than half of the future growth in Asian energy demand is expected to come from the transportation sector where barring a technological breakthrough, increased reliance on oil-related products will be unavoidable. Per capita income increases in countries such as China and India will encourage an increase in automobile ownership, and with it, a corresponding rise in gasoline demand.⁹

On the flip side, expected efficiency gains in the industrial sector through modernization could reduce coal use. Several countries have also begun programs to enhance the use of natural gas. Japan's Ministry of Economy, Trade and Industry (METI), for example, would like to see natural gas use rise from 12% today to 20% by 2020. China has targeted natural gas use to expand from 2% currently up to 10% by 2020.

As Asia develops, oil demand is expected to grow two to three times faster than in the industrialized West, reaching around 29 million b/d by 2010, according to a "business as usual" scenario forecast by the International Energy Agency.¹⁰ The U.S. Department of Energy projects a similar growth path. This may seem fast but in the period from 1970 to 1994, Asian energy demand quadrupled in absolute terms and Asia's staggering growth promoted a 274% increase in the amount of oil used over the 24 year period, versus an average for the rest of the world of 63%.¹¹

The potential for growth in oil use can be dramatically illustrated by developmental comparisons. China's per capita oil consumption is nearly 22 times less than that of the United States and 13 times less than that of South Korea. Per capita electricity use in China is about 5% of the OECD average, and in India just over 3%.¹² Still, the level of energy efficiency in government regulated economies like China and India is meager, leaving some potential for improvements that could temper energy use increases, especially as government subsidized energy prices in countries like India are reformed and conservation rewarded by the marketplace.

Still, when all is said and done, Asian oil use may wind up being higher than these forecasts suggest for the coming decade depending on social preferences and environmental factors. Popular opinion may press policy makers to abandon current heavy reliance on coal resources and plans to expand nuclear power in favor of natural gas and other alternatives. In the case of China, rational price policy might render costly coal transportation to Southern China as non-competitive compared to increased oil use. By the same token, political pressures in the wake of recent nuclear accidents may force Japan to abandon plans to construct 20 new nuclear power plants to provide an additional 28 GW of the electric power generating capacity.¹³ Should Japan need to generate an equivalent amount of electricity using oil-fired plants, Japanese oil use would rise by an additional 1.17 million b/d not reflected in current IEA or other forecasts for Asian oil demand.¹⁴

While Asian oil use may climb some 6 million b/d to 12 million b/d in the coming decade, regional supplies are not expected to grow in any corresponding fashion. The IEA forecasts Asian oil production to fall to 6.4 million b/d by 2010 from 7.65 million b/d currently while other, more optimistic, analysts expect only modest gains of 1 million b/d or so.¹⁵

Differences reflect mainly views about the future potential of production capacity in China, which represents almost half of the current regional output. In 2001, despite high international oil prices, Chinese oil production averaged 1.4% less in the first quarter of 2001, compared to the previous year. This trend is unlikely to be reversed given ineffective price reform, unfavorable geological factors and the general rigidity of the state oil sector and capital constraints within China's

⁷ BP-Amoco statistical bulletin

⁸ Energy Information Administration Internet web site, U.S. Department of Energy, *Country Reports*, Washington DC, 1999.

⁹ Medlock, Kenneth and Ron Soligo. 1999. "The Composition and Growth in Energy Supply in China." Houston: The Baker Institute for Public Policy.

¹⁰ IEA. 1998. *World Energy Outlook*, Paris.

¹¹ The Royal Institute of International Affairs. 1996. "Northeast Asian Energy in a Global Context," p. 11, London.

¹² IEA, *ibid*.

¹³ MacDonald, Julie A. and Wimbush, S. Enders, 1999. "Energy Strategies and Military Strategies in Asia" Maclean: Hicks & Associates. p. 9-15

¹⁴ Author's calculations

¹⁵ Jaffe, Amy and Ronald Soligo. 1999. "China's Growing Energy Dependence: The Costs and Policy Implications of Supply Alternatives." Houston: Baker Institute for Public Policy.

