1. INTRODUCTION: THE HYDROCARBON INTERCONNECTION IN ASIA

Asia contains the largest reserves of hydrocarbon resources of the planet. Saudi Arabia alone has 25% of the global oil reserves, followed by Iraq with 10.7% of the reserves. Russia contains the largest reserves of natural gas. The Caspian region contains the largest non explored reserves of hydrocarbons.
On the other hand Asia has the second and third largest energy consumers of the world: China and Japan respectively. This is why the hydrocarbon geopolitics in Asia is so explosive. In this scenario, the issue of interconnections for the transport of oil and gas from within Asia is particularly important.

What follows is a brief analysis of the current situation and tendencies in some countries and key regions of Asia.

CHINA

China in the past was an exporter of crude oil. Today it imports 60% of what it consumes with an annual growth of 7.5%. It is believed that within 20 years the consumption of oil and gas in China will be equal to that of the United States.

To meet its demand China imports crude oil from the Middle East, Southeast Asia and Russia. The transporting of the crude oil is done via sea, through the straits of Malacca, which is one of most important oil tanker passages of the world, with oil being transported oil from the Middle East to Japan, China and other East Asian countries.

However these countries want to put an end to this dependency. China for example has started a series of oil pipeline constructions from various places in Asia and from its own hydrocarbon fields, many of these pipelines are massive projects with heavy social and environmental impacts, as is the project west – east that covers over 4,000 kilometers of gas pipeline.

On the other hand, the growing energy needs of China make it, a new enemy of those countries which compete for these energy resources as is the United States.

This was reflected for example, in the meetings of the United Nations Security Council, when China opposed sanctions against Iran and Sudan (measure proposed by the United States), countries from which China imports crude oil, to cover 13% and 7% respectively of its energy needs. China’s attitude provoked many critics from western media.

In this sense there is a large amount of literature generated in the United States that highlights the growing consumption of hydrocarbons in China, and compares it with its own consumption. Of course in these analysis demographics are not taken into account. More so China is presented as humanity's new enemy due to its abuse of the Planets resources.

The growth of energy resources has also changed the relationships between China and Japan, since both countries want access to Russia’s resources. Russia prefers that its Siberian gas go to Japan. There have even been disputes over marine territories between the two countries where oil reserves exist.

China also maintains disputes for the sovereignty of the islands of Spratly rich in hydrocarbon resources.

EASTERN ASIA
During the decade of the 1960, Japan experienced a rapid economic growth, for which reason securing energy sources was of great importance. However, during the decade of the 1970’s the energy crisis forced this country to diversify its sources, as part of its national security.

However this country is highly dependent of crude oil from the Middle East. By 1997 it imported 77% of crude oil from this region. Japan’s strategy to decrease its dependency has been to develop alternative sources of energy, such as photovoltaic and hydrogen cells. Additionally Japan has 53 nuclear plants and there are plans to construct new plants.

Korea is also heavily dependent on foreign energy resources in order to maintain its economy. Every 10 years its energy demand doubles and 97% of its energy sources are imported. Domestic sources are carbon and hydroelectric power. 69% of its consumption is from oil, 7% from natural gas and 24% of bitumen carbon.

This country has proposed to diversify both its energy sources via an increase in the use of natural gas and nuclear energy, as well as diversifying its providers, since it depends strongly on crude oil from the Middle East. For this purpose it is investing via its foreign hydrocarbon reserves such as Burma.

It also hopes to import renewable energy on the international market, but the internal demand for this type of energy is so small that it has not developed domestically.

SAUDIA ARABIA LOOKS EAST

Saudi Arabia is interested in accessing new Asian markets. That way the Chinese company SINOPEC received a new contract to exploit natural gas in this country, and the Saudi company ARAMCO is discussing the possibility of constructing a Chinese refinery, and has concluded negations with Shell to acquire one of the largest refining companies of the world, the Showa Shell Company in Japan.

Also, Saudi Armco has reached an agreement with Sumitomo Corp. of Japan to carry out a feasibility study to establish a new refinery on the western coast of Saudi Arabia. Also Saudi Armco has important interests in Petron Corp. In the Philippines and the south Korean company S-Oil Corp.

THE CASPIAN

Another important element of Asian oil’s geopolitics, is the traditional role that Russia has played between the Central Asian states and Eastern Europe. All the hydrocarbons that were transported to the region from the republics that formed part of the ex Soviet Union passed through Russia. The Chechnya pass is important in relation to oil pipelines and is of great geopolitical importance. This is why Russia resists its independence as a republic.

With the aim of ending this dependency, the United States and Europe set themselves the goal of extracting the Caspian crude oil via other routes. Also today production of the new Caspian oil fields has increased more than Russia’s capacity to transport it.
For decades, the United States has backed Turkey and Azerbaijan to deviate the exports from the Caspian from Russia.

None of the oil countries of the Caspian has marine borders; for which it is indispensable the construction of oil and gas pipelines and these have to cross some of the conflict zones of the region (Caucasus separatist groups, the Afghan guerilla and Iraq and Iran, the armed conflicts in Georgia, etc).

For example the Caucasus oil pipeline has to face various separatist movements that are asking to be considered as new republics. This is the case of Higher Karabaj, Abjazia, Chechnya and Osetia from the South of Abjazia. The oil pipeline path will exacerbate these problems. This pipeline also crosses the Kurdish conflict in Turkey.

Another possible oil pipeline would have to cross Afghanistan, which would in part explain the United States military intervention in this country, since the Taliban government was not in favor of the United States interests. Another exit could be through Iran, which also implies a problem for the United States.

Even so the a consortium of 11 European and North American companies lead by British BP are constructing the Baku oil pipeline – Tbilisi – Ceyhan (crossing Azerbaijan, Georgia and Turkey).

Also the negotiation for the construction of another pipeline that exists from Turkmenistan towards Pakistan crossing Afghanistan is also in advanced stages.

The importance of the region of the Caspian reflects the presence of United States military forces in the Caspian countries. In 1997, the USA sent 500 military forces to Kazakhstan (where the largest Caspian reserves are found) to train soldiers of that country and others of the Caspian. The following year they did the same in Uzbekistan. Also, 150 special forces and 10 combat helicopters were sent to Georgia in 2002 to involve that country in the conflicts of Al Qaeda and the Chechnya rebels but all knew that job of these troops in Georgia was to safe guard strategic places for the interests of the United States, especially the pipelines. The military presence of the United States in the region was consolidated with the invasions of Afghanistan and Iraq, which enabled control of the rich oil reserves in the area and its pipelines.

Additionally China has started negotiations with Kazakhstan for the construction of new oil pipelines that will take crude oil to China, which has upset the United States, Europe and Russia.

This ends the Russian supremacy of Russia in the Caspian, and exacerbated the conflicts in the region.

INTERCONNECTIONS

Another important aspect is the electrical interconnections and the gas pipelines agreed by countries members of the ASEA (Brunei, Burma, Cambodia, Indonesia, the Philippines, Laos, Malaysia, Singapore, Thailand, and Vietnam).
During most of the 90’s decade various countries of the ASEAN experienced an astronomical increase in its energy demands. The growth was 5.5% between 1990 and 1996. After there was a reduction due to the Asian economic crisis. With the recovery of the economy a new increase was evidenced. It is expected that this increase will continue for the next 20 years.

This increase in consumption obeys an accelerated industrialization process to produce export goods, since in this region a series of North American, Japanese and European factories and companies have been set up that wish to transfer the risks to Southeast Asia. Another element is the rapid urbanization and the changes in transport patterns.

However the demands do not necessarily correspond to an increase in hydrocarbon reserves which has lead to a serious questioning of energy security, since these countries are becoming ever more dependent of foreign energy sources.

Another problem in the region is that there is heavy marine transport of crude oil via the Straits of Malacca, transporting crude oil from the Middle East towards East Asia. In this region also registers half of the world’s piracy which has lead many countries to wanting to stop depending on this pass to transport energy. This strait suffers serious environmental impacts due to contamination produced by the oil tankers.

An answer to this problem would be to establish a cooperation energy agreement. This is a program to share oil reserves between the member states. The members agreed to share oil in times of emergencies or when there are excesses. In the case of scarcities of one of the member countries the countries which are exporters of crude oil (Brunei, Indonesia and Malaysia) are committed to provide oil. If excesses are generated in the international market the importing countries commit to buying from the ASEAN exporting countries.

The Energy Cooperation Agreement, is a general energy political framework in the region. The main points of this agreement include the cooperation and political planning of energy policies, develop sources of energy, energy conservation, investigation and capacity. Since its ratification in 1986 this agreement has been modified to include issues such as public and private associations, that is to say intervention of private companies and NGO’s that fulfill the objects of the agreement, the deregulation of the energy sector and the privatization of services.

In 1999 the Energy Ministries of ASEAN joined to work on a plan of action (Hanoi plan of action), that it basic terms includes:

The energy security and the sustainability of energy providers, the efficient use of natural energy resources in the region, the rational management of the demand.

The creation of a gas and energy distribution network for the region, through the mega project called Trans-ASEAN gas pipeline and a network of electrical interconnection.

The idea of this interconnection via gas pipelines and electrical networks in south East Asia is to unite and share energy between the ASEAN countries, especially from those with a high
level of industrialization and a high energy demand and reduce the dependency on imports of
gas from other regions. The Trans-ASEAN gas pipeline will have a length of 9 thousand Km.

One of the first gas pipelines constructed goes from the gas fields of Western Natuna in
Indonesia to Singapore. This is a gas pipeline of 640 Km. Singapore is a country with high
energy demands since this country has the highest capacity for refining hydrocarbons per unity
area in the world.

