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POST SEPTEMBER 11 UPDATE REPORT

POLITICAL, ECONOMIC, SOCIAL, CULTURAL, AND
RELIGIOUS TRENDS IN THE MIDDLE EAST AND THE
GULF AND THEIR IMPACT ON ENERGY SUPPLY,
SECURITY, AND PRICING

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Executive Summary Report

The terrorist attacks on the U.S. on September 11, 2001 are ushering in significant changes in the geopolitical landscape. In particular, the attacks of September 11 and the exigencies of the war on terror have led Washington to reassess its relationships with individual governments and to rethink more general policies, including energy security approaches. The administration of U.S. President George W. Bush is forging new relationships that would have seemed unbelievable prior to September 11, while long-standing ties with certain allies are in question. Events set in motion over the past year are likely to play out over the coming decades and will influence many areas of international discourse, including oil geopolitics.

This study, aimed to update an earlier 1996 study on the Political, Economic, Social, Cultural, and Religious Trends in the Middle East and the Gulf and Their Impact on Energy Supply, Security and Pricing, covers the trends that appear on the horizon for the international oil industry in the aftermath of the September 11 attacks on the U.S. and analyzes the impact altered geopolitics might have on the supply and demand for oil. Even in the first year of the “War on Terror,” sweeping changes have already occurred in the politics of new oil supplies including non-conventional sources. Down the road, the balance of power inside the Organization of Petroleum Exporting Countries (OPEC) is likely to shift as certain key producers expand productive capacity. At the time of this paper’s publication, the question of U.S. military action against Iraq remains open. Clearly, such action would alter the strategic landscape dramatically.

Finally, while the U.S. is charting new waters in its efforts to define its national energy security policies, countries in the Asia Pacific region are examining their changing relations with key oil producing nations in the Middle East as attention is being focused on the role of outside Islamic influence, domestic terrorist activities and possible links to the Al Qaeda network in these Asian countries. As the Asia Pacific region outpaces the rest of the world in energy demand, key consuming countries like China are using politics, trade and investment opportunities and even arms supplies as a means to cultivate energy-supply security links with some Middle East producers. With the Asia Pacific region driven closer to the Middle East to meet its ballooning demand needs, the West has all the more incentive to encourage important economies like China

and India to cooperate with Western consuming nations to coordinate on energy security matters to prevent potentially destabilizing rivalry for supplies.

Ties between major oil consuming nations will have a pivotal influence on whether the world will become increasingly dependent on Middle East oil in the coming decades. If large consuming nations band together on energy policy, the risks of oil supply disruptions can be greatly reduced. But this sort of multinational cooperation among the major powers may be hard to orchestrate given the complexities of geopolitics post-September 11 (see working paper by Jaffe).

Identifying Future U.S. Supply Sources

Saudi Arabian oil production represents roughly 10% of world oil supply. But perhaps more importantly, Saudi Arabia maintains the largest share of world spare oil production capacity of any other nation in the world. The kingdom has a *unique* capacity to replace single handedly, within a short time, the exports of any small to medium oil producing country. No other nation currently has enough spare capacity to claim this role. Saudi Arabia's cushion of spare capacity, which represents almost two-thirds of all global spare capacity, has provided security and stability to world oil markets for two decades (see working paper by Jaffe). Saudi Arabia's willingness to utilize its extra capacity was pivotal in calming oil markets during the Gulf crisis of 1990 and again in recent years when Iraqi oil was withdrawn from the market during disputes between Iraq and the United Nations, which monitors Baghdad's oil sales. The report by the energy task force led by U.S. Vice President Dick Cheney that was released in May 2001 acknowledged the critical role that Saudi Arabia plays as a "linchpin of supply reliability to world oil markets."

The kingdom derives its international clout from this custodial role and is unlikely to relinquish it. The kingdom must worry about market share considerations in the face of rising investment in Russia, Africa, Iran and Canada as well as long-term economic considerations such as sustaining a growing market for its oil. Oil revenues are critical to the health and well being of the Saudi economy. Therefore, Saudi Arabia can ill-afford to jeopardize its position as a reliable

supplier -- a position from which its geopolitical influence and long-term economic interests derive.

For the most part, U.S. international oil policy has relied on maintenance of free access to Middle East Gulf oil and free access for Gulf exports to world markets. The U.S. has forged a special relationship with certain key Middle East exporters who in turn had expressed their interest in stable oil prices and adjusted their oil output to keep prices at levels that would neither discourage global economic growth nor fuel inflation.

But these Gulf allies are finding their domestic and foreign policy interests increasingly at odds with U.S. strategic considerations, especially in light of rising Arab-Israeli tensions and U.S. military intervention against Al Qaeda and other terrorist groups. A continued trend toward anti-Americanism could affect regional leaders' ability to cooperate with the U.S. in the energy area. So far, however, Gulf oil producers are keeping their oil policy on a separate track from diplomatic and political activities surrounding other U.S. policies, the war in Afghanistan and the Arab-Israeli peace process.

From a U.S. policy perspective, efforts to further diversify oil supply are one likely long-term outcome of the September 11th catastrophe. New oil investment projects are being announced in Russia, Canada and elsewhere with an eye to providing alternative supplies to eager Western buyers. But globally, it will be difficult for markets to dilute Saudi Arabia's importance as a key supplier during times of disruption or sudden market tightness. The jury is still out on the long-term outlook for non-OPEC supplies. Demand management technologies or alternative energy supplies also entail lengthy transition periods that do not readily offer quick diversification from overwhelming reliance on Saudi oil.