major industries.¹⁶

Even were China miraculously to reorganize its investment codes and oil businesses, foreign investors are generally skeptical of the economic and geologic potential of China's oil resources. Recently, there have been some exploration successes by foreign oil companies in China's offshore at Bohai Bay and the CACT consortium, comprising Italy's Eni, Chevron and Texaco and China's state-owned CNOOC, has announced a new oil find in the South China Sea.¹⁷ China's Western Tarim Basin is thought to hold some potential but its high-cost, hostile terrain and great distance from national infrastructure and coastal demand centers renders commercial exploitation among the more difficult and expensive in the world. Middle East oil prices must remain consistently above \$15 a barrel before Tarim Basin shipments to the coast would be competitive with alternative world supplies.¹⁸

The outlook for oil production increases elsewhere in Asia is not much more optimistic. Indonesia has seen proven reserves decline 14% to 5 billion barrels since 1994.¹⁹ However, much of the country has remains unexplored, and it will be possible for Indonesia to boost production once more by inviting oil companies to explore for oil offshore and in the eastern section. Favorable investment terms will be needed to encourage the use of advanced technology to forestall production declines in the main onshore production regions in Western Indonesia, much as such technology has arrested declines in oil fields in the North Sea. Two fields found in 1998 in the East Kalimantan region (West Seno and Merah Besar) are thought to hold more than 1 billion barrels of oil liquids.²⁰ Caltex's proposed plans to add enhanced oil recovery operations at the key Minas field could also add 100,000 b/d of production and slow the impact of the field's natural output decline.²¹ However, political instability hangs over efforts to enhance investment in the country's energy sector.²²

Other producers in the region such as Papua New Guinea and Vietnam are thought to have more modest potential for expansion while Malaysia's output is expected to begin declining by 2005. Already Malaysia's reserve base has started to decline—currently below 4 billion barrels.²³ Malaysia reduced its petroleum tax in 1997 but exploration is undertaken mainly by smaller independent oil companies. For its part, state firm Petronas has embarked on an ambitious international exploration campaign that has involved risky invest-

ments in countries isolated and targeted by U.S. economic sanctions such as Burma, Sudan, and Iran.

Several frontier areas with some exploration potential remain to be exploited in Asia such as Eastern Indonesia, onshore India, coastal Vietnam, and Cambodia where land mines have until recently thwarted activity. Vietnam's proven reserves stand at only 600 million barrels but further exploration is expected to yield another several billion barrels.²⁴ Vietnam would like to increase its oil and gas production substantially and has initiated a new, more attractive law governing foreign oil operations.²⁵

Despite some areas of limited promise, Asia's geology has to date not lent itself to many elephant size oil basin discoveries. In fact, over the last decade or more, over two-thirds of hydrocarbons found in Asia have been natural gas deposits. Some of this gas, such as deposits in Natuna, Burma and Bangladesh, have faced development hurdles due to technical problems (in Natuna's case, the field's high CO₂ content), political obstacles and lack of infrastructure or well-developed markets.

Oil Geopolitics in Asia

The relatively pessimistic outlook for major expansion in local Asian oil supply sources has led many large consuming countries in the region to bring oil import policies to greater prominence among national strategic concerns. Analysts are predicting an "inexorable trend" of "growing Asian oil dependence on the Middle East and vice versa."²⁶ Already, over 60% of Middle East exports go to Asia and nearly 70% of all Asian oil imports come from Middle East producers. Some 84% of all crude oil refined in Singapore is Middle Eastern, while 78% of crude processed in Japan comes from that region.²⁷ The International Energy Agency projects that the Asia Pacific will be importing 20 to 24 million b/d from the Middle East by 2020. The net result of this oil linkage may be a corresponding network of interlocking economic and political relations.

Such new, more complex relationships are already emerging and include cross investments where Asians would invest in upstream oil and gas sectors in Persian Gulf countries and major Middle East oil producers invest in downstream facilities in Asia. They also include cooperation in other spheres such as military trade and diplomatic initiatives.

Several Asian oil companies have invested in oil

¹⁶ Lewis, Steven. 1999. "Privatizing China's State-Owned Oil Companies." Houston: Baker Institute for Public Policy.

¹⁷ *Petroleum Argus Newsletter*, June 18, 2001, p. 10

¹⁸ Soligo, Jaffe, 1999, *ibid.*

¹⁹ Energy Information Administration, *ibid.*

²⁰ Data provided by Asia Pacific Consulting Co.