Various other pipelines have been planned and are in the process of construction or have
already been finished.

It is believed that the Trans ASEAN gas pipeline is the beginning of a larger network of
regional gas pipelines till now constructed that would transport gas from Indonesia to China.

It is a primary objective of this project to include a private company in the financing and
control of these importantly strategic energy resources.

What follows is a presentation of some of these interconnection projects in more detail.

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2. THE ASEAN ENERGY COOPERATION PROGRAMME

The Hanoi Plan of Action, adopted at the 6th ASEAN Summit in December 1998, stipulated
the need to institute a policy framework and implementation modalities, by the year 2004, for
an early realisation of the Trans-ASEAN Energy Network, covering the ASEAN Power Grid
and the Trans-ASEAN Gas Pipeline Projects. The ASEAN Energy Cooperation programme
comprises the following:

• ASEAN Power Grid
• Trans-ASEAN Gas Pipeline
• Coal
• Energy Efficiently and Conservation
• Renewable Energy, and
• Regional Energy Outlook and Energy Policy and Environment Analysis

2.1. THE TRANS-ASEAN GAS PIPELINE

ASEAN has bigger gas than oil reserves. It is a net importer of oil and net exporter of gas. Its
population is about 500 million and growing. It is a fast developing region and needs a secure
and stable energy supply. The total energy demand in the region is as follows:
2000 = 135mtoe
2010 = 233mtoe
2020 = 450mtoe

The objectives of the Trans-ASEAN Gas Pipeline are:
Provides security of energy supply, which is essential for industrial development. Supply security can be guaranteed by the existing LNG production facilities in Brunei, Bontang Arun and Bintulu.

Strengthens cross-border economic and political ties.

Enables the members to share the least cost gas resources, which has the environmental impact advantage compared to other energy resources.

2.2. THE TRANS-ASEAN GAS GRID

Is a pipeline system already in operation and under, or agreed for, implementation:

* Peninsular Gas Utilisation System (the whole length of Peninsula Malaysia, from Thailand to Singapore)
* Malaysia to Singapore Pipeline.
* Myanmar (Yadana) to Thailand.
* Myanmar (Yatagun) to Thailand.
* MTJA to Malaysia and Thailand.
* Malaysia-Vietnam Joint Area to Vietnam and Malaysia
* West Natuna (Indonesia) to Singapore.
* South Sumatra to Singapore.
* South Sumatra to Java.
* Malam Paya to Manila (Malam Paya can later be connected to Malaysia fields in Sabah)

Other connections can be made as the demand for gas grows. These are from the following areas:

* Irian Jaya and Kalimantan to the demand centres in Indonesia
* Malaysia (Sabah) to the Philippines.
* Myanmar to Malaysia
* West Natuna to Malaysia, and
* Main Natuna to the Trans-ASEAN Gas Grid.

Existing Linkages: ASEAN’s first cross-border pipeline delivers 150 million standard cubic feet per day (scf/d) from Malaysia to Singapore. The Yadana (Burma)-Ratchaburi (Thailand) pipeline, completed in 1999, and the Yatagun (Burma)-Ratchaburi pipeline, completed in September 2000 followed the Malaysia-Singapore pipeline. Indonesia signed or implemented three deals in 2001 to pipe natural gas across national borders: the West Natuna to Singapore’s SembCorp Gas Pte Ltd.; the signing of a gas sales agreement from South Sumatra gas fields to Singapore’s Gas Supply Pte Ltd.; and the signing of a contract to deliver gas from West Natuna to Malaysian Petronas’ offshore Duyong facilities. On the horizon are projects to deliver gas to Malaysia and to Thailand from the Malaysia-Thailand Joint Development Area.

The Pipeline is owned and operated by the private sector. Investors can be both local and foreign. The government of participating countries can help facilitate private sector investment in the scheme in the following areas:

* Market development and promotion
* Regulations for pertaining to the right-of-way land acquisition and ownership.
* Regulations pertaining to gas transit (e.g. transit fees, liabilities, etc.)
* Sitting of interconnection points, particularly for LNG terminals
* Standards (technical and HSE)
* Access and competition
* Transmission tariff regulations
* Cross border pricing (e.g. what currency? What index?)
* Applicable laws for settlement of disputes or arbitration
* Sovereign guarantees (e.g. against appropriation).

The countries have to meet requirements to implement TAGP, with huge impacts in the population and the Nation’s sovereignty.

Cross-border connections require harmonization of national legal and regulatory frameworks, as well as gas pricing schedules, common technical standards for design and construction, operation and maintenance, safety, etc.

Gas distribution has being a service of the State, held by state-owned petroleum companies in many ASEAN countries, with little private sector participation and investment. Indonesia hopes to open up the entire downstream sector with the passage of an oil and gas bill now before Parliament. The other countries will follow Indonesia’s example.

Individual governments must also move toward a market-based pricing of natural gas proponents. Diesel oil and other fuel subsidies have to be removed.

ASEAN’s TAGP proposal in the master plans foresees a key role for Indonesia as the main gas supply hub. Despite significant reserves of gas, ASEAN’s analysis concludes that Malaysia will become a net gas importer if there are no significant commercial gas discoveries in the near future. Regional gas demand will increase, driven by the reliance of the Malaysian and Thai power sectors (with natural gas fueling 60 percent of power generation) and demand from Malaysian, Thai, and Singaporean petrochemical industries. ASEAN records the following break down of natural gas reserves among the original ASEAN member countries:

### NATURAL GAS RESERVES IN ASEAN MEMBER COUNTRIES
(Trillion standard cubic feet – TSCF)

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>Proven</th>
<th>possible</th>
<th>probably</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei</td>
<td>8</td>
<td>4</td>
<td>0</td>
<td>12</td>
</tr>
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<td>Indonesia</td>
<td>90</td>
<td>42</td>
<td>34</td>
<td>166</td>
</tr>
<tr>
<td>Malaysia</td>
<td>58</td>
<td>28</td>
<td>0</td>
<td>86</td>
</tr>
<tr>
<td>Philippines</td>
<td>3</td>
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<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Singapore</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>9</td>
<td>11</td>
<td>32</td>
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<tr>
<td>ASEAN</td>
<td>175</td>
<td>94</td>
<td>55</td>
<td>325</td>
</tr>
</tbody>
</table>

Source: Trans-ASEAN Gas Pipeline – Just a Pipe Dream?
The US Embassy in Jakarta

3. INDONESIA

In Indonesia the program is called the Indonesia Gas Master Plan (IGMP).

The IGMP would be no different to that designed by PGN for the country’s gas network, the Indonesia Integrated Gas Transmission and Distribution System (IIGTDS). The issue is to push gas to the energy market to compete with fuel oil which has long dominated the domestic energy market.

The Trans-Asean Grid expects to get a gas supply from countries which have plenty gas reserves, such as Indonesia. This would not hamper the IGMP as the country can still accommodate the gas supply since, in the long term; the gas source is the giant gas field of East Natuna D-Alpha. The location is suitable for supplying Asean needs, but the problem of the high carbon prodioxide content, as high as 72% CO2, remains.

Technological improvements are expected to match the economics of gas exploitation, resulting in a sustainable source for the ASEAN gas grid. The Indonesia oil balance faces a deficit in terms of oil supply and consumption in domestic market.

In 2003, with the daily oil production at 1.24 million, the Government was only entitled to about 700 thousand barrels per day, after cost recovery and profit sharing, while domestic consumption reached 800 thousand Boe (barrel oil equivalent) per day.

This deficit, in physical terms, multiplied by the high oil price and the weakening of the Rupee against the US dollars, political considerations that did not accommodate the existing government programme to gradually phase out the subsidy on oil fuel, have really put the Government in a very difficult situation in revising the national budget.

“The existing surplus figure of the oil and gas trade balance is due to gas exports.

Natural gas export, either in LNG form or in its gaseous form in pipelines, will a complementary process until the domestic market is ready to absorb the gas supply.”

The government considers that the key to a (domestic) gas market is the availability of a suitable infrastructure. Gas utilisation needs an infrastructure that links gas sources to gas consumers. At present, gas pipelines are quite limited and gas receiving terminals don’t exist. While the country is exporting abundant gas and some sources are unutilised, consumers in
Java are crying out because of the gas shortage. PT PGN (Persero) is one of the leading gas pipeline operators and is working to establish a domestic gas market in the country by establishing gas pipeline networks to provide the economic sectors with gas as oil fuel substitute.

The latest official issue on Indonesia’s gas reserves shows a figure of 225 Tcf, comprising 92 Tcf of proven reserve and 134 Tcf of potential reserve. The committed gas is 39 Tcf, while the uncommitted is 53 Tcf. The reserves are spread throughout the country, with several traditional major suppliers located in Aceh, South Sumatra, West and East Java and East Kalimantan. Two other gas fields, East Sulawesi and Tangguh (Papua) are waiting for customers, while the real giant gas field of East Natuna, which contains 84 Tcf (proven and potential reserves), is still undeveloped.

Article 8 of Law No. 22/2001 states that the Government should prioritise gas utilisation for domestic use.

Indonesia in has developed a master plan, ‘a grand strategy’ for gas transmission which is known as Indonesia Integrated Gas Transmission and Distribution System (IIGTDS). The system knits the gas sources and markets into an interconnecting network and will serve to provide access to both gas producers and consumers to make transactions.

Indonesia has built a main transmission line in Central Sumatra, bringing gas from South Sumatra to the main consumer, the Caltex Steam Flood Project in Duri, Riau in 1998, and to Singapore for power generation last year in 2003.”