Diversification efforts will have to recognize that there is no ready alternative to Saudi spare oil productive capacity without a radical change in the politics of investment in Iraq. Even a major positive shift in the commercial attractiveness of investment in Russia and Venezuela, which could have major impact on Saudi market share, has certain limitations in terms of lead-time and costs.

**Post-September 11 Update Report
Political, Economic, Social, Cultural and Religious Trends in the Middle East and
Their Impact on Energy Supply, Security and Pricing**

On the flip side, the growth in U.S. imports remains an important mainstay for Middle East producers who cannot afford to see a loss of export revenues. U.S. net oil imports rose from 6.79 million barrels a day (b/d) in 1991 to 10.2 million b/d in 2000 while global oil trade (that is oil that was exported from one country to another) rose from 32.34 million b/d to 42.67 million b/d. The U.S. share of the increase in global oil trade over the period was a substantial 33%. In OPEC terms, the US import market was even more significant – over 50% of OPEC’s output gains between 1991 and 2000 (see working paper by Jaffe).

In the aftermath of September 11, OPEC will find more competition for a share of this growth. Russia, for example, has made its willingness known to help the West diversify its oil sources to include a growing stream of Russian crude. This issue was even broached at the Moscow summit between Bush and Russian President Vladimir Putin in May 2002 (see working paper by Barnes).

By most standards, Russia is a viable alternative to Saudi Arabia as a guarantor of stability in world oil markets. It is the world’s third largest producer of petroleum (after the U.S. and Saudi Arabia) and the second largest exporter (after Saudi Arabia); it also possesses the potential for major increases in both production and exports.

Russia, a poor country with a dire need for foreign exchange, has a strong incentive to export large volumes of oil at the earliest possible opportunity. Russian firms have already had great success at raising capital on their own to revive the long-stagnant Russian oil industry, with Russian oil production rising by over 640,000 b/d from September 2000 to September 2001. Smaller gains from Russia are expected for 2002 of closer to 300,000 to 350,000 b/d.

Moscow’s political leaders, and leaders from its corporate oil and gas sector, are portraying Russia’s oil firms as stable sources of supply, willing to add output to the market to sustain reasonable prices. The Russian leadership is even considering the idea of building strategic stocks that could be used to calm markets during times of supply crisis or crunches, much the way Saudi Arabia uses its spare capacity and oil storage abroad (see working paper by Barnes).

But, hopes for Russia to displace Saudi Arabia as the key player in international oil markets face high hurdles. Despite genuine progress in reforming the Russian energy sector and encouraging foreign participation, its investment climate remains uncertain, and a number of international energy companies, badly burned in the early 1990s, will be hesitant to return to Russia without guarantees that the business environment in its oil industry has changed in a significant way. Much reform needs to be done, most notably in enacting and effectively implementing rational production sharing and tax regimes.

If concrete plans of Russian oil firms and their Central Asian counterparts come to fruition in the coming years, growing oil exports from the former Soviet Union (FSU) could rise by another 2 million b/d in the next five years and equal those of Saudi Arabia.

This coincidence of U.S. and Russian interests in the energy area is supported by a convergence of other broader interests. In fact, the period after September 11 in many ways marks a sea change in U.S.-Russian relations. Moscow has long been concerned by a perceived “Islamic threat” along its massive Southern border, including Afghanistan. It was therefore prepared to make common cause with the U.S. against the Taliban regime. Moreover, Putin was clearly set on increasing Russian integration with the West, particularly in the economic arena. One issue, however, mars the otherwise positive tone in relations: Russian nuclear and military cooperation with Iran (see working paper by Barnes). The Bush Administration has made it clear that it was concerned about Iran’s efforts to acquire weapons of mass destruction (WMD), and in particular, nuclear capabilities through the Bushehr plant, and Tehran’s support of terrorism. These concerns have dissipated previous optimism that the new U.S. administration would move forward in improving ties to Tehran (see working paper by Barnes).

Even without U.S. pressure on Moscow to reduce its ties to Tehran, it should be noted that Russian-Iranian ties remain problematic on several levels. Iran and Russia are competitors in international oil and regional gas markets, both of which are critical to their respective economies. As a major oil supplier and key OPEC member, Iran is clearly threatened by a significant expansion in Russian oil production. This is true whether increased Russian output

leads to sustained downward pressure on international oil prices or prompts a Saudi decision to punish Russia's non-cooperation on production by engineering a sharp drop in petroleum prices (see working paper by Barnes). Although Moscow had briefly cooperated with OPEC and non-OPEC countries when they engineered production cuts in 1999 and 2000 to restore prices, it has since abandoned any effort to toe the line on restraining output. Iran, despite its great potential, is still suffering from foreign investor malaise in its oil sector.

The two producers face even more direct competition in gas markets. A chief area of direct Iranian-Russian gas export competition is currently in Turkey, but other areas of potential supply rivalry loom on the horizon. Iran plainly sees Turkey as a possible transit route to Europe, threatening Russia's dominant position, and both Russia and Iran are eyeing China as a longer-term market. Conflict is not a given, but as Iran and Russia strive to increase their natural gas exports, competition may lead to strains in their relationship. Certainly the idea -- apparently held by some in Russia -- that Moscow's aid to Tehran's nuclear program will convince Iran to defer to Russia in international gas markets is wide of the mark. If nothing else, Iran's current and planned investments in the South Pars field indicate that Tehran is not just ready but eager to gain international market share, if necessary at Russia's expense (see working paper by Barnes).