²¹ Authors assessments based on interviews with oil company executives, December 1999.

²² Asia Pacific E&P *slow*, *Offshore Magazine*, May 2001, p. 46

²³ Energy Information Administration, *ibid.*

²⁴ *Ibid.*

²⁵ Authors discussions with industry executives

²⁶ Manning, *The Asian Energy Factor*, *op cit*, p. 74

²⁷ *Ibid.*

fields in the Persian Gulf. Japan had led the way to investments in the Middle East oil sector over the past several decades with investments in oil fields in Abu Dhabi and the Saudi-Kuwaiti Neutral Zone, Oman and Qatar LNG projects.²⁸ Most recently, following the expiration of its upstream arrangement in Saudi Arabia's neutral zone, Japan has been courting Iran. Its Silk Road Petroleum consortium which comprises Japanese companies including Japex, JNOC, Inpex, and Tomen, is in the process of submitting proposals for the development of Iran's large Azadegan field.²⁹

Malaysia's Petronas in a joint venture with European firms is developing the South Pars gas field in Iran as well as other oil fields in Iran and Yemen. South Korea has also invested in LNG businesses in Qatar.

More recently, China and India are stepping out to do the same. Both countries put down a marker for Iraqi and Iranian oil fields that might open to foreign investment—the former when UN economic sanctions are eased. India has investigated investing in the Tuba oil field in Iraq, while CNPC has staked out turf in both Iran and Iraq. CNPC has on the books a \$1.2 billion commitment to develop the al-Ahdab oil field in southern Iraq. CNPC has also signed a memorandum of understanding with Iran's National Iranian Oil Company to explore for offshore reserves in Iran, China and elsewhere. So far, however, United Nations sanctions and lack of hard currency have prevented CNPC from doing either.

On the flip side, several Middle East producers have sought refining assets in Asia, in an effort to solidify relations and ensure markets for their oil. In 1991, Saudi Aramco bought a 35% stake in Ssangyong Oil Refining Co., the third largest oil refiner in South Korea, for \$470 million. Saudi Aramco also purchased a 40% stake in Petron, a major Philippines refiner in 1995 and has been negotiating with China about an investment in a refinery in Fujian province.³⁰

The trend of new oil cross connections is most dramatically demonstrated in the new policies of China where the government has encouraged its state oil companies to become more outward looking in their orientation in an effort to diversify and identify secure supplies of oil and gas. In 1986, China's State Planning Commission, acknowledging that its domestic oil industry could not maintain oil self-sufficiency in light of the country's growing energy demand, officially gave the go-ahead to allow foreign crude imports. However, it

wasn't until 1993 that China became a net oil importer for the first time. Import rates have risen slowly over time and today, China's oil imports currently average around 1.5 to 1.7 million b/d. They are expected to grow to between 2.0 million b/d and 4 million b/d over the next ten years.³¹

In 1996, facing this trend of rising demand for oil and flagging domestic oil production, China unveiled a plan to attain around a third of its energy needs through international exploration and acquisition activities.³² In 1997, state China National Petroleum Corp. (CNPC) grabbed the spotlight by outbidding the international majors for oil fields and exploration acreage in Venezuela, Sudan, southern Iraq (on hold until United Nations sanctions are lifted), Iran and Kazakhstan where it committed to spend \$4.3 billion to buy a 60% stake in Aktybinskmunai production association and the Uzen oil field.³³ The Kazakh purchase was considered the most interesting of the investments since it opened the possibility that China could import oil over land by long distance pipeline as a means to hedge against disruptions of more distant Middle East oil supplies or against any upheaval in international sea lanes, particularly the choke points of South Asian sea lanes.

Gaye Christofferson offers an explanation of this policy which she says was designed to provide stable oil imports and develop economic zones around China. "China's strategy for Central Asia and the Asia Pacific has not been formulated unilaterally but rather in consultation with countries in each of these regions. This strategy involves the formation of natural economic territories that transcend borders, extending from China's domestic economy into surrounding countries. Called the Northwest Economic Circle and the Northeast Economic Circle, they open up inner border areas to international trade, with the hope that the interior will gain the same benefits as the coastal region. Oil and gas pipelines are the sinews that integrate and link these natural economic territories."³⁴

China is also said to view its activities in Central Asia as a potential land bridge to the Persian Gulf whose waterborne oil supplies are now patrolled and protected by the U.S. Navy.³⁵

Still, despite the strategic benefits, China is faced with the same endemic problems that have prevented the building of significant pipelines proposed by other countries and consortiums in Central Asia. Not only are the economics of the pipelines tenuous, mainly due to

²⁸ "Special Report: Japan and the Middle East." *Middle East Economic Digest*. 1997, November 28, 1997.