The centre of the gas market lies in Java, therefore the system is concentrating its main effort to link the gas resources to Java. The South Sumatra to West Java pipeline is now under construction and will be operational by mid 2006.

PGN is also seriously considering bringing East Kalimantan gas to East Java. By completion of these projects, it is believable that Indonesia will be able to regain its position as ‘a net oil exporter’ again. Even the gas reserves in Tangguh, Papua and in East Sulawesi has been considered alternatives for delivery to Java, but they are too remote and not feasible to link by pipeline. Shipping the gas in the form of either LNG or CNG is under study, including receiving terminals.

The sending of South Sumatra gas to Singapore through PGN’s pipeline is the first interstate gas sale via pipeline for Indonesia. And it is a contribution towards the establishment of the Asean Gas Grid. However, multiple effects with the pipeline have been obtained through the opening of the gas market in Batam Island, since the island now has a gas distribution system. In the future, gas from East Natuna will be the major backbone of the Asean Gas Grid demand.

The Trans Asean Gas Pipeline proposal shows that the sources of gas were assumed to be mainly from Indonesia’s Sumatra, East Kalimantan, West Natuna and East Natuna fields. Considering its location remote to Java, the major gas market in Indonesia, the project will not impinge upon the GOI’s plan to develop the Indonesia domestic gas market. Gas from East Kalimantan, Tangguh in Papua and East Sulawesi would endure sufficiently long enough to meet the requirements of the Indonesia Integrated Gas Transmission and Distribution System.
There is an on-going gas delivery from South Sumatra to Singapore, under the 20 year gas sales contract. With a daily output of between 350 MMscfd to 500 MMscfd, the reserves available for West Java will decrease 2.5 Tcf over the period. However, it is considered as a transitional phase during the development of the domestic gas market in the region, while waiting for the East Natuna gas to be onstream. In addition, the gas pipeline to Singapore passes Batam Island which get access to piped gas. A gas distribution network was established along with the South Sumatra – Singapore development project.

Every ASEAN country has its own master plan for the gas transportation system. For Indonesia, some transmission projects would be implemented as part of the plan.

The sending of East Kalimantan gas to the Philippines also would have a multiple effect on the economy, if the pipeline was obtained from the opening up of a gas market in Kalimantan Island while earning revenue without influencing the gas demand in Indonesia.

The transmission plan of East Kalimantan to Java, and Duri to North Sumatra will become a part of the TAGP backbone, to link Malaysia and Thailand (west side backbone) and Malaysia, Brunei and the Philippines (east side backbone).

Some studies are being undertaken to see the feasibility of an East Kalimantan to Manila pipeline (about 2,200 km), Pemping to Johor Baru (about 65 km) and Duri to Malaysia (About 225 km).

LNG hubs or LNG Receiving Terminals are proposed for both West and East Java.

After 30 to 40 years, when the gas supply will eventually decline in the region, some other transportation technology needs to be considered, to tap natural gas resources from the Middle East and Australia, such as an LNG terminal hub to feed the TAGP and Gas to Liquids (GTL) plants in ASEAN.

The huge natural gas reserves in East Kalimantan may be used to feed The Trans Asean Gas Pipeline Project without affecting the Indonesia Gas Master Plan to develop Indonesia’s domestic gas market.”

4. THAILAND

The Government has been discussing a proposal to turn Thailand into a regional oil refining and transportation hub. One possibility includes the creation of a bonded refining zone to attract export oriented refineries for which are geographically closer to Thailand than the east coast of China where most of the mainland’s refining capacity is located.

Another related proposal would involve construction of an oil pipeline across the Isthmus of Kra from the Andaman Sea to the gulf of Thailand, with oil handling facilities at either end, which would allow oil shipments from the Middle East to East Asia to bypass the crowded Strait of Malacca.
Thailand is currently underway to expand the supply of domestically produced gas, including development of reserves owned jointly with Malaysia in the south of the Gulf of Thailand. In addition, imports of gas from neighbouring Myanmar will grow once proposals to increase the transmission capacity of PTT’s pipeline from the Thai border with Myanmar to the central region of Thailand are implemented.

In 2002 PTT’s procurement of natural gas rose 8.7% to 2,494 mn cf/d, compared with 2,294 mn/d the previous year. Gas import from Myanmar accounted for 58% of the increased gas purchases in 2002. PTT purchased gas in 2002, along with 618mn mn cf/d of gas, which now accounts for almost 25% of Thailand’s gas supplies. Burma's offshore Yadana field supplied 418 mn cf/d in 2002, while the offshore Yetagun field supplied almost 200 mn cf/d. Unocal is Thailand’s largest gas producer supplying 830 mn cf/d from various offshore gas fields in the Gulf of Thailand, accounting for 33.3% of gas supplies in 2002.

Important gas fields operated by other companies include the Bongkot field on the South of Thailand, which supplied PTT with 530 mn cf/d in 2002, representing 21.1% of total gas supplies, while Pailin field supplied 235 mn cf/d, accounting 9.4% of gas supplies.

To supplying almost 80% of its gas supplies to power companies for electricity generation, PTT’s future gas supply business development could also be tied up with proposals under consideration by the government to restructure the electricity sector following EGAT’s imminent privatization. The government has appointed consultants to study EGAT’s privatization plans, including the issue of third-party access to the utility’s transmission network.


5. VIETNAM: TO BUILD ITS LARGEST PORT FACILITY BY 2010

15-10-04 Vietnam's government has approved a major plan to develop what will be the country's largest port facility by 2010 in Van Phong Bay, in the central region, a government official said. Van Phong Bay, in Khanh Hoa province, is 500 km north of Ho Chi Minh City. Pham Van Chi, senior official of the Khanh Hoa province and chairman of Van Phong Bay Development Joint Stock Co., said the government will offer "very favourable" conditions to investors who choose to invest in the Van Phong Bay area. "This is one of the country's most beautiful coastal areas, which is suitable to become a tourism paradise and also an industrial hub," Chi told.

Total investment for the area is expected at $ 3.5 bn by 2010 and $ 10 bn by 2020. The government will soon spend $ 100 mm to upgrade roads and port facilities in the area, he said.

Chi also said the government will be responsible for all necessary infrastructure development in the area over the next three years. After that, it will call for foreign and domestic investors to build tourist and industrial facilities. Foreigners investing in the area will receive incentives such as rent-free land for up to 10 years, low taxes for export processing zones, and support services from local authorities.
"We plan to make the Van Phong Bay an ideal international transhipment centre for crude oil tankers, because it (the bay) is near Vietnam's oil-rich area of the Phu Khanh Basin," Chi said.

He added that national oil company Vietnam Oil & Gas Corp., or PetroVietnam, is starting to offer foreign firms opportunities to invest in exploration and production in the oil and gas blocks which are close to Van Phong Bay, making the bay more attractive to investors.

The bay has a depth of more than 25 meters and covers about 50,000 hectares, is only 10 km from major international shipping routes in the South China Sea, and has been used as an intermediate port for big oil tankers.

Currently, Vietnam's largest petroleum trader -- Petroleum Import-Export Corp. or Petrolimex -- is building a fuel warehouse with a capacity of 100,000 tons. In 2002, the government approved a $ 2 bn plan to build several new ports by 2010.

6. MALAYSIA

Malaysian state-owned oil company (Petronas) will be setting up an Asean Gas Centre to promote the development and utilization of the gas industry in the region.

Energy, communications and multimedia minister Leo Moggie, speaking at the soft launch of the international gas distribution and utilization expo and conference 2004, said the centre which will be operated within the Petronas network, was important for the realization of the Trans-Asean Energy Network. The gas pipeline network is an integrated regional pipeline system which would have Malaysia serving as the hub for the planned gas grid.

Moggie said there was currently around 5,000km of offshore and 2,300km of onshore pipelines either operational or under construction in the ASEAN region.

These gas pipeline networks would evolve to become an integrated regional pipeline system called Trans-ASEAN Gas Pipeline.

"We are endowed with conventional energy resources such as oil and gas, as well as renewals such as hydro and biomass. The gas sector will continue to progress and offer strong growth prospects for potential investors and customers alike, creating extended gas business value chains,' he said as quoted by Malaysian news agency.

He said that in recent years there has been tremendous growth of natural gas as a fuel for large-scale power generation, with high efficiency combined cycle gas turbine plant being the standard approach for new plant.

Source: Business Times 25-09-04

7. BURMA
Government and business interests in India, Burma and South Korea are crowing over a giant gas discovery in the Arakan Sea. In November 2003, a consortium of South Korean and Indian companies including Daewoo International Corp, Korea Gas Corp and the Indian public-sector firms Oil and Natural Gas Commission (ONGC) Videsh Ltd and Gas Authority of India Ltd (GAIL) started exploring the waters off the Arakan coast of north-western Burma. Termed the Shwe Prospect (shwe means "gold" in Burma); the exploratory well successfully penetrated thick sand and produced gas at a rate of 32 million cubic feet per day by drill stem test.

At a news conference in Seoul on Thursday, Daewoo International predicted at least 100 billion won (US$86.2 million) in net profit annually for 20 years from 2010 through its natural gas production at the zone. Production is to start in 2009.

The Burma junta is poised to reap at least $800 million a year from the project, and could see up to $3 billion annually.

To transport this gas a pipeline crossing Bangladesh to India will be needed. The natural gas from the deposits in Burma, and in the Indian state of Tripura will be transferred to West Bengal through Bangladesh through the new pipeline. The network will connect the gas fields in Myanmar and Tripura. A large section of the pipeline will pass through Bangladesh, and in return Bangladesh will receive royalties and maintenance costs. The technical studies for laying gas transportation lines from Burma and Thailand to India was welcomed in New Delhi following the signing of BIMST-EC free trade agreement by six countries in the region excluding Bangladesh.