While Russian oil may find its way to the U.S. in greater volumes in the coming years and pose a dilemma for Saudi Arabia, the biggest threat for U.S. market share may, in reality, be Canada and West Africa. With the start-up of new tar oil sands projects and other offshore projects, the U.S.' northern neighbor is expected to enjoy the largest jump in oil output in several years. Companies have spent about \$7 billion in oil sands projects since 1996 and are expected to allocate an additional \$25 billion by 2007. Oil sands output, which has already reached 800,000 b/d, could rise to 2 to 2.5 million b/d by 2010 if currently proposed projects meet their targets (see working paper by Jaffe).

The potential for Canadian heavy crude and oil sands development is impressive. Of the 2.5 trillion barrels of crude bitumen (oil sands) resources in place in Canada, about 12% or 300 billion barrels is thought to be recoverable, a figure comparable to the proven reserves of Saudi Arabia. This is in addition to extra heavy oil resources.

Thanks to lower costs as a result of engineering and technological advances, analysts estimate that oil sands projects “all in” costs (investment and operating) could fall to as low as \$6 to \$7 a barrel in the coming years from the current \$8 to \$11, making it more economically painful for OPEC to try to force a slowdown in projects by waging a price war collapse.

African supply may also be the focus of efforts by the West to diversify away from the Middle East. Of the 14.5 million b/d of exports from either Africa or the Middle East that will be needed by 2010 in the Atlantic Basin to fill its supply gap, at least half will be able to be sourced from Africa and North Africa. Angola, a non-OPEC oil producer, is projected to see increased production from 750,000 b/d to over 2 million b/d by 2010 as new fields are developed in its deep offshore at full cycle costs between \$3 to \$5 a barrel.

Already, non-OPEC production gained 2.5% from 44.2 million b/d in January 2001 to 46.7 million b/d in 2002 despite a cut in spending in 1998-1999. The top 200 firms upstream investment Capex rose 20% in 2001 to over \$100 billion. However, the smaller independent drillers are heavily affected by cash flow changes, especially the recent drop in prices of U.S. natural gas, and are expected to reduce upstream spending by 20%-70% depending on the company. This reduction will mainly show up in production rates in the North Sea and North America (see working paper by Jaffe).

Enter OPEC

Although the late 1990s saw cooperation between key non-OPEC and OPEC oil producers, renewed competition for market share is likely to emerge in the next five to ten years. Several OPEC countries have new oil fields coming on line in the next few years, and world economic conditions have created some pessimism about whether oil demand will expand at a high enough pace to absorb the increases in supply in both non-OPEC and OPEC.

In recent years, OPEC has exerted a high degree of cohesion. This cohesion finds its root in several factors. To begin, a rise in freedom of the press and political debate inside many OPEC

**Post-September 11 Update Report
Political, Economic, Social, Cultural and Religious Trends in the Middle East and
Their Impact on Energy Supply, Security and Pricing**

countries is contributing to a greater concern for popular opinion, especially in the Middle East Gulf, than in past years. This new concern for popular sentiment is restricting the options of regional leaders. Short-term economic considerations have been paramount in recent years. In addition, rising populations and economic stagnation in many OPEC countries has meant revenue pressures have to take precedence over other considerations. Finally, lack of investment in infrastructure and oil fields over the years due to tight state treasuries and rising social pressures has greatly curtailed investment in new oil productive capacity in OPEC countries, limiting output potential and thereby rendering it much easier to agree to restrain output.

OPEC currently has a “gentlemen’s agreement” that each member will hold back production capacity to allow the group to defend the \$22 to \$28 oil price and limit competition. OPEC has been helped in this process in recent years by irregularity in Iraqi oil production rates and by a decline in capacity in Venezuela and Kuwait, who have been struggling against technical problems and natural declines in key fields. Venezuelan oil production capacity has fallen from 3.7 million b/d in 1998 to around 2.8 million b/d currently. Kuwait has lost capacity in certain western and northern fields such as Raudhatain, limiting their output by several hundreds of thousands of barrels a day to about 2 million b/d.

However, the challenge to OPEC will increase in the coming years as OPEC member countries begin to anticipate an expected restoration of Iraqi capacity over time. In fact, lobbying inside OPEC has already begun for certain members to legitimize a greater than *pro rata* increase in their own individual oil production-sharing quotas. Several individual OPEC countries have a backlog of new fields coming on line and will be concerned that once Iraqi production begins to rise, demands may be made for them to make cutbacks to defend prices.

Countries whose current quotas reflect low 1999 sustainable capacity rates may want to see the process of reintegrating Iraq coming against a higher individual base quota for themselves. Several countries, such as Nigeria, Algeria and Iran, have been quietly expanding capacity and over time this will mean that this capacity creep will have to be taken into account inside the quota system now based loosely on lower, late-1990s capacity limitations. Some countries such

as Algeria and Nigeria are under additional pressure from IOC upstream investors to allow new fields to move forward at optimum production rates.