²⁹ *Petroleum Argus*, June 18, 2001, p. 4.

³⁰ *Petroleum Intelligence Weekly*, various issues

³¹ Ronald Soligo and Amy Myers Jaffe, "China's Growing Energy Dependence: The Costs and Policy Implications of Supply Alternatives," Baker Institute Working Paper, April 1999, www.bakerinstitute.org

³² *Petroleum Intelligence Weekly*, "China's CNPC Leaps on to Global Oil Production Stage," June 9, 1997, p. 3.

³³ see Christoffersen, Gaye, "China's Intentions for Russian and Central Asian Oil and Gas" 1998. *National Bureau of Asian Research Analysis*. Vol. 9, no. 2.

³⁴ For detailed discussion of CNPC's strategy, see Christoffersen, Gaye, "China's Intentions for Russian and Central Asian Oil and Gas" 1998. *National Bureau of Asian Research Analysis*. Vol. 9 No. 2

³⁵ Xiaojie Xu, "The Oil and Gas Links Between Central Asia and China: A Geopolitical Perspective," *OPEC Review*, March 1999.

the lack of proved reserves in the region, there are also matters of ethnic and social unrest in almost all of the newly formed states. This regional instability has made it difficult to find investors willing to commit to building the infrastructure essential for transporting the energy resources to market.³⁶

Obstacles aside, China will still have to weigh the security benefits of on-land routes against the economy of sea-borne shipments. International oil prices must exceed \$14-16 a barrel for overland pipeline shipments from China's Tarim Basin and Kazakhstan to compete with waterborne imports from the Persian Gulf.³⁷ For Kazakh crude, the equation is more complicated. The 7,200 kilometer pipeline that has been proposed to cross Kazakhstan and China would imply a per barrel transport cost of \$4.90 while costs for shipments via Iran are calculated at around \$3.00/b, both excluding export tariffs and right of way costs. In the case of a Bosphorus route to Europe, these transport costs are generally higher than transportation costs for Kazakh oil to Europe, implying that Kazakhstan producers would need a considerable subsidy before they would shift oil from the more profitable Mediterranean market to the Chinese market. This will be true despite the fact that Asian oil markets generally carry a price premium to Mediterranean prices.

Only in the case of the Baku-Ceyhan route vs. an Iranian route, would the existence of an Asian price premium mean that Kazakh producers could earn more profits selling their oil to China via Iran.³⁸ In the case of an expensive overland route from Kazakhstan to China, the cost disadvantage would have to be overcome through support from the Chinese government since this option would be the least profitable of any export route that might be available to Kazakh oil producers. The issue for policy makers in China will be whether the security benefits of this diversification are worth the cost in terms of higher total oil import costs.

China, as well as neighboring Japan, has also looked to Russia as a possible means to diversify oil and gas supply, raising the possibility of altered big power relationships on the world stage, but Russia's major resources, located in Western Siberia, are quite distant from consuming regions in China or Japan.³⁹ However, some potential for energy trade exists for the resources

of Russia's Sakhalin Islands which at present are estimated to contain 4.5 trillion cubic meters of natural gas and 4 to 5 billion barrels of oil. Oil from two projects there is already flowing. And, Sakhalin's natural gas will become an increasingly attractive source of clean energy, especially as political and economic constraints stymie any expansion of Japan's nuclear power industry.⁴⁰

Scattered natural gas resources of the Irkutsk have been mooted as a possible pipeline supply source to Northern China but commercial problems abound for this project. These problems range from the usual high transport costs to questions of reservoir size and quality of the targeted Kovyktinskoye field.⁴¹ Yukos, one of Russia's largest oil companies, has been negotiating with the Chinese government about building a pipeline connecting eastern Siberian oil fields to China, but the \$4 billion project has so far foundered over financing and Russian demands for a long term oil purchase commitment.⁴² Analysts argue that strategic energy cooperation of this sort will require a pragmatic and strong-willed joint effort as well as a clear means to overcome the shortage of capital.⁴³ Participation of international organizations and regional forums such as the Asian Development Bank, the IBRD, UNDP, and APEC will be important for the implementation of these programs.⁴⁴