However, Dhaka had rejected the proposal because of inconsistencies. The Myanmar-Bangladesh-India gas pipeline project became controversial as Bangladeshi experts and related companies questioned the economic and technical viabilities of the inter-country gas pipeline network.

It has been observed that whenever the issue of our gas export comes it is always considered that export should be made through pipeline. Considering the geopolitical scenario obtaining in the north-eastern region of India the people have got some serious misgivings and fear about gas pipeline. The common citizens have the right to know whether there is any alternative to pipeline and if so what would be the size of cost involvement. This important disclosure can dispel doubts, misgivings, misunderstandings and confusions. Very recently The Independent published a detailed report on a proposal for Burma-Bangladesh-India gas pipeline, a 1 billion dollar project. Interestingly the proposal coincides with the issue of exportation of Bangladesh gas through a separate pipeline to India. A couple of years back the increasing demand of Indian energy market had forced Delhi to look for cheaper alternative sources in countries likes Bangladesh and Burma.

Coincidentally, favourable for India, that Unocal, the prim-mover of Bangladesh gas export, holds its bigger stake in exportable quantity of gas in Bangladesh and it partnered with neighbouring Burma's state owned company. The US Company had to withdraw its investment by selling off its share to MOGC (Myanmar Oil and Gas Company) under pressure from Clinton administration, yet the IOC is in favourable terms with Burmese authority.

Under increasing domestic pressure the then US President Clinton had to enact presidential ban on further US investment in Burma on the ground of human rights abuse by the ruling military regime. Unocal then operating Yadana natural gas field off shore Burma with more
than 5 Tcf world class gas ready for export. The company also faced couple of lawsuits in the US on alleged human rights violation while constructing 1.5 billion dollar pipeline up to Thailand.

Incidentally, the proposal that was submitted by Unocal Bangladesh to Petrobangla for export of gas targets the same market i.e. north India. Before we discuss the Burma-India pipeline it would not be out of context to discuss in brief the Unocal proposal to Bangladesh government.

The project named Bangladesh Natural Gas Pipeline Project (BNGPP) is targeted to export 500 million cubic meters per day for 20 years. The experts in Bangladesh are yet to be specific as regards the exact reserve that the country has. The conservative estimate is 12-15 Tcf proven reserve in 4 large fields that are considered to be economically viable. Meanwhile Unocal had obtained "letter of intentions" (LOIs) from prospective buyers in India. The report insisted that Bangladesh government must take quick decision to seize the "window of opportunity" that now exists in Indian market. Many analysts felt that the IOC was using pressure tactics on Bangladesh government. Would the latest move create more pressure on the pro-export lobby within the government? One has to wait for that result.

However, as reported earlier, Delhi has concluded gas import agreement with Burma for North Indian market and the shortest route possible for the market would be through Bangladesh, connecting the proposed Habiganj-India pipeline. Unocal that had 31 percent of share in a joint venture with Total of France, that had 28 percent stock, have already completed the pipeline from Burma's Yadana field, 70 kilometres off the Andaman Sea. The project aimed to carry natural gas to Thailand for 2,800-megawatt capacity power plant operated by Electric Generating Authority of Thailand at Ratchbury. Remaining share was owned by Myanmar Oil and Gas Enterprise (MOGE).

Total (French Oil Company) withdrew under pressure selling their stock to Unocal and in 1998 while withdrawing its commitment after US embargo Unocal sold the entire share to MOGE. The project was completed with estimates cost of 1.2 billion dollars. Along with other fields Yadana has surplus gas to be sold to India that needs safer, shorter and secured route to the mainland India. Thus Delhi funds the export proposal safer to use Bangladesh as the probable India-Burma pipeline corridor as North-eastern States of India is in a state of ceaseless insurgency.

Unocal Bangladesh, thus exerting pressure on its recommended sale of gas through pipeline that would ultimately facilitate joining with Indo-Burma pipeline as and when needed. In such event of the paramount question of the security of the pipeline, Bangladesh portion needs a closer look, notwithstanding the implied far-reaching strategic consequences that the arrangement may associate. One has to take all aspects into account especially in a region where mistrust is hard to be wished away.

Meanwhile, according to an agency report, to construct Burma-Bangladesh-India natural gas pipeline an international consortium proposes to set up a gas pipeline over Bangladesh connecting Myanmar with the Indian states of Tripura and West Bengal. Sources said the Indian Energy Ministry had put forward the proposal of "Trans Burma-Bangladesh Gas Pipeline" to Bangladesh Prime Minister for getting her approval in principle.
China is building several pipelines to feed the growing demand of this country for energy. Some of these pipelines include the West – East Project. This project boasts China's largest project opening to foreign cooperation. Its initial investment in the main line stands at 160 bn Yuan ($ 1 = CNY 8.28), and the Pipeline snakes from Lunnan in Xinjiang to Baihe town in Shanghai. With a total length of 4,000 km and an annual gas transmission capacity of 12 bn cm. Till now the Pipeline's eastern segment (from Jiangbian in Shaanxi to Shanghai) has basically completed construction, which lays a solid foundation for PetroChina.

The pipeline crosses the Yangtze River in Nanjing and the Yellow River in Zhengzhou.

So far, it has provided more than 70 million cubic meters of gas to those areas, said PetroChina, which is in charge of the pipeline project.

It is designed to carry 12 billion cubic meters of natural gas a year from the Tarim Basin in the Xinjiang Uygur Autonomous Region and the Changqing gas field in Shaanxi to the eastern regions.

The eastern section, linking Shaanxi and Shanghai, was completed and started trial operation in October 2003.

When the western section, from Lunnan of Xinjiang to Jingbian in Shaanxi, is completed, the Tarim Basin will replace Changqing as the main gas source on Jan. 1, 2005.

It is expected that the gas consumption to reach 12 billion cubic metres by 2009, which is the limit for the project to break even.

The eastern section will be supplied by the Changqing gas field in Shaanxi Province until 2005. By then, the 2,525-kilometre-long western section linking Tarim Basin in Xinjiang to Jingbian in Shaanxi will be completed and start to supply gas to Shanghai.

The reserves of Changqing gas field, one of the nation's largest gas fields, is large enough to meet the market demand for the pipeline before the western section is completed.

As for Tarim Basin, the area had proven natural gas reserves of 390 billion cubic metres.

It is now able to pump 12 billion cubic metres of gas annually for 30 years.

In the other hand, the Hangzhou Municipal Constructive Committee discloses that the project of the natural gas pipelines between Hangzhou and Ningbo (Hang-Yong Natural Gas Pipelines) has been approved and started in June 2004.
The pipeline, with a 237.7 km length and an 813-millimeter pipe diameter, starts from Sanshan, via Ningbo, Shaoxing and Hangzhou, and finally arrives in Chongxian of Hangzhou, the terminal of the west-to-east natural gas transmission.

The project, which will be put into production in June 2005 with a capacity of 2.6 bn cm, will connect three gas resources, and among them, the natural gas from the western China has entered Zhejiang Province, and the pipelines will connect the gas from the East Sea Chunxiao Gas Field in the near future, and will input the LNG natural gas in future.

The project is an answer to the rapid urbanization of Hangzhou and the adjustment of local industrial structure as well as to enhance local residents' living quality.

8.1. BURMA TO CHINA PIPELINE

China estimates that by 2010 and 2020, its demand on oil will reach 340 million and 440 million tonnes respectively, while domestic production will yield just 175 million and 190 million tonnes. The shortfall of about 165 million and 250 million tonnes will have to be met by imports, largely from the Middle East. These work out to a high dependency ratio of 50 per cent and 60 per cent, respectively.

Given that four-fifths of its oil imports now pass through the Malacca Strait and the fact that China does not have a blue-water navy to protect the route, Beijing is distinctly uneasy about the risk of blockage should fighting with the United States break out over Taiwan.

This issue was first raised by Chinese President Hu Jintao at a Central Economic Meeting on Nov 29 last year. He asked officials to come up with possible solutions. According to a source, the officials proposed four, with the first three centred on building a pipeline from the south-western province of Yunnan to Myanmar, from north-western Xinjiang province to Pakistan, or from Tibet to Bangladesh. The fourth solution entailed helping Thailand to build its Kra Canal.

The source said the Bangladesh option was ruled out almost immediately because it meant passing through Indian territory. The Pakistani option is being considered in tandem with a railway line that China intends to build, linking up Kashi (Kashgar) in southern Xinjiang with the Pakistani port of Karachi in the Indian Ocean. But this route has to pass through rugged terrain with harsh climatic conditions, thus posing formidable technical difficulties.

By comparison, the Myanmar option is more appealing, both politically and technically. Historically, Myanmar has always been China's gateway to the Indian Ocean. During World War II, when the entire eastern part of China fell into Japanese hands, General Joseph Stilwell, commander of all American forces in the China-Burma-India theatre, built the famous Stilwell Highway to bring supplies from Indian Ocean ports to the Chinese resistance movement.

The proposal way is from south-west Yunnan province, which borders Myanmar, to bring oil from Myanmar's western deepwater port of Sittwe across the country to the south-western Chinese city of Kunming.
At present, more than 60% of China’s imports come from the Middle East and Africa via the Malacca Strait. Given the current situation in the Malacca Strait, it could be a suitable alternative. China is concerned that the rise in terrorist activities in South-east Asia will increase the risk of a terrorist strike in the strait, where four-fifths of its oil imports must pass through. Also, South-east Asia is home to the world's most pirate-infested waters, with 79 attacks in the first quarter of this year, says the International Maritime Bureau.