Iraq currently has commercial export capacity of around 2.2 million b/d via Turkey and the Gulf, with an additional smuggling capacity through Syria. Were both outlets via Turkey and the 1.6 million b/d Mina Al-Bakr export terminal in the Gulf repaired to their former pre-1990 capacities, Iraq's commercial export capability (not including Syria) would increase to 2.7 million b/d. Iraq has stated a desire to expand its productive capacity to 6 million b/d following the lifting of economic sanctions, and analysts believe Iraq could quickly raise its productive capacity to 3.6 million b/d if Iraq's upstream oil field sector was opened to foreign oil company investment. However, for Iraq to be able to export these higher volumes, extensive repairs will be needed to its export infrastructure. If Iraq is to achieve its stated, long-term 6 million b/d production target, it would have to repair not only the second extension of the existing Iraq-Turkish pipeline system, but also both the Gulf terminals of Mina Al-Bakr and Khor Almaya to their full capacity and also regain access to an export pipeline through Saudi Arabia or build a new pipeline to replace it. The rate of repair or expansion of Iraq's export facilities is likely to be the limiting factor to the rate of Baghdad's supply expansion rather than the oil field investment and development pace.

There will be pressure inside OPEC to bring Iraq back into the production quota system if sanctions against the oil producer are lifted. Key members may insist that Iraq be initially limited to its historical allocation of a quota at parity with that of Iran and then hold its export increases to levels in line with market demand. However, Iraq will have pressing economic reconstruction needs to take into consideration as well, raising questions, depending on the future politics inside the country, as to whether it will be able to opt for policies that emphasize solidarity with OPEC.

OPEC's current capacity is estimated at 29.5 million b/d but could rise to as much as 36.4 million b/d by 2005 if new fields under development come on line as expected. Were OPEC to open itself up to foreign IOC participation, capacity could expand to as much as 44 to 45 million

b/d by 2010, leaving very little room for growth from non-OPEC supplies to take place without pressuring oil prices over the next seven or eight years (see working paper by Jaffe).

Outlets in Asia

OPEC is counting on rising demand in Asia to create new outlets for its rising production. World oil demand is expected to rise at a rate of roughly 2% per annum over the next two decades from about 76.4 million b/d in 2001 to 95.8 million b/d in 2010 and 114.7 million b/d by 2020. During this same period, Asian demand is anticipated to increase from 28% of total world demand to 35%. Already, at over 19 million b/d, Asia's oil consumption exceeds that of the U.S. At present, only about 40% of Asia's oil supplies are produced inside the region.

By 2010, total Asian oil consumption could reach 25 to 30 million b/d -- of which 18 to 24 million b/d will have to be imported from outside the region. Asian oil demand averaged 19.6 million b/d in the first half of 2001, while local oil production totaled only around 5.9 million b/d, leaving a gap of over 13.7 million b/d that was met by imports mainly from the Middle East and, to a lesser extent, Africa. This is up from a gap of over 11 million b/d in 1998.

In recent years, China's oil demand has grown faster than its domestic production. In the last decade, Chinese oil consumption rose from 2.1 million b/d in 1990 to 3.5 million b/d in 1997 and is about 4.6 million b/d currently. China now ranks third in the world for oil products use, after the U.S. and Japan (see working paper by Lewis). China alone can be expected to see its oil imports rise from around 1.5 million b/d currently to 3 to 5 million b/d by 2010. It is understandable that, given Beijing's potential surge in demand, Tokyo, Seoul and New Delhi would be worried about competition for energy supplies and lines of transport in the coming years.

Already, over 60% of Middle East exports go to Asia and nearly 70% of all Asian imports come from Middle East oil producers. Some 84% of all crude oil refined in Singapore comes from the Middle East while 78% processed in Japan originates from that region. The International Energy Agency (IEA) projects that the Asia Pacific region will be importing 20 to 24 million b/d from

the Middle East by 2020. These oil linkages could present new political and strategic challenges in light of the emerging geopolitics of the post-September 11 period. The defense of oil supplies from the Persian Gulf is now protected almost single-handedly by the United States. While it is hard to predict how the U.S. War On Terror will impact this role in the coming decades, expanding oil ties between major Asian powers and Middle East exporters will certainly influence East Asian strategic thinking, especially in relation to regional sea lanes issues. The result is likely to be some alteration in big power relations in East Asia in the coming years that might test traditional ties.

China's Oil Diplomacy

China has realized that its dependence on the Middle East for oil and the flow of petro-dollars to the Middle East make the country's external energy links quite insecure. Beijing, therefore, is seeking a counter flow of foreign exchange dollars back to China through industrial cooperation. Major Middle East oil and condensate exporters are being encouraged to invest in China's lucrative petrochemical market. At the same time, Chinese oil field service companies are seeking contracts in the Middle East region. Libya, Iran, Iraq, and Kuwait are being targeted as major markets for Chinese service firms because of their ambitious plans to increase their oil production capabilities. Saudi Arabia and Egypt are other regional countries where China is pursuing oil diplomacy (see working paper by Xu).

Given its low oil reserve base relative to its production and high domestic oil production operating costs, China has announced a new strategy of "going abroad," to seek direct investments in oil equity in strategic oil regions. So far, state oil firm China National Petroleum Corp. (CNPC) has signed 24 contracts covering exploration, development, marketing and refining in 10 countries. Between 1995-2000, CNPC produced 23.79 million tons of oil and 3 billion cubic meters of natural gas abroad. In 2001, CNPC's overseas oil production totaled 16.23 million tons and gas output hit 1 billion cubic meters. State firms China National Petrochemical Corp. (SINOPEC) and China National Offshore Oil Corp. (CNOOC) have also invested abroad in Iran and Indonesia, respectively (see working paper by Xu).