The export of Russian oil and gas resources to East Asia has several geopolitical advantages for the countries of Northeast Asia. For Russia, it is an important engine of economic development in the country's Far East and a means to improve its relations with both China and Japan.⁴⁵ Bilateral energy trade opens up the possibility of Japanese and South Korean investment capital and technology for Russia's ailing oil and gas sector and its poor northeastern communities.⁴⁶ At the same time, Japan seeks better relations with Russia both to balance China and to reduce its dependency on Middle East oil and gas. As energy diplomacy has improved, Tokyo has lowered the heat on the territorial dispute over the Kuril Islands, seized by the Soviet Union at the end of the World War II. Russian Far East energy supplies also allow China to diversify its oil imports away from seaborne supplies from the Middle East that Beijing fears could be blocked by the U.S. Navy, and bring China closer to Russia in a possible

³⁶ Menon, Rajan. 1998. "Treacherous Terrain: The Political and Security Dimensions of Energy Development in the Caspian Sea Zone." *Analysis, the National Bureau of Asian Research*. Volume 9, number 1, p.10.

³⁷ Soligo and Jaffe, op cit

³⁸ Ibid.

³⁹ "East Asia: a New Market for Russian Gas" 1996. *Petroleum Economist*, September, p. 60-62.

⁴⁰ Alan Troner, Russian Far East Natural Gas, *Oil and Gas Journal*, March 5, 2001, p. 68-72 vol. 99, 10.

⁴¹ Sagers, Matthew, Planecon Consulting. Presentation to the Baker Institute Workshop of Northeast Asian Energy Cooperation. Houston. December 14-15, 1999.

⁴² Astrid Wendlandt, "High Politics Help Grease Wheels of Trade" *Financial Times*, April 9, 2001.

⁴³ "Energy Security and Development in Northeast Asia:Prospects for Cooperative Policies" Report of the Workshop held in Nigata December 17-19, 1999, The Economic Research Institute for Northeast Asia

⁴⁴ Ibid.

⁴⁵ Amy Myers Jaffe and Robert Manning, "Russia, Energy and the West," *Survival*, vol. 43, no. 2, Summer 2001, p. 133-152.

⁴⁶ Vladimir Ivanov, "Prospects for Russia's Energy Diplomacy in North-east Asia, Working paper 15, ERINA.

alliance to counterbalance US hegemony in international fora.

Despite the promise of Russian and Central Asian supplies, growing Asian oil dependence on the Persian Gulf and expanding Persian Gulf dependence on the growing consumer markets of Asia will remain the prevailing trend in the coming decade. This trend could have important implications for both the means and methods of Persian Gulf security and for the U.S. naval role in Southwest and East Asia as well as for the potentially explosive linkage of political issues between two turbulent regions.

Ironically, as Asian dependence on the Persian Gulf will expand in the coming years, the U.S. will actually increasingly be able to rely on oil from within the Western Hemisphere and Atlantic Basin. Globalization of the oil market has meant that oil movements are linked more to transport economics than political relations. Oil production increases in Venezuela, Colombia, Canada, Brazil, West Africa and the U.S. deepwater gulf have begun to crowd Persian Gulf oil out of the U.S. market.

This new reality could raise burden-sharing issues regarding the defense of the Persian Gulf, now protected almost single-handedly by the U.S.⁴⁷ It remains unclear how the American public will feel about this shift, especially when the free riders on the U.S. military efforts in the Persian Gulf will not just be traditional U.S. allies, Japan and South Korea, but countries where bilateral relations with the U.S. are more ambiguous—China and India.

China's activities to deepen its oil trading relationships with Iraq and Iran have fueled concerns that Beijing will form oil-for-arms, military-client relationships with these nations. This would mean that a conflict between either of Iraq and Iran and a U.S. ally in the Persian Gulf could draw China into conflict with Western powers.

