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Energy Economics

Articles on Oil & Gas in the English section, in cooperation with IranOilGas.com

production and the results of the studies on the field's production mode and the volume of its recoverable crude oil will be ready by mid 2007.

Apparently, placing of the pumps and injecting of the needed steam into the said wells may lead to the production of up to 1,500 bpd of crude oil by each well, for a 20-year period.

Development of Zagheh heavy crude oil field is at the study stage and the Russian Tatneft will be completing the processing and interpretation of the 3D seismic data of the field in 9 months.

Given that the drilling of well No.1 of Zagheh had to be halted due to high pressure and risky conditions, PEDEC is seeking to get the approval for drilling another well in this field.

Latest with Iran's underground gas storage projects

Iran's sub-terrain gas storage projects are still being studied and have yet to become operational, says Abdol Hossein Samari, head of natural gas storing affairs of NIGC.

Expressing his discontent with the way the storage issue has been handled in the relevant talks between NIGC and NIOC, he told ISNA: "Though we are technically ready to start storing natural gas, talks with different managements of NIOC for the purpose have led nowhere".

Saying that gas storing facilities in Iran are non-existent, he said: "Gas storage issue has a shaky foundation in Iran and NIGC lacks the full authority to execute storage projects".

Concerning possibility of storing gas in "Shourijeh D" depleted reservoir, located in Khanguiran region, he stressed: "Although experts believe that gas could be stored in this reservoir, NIOC has failed to follow through with the plan".

As for Yurtsha underground gas storage (of Varamin), he explained: "Drilling of the needed appraisal wells in this depleted reservoir has already been completed and the relevant report will be ready by mid February. If the reservoir is found to be suitable for gas storage, the required storage model will be prepared".

Gas shortage constrains Iran's urea production

Talking to ISNA, Reza Afshin, head of production control of NPC said: "The nominal capacity of all the urea producing units of Iran is around 1.5 mt/y and they will be producing a total of 1.2 Mln tons of urea by the end of this Iranian year".

Putting the breakdown of production volumes of urea fertilizers by Khorasan and Shiraz petrochemical plants at 500,000 tons each and that of Razi plant at 200,000 tons during this year, he added: "Cold weather and the subsequent drop in the gas supply to these units is causing the units to produce less than their nominal capacities".

On how the shortage would be compensated, he explained: "Needed volumes of urea fertilizers will be imported and, phase 1 of the urea plant of Assalouyeh, with the capacity of 1 mt/y, and urea unit of Kermanshah, with the capacity of 600,000 t/y, will be coming on stream by the end of this year and the first half the next Iranian year respectively".

Salman Platform installation to start in a week

The PR office of PetroIran Development Company has quoted the manager of the EPC 2 project of development of Salman field as saying that the drilling platform "2 SKC", which was earlier shipped to the site from Bandar Abbas, will be set up on its jacket in the next couple of days if the weather conditions permit.

According to this report, the next platforms to be loaded and shipped to Salman region will be "PP 3" and drilling platform "2 SKB".

The said three platforms and the relevant LQ have all been built in the fabrication yard of SAFF, in Bandar Abbas. Once these platforms are installed, shipment of other platforms of the project from SADRA's yard in Boushehr will follow.

Masjed Solaiman project remains dormant

The project to raise the production capacity of Iran's Masjed Solaiman oil field has remained stifled since early June last year because of disputes between the project's client (PEDEC) and contractor of the project (JV of the Chinese CNPC and the Iranian Naftgaran).

The drilling rig "GWDC-30C", owned by the Chinese GWDC, has remained idle in the region since late 2005. No reports are yet available on the settlement of the disagreements and consequent resumption of works on the project, which has been dragging on for the past six years.

Tenders for construction of a Production unit and a Desalting unit in the field have been suspended too.

The project was scheduled to become operational in June 2006, but it has only moved a mere 20%.

The project is aimed at raising the production capacity of the field from the present 5,000 bpd to max 25,000 bpd.

World oil market developments: challenges and opportunities

Mohammed Barkindo
Acting for the OPEC Secretary General
11th Annual International lIES Oil and Gas Forum
Entitled "New developments in world oil and gas: challenges and opportunities
In Tehran on 20—21 November 2006

Islam Republic of Iran as OEC Member

Since OPEC is essentially an oil Organization. However, in doing this, many OPEC Member Countries and especially the Islamic Republic of Iran have a strong base in the gas industry, as well as that of oil, and collectively account for around half the world's proven natural gas reserves. This compares with nearly four-fifths of global proven crude oil reserves.