China is determined to protect its national security by diversifying where and how the world's second-largest oil consuming country obtains its oil. China's hunger for oil, which has been one factor in the rise of world oil prices, is expected to grow by 8.1% or 510,000 bpd, according to the International Energy Agency.

8.2. SINO-KAZAKH OIL PIPELINE

Construction of China’s first major land-based cross-border pipeline began, linking the nation with Kazakhstan. The two countries started building a 1,000 km section from Atasu in Kazakhstan, to the border town of Alashankou in China’s Xinjiang Uygur Autonomous Region. The $700 mm Atasu-Alashankou section, the most important section of the Sino-Kazakh pipeline, will be able to deliver 10 mm tpy of crude oil to China when it is completed in 2005.

The whole Sino-Kazakh pipeline, to be completed in 2011, will cost about $3 bn. It will reach westwards joining the existing 450 km Atyrau-Kenkiyak pipeline in the central Asian republic. Eastward, it will connect with China's West-to-East oil pipeline. The Sino-Kazakh pipeline, with a total length of over 3,000 km, would be able to deliver up to 20 mm tons of Caspian Sea crude oil annually to western China. The China-Kazakhstan pipeline was first proposed in 1997. But negotiations were suspended for six years until more oil reserves were found in order to make the project economically viable.

Kazakhstan, which now exports 70% of its oil from pipelines linked to Russia, wants to find more export markets. An existing line built in the Soviet era links western Siberia with Kazakhstani refineries in Pavlodar and Chumkent and could be integrated with the Chinese system. But the state company Transneft has not make a decision yet.

China, on the other hand, needs more oil to fuel its soaring economic growth and also diversify its oil imports. Russian government officials are not enthusiastic about Kazakhstan’s plans to build an eastern route that will remove crude exports from Russia’s pipeline network.

8.3. QIANGTANG BASIN IN TIBET ESTIMATED TO HOLD OIL AND GAS RESERVES

A large quantity of oil and gas resources is estimated to exist in Qiangtang Basin in Tibet Autonomous Region, where a new oil and gas industrial base is likely to be developed.

The 160,000 sq km Qiangtang Basin is one of the less developed basins in China. But its structures and the surrounding natural conditions, similar to those of oilfields around the Caspian Sea and the Middle East, indicate the presence of fossil fuel reserves.
So far, a 100 km long oil belt has been discovered in the south of the basin. There is the likelihood that in the middle of the basin, light crude oil may be found. Earlier research by the Ministry of Land and Resources in the area has shown that there might be gas hydrate, or "combustible ice" reserves.

China has witnessed major shortages in crude oil and electricity supply in recent years, and has placed great hope in the utilization of gas hydrate, a promising new form of energy, to relieve the domestic crisis.

Domestic experts commonly believe that the potential energy value contained in the gas hydrate resources in the South China Sea could be equivalent to half of China's total oil resources.

Sources: Interfax-China 25-10-04
SinoCast
People's Daily January 19, 2004
Straits Times. 29-09-04

9. ASEAN, CHINA, JAPAN AND SOUTH KOREA TO FORGE CLOSER ENERGY PARTNERSHIP

ASEAN energy ministers and their counterparts from China, Japan and South Korea vowed to forge closer energy partnership to face the challenges in the energy sector in Asia amid highly volatile world oil prices. During their first ever formal meeting, the energy ministers from the 10-member ASEAN (Association of Southeast Asian Nations) plus three discussed such issues as natural gas, oil market, oil stockpiling, renewable energy and energy security.

"Recognizing Asia's growing demand for energy and depletion of fossil fuels, we resolve to achieve, through ASEAN + 3, Energy Partnership, our common goal of greater energy security and sustainability in our region which will become the largest energy consuming region in the world," the ministers said in a joint statement issued at the end of the meeting.

They committed to enhance energy exploration and wider use of indigenous energy resources in recognition of the expected increase of the region's dependency on imported oil in the future. On oil stockpiling, the ministers welcomed the initiative of China to establish a national oil stockpile program, in addition to the existing oil stockpile programs of Japan and South Korea.

They said they look forward to initiatives in ASEAN to develop oil stockpiles on a voluntary basis. They welcomed Japan's intention to provide financial aid for feasibility studies for oil stockpiling and are expecting technical assistance from Japan and South Korea for planning, establishing and/or managing such programs in the region.

On oil market, the ministers said they will encourage market oriented pricing for spot and futures trading for crude oil and petroleum products in the regional oil market. To increase available oil supply options, they will also encourage diversifying oil import sources as well as intensify exploration and development of petroleum resources in the region.
"Recognizing our shared interest in promoting stable and secure energy markets, we will pursue dialogues and partnerships outside the region, particularly with Middle East oil producing countries at various levels amongst various parties," they said.

Meanwhile, they promised to address mutually beneficial issues and concerns in promoting investment in the exploration and production of natural gas, and encourage the development and wider use of renewable energy for energy security and the sustainability of environment.

On energy security, the ministers recognized the need to enhance the regional capacity for timely emergency response by sharing information on a voluntary basis. They also agreed to strengthen their efforts for energy efficiency and conservation as well as the dissemination of clean coal technology in the region.

Earlier, ASEAN energy ministers held their 22nd meeting and adopted a five-year plan of action, which calls for sustainable energy development, enhancing the integration of the regional energy infrastructure, promoting energy security, creating progressive policies for market reforms and liberalization, as well as addressing the environment concerns. ASEAN groups Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

Source: Xinhua News Agency. 09-06-04

10. INDIA

Growing energy demands and the more open attitude of India's new government toward its neighbors may lead to the revival of plans to pipe natural gas into the country from Iran in the west and Myanmar in the east.

While India's crude oil production will rise no more than 50 mm tons over the next two years, its requirement could touch 300 mm tons if it is to sustain a 7-8 % growth in GDP. Domestically, the needs cannot be met as the production is stuck at 90 mm cmpd of gas, while the requirement has already crossed 120 mm cm.

Twenty years down the road, the requirement could touch 391 mm cm.

10.1. IRAN-INDIA PIPELINE PROJECT

The Iran-India natural gas pipeline project may be revived following minister for external affairs, K. Natwar Singh’s declaration, that the UPA government was not averse to it.

As a result, when the commerce secretaries of India and Pakistan meet to discuss steps to normalize trade ties under the auspices of the composite dialogue process, Islamabad will be stepping up efforts to persuade New Delhi to agree not only to the Iran-India project but also consider the Turkmenistan-India project. Both routes envisage transiting Pakistani territory.
Islamabad has even offered to provide international security guarantees to allay India’s security concerns with regard to the project.

The Iran-India project was first mooted in January 2003, when Iran and India had signed a MoU to establish joint ventures to invest in oil and gas projects in both countries. At the time, three possible pipeline routes had been proposed:
-- Overland, crossing Pakistan and entering western Rajasthan covering a distance of roughly 2,600 km.
-- Shallow offshore, outside Pakistani territorial waters. However, this route was more or less rejected as under the law of the sea, a confirmation for building such a pipeline is required from Islamabad as it passed through its external economic zone and permission is mandatory to conduct surveys in its waters. Moreover, the coast offshore Iran and Pakistan exhibits seismic activity because of plate movement, which in turn raises technological hurdles.
-- Deep offshore, thereby avoiding Pakistani exclusive economic zone. However, this entails much higher capital cost as well as technical problems such as movement and sinking of the sea bed.

Although relevant government agencies are involved in the talks, some private energy companies were also interested in keeping the project alive. Chief among these were Reliance and the Australia-based firm, BHP Billion. However, while Reliance is also believed to be interested in the LNG option, BHP's involvement is mainly in the pipeline project. In 2002, it was in negotiations with NTPC, which is seeking long-term and cost-effective fuel supplies for some of its upcoming power projects in north India, expected to come on line in 2007.

In April 2002, BHP submitted an EoI based on supply via the Iran-India onshore gas pipeline. According to BHP sources, NTPC is believed to have conveyed to BHP that it would look favorably at the Iran-India pipeline, the price being the driving appeal. However, this was contingent on the timing of the pipeline project as well as the Indian government’s blessings.

Given India’s concerns regarding the security of supplies, both the Iranian company in charge of the project -- National Iranian Oil Company -- and BHP had suggested some of the following measures to ensure the project’s security: Sovereign as well as inter-governmental guarantees, appointment of independent operators, creation of an escrow account for transit fees, satellite monitoring and fuel back-ups, amongst others. If India overcomes its objections to the overland project, BHP says that it would take just a week to allocate gas for the project. The first phase of the project would see some 320 cfpd of gas being carried by the pipeline, which would be increased to 500 cfpd during the second phase.

Pakistan’s ambassador to the United Arab Emirates Air Marshal (retd.) Qaiser Hussain told that the owner of Al-Mashriq Bank, Abdullah Al-Ghulail, is prepared to invest in the much talked gas pipeline from Iran to India through Pakistan.

Al-Ghulail has agreed to bring his investment to the tune of at least $ 1 bn in the field of gas and petroleum to Pakistan shortly.

Source: Times of India 14-09-04
PNS: 19-07-04
Tehran Times 24-08-04
11. BANGLADESH

ADB has provided to Bangladesh eight loans over the past 25 years totaling $446 mm for Bangladesh's energy sector. The planned outcome of this TA is a standby loan included in the 2004 country program for Bangladesh.