Ironically, however, China's oil sector may not be able to benefit directly from access to large volumes of oil from Iraq and Iran. Aged and unsophisticated oil refining equipment throughout most of China means that China is limited in the quality of oil it can process. China cannot refine large amounts of most of the lower quality supplies that are produced in Persian Gulf countries such as Iraq, Iran, Saudi Arabia and Kuwait. By 2005, China is only likely to be able to process little more than 1 million b/d of this lower quality Persian Gulf oil, though it will be able to import supplies from Abu Dhabi, Yemen or Oman.⁴⁸

China's rising import requirements will mean that it will become increasingly dependent on the same energy sources and sea borne lanes of transport as the US, Europe, Japan, and other industrialized countries. This could tie its strategic interests more closely with Western interests in the Middle East. While it is true that China will increasingly compete for similar energy

supplies with Japan, South Korea, and India, the possibility that this will lead to increased tensions and conflict is not a foregone conclusion.

In 1990, China, which was then self-sufficient in its oil supplies, abstained when the US mobilized an international coalition to drive Iraqi troops from Kuwait. A future crisis, taking place once China has become a major importer, might have very different reaction from Beijing—one that would put China and the U.S. on the same side in conflict management.

Conclusion: Confrontation or Cooperation?

Will Asia's emerging energy future—marked by greater imports, continued dependence on the Middle East and deregulation—lead to confrontation or cooperation? Today's global energy market has created an array of powerful incentives for cooperation not just within Asia but in key supplying regions like the Middle East and, indeed, globally, through concerted action in institutions such as IEA which is now courting relationships with major oil users like China and India. But even the most superficial reading of history suggests a certain sobriety: this century has been marred by war—from World War I to the war in the Persian Gulf—driven, in whole or in part, by nations' conflicts over resources.

The global market in energy is like all other markets. It assumes norms of behavior, however minimal, backed up by a threat of force, however implicit, should those norms be broached. In this respect, America, through its dominant naval position east of Suez, plays a distinct role in Asia's energy future.

Without a US military might capable both of intervening decisively in the Persian Gulf should a threat to stability arise there and of protecting sea-lanes globally, the chance of a free and open peaceful exchange of energy commerce in Asia dims considerably.

For Japan and South Korea, whatever the domestic political difficulties involved, the geostrategic ramifications of increased energy imports are relatively unproblematic. Both countries are, after all, already major hydrocarbon importers and long-time allies of the United States. Their dependence on U.S. dominance in the Gulf and control of international sea-lanes is already a fact of life. This does not mean that they will eschew opportunities to build relationships with individual Middle East producers or seek cooperation with energy producers within the region, notably Russia. But such approaches will exist within a broader acceptance of the decisive role of the U.S. in ensuring stability in the Persian Gulf and the security of sea-lanes in East Asia.

For China, by contrast, the prospects of reliance on Middle East oil and the U.S. military to protect its access to this oil, will create new problems for its foreign policy.

China's military and particularly naval buildup, though sizeable, is far from sufficient to guarantee East

⁴⁷ For more detailed discussion of the future threats that could bring these burden sharing issues to the fore, read Jaffe, Amy and Manning, Robert, *ibid*.

⁴⁸ Soligo, Jaffe 1999, *ibid*.

Asian sea-lanes, much less protect security in the Persian Gulf.⁴⁹ For the foreseeable future, China is limited in its military roles. Fears that it will disrupt the flow of oil through Asian sea lanes are exaggerated since the wide number of alternative routes make this virtually impossible.⁵⁰ Moreover, any effort to block oil supplies to U.S. allies in East Asia would almost certainly prompt an instantaneous naval response by Washington - one that would put Beijing's own oil imports in peril.

Much has been made of China's arms sales to Iraq and Iran.⁵¹ Baghdad and Tehran clearly see closer relations with China as a way to counterbalance American influence in the Gulf. But Washington's influence in the region remains overwhelming. While Iraq and Iran may look to China as a source of diplomatic support, arms supplies, and potential investment in their energy sectors, all three nations will remain vulnerable to U.S. naval interdiction in a confrontation for the foreseeable future.⁵² China itself appears to recognize the limitations of its Iran/Iraq policy and is pursuing refinery investment and upgrading deals with Saudi Arabia and has given increased attention to high level diplomatic interaction with the kingdom.⁵³

A Chinese policy fostering greater emphasis of supplies within an adjoining region—notably Russia and Kazakhstan—may give China some comfort but it will also be an expensive proposition. Moreover, the question of reliability in a crisis remains open: should oil prices spike because of instability in the Middle East, it is hard to imagine cash-pressed Kazakhstan, for instance, selling oil to Beijing at a discount.