**Post-September 11 Update Report
Political, Economic, Social, Cultural and Religious Trends in the Middle East and
Their Impact on Energy Supply, Security and Pricing**

The thirst for oil has convinced Beijing of concrete benefits that can be reaped from taking advantage of U.S. sanctions policies. To date, CNPC's greatest success has been in Sudan, which has given CNPC and China an operational base for oil activities in the Middle East and Africa. China's oil industry has also planted its flag in Iraq and Iran and is courting Libya. Beijing will also develop stronger ties with oil power Saudi Arabia, potentially offering Saudi Arabia an expanding alternative market to the U.S. and Japan. The challenge for the U.S. and its allies will be to convince an ambitious, energy hungry China that secure energy supply for all concerned will be dependent on cooperative foreign policy that seeks to minimize geopolitical rivalry and lessen the chances for disruptive armed conflict inside oil production areas (see working paper by Lewis).

The diplomatic groundwork for Sino-Middle East cooperation has been established by several high level visits to key oil producing countries. Chinese President Jiang Zemin signed an oil cooperation agreement in Saudi Arabia in September 1999. President Zemin also made state visits to Libya and Iran in April 2002.

Chinese oil linkages with the Middle East require safe navigation along the sea lanes. Currently, China is not capable of providing security for its sea lane imports given its limited air and offshore forces. In this context, China benefits from the U.S.-led military safety system and the security commitments by Asian countries along the sea lanes and thus, China, the U.S. and others share strategic interests (see working paper by Xu).

But, China's aggressive pursuit of stronger bilateral ties with key oil producers like Iraq, Iran, Saudi Arabia, Sudan, and Libya may well run counter to U.S. interests. These bilateral approaches could easily lead to pressure on Beijing for political concessions and could portend increased demands on China for deliveries of weapons systems to these politically sensitive markets, weakening U.S. leverage in these important regions. In a worst-case scenario, China's activities, if accompanied by increased arms sales and military training, could fuel existing instability in the regions that ironically could hamper the stability of both the West's and China's own oil supplies. For its part, China is worried that the West's strong position in the Middle East could be used to limit Beijing's access to the same supplies were China not to pursue its own

bilateral ties. Chinese officials are thus deeply concerned about what they view as an emerging energy security threat to China's economy posed by the United States (see working paper by Lewis).

To date, political aspects have accompanied China's Middle East deal making activities. Chinese foreign policy officials and commentators refer to the U.S. "rogue state" policy and the war against Iraq as a thinly veiled attempt to gain control of the oil resources of the Persian Gulf. Moreover, Chinese diplomats have aggressively courted the oil states of the Middle East and Africa to recognize the PRC and not Taiwan as the sole legitimate government of China.

It is in U.S. interests to explore ways to convince China to join with other large consuming nations in the event of a major supply disruption rather than Beijing pursuing a go-it-alone bilateral energy relationship with key individual producers. Encouraging Beijing to reduce its vulnerability to an international supply disruption, through the building of a strategic oil reserve whose use could be coordinated with the IEA countries, would reduce the possibility of deleterious competition in tight oil markets and lessen the opportunity for producers to organize an oil supply cutoff to influence political events not related to oil markets (see working papers by Jaffe and Lewis).

A Chinese strategic petroleum reserve would not only reduce Beijing's vulnerability to pressure from foreign oil suppliers but also help all consuming countries by eliminating a major importer's free-riding off other countries' stock releases. The Chinese government seems committed to only the gradual construction of a strategic petroleum reserve of undetermined size and location. The creation of such a stockpile is hampered by disagreement between Party leaders, State Council agencies, National People's Congress deputies and the three central-owned state oil and gas companies. Moreover, China has not expressed any intention to work cooperatively with either its Asian neighbors or Organization for Economic Cooperation and Development (OECD) countries to develop measures to safeguard against disruptions in supplies of oil and refined products from the Middle East.

As the Asia Pacific region outpaces the rest of the world in energy demand growth, key governments in that area are making careful decisions about energy security; in some cases, this has meant forging links with the West and OECD membership, and in other cases, this has meant entering into strategic bilateral relationships with key producer nations, primarily in the Middle East. In the case of China, some Arab producers are even trying to tie arms deals to energy security.

As oil demand growth in Asia explodes in the coming decade, new strains could come to the international system if fresh policies are not enacted. The omission of key consumer countries from Asia into the global emergency stockpiling system will increasingly put pressure on the effectiveness of limited, existing stocks in the OECD countries. Moreover, tensions created by Asian “free-riding” or possible “hoarding” actions during a crisis could hinder the IEA’s ability to stabilize international oil markets in the future.

The OECD countries comprising the IEA represented 42.3 million b/d out of a total world oil use of 60.6 million b/d in 1977 or around 70% of world oil demand. The U.S. alone consumed 30% of the world’s oil used in 1977. Asia Pacific demand at that time was a less critical component to the world oil use situation at 10.1 million b/d or roughly 16% of world oil demand.