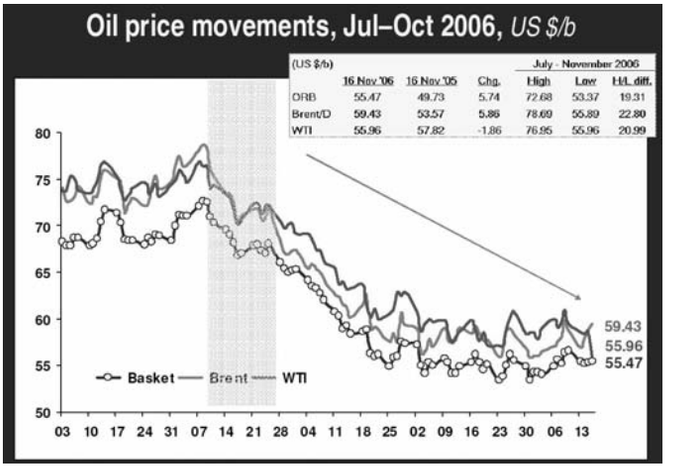
It is always very special to be in Iran, because this is a very interesting Member of OPEC in a number of ways.

It is, indeed, very important to have the total commitment of all our Members to handling the challenges and opportunities that face us in the international oil market, as we seek to ensure that it functions in a stable and orderly manner at all times, in the interests of producers and consumers alike. It is a constantly shifting landscape, requiring continuous monitoring and the readiness and capability to take timely remedial actions, as and when necessary.

If we look at the present situation, for example, we see that the past three months have witnessed a significant reversal of the trend of protracted upward pressure on prices that has been a dominant feature since spring 2004, and this is indicative of an over-supplied market. Indeed, the scale and speed of the decline in crude oil prices has caught the market by surprise. The OPEC Refence Basket has fallen by around $18—19 a barrel from a peak of $72.7/b on 8 August, the sharpest drop since 1991, as a result of changing fundamentals and easing geopolitical tensions.

Oil Prices Movement

Additionally, very much as a result of OPEC's production increases in recent years, commercial crude oil inventories in the OECD have risen to comfortable levels, well above the five-year average. Also, with the approach of the winter season, seasonally-important middle distillate stocks in the USA, including heating oil, are also at high levels and once again well above the five-year average as reported by recent weekly stocks data. (Figure 1)



US stocks, deviation from five-year average (percent)

The demand picture for the remainder of 2006 and for 2007 appears far from robust. The strong demand growth seen in 2004 declined sharply in 2005, and this deceleration has continued into 2006. This has happened, despite the strong momentum in the global economy. Demand growth in 2006 is now expected to remain moderate, at around 1.0 million barrels a day, and to reach 1.3mb/d in 2007, although this requires a rebound from current trends.

On the supply side, the outlook for non-OPEC has changed dramatically, after non-OPEC supply growth had fallen behind world demand growth over the past few years which had led to OPEC unexpectedly meeting the bulk of rising demand, to the tune of around 4.5mb/d since 2002, while also accelerating plans to expand production capacity. Non-OPEC supply has already picked up by 0.9mb/d in 2006 and is expected to grow

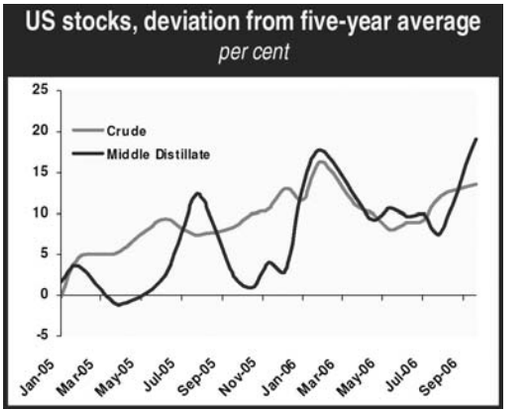
next year at 1.8mb/d, the highest rate since 1984, pointing to a clear imbalance between supply and demand. Growth in non-OPEC supply is expected to exceed growth in world demand by around 0.7 mb/d in 2007, indicating the need for measures to rebalance a market already flush with stocks. As a result, the demand for OPEC oil will be 28.1mb/d. around 1.6mb/d lower than total OPEC production in September.

Overall, the recent developments have triggered a strong bearish sentiment in the market, leading to concern that the downward momentum might persist and take prices lower than might otherwise be expected. Past experience has shown that it is in the long-term interest of both producers and consumers to maintain prices at levels that both support healthy economic growth, as well as encourage investment in capacity to meet current and future demand, particularly in an industry with long lead-times and high financial risks and in an environment of rising costs. In fact, this matter was discussed at length at the Informal Meeting of High-Level Experts from OPEC and Non-OPEC Producing Countries in Mexico a fortnight ago.