Petrobangla will execute the TA, which is due for completion in October 2004. The Government will contribute $120,000 toward the TA's total cost of $600,000.

The natural gas sector consists of the Bangladesh Oil, Gas and Mineral Corporation (Petrobangla), and its 11 subsidiary operating companies. Petrobangla is mandated to carry out oil and natural gas exploration, and the production and marketing of gas. Natural gas accounts for almost 70% of Bangladesh's commercial energy and provides the basis for about 90% of electricity generation. It will provide most of the country's current and future energy requirements, and the gas market needs to be expanded to optimize the use of natural gas resources and to support economic development.

Although Bangladesh has been producing natural gas for more than three decades, all its major fields are underdeveloped and have not been properly delineated. Substantial natural gas reserves also remain underdeveloped or undiscovered.

11.1. UNOCAL PLANS PIPELINE THRU' PRISTINE FOREST

Sharier Khan and Rezaul Karim

US company Unocal is preparing for construction of a three-kilometer pipeline through the small but environmentally sensitive Lowachhara forest in Moulavibazar while the nation is yet to be compensated for the enormous losses the Magurchhara gas field blowout caused seven years ago.

Although Unocal's American predecessor Occidental was found fully responsible for the blowout that damaged a gas structure worth $600 million, the gas field's owner Petrobangla is not pursuing compensation issue.

Meanwhile, Unocal claims it has already compensated for the gas damage.

The environment ministry had initially assessed an environmental damage of Tk 609 crore.

As Unocal rejects this assessment, the environment ministry has formed a three-member committee headed by Prof Wahiduddin Mahmud to re-assess the environmental damage. The committee will file a report within three months, sources said.

Although Bangladesh did not get any compensation, Occidental had bagged insurance claims against the blowout and left the country by selling its stakes -- assets and liabilities -- to Unocal.
Amid resistance from some quarters within the government, Petrobangla back in 2002 formally sent to Unocal its compensation claim for damage of 240 billion cubic feet (Bcf) of gas worth 600 million dollars. But this was never followed up although the state minister for energy told the press Bangladesh would go to the international court.

Occidental had begun drilling on the spot on June 2, 1997. That was its first drilling since it signed a Production Sharing Contract (PSC) on January 11, 1995. This PSC was naturally terminated on January 11, 1998 for failing to fulfill the minimum work commitment. The government however 'extended' the contract eight months later adding some new clauses.

In 1999, Unocal found a new gas filed in Moulavibazar, close to the Magurchhara explosion site. Petrobangla last year asked Unocal to develop this field and supply at least 35 million cubic feet of gas per day (mmcfd) in 2004 and 60 mmcfd in 2005.

Unocal has drilled several wells in the area to begin gas supply from January 2005.

But to collect the gas to be extracted from these fields, Unocal needs to install a 10-inch-diameter pipeline through the sensitive Louwachhara natural reserve forest.

The environment ministry has Okayed the work. Environment Minister Tariqul Islam said, "We have permitted Unocal to install the pipeline on the basis of an energy ministry proposal and some conditions."

The whole pipeline will transport gas from Bangladesh to India, with a cost of US$900 million. This is a 1,350-km pipeline which will run from Unocal’s operating area in the NE Habiganj district in Bangladesh to a connection with HBJ pipeline, owned and operated by Gas Authority of India Ltd for supply of gas to New Delhi.

Source: Big News Network 19-07-04
Xinhua News Agency 06-06-04
http://thedailystar.net/2004/06/15/d4061501099.htm

11.2. TRIPARTITE MEET ON FEB 24-25
Dhaka to propose 597km gas pipeline

Dhaka will place a proposal for setting up a 597-kilometre gas pipeline from Myanmar to India through Bangladesh at the tripartite techno-commercial working committee meeting, due on February 24 and 25 in Yangon, highly placed sources in the government said.

The route of the pipeline, according to the Dhaka proposal, will start from western offshore of Myanmar and enter into Bangladesh at Teknaf, which will be divided into two wings after reaching Comilla through Chittagong.

One wing will go to the Indian state of Tripura and the other will go to West Bengal through Brahmanbaria-Kishoreganj-Tangail-Pabna-Kushtia-Jessore. The pipeline will cross three rivers Meghna, Jamuna and Padma.
Earlier, a meeting of energy ministers of Bangladesh, India and Myanmar in January discussed about six proposed routes including offshore routes, Myanmar-Chittagong-Comilla-West Bengal and Myanmar-Tripura-Brahmanbaria-Khulna-West Bengal.

They also discussed that the proposed route would be around a 289-kilometre gas pipeline, which might go through the Bangladesh national gas-grid.

The sources, however, said that high-ups in the government had directed two Bangladesh representatives of the six-member tripartite committee to place the proposal of 597-kilometre route.

The Petrobangla chairman, SR Osmani, and the Gas Transmission Company Limited director, Salek Sufi, will leave Dhaka today for Yangon to attend the meeting.

Dhaka has decided to place the new route as it will be a secured and environment-friendly one, they said.

They said that Bangladesh would earn $250 million annually if the new route is approved and set up. Sources said the two officials have also been directed to press for Dhaka’s three conditions for the proposed gas-pipeline and include the issue in the draft memorandum of understanding, which is supposed to be prepared by the committee.

Dhaka has been pressing New Delhi to allow it to bring hydroelectricity from Nepal and Bhutan, provide the two Himalayan countries with transit facilities and reduce trade gap with Bangladesh for setting up the gas-pipeline.

Meanwhile, the state minister for energy and mineral resources, AKM Mosharraf, on Tuesday confirmed that the working committee meeting will start on February 24 as per schedule ending a confusion that prevailed at least for eight days.

Although Yangon conveyed Dhaka on February 14 that the meeting would be held on 24 and 25 this month, the ministry did not confirm the schedule till Tuesday. Besides, Dhaka’s nomination of only two officials for the meeting also raised questions as Delhi has selected four officials led by AK Srivastava, a joint secretary of the ministry of petroleum and natural gas, while a number of officials of host Yangon will be present at the meeting.

Mosharraf said Dhaka has selected two officials as the committee is a six-member one represented by two members each from three countries.

The draft of memorandum of understanding on the gas pipeline will be signed by the three nations in April. The committee has been entrusted with the responsibility of selecting the route of the pipeline, setting terms and conditions for the international consortium, which will operate it, and installing the pipeline in accordance with international law.

It will also work out the details of the infrastructure of the pipeline, wheeling and management charges and security issues. Mosharraf said that the January meeting in Yangon would be base for the working committee. At that meeting three ministers decided that the governments of
Bangladesh and India reserve the right to access the pipeline as and when required, including injecting and siphoning off their own natural gas.

The minister said that Dhaka would send a formal proposal to Delhi on its three conditions after receipt of the committee meeting report. India indents to take 6 trillion cubic feet of gas from western Myanmar through the proposed pipeline.

Sources: NewAge, February 23, 2005. Dhaka, Bangladesh
www.newagebd.com

12. PAKISTAN AND AZERBAIJAN TO EXPAND COOPERATION IN OIL AND GAS SECTOR

Pakistan and Azerbaijan have agreed to promote and expand cooperation in the oil and gas sector. A Memorandum of Understanding (MoU) to this effect was signed at the conclusion of a two-day Joint Ministerial Commission (JMC) meeting held in Baku.

Petroleum and Natural Resources Minister Nouraiz Shakoor Khan led the Pakistani delegation at the JMC meeting.

Under the MoU, both the countries would cooperate in petroleum exploration in offshore and onshore areas by providing assistance and facilitation to the state companies to evaluate the business opportunities. They also agreed to cooperate in the gas transmission and distribution sector in all fields, including the cross-border gas pipeline by sharing expertise and transfer of technology.

Both the countries will exchange expertise and know-how for regional geological and large-scale mapping and topographic surveys of mineral resources, including energy, mineral data and information. They also agreed to collaborate for capacity-building and enhancing training skills between the institutes.

It was also agreed to form a Joint Standing Committee (JSC) to overview the progress on the implementation of the recommendations.

Mr Shakoor said there existed a lot of potential and opportunities for Pakistan-Azerbaijan cooperation in oil, gas and mineral sectors.

Source: Asia Pulse 08-07-04

13. TURKMENISTAN-AFGHANISTAN-PAKISTAN NATURAL GAS PIPELINE PROJECT

The Asian Development Bank (ADB) awarded Penspen the Techno-Economic Feasibility Study for its Turkmenistan-Afghanistan-Pakistan natural gas pipeline project.
The project is conceived to transport gas produced in the established Dauletabad field in south-east Turkmenistan to undersupplied markets in Afghanistan and Pakistan with the potential to access unsupplied markets in northern India. Afghanistan would benefit from the transit fee and from potential off-takes to its own gas markets.

The scope of the study is to:
-- Select a single pipeline route for development;
-- Perform environmental and social studies on the route;
-- Consider seismic impacts;
-- Produce a route corridor at 1:200,000 scales;
-- Perform hydraulic analysis to suit gas market demand;
-- Define an optimum transmission system;
-- Estimate capital and operating costs;
-- Perform economic analysis, assess project viability;
-- Produce inception, draft final and final reports in English and Russian.

The project duration is 5 months. The final report is due for issue on 15 September 2003.

Afghanistan, Pakistan and Turkmenistan need more studies carried out before they proceed with the $2.5 bn trans-Afghan gas pipeline project, the Asian Development Bank (ADB) said. The decision puts on hold the process of drawing up a shortlist of construction companies that would be qualified to bid for the project, an ADB statement said.