By 2001, the OECD share of world oil use had declined to 62% of total world demand while Asia Pacific use had grown to 28%, overtaking the U.S. share of 25%. Asian economic powers Japan, South Korea, Australia and New Zealand are OECD members and, as such, are part of the IEA system now. But other key Asian oil consumers, including China, India, Taiwan, Thailand, the Philippines and Pakistan, are not. As their share of world oil demand grows, this disconnect between Asia’s size and importance as a consumer region and its lack of energy policy coordination with other large oil consuming countries (and/or the IEA) will create new problems and challenges for international oil markets and the international economic system.

Four Asian powers, Japan, South Korea, Australia and New Zealand, are currently members of the IEA and thereby carry minimum emergency stocks that can be released in coordination with IEA joint policies. Commercial oil stocks and government-held stocks exist in the Asia Pacific

region but their use or release in times of market emergency is neither coordinated with other regional or international consuming nations nor clearly spelled out.

Asian-Middle East Cultural Links

The ties between Asia and the Middle East are more complex, however, than just an oil relationship whereby Asian consumer countries are looking to meet their burgeoning demand needs as the Middle East producers are finding a profitable market for their supplies. Ties also find their roots in religious commonality in some cases and in increased trade and investment. The mutual benefits to Asia and the Middle East of Southeast Asian workers figuring prominently in work forces in the Gulf is also a major link.

Foreign aid from the Middle East has been forthcoming to Southeast Asia in education, religious activities and other humanitarian projects between the two regions. But a host of security issues also play a part in shaping Asian-Middle East relations, especially for countries with Muslim minorities. The latter countries, such as China, Thailand and the Philippines, have been concerned about possible interference of Middle East countries, organizations such as the Organization of Islamic Conferences, and private groups in the domestic Asian politics. Such interference can run from economic and political pressure to actual military support for Muslim minorities or activities of militant local, radical groups.

Large numbers of Southeast Asians have made the pilgrimage to Mecca, and, over the years, many Muslims in the region have been educated in Islamic schools in Egypt, Saudi Arabia, Syria and elsewhere in the Middle East. Beginning in the last quarter of the twentieth century, there was a major increase in the amount of religious material from the Middle East finding its way into Southeast Asia. Muslims in Southeast Asia have become far more aware of the intellectual and religious currents in the Muslim world as a whole.

In the aftermath of the September 11 terrorist attacks, a number of Southeast Asian countries have sought to crack down on radical Islamic activities in their borders so as not to jeopardize important loans, trade and investment with Western nations. These steps have been met by

**Post-September 11 Update Report
Political, Economic, Social, Cultural and Religious Trends in the Middle East and
Their Impact on Energy Supply, Security and Pricing**

criticism from various Islamic opposition parties and groups that their governments are neglecting Muslims in these countries for economic gain and in order to attract Western capitalists (see working paper by Von Der Mehden).

Muslim majority states in Southeast Asia, in particular, have been vulnerable to domestic political pressure to do more to support Islamic causes in the Middle East. This has become more problematic in recent years, and for example, the development of democracy in Indonesia has increased the effectiveness of this pressure. There has been sympathy and support among Southeast Asian Muslims for their fellow believers in the Middle East, whom they see as oppressed. There is universal Muslim support for the Palestinians, resulting in vocal criticisms of Israel by a number of Asian nations in recent months, and there have been similar reactions to what has been perceived as oppressive treatment of Iraqis and Afghans by Western states and the FSU.

The countries of Indo-China are little concerned with the Middle East, having no significant Muslim minorities and a low reliance on petroleum products or trade with the Middle East, in part because of their status as poor countries. Vietnam, unlike Cambodia and Laos, produces more oil than it presently consumes, but any significant development may make the country more dependent upon Middle Eastern oil. While the numbers are low, Vietnam has begun sending workers to the Middle East.

Three major Southeast Asian nations have longstanding, significant ties to the Middle East: the Philippines, Malaysia and Indonesia. Filipino concern with the Middle East lies in economic and security matters. The religious connection that influences government policy relates largely to Muslims in the southern part of the islands and their efforts to gain autonomy and even independence, often through violent tactics. However, perhaps as important a link between the republic and the Arab region is the several hundred thousand of Filipino workers that have been employed in the Middle East, making the republic the largest continuous contributor to the Middle East's foreign labor force. Salaries sent home from these workers have been a significant source of revenue for the Philippines, and the events of September 11 led to considerable

concern for both the safety and continued remittances of these workers (see working paper by Von Der Mehden).

Relations between Manila and Washington changed dramatically after September 11. Philippines President Gloria Macapagal-Arroyo was the first Asian leader to visit Bush and give the American administration full support for the “war on terrorism.” The U.S. response was for promises of military and economic aid and the contribution of American “advisors” to help her government in thwarting Abu Sayyaf, a relatively small Filipino group that has financed itself through kidnapping for ransom and which the U.S. has designated as a terrorist organization. Although the links are tenuous at best, Abu Sayyaf has been labeled as being associated with the Al Qaeda network. For the Filipino government, the threat of possible international terrorism with links to destabilizing elements in the republic is a fear it chooses not to ignore.

The majority of Malaysia’s population is Muslim. Since the oil shock of the early 1970s, Malaysia was one of the first states in Southeast Asia to actively strengthen economic ties with the Middle East. Malaysia has been particularly active in attempting to increase trade with countries like Iran and Saudi Arabia and trade almost doubled with the latter between 1995 and 1999. Kuala Lumpur has also sought to increase Middle Eastern investments in the country while actively pursuing exploration and production projects in Iran, Syria, Algeria, Libya, Egypt, Tunisia and Sudan. Because the country is an oil exporter, it is not greatly dependent upon Middle East supplies, except as a cheap alternative to its own barrels.