It also constituted the sentiment that prevailed at a special Consultative Meeting of the Conference OPEC held in Doha, Qatar, on 20 October. After reflecting on the outlook for the rest of this year and all of 2007, the Conference decided to realign its production by 1.2mb/d to 26.3mb/d, with effect from the beginning of this month, so as to help stabilise the market. A further review of the situation will take place at the next Extraordinary Meeting of the Conference in Nigeria on 14 December.

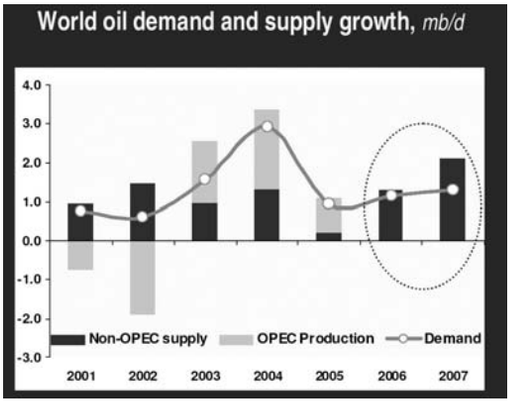
The Doha Conference effectively marked a turning-point for OPEC, in line with the changing market outlook. After a two-year period in which it had focused its efforts on increasing production levels and accelerating capacity-expansion plans, in order to counter the exceptional, volatile upward pressure on prices at that time, the Organization responded to the evolving new need to resist, at its early stages, a possible heavy downward price spiral, which was as potentially damaging to the market at large as the upward trend. Such flexibility in its actions is typical of OPEC, as it seeks to achieve lasting order and stability in the market, at prices acceptable to producers and consumers alike.

This policy extends across all time-horizons, as was made clear at the Third OPEC International Seminar in Vienna two months ago, which attracted participants from the highest levels of government, industry and academia in both richer and poorer nations. An overriding message to emerge from that event was that fossil fuels will continue to dominate the global energy mix for decades to come and will remain vital for supporting the forecast expansion in global economic growth. This ties in very much with our own forecasts. (Figure 2)



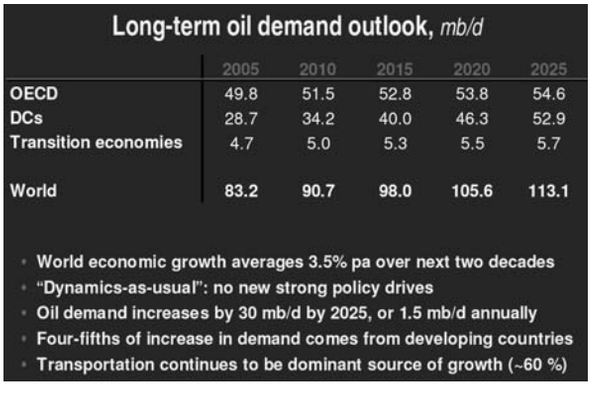
World oil demand and supply growth, mb/d

OPEC's reference case scenario puts average annual oil demand growth at 1.6 per cent for the period up to 2025; this is a sizeable 36 per cent taken across the entire 20-year period.(figure 3)



Long-term oil demand outlook, mb/d

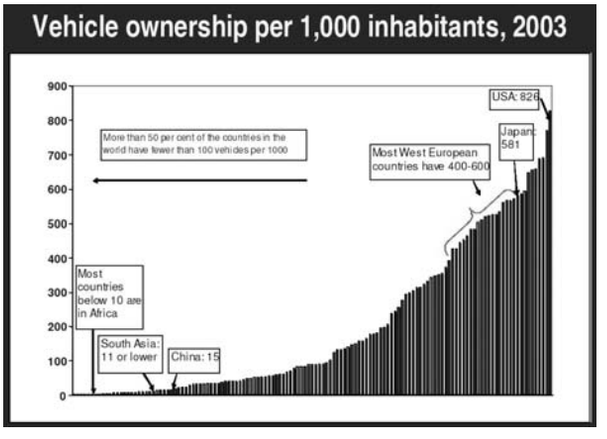
The transportation sector will be the main source of future oil demand growth, due to its heavy reliance on liquid fuels and the absence of viable alternatives on a large commercial scale. Developing countries, especially from Asia, are set to account for four-fifths of the rise, with consumption almost doubling to 53mb/d. However, in 2025, OECD countries will remain the dominant oil consumer and will continue to use, on average, five times more oil per person than developing countries. Similar conclusions appear in the International Energy Agency's (IEA's) recently-released World Energy Outlook 2006, although there are variations in the actual figures.(Figure 4)