These facts place two important Chinese objectives—the independence of action associated great power status and the economic growth required to sustain its regime's legitimacy—into direct conflict.⁵⁴

The pragmatic realities of interdependence in Asia suggest that the prospects for cooperation on energy could well be brighter than they are for conflict. The policy responses from each player will, in the end, be determinative. Asia can certainly learn a lot from the West's energy insecurity experiences of the 1970s. Rather than compete with each other to garner improved individual access to restrained Middle East oil supply, the members of the NATO alliance and Japan formed the International Energy Agency (IEA) to fund jointly alternative energy research and to develop joint strategies for conservation, stockpiling and research, and

development of alternative energy sources.⁵⁵ The West learned quickly—a lesson that served it well during the 1990 Gulf crisis—that it could minimize the impact of supply disruptions from the Middle East by sharing resources in a coordinated fashion rather than by acting alone, militarily or otherwise.

More generally, common regional activities in the energy arena could foster both the formal structures and informal norms that could lead to broader cooperation in the region. The European Union, we should recall, began as a relatively modest exercise in economic cooperation between Germany and France. To say this is not to suggest any similar drive towards economic, much less political, union will occur in East Asia. But, on the margin, even limited cooperation—if successful—can help create, as it did in Europe, a network of personal relationships and an ethos of consultation among traditionally suspicious governments.

Areas for cooperation on the energy front are multifold. The key Asian consumers can mimic (or possibly join in some fashion) the IEA systems by creating their own joint stockpiling and research organizations (Japan is already jointly pursuing clean coal technologies with China, for example) for a win-win situation. There is room for Northeast Asia to link energy infrastructure to create synergies and market efficiencies as well as improve the cost and access to foreign capital. While political obstacles might be great, the experience of the Western Hemisphere is instructive on the benefits of inter-national natural gas and shared electricity grids in improving access to supplies and lowering energy costs to consumers. Several grids have been proposed in Asia, including natural gas grids linking ASEAN countries, one linking Burma, Bangladesh and India, and another more ambitious scheme that would carry Russian oil and gas to Japan, China and the Koreans. Russia's Irkutsk region is also investigating exporting spare hydroelectric power to Mongolia and Northern China.

Finally, there are also areas of cooperation in the realm of security. Accidents, terrorism and piracy in important sea-lanes constitute threats, real or potential, to all the importing countries of the region.⁵⁶ All three—in addition to the direct financial costs they impose—raise the specter of an environmental disaster that could affect the whole region.⁵⁷ While an outright expansion of security responsibilities might fuel destabilizing naval augmentations, joint agreements on the capture and

⁴⁹ Feigenbaum, Evan, "China's Military Posture and the New Economic Geopolitics," *Survival* (Summer 1999) IISS

⁵⁰ Kohei Hashimoto, Asia's Energy Security and the Role of Japan: A Diplomatic Perspective, Baker Institute working paper, June 2000, available at www.bakerinstitute.org

⁵¹ Bernstein, Richard and Ross Munro. 1997. *The Coming Conflict with China*. p. 7. New York: Vintage Books.

⁵² Feigenbaum, *ibid.*

⁵³ *Petroleum Intelligence Weekly*

⁵⁴ For a fuller discussion, see Barnes, Joe, "Slaying the China Dragon" April 1999, Baker Institute

⁵⁵ Jaffe, Amy and Manning, Robert, *Foreign Affairs*, *ibid.*

⁵⁶ "Oil Piracy Poses Growing Menace to Tanker Traffic in South China Sea," 1999. *Oil and Gas Journal*, (October 18)

⁵⁷ For more detailed discussion, see Noer, John, with David Gregory, "Chokepoints: Maritime Economic Concerns in Southeast Asia," 1996, Washington, DC: National Defense University Press.

prosecution of outlaws and on environmental clean-up and emergency procedures could both provide areas for

confidence building among the regional powers and garner tangible benefits to the security of sea lanes.