Yet, Malaysia’s recognition of its continued need for trade and investment with the West became even more apparent in the world of post-September 11. The Malaysian government has stressed its fight against terrorism and the fact that while the country is Muslim, it is also a multiracial country that is business-oriented. Kuala Lumpur has long been concerned about the impact of radical religious ideas and activists emanating from the Middle East and has sought to curb this “deviant Islam.” After September 11, the Malaysian government went after domestic dissidents, arresting a number of people and it began cooperative anti-terrorist relationships with its closest neighbors.

Post-September 11 Update Report
Political, Economic, Social, Cultural and Religious Trends in the Middle East and
Their Impact on Energy Supply, Security and Pricing

Indonesia, OPEC's only Asian member, was the hardest hit in the region by the economic meltdown of 1998, with large numbers within the population falling below the poverty line. That disaster reinforced Islamic identity in the country, where Muslims constitute 85% of the population, as well as the sense of being targeted by the outside world for Indonesia's religious beliefs. The economic hardships and the conviction of the masses that the Suharto regime was tied to domestic Chinese and foreign economic interests led to that regime's collapse and after a transitional government, to the first real democracy of today. President Megawati Sokarnoputri is more secular in background. But, while one third of the parliament belongs to Islamic parties, other party leaders are comfortable playing the Islamic card (see Von Der Mehden), as an increasingly politicized Muslim population has become more outspoken. Educational and religious aid flowing into Indonesia from the Middle East has been standard practice for years.

Saudi investment in Indonesia has been important in recent years, although Iranian involvement in Indonesia's economy has gained ground. The weakened Indonesian economy has not enabled Jakarta to invest in the Middle East like its neighbor Malaysia, but there has been a big increase in the number of Indonesian workers migrating to the region.

There is considerable debate about the amount or even presence of Al Qaeda activity in Indonesia and the government is reluctant to move against alleged terrorist groups operating in the country. Not only because of its new democratic mantle but also because its population is a Muslim majority, the government cannot act as freely as Malaysia, which has an impressive security apparatus, or the Philippines, which has a small Muslim minority. In addition, the most active known radical groups in the country have dubious international ties and primarily a domestic agenda.

Facing intense pressure from the domestic Muslim population, Megawati had to backpedal after her public agreement with Bush following September 11 that she would work with him to "strengthen existing cooperation in the global effort to combat international terrorism." Returning home from her Washington visit, she responded to the wide-ranging domestic opposition to full Indonesian support for the U.S. in its war against terrorism by beginning to criticize American policy.

Given declining reserves in oil rich Southeast Asian states and increasing economic development throughout the region, greater dependence upon Middle Eastern oil should be expected. The degree of dependency will depend upon domestic oil production, rates of development, and economic conditions.

The development of democracy in places like Indonesia and Thailand has also opened the potential for a growth of political Islam and the entrance into the region of Muslim ideas and organizations from abroad with religious-political agendas. Yet, there will continue to be suspicion of radical political Islam in both Muslim and non-Muslim states.

Consumer Country Cooperation

As discussed, although bilateral oil trade, diplomatic and cultural links between Asian countries and the Middle East can be expected to expand in the coming years, Asian countries' economies also have equal, if not more important, ties to Western markets. In the energy area, despite the geo-economic push to Middle East oil suppliers, common interests to the U.S. and the European Union derive from similar status as major oil consuming nations. However, Asian countries have not pursued oil consuming country cooperation with the same vigor as oil diplomacy with Middle East exporters. This policy emphasis comes despite the fact that energy security cooperation among major consuming states in areas like oil stockpiling, alternative energy research and protection of sea lanes could prove more instrumental in protecting energy security during periods of crisis than investment and trade ties to the Middle East.

By emphasizing Middle East bilateral energy relationships to the exclusion of consumer country alliances, Asian powers ignore the instructive, historical experiences of the West in managing oil crises and energy security. Hard lessons have been learnt in the West about the ineffectiveness of strategic bilateral relationships with key oil exporting countries to safeguard energy supply.

In the almost three decades since the 1973 Arab oil embargo, countries such as the U.S., France and the UK have realized the limitations to bilateral supply arrangements, even in the context of

**Post-September 11 Update Report
Political, Economic, Social, Cultural and Religious Trends in the Middle East and
Their Impact on Energy Supply, Security and Pricing**

cases where such bilateral relations extended to extensive arms shipments and other forms of military cooperation. The impact, by contrast, of the IEA emergency stocks program has been quite successful, not only in calming markets such as seen in the early days of the U.S. military campaign to remove Iraq from Kuwait in 1991, but also in serving as a deterrent to oil producer groups to exercise monopoly power in times of market crises or to impose politically-driven oil supply restrictions. OECD experience has shown that multinational initiatives that group consumer nations together have produced the best results, especially where stockpiling and crisis management are concerned.

In the 1979 oil crisis, spot bidding on the Rotterdam cargo market to offset Iranian production losses touched off a chain reaction. OPEC diverted contract oil, then priced at just over \$12, to the skyrocketing spot market, breaking existing contracts (including those with countries with strong bilateral agreements that involved military contracts) and sending large buyers into the spot market to outbid other oil consumers, further bidding up prices. While the actual shortfall in OPEC supply compared to demand was only 4%, prices rose precipitously to well over \$30 a barrel, mainly on added demand from countries or large entities buying panic oil for storage. Additions to world oil storage amounted to 1.2 million b/d over the course of 1979, at a time when one would have imagined oil inventories would have fallen.