Vehicle ownership per 1,000 inhabitants, 2003

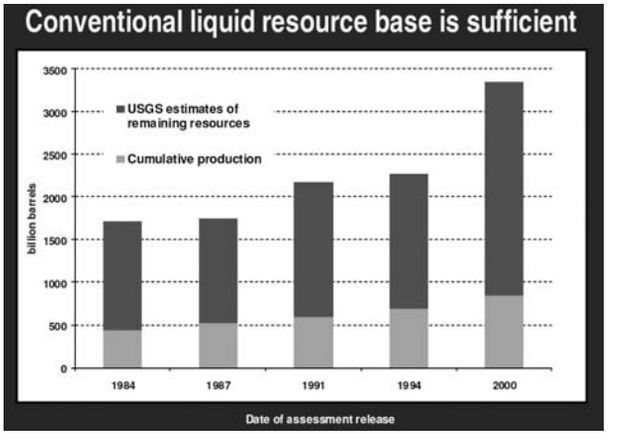
The global resource base is sufficient to deal with the forecast increases in world oil demand well into the future. Estimates of global ultimately recoverable resources for conventional oil have been increasing, due to such factors as technology, successful exploration and enhanced recovery from existing fields. Technological progress should also allow the development of large amounts of unconventional oil at lower cost, such as gas-to-liquids, coal-to-liquids, tar sands and heavy oil. With specific regard to biofuels, these are still expensive to produce and generally require government support to make them competitive.

Indeed, when you think about it, it is rather ironic that many influential interests in the developed world are all too ready to criticise the governments of oil-producing developing countries for subsidising domestic fuel supplies, and, yet, at the same time, these same interests condone the use of subsidies for the development of their own biofuels and other renewable forms of energy! And they are very often the same people who keep reminding us of the virtues of the free market!(Figure 5)



Conventional liquid resource base is sufficient

Non-OPEC supply has the potential to rise substantially in the medium term, but this is forecast to reach a plateau after 2015, at 58—59mb/d. Thus, in the longer term, it is expected that OPEC, with nearly four-fifths of the world's proven crude oil reserves, will be relied upon to supply most of the incremental barrel of demand, to ensure that the market remains well-supplied with crude, at reasonable prices that are compatible with robust growth in the world economy. We are also seeking to produce oil in a cleaner and more efficient way than ever before, so as to meet the increasingly stringent demands of the modern consumer in rich and poor countries alike. Our projections show that OPEC production levels, including natural gas liquids, will rise to 54mb/d by 2025, which will be slightly below that of non-OPEC. (Figure 6)



Long-term oil supply outlook, mb/d

Moreover, if we look at the major interregional flows of crude oil from the perspective of exporters, as expected by 2015, we can see the major role of the Persian Gulf as a whole and, notably, the heavy concentration of its exports to Asia. With 18 per cent of the region's proven crude oil reserves as well as more than double this proportion of its natural gas, at 38 per cent clearly Iran will remain a major player in this hydrocarbon-rich area. (Figure7)

Long-term oil supply outlook, *mb/d*

	2005	2010	2015	2020	2025
OECD	20.5	20.6	20.7	20.5	19.5
DCs, excl. OPEC	16.1	18.6	19.7	20.0	19.9
Transition economies	11.7	14.4	15.5	16.1	16.5
Total non-OPEC	50.1	55.8	58.3	59.4	58.9
OPEC (incl. NGLs)	33.1	34.9	39.7	46.2	54.3
World	83.2	90.7	98.0	105.6	113.1

Expected major crude oil exports, by destination

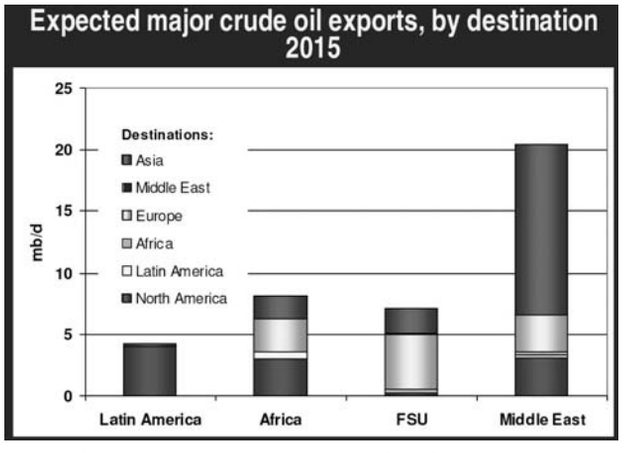
The