It said the oil and gas ministers from the three countries advised the ADB of the need for "a route survey for the southern route through Herat, Kandahar, Quetta and Multan, an estimation of reserves in the Dauletabad gas fields in Turkmenistan, and finalization of the Host Country Agreement and the gas sales and purchase agreements, and the gas transportation agreement."

Source: Daily Times 30-07-03
Source: AFP 05-06-03

14. CENTRAL ASIA

The 5 Central Asian States of Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan are rich in non developed fossil fuels.

Kazakhstan has significant petroleum reserves that are estimated at 0.8 – 2.5 bn tonnes. Oil production in 2003 was 52.2 mn tonnes, double the level in 1998 and rising strongly, with consumption of 9.5mn tonnes. The exports increased with the launch of the 990 miles long Caspian Pipeline Consortium (CPC) pipeline in 2001, which transport oil from Tengiz fields to Russian’s Black Sea port of Novorossiysk.

Proven natural gas reserves of 1.9tn cm at end 2003 are located mainly in the Kashagan, Karachaganak and Tengiz fields. Kazakhstan is among the top 20 gas reserve countries of the world. Extraction reached 12.9bn cm in 2003, but much gas is flared during oil production. The lack of internal pipelines is such that the Kazakh industrial belt depends on imports of Uzbeki gas and some Russian gas.
Uzbekistan has significant oil, coal and natural gas. Its only current crude export option is to reverse an existing pipeline that brings Russian oil to Uzbek refineries. However, the relatively small surplus of oil available for export does not merit the construction of long export pipeline.

Uzbekistan is one of the top ten gas producing countries in the world, producing 53.6bn cm in 2003 and consuming 47.2bn cm. Exports of gas have recently declined on account of non-payment and other delivery problems. Gas reserves are ample with limited exports to Kazakhstan, the Kyrgyz Republic, Russia and Tajikistan via the Central Asia-Central Russia pipeline, Uzbekistan hopes to secure an extension to the Trans Caspian gas pipeline for exports to Europe.

The primary energy reserve of Turkmenistan is natural gas. Production has been rising steeply, reaching 36bn cm exported to Russia and small volumes to Ukraine and Iran. Further exports hopes are being focused on the Trans Caspian gas pipeline project which will run from Turkmenistan under the Caspian Sea and through Georgia to Turkey.

Tajikistan and the Kyrgyz Republic are dependent on oil and gas imports.

Source: Petroleum Review. December 2004

14.1 CASPIAN PIPELINE CONSORTIUM PIPELINE ONSTREAM

The pipeline dedicated to carrying Kazakhstan’s north Caspian oil riches to the world market is 1.510 km steel pipeline, with American oil companies putting up most of the $2.5bn spent so far and Russia standing to earn $20bn over its 40-year life.

The pipeline, built by the 11-member Caspian Pipeline Consortium known as CPC, starts on the desert shores of the northeast Caspian Sea at Tengiz, Kazakhstan, the world’s sixth-largest oil field. The pipeline, believed to be the longest 40-inch oil pipe in the world, then curls around the Caspian before striking west across the broad plains north of the Caucasus range to end at a tanker terminal located 25 km west of Novorossiya. Exactly half of the pipeline from Tengiz to a point near the port of Kaspiskoi already existed and was refurbished and provided with new pump stations. The other half was built from scratch.

When the first phase is finished in the fall and the pipeline capacity reaches 550,000 b/d, the cost is expected to stand at $2.64bn. When it is fully completed in a few years at a final cost of about $4bn, it will be able to carry up to 1.3mn b/d with 17 pump stations.

Production at the Tengiz field is not expected to achieve its peak of 700,000 b/d until the end of the decade, according to Tom Winterton, General Director of the consortium exploiting the field, Tengizchevroil (50% ChevronTexaco; 25% ExxonMobil; 20% Kazakhoil; and 5% LukArco, a Lukoil/BP joint venture since the BP takeover of Arco). When Chevron took over Tengiz from its post-Soviet managers in 1993, it created one consortium for the oil field, while Oman and Kazakhstan created a second one to build the pipeline to the nearest open sea, the Black Sea.
For the first few years, Tengizchevroil diligently overcame such obstacles as the extreme depth of the reservoir (4,000 metres), its high content of poisonous sulphur dioxide (SO2) and the high pressure at which the oil was coming out. Production steadily climbed from 25,000 b/d to 260,000 b/d and the jinx that once gave Tengiz the longest uncontrolled blow-out in Soviet history seemed overcome.

But in those years, the pipeline consortium got strictly nowhere in its efforts to finance the pipeline without having Chevron onboard. In 1997 CPC was restructured, with Chevron joining and taking a leading role.

It was not until that year that two newly created Russian oil giants Lukoil and Rosneft were brought into the consortium. At the same time the Russian Government reduced its share to 24%, based on its contribution of land and 300 km of existing pipeline. The Kazakhstani Government took a 19% contribution, in proportion with its 455-km share of an existing pipeline, and Oman kept 7%. The three governments share was 50%. The other half was divided up among the oil companies who would pay to rehabilitate the existing pipeline, build 755 km of new line, create a terminal on the Black Sea coast and build an initial five pump stations along the way.

Chevron (Chevron Caspian Pipeline Consortium Company) took 15%, the biggest share and Lukoil (LukArco BV) took 12.5% in the pipeline building venture. The two companies agreed to rotate the top two jobs, with Chevron executives in the number two job for the first five years having responsibility for operations building the pipeline. Rosneft Shell Caspian Ventures Ltd and Mobil Caspian Pipeline Company each took 7.5%; Agip International and BG Overseas Holdings Ltd each took 2%, and Kazakhstan Pipeline Ventures (KPV) LLC (in which BP has an interest) and Oryx Caspian Pipeline LLC each took 1.75%.

But for the pipeline, Chevron insisted on instituting a quality bank, a system penalising those who would add low-quality crude to the mostly-Tengiz CPC blend. Signing for it was one thing, but agreeing on how it would work proved much more difficult than expected, partly because Russians had never participated in a quality bank, CPC executives said.

Agreement came only three days before the planned inauguration date, which was to coincide with the loading of the first tanker. By then, the ceremony had already been cancelled.

Other delays pushed back the date of loading of the first tanker to 13 October 2001. By the time all the difficulties were ironed out, five fully loaded tankers had weighed anchor and sailed to the Bosphorus and refineries in Europe. A sixth one was loading when the ceremony took place on 27 November. Presidents Vladimir Putin of Russia and Nursultan Nazarbayev of Kazakhstan declined to attend the dedication ceremony, while Russia and the US ended up being represented by Deputy Ministers. ChevronTexaco, the world’s fourth-largest oil company sent Chairman David O’Reilly and the incoming and outgoing Vice-Chairmen. This was not surprising both the pipeline and the giant oil field it serves are Chevron’s babies, multi-billion-dollar gambles that are finally paying off. The pipeline will halve the $6/b that ChevronTexaco has been paying to transport its oil by rail and pipeline to European markets.

Source: Petroleum Review. 2004
Some 135 mn tonnes of oil and oil products were exported from Russia via the Black Sea in 2003. However, as volumes increase, so do the number of “traffic jam” on both sides of the Strait. Freight process are also rising as a result. Today, 1/3 of the US$ 19.3 price for transporting a tonne of oil from Novorossiysk to Italian ports is spent on covering the demurrage of tankers waiting to pass through the Bosphorus and the Dardanelles. Russian exporters thus lose US$ 400 mn every year. Transit through Turkey has become a bottleneck for Russia’s exports.

The State run Transneft the leading operator of Russian main pipeline network, has long been thinking about this issue. They have two options:

The Turkish route – Kiyikoy (the Black Sea) to Ibrahaba (the Aegean Sea), and the Bulgarian – Greek route – Burgas to Alexandroupolis

In May 2004 the Transneft Board approved the company’s participation in developing the project on Turkish territory. The projects includes a 193 Km long pipeline with a diameter of 1,220 mm, the main and relay pumping stations, the tank field, end terminals and loading berths, is expected to take two years to complete. Once commissioned, the pipeline will transport some 60mn t/y of oil, assuming 50% of the Bosphorus’s lead.

The EU is lobbying alternative oil shipment projects in the Balkans, which could involve Bulgaria, Romania, Albania, Macedonia, Greece and Croatia. The completed Odessa-Brody pipeline transiting Ukraine is considered to be another alternative route.

Source: Petroleum Review. December 2004

15.1. PUTIN PREFERS OIL PIPELINE TO JAPAN, NOT CHINA

The Japanese government has intensified its lobbying for a Kremlin decision in favor of a new crude oil pipeline to Nakhodka, on the Sea of Japan. While Russian government reaction has been politely positive, the silence from Russia's commercial oil companies suggests that Tokyo is miscalculating its effort, pitching financial incentives in the wrong direction.

Japan will finance the Sea of Japan oil outlet with low-interest loans of up to Y 900 bn ($ 7.5 bn). Russian oil industry sources told that an increase in the Japanese financing offer for the Nakhodka pipeline fails to address its two greatest disadvantages in the thinking of Kremlin officials. These sources told "the first problem is that the terms of repayment would require exclusive delivery of Russian oil to Japan until the loans are repaid; the second is that there is insufficient oil production in the East Siberian basin to make the new pipeline cost-effective for at least the next decade."

According to a report by Moscow-based Alfa Bank -- which is linked to the Tyumen Oil Company -- the Japanese offer tabled by Kawaguchi includes "finance [for] the development of Eastern Siberian reserves, should Russia agree on construction of the Angarsk-Nakhodka branch before building a branch to China."
Oil company sources acknowledge that foreign financing is a precondition for development of the East Siberian basin. Until now, virtually all of the growth in Russian oilfield output and exports has come from upgrades of the West Siberian basin, and from traditional sources in the Volga Urals basin.