The experience was a lesson for IEA countries. While OPEC had actually increased production to tap rising oil prices, thereby replacing most of the initial loss of Iranian supplies, hoarding or other panic buying activity brought even greater instability than the underlying event itself. A series of meetings among the IEA countries brought greater commitment and coordination in the years that followed 1979. Governments began to understand that individual actions, rather than produce better results, could actually become counterproductive, if matched by those of other buyers. Thus, it was concluded that joint consultation and joint decision-making would help calm market players, stifling panic buying and hoarding that can drive prices even higher during a crisis.

Despite the strong possibility that OPEC and non-OPEC production will grow in the coming years, rekindling competition in the oil market, political or other bureaucratic barriers could

thwart this trend. The expected rise in demand could, in this case, increase dependence on a key oil-producer country or group of countries such as OPEC to levels that would leave consuming nations uncomfortably vulnerable.

Banded together, several large consuming countries, or perhaps a very large consuming country such as the U.S., have the ability to exercise monopoly power to counter any risks associated with a rise in the concentration of oil supply among a small group of countries. Such efforts can redistribute rents back to consuming countries and curb a rising dependence on any particular supply region or grouping.

In increasingly deregulated markets, government options for controlling oil prices have been reduced. Still, consuming countries have several ways to limit the ability of a group of producers to utilize the oil weapon and to guard against the ill effects of a major accidental supply disruption. One is to hold strategic stocks of oil. The second is to impose, maintain or increase consumer taxes on oil to adjust the elasticity of demand.

In the new, free wheeling marketplace for oil, buyers cannot insulate themselves from price jumps by holding long-term contracts since prices in these contracts are also pegged to the spot market and their prices will rise by almost the same extent as spot purchases. At the end of the day as the market clears, a buyer with imports from countries that were not subject to disruption will be in no better position than a buyer who had all of it imports subject to interruption. Both will pay a higher price for supplies.

During any kind of cutoff, the highest bidder can buy replacement barrels from the spot market from many different locations. In an unfettered spot market, shortages will not manifest themselves by a physical inability to find supplies, but rather in the rising price of oil. The market will “clear” or allocate available physical supplies to the highest bidder.

In this commoditized market, commercial players such as distributors or middle-men have less incentive to carry inventory especially if supply disruptions are infrequent. The “public goods” aspect to oil market stability elevates the accumulation of oil inventories to a domain beyond the

commercial industry. Individual players in the oil market will not take into account the externalities of low commercial stocks, such as increased energy price volatility and its negative distributive effects on poorer consumers or its aggregate negative macroeconomic effects. Thus, government takes a role in ensuring adequate inventories are on hand to maintain orderly markets and to counter the temptation of suppliers with monopoly power from taking advantage of short term tightness in oil markets. To achieve these ends, government-held stock levels must be credible to convince oil producers that the opportunity cost of waiting out the stock release is quite high and would transfer a significant portion of the economic gains of an oil supply crisis to consuming countries. The larger the government-held stocks and the more consuming governments participate in such a stock holding program, the more effective it is likely to be in serving as a deterrent to undue market manipulation.

Western consuming country governments have also been able to shift some of the negative effects of price variability onto OPEC by imposing hefty consumer taxes on oil. The net effect of such taxes is to discourage a wasteful use of energy by consumers. In the face of large oil consumption taxes, OPEC is pressured to lower its own returns to expand or sustain (in the face of a very stiff tax) demand for oil. Depending on the difference between the elasticity of OPEC supply and the elasticity of consumer demand, oil consumption taxes can force OPEC to accept lower prices as happened throughout most of the late 1980s and 1990s. However, if OPEC's monopoly power strengthens, consumers may feel more of the burden of such taxes (see working paper by Jaffe).

Consumer Country Strategies

OPEC's ability to raise prices in the short run to levels that may be damaging to the economies of major consuming countries poses a major policy challenge to the governments of consuming countries. Sharp rises in oil prices can threaten the national interest of major oil consuming economies in several ways.

1. Oil price volatility can inhibit investment, economic growth and spur inflation, inhibiting domestic economies and foreign exports.

**Post-September 11 Update Report
Political, Economic, Social, Cultural and Religious Trends in the Middle East and
Their Impact on Energy Supply, Security and Pricing**

2. The burden of rising energy import costs also threatens social stability in key consuming countries in the developing world such as India, Pakistan, Southeast Asia, Latin America and Africa.
3. Supply constraints also make it easier for governments or sub-national groups to threaten vital interests of the U.S., Japan and their allies.

Thus, consuming countries have a clear interest in undertaking policies that will undermine the possibility of a concentration of oil production among just a few countries. There are several avenues consuming countries can pursue but policies taken in conjunction with other consuming nations are likely to be more effective than policies taken individually.

Policy options include the following:

1. Expand and restructure the IEA to better counter OPEC's short term influence, including associating with major Asian consuming countries such as China and India, who are investigating creating national strategic oil stockpiles
2. Encourage investment in diverse non-OPEC oil resources
3. Develop and deploy alternative energy technology
4. Develop federal policies to continue to enhance energy efficiency and export energy efficiency technologies and practices
5. Maintain taxes on gasoline and other petroleum products even in face of rising oil prices.