According to estimates by the Russian oil companies, the West Siberian basin has more than 170 bn barrels in oil to be produced at peak capacity rates over the next fifty years. Proven reserves in East Siberia currently total 3 bn barrels, with potential recoverable reserves estimated at 16.6 bn barrels.

President Vladimir Putin hinted at these issues when asked about the pipeline decision on June 20. "Angarsk-Nakhodka seems preferable," he said, "from the standpoint that it allows access to the market in the wide sense of word, allows the export of energy raw materials to all the countries of the region."

The question is whether it is economically valid. The problem is that the filling this pipeline with oil is still problematic. It depends on the results of geological exploratory works in Eastern Siberia, and specialists should calculate how much laying the pipeline to Nakhodka will cost, whether this pipeline will be have a full load and be economically justified, and economically effective.

Current estimates are for the Nakhodka pipeline to have a capacity of 50 mm tpy (almost 1 mm bpd), at a cost of about $ 6 bn. The route between Angarsk and Daqing, in China, is half the distance, and a fraction of the price, with financing expected to come from Chinese state debt to Russia.

The Chinese route was already agreed between Putin and Chinese president Hu Jintao in Moscow.

This route also has the backing of Transneft, the state-controlled pipeline company. The commercial Russian oil producers say their current pipeline priority is a route from new Arctic oilfields to Murmansk, in north-western Russia, which would provide access to consumers in Western Europe and the United States.

Source: Mineweb. 03-07-03

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16. GAS AND OIL RIVALRY IN THE EAST CHINA SEA

By Kosuke Takahashi

Current explorations of an offshore gas field in the East China Sea by both China and Japan have recently strained relations between the two powerful nations. The tension over sovereignty of this disputed gas field appears to be on the rise, exacerbating mutual mistrust dating back to the Sino-Japanese War and World War II -- and not allayed by China's meteoric economic rise and voracious appetite for oil and gas. While Japan is concerned that Chinese drilling could siphon off natural gas from Japan's territorial seabed, Beijing considers Tokyo's claim as infringing on its interests and
sovereignty. China appears to believe that Tokyo feels threatened by China's enormous economic development and is trying to contain it, at least in the East China Sea. This distrust and petroleum rivalry could lead to further serious problems unless both countries swiftly reach some political agreement on the development of the gas field.

THE TROUBLED, INDEFINABLE BOUNDARY

The issue first arose in August 2003 when the Chinese government concluded development contracts with oil development companies in China and other countries, including oil majors Shell and the United States oil company Unocal, for exploration and production gas projects in the East China Sea worth billions of dollars. The Japanese government has since expressed concerns that the fields may encroach upon Japan's exclusive economic zone (EEZ), and Tokyo officially asked Beijing for precise data on the location of those fields, but Beijing has declined that request.

The issue surfaced again in early June this year when Japan confirmed that Beijing has started constructing a drilling facility in the area within China's EEZ, 4 km from Japan's claimed centre line between each country's coasts. In addition, Japan recently confirmed that Beijing has started constructing drilling facilities at another site, fuelling concerns that it will launch similar projects in the near future.

As tensions increased, Chinese Foreign Minister Li Zhaoxing proposed when first visiting Japanese Foreign Minister Yoriko Kawaguchi on June 22 that China and Japan cooperate in exploring the oil and natural gas reserves in the East China Sea. But instead of accepting that offer, Kawaguchi requested that China provide the exact locations, depths and other related data of its offshore drillings underway in the East China Sea, fearing lest that China may have violated Japan's interests in tapping marine resources.

The Japanese government appeared to conclude that China is collecting oceanographic data for possible submarine warfare around that area, which Japan considers strategically essential for China to boost its military presence vis-à-vis Taiwan as well as the United States, according to conservative Japanese media, such as the Sankei Shimbun. The disputed gas field is in the vicinity of Taiwan and the disputed Senkaku Islands, which are claimed by both countries. The Japanese government seems to believe this was why China has refused to give any data and information on its oil and gas development in the region.

On July 7, Japan started exploring its own EEZ in the East China Sea for natural gas by sending survey ships, apparently seeking to counter ongoing gas exploration by China at a nearby location. The following day in Beijing, Chinese vice Foreign Minister Wang Yi summoned Japan's ambassador and delivered an official protest, criticizing Japan's "act that infringed upon China's interests and sovereignty".

Behind this skirmishing are the conflicting views of the two countries on where the demarcation line should be placed between the EEZs of the two countries. Both have been at loggerheads over the boundaries. While Japan defines it as the line marking an equal distance from the coasts of the two countries, China claims its EEZ extends to the edge of the continental shelf. The gas field in question, named Chunxiao, is located four km inside the Chinese side of the EEZ boundary claimed by Japan.
Legally, the United Nations Convention on the Law of the Sea allows coastal countries to regulate catch and seabed resources in an economic zone extending 200 nautical miles, or 370 km, from their shores. But Beijing and Tokyo, both of which signed the convention in 1996, have not agreed on where their sea border lies. The UN says it will decide on global offshore territorial claims by May 2009. In February 2001, Japan and China only agreed to give each other two months’ prior notification with regard to maritime scientific research activities in waters around the two countries.

For this reason, China claims the Chunxiao gas field does not cross the border line and would not even if the Japanese method of demarcation is adopted because there are still four km to Japan's claimed centre line (although China has never accepted the legitimacy of the Japanese demarcation). Meanwhile, Japan says it has a right to claim its share if resources in the Chinese EEZ are found to straddle the intermediate line. Japan has asked China to provide experimental drilling data, though these efforts have been in vain because it decided to explore the site by itself and has started it already.

China, the world's No 2 oil consumer after the US, is racing to develop natural resources to meet its rapidly growing domestic demand for energy as the economy races ahead. It is believed that since last summer China has stepped up development of gas fields in the East China Sea. That was when China suffered severe energy shortages, especially a shortage of electricity.

China is still in dire need of electric power for its heavy industry development and manufacturing sector. Chinese experts believe the 2004 energy shortfall to be at least as severe as that in 2003. China's commercial hub of Shanghai, grappling with a worsening power crunch, ordered its two largest auto makers to shut down production for more than a week. The sharp energy shortfall will exist until 2006, according to a recent prediction issued by China Electricity Council.

Moreover, at the National People's Congress in March, China pointed to the development and protection of marine resources as one of the government's priority issues, underscoring the country's growing sense of crisis over energy security. The Institute of Energy Economics in Japan also forecasts that oil consumption in China will grow to 590 mm tons in 2020 from 220 mm tons in 2000, and the country's oil imports will soar to 450 mm tons during the same period, compared with 250 mm tons for Japan.

Furthermore, China is expected to become a net importer of natural gas by 2010. China is also expected to become a net importer of gasoline within this year. China's dependence on the region's oil is expected to reach 50% in 2020 from 15% in 2000, according to experts.

More recently, in the January-June period, fuel oil imports hit 16.37 mm tons, a whopping 53.5% rise on the same period a year ago, according to the latest data from Chinese customs.

Meanwhile, Japan, the world's second-biggest economy, has almost no natural resources of its own and relies on the Middle East for nearly 90% of its oil as an energy source. Tokyo hopes to develop other sources, and has been negotiating for access to oil and natural gas reserves with Russia and Iran, among others. Japan is also competing with China over Russia's project to extend a crude oil pipeline in Eastern Siberia. While China has proposed stretching the
pipeline inland to Daqing, Japan is seeking an extension to Nakhodka, a port city facing the Sea of Japan.

FOR JAPAN, NO CHOICE BUT TO WORK TOGETHER

Japanese experts believe Japan is facing a tough question on how to deal with its neighbor, which is emerging as an energy guzzler. The problem is that the Chunxiao project, which has jangled Tokyo's nerves, also involves several US and European energy giants and is already at the advanced stage. Gas is scheduled to be pumped to China as early as next year. It is also not clear whether Japan can chip in at this late stage, even if it accepts China's joint-exploitation proposal. Some skeptics say China is only playing for time, not giving Japan any data on the project.

China has also been operating research vessels within Japan's EEZ without notifying the Japanese government in advance. These activities have served to make Japan wary about Beijing's proposal for joint development. Japan's Chief Cabinet Secretary Hiroyuki Hosoda said the Japanese government is planning to lodge a stronger protest with Beijing over the repeated presence of Chinese survey ships in Japan's EEZ.

But there are some signs that two counties are beginning to move toward cooperation in energy to find complementary positions. For example, in the private sector, Japan's largest oil refiner Nippon Oil Corp teamed up with PetroChina in refining and exporting crude oil. The tie-up will solve the dual problems of a refining capacity shortage in China and excess capacity in Japan.

To be sure, on the energy issue, Japan and China have no choice but to work together, although occasional friction is likely because the matter is complicated by historical issues and the territorial dispute. If the current standoff continues, Japan might want to accept China's joint project proposal, taking the opportunity to expand cooperation in resource development with China and to improve the climate for future cooperation.

The two countries surely need to explore ways to cooperate, rather than compete for energy resources in Northeast Asia, which as a whole will need to import about 70% of its oil from the Middle East in 2020.

Under the circumstances, it would be more beneficial for both Japan and China to forge an alliance in price negotiations than to compete. For Japanese companies in the energy sector, China is a huge, lucrative market. And for China, Japan's energy-saving and environmental-protection technology must be very attractive.

Source: Asia Times Online. 27-07-04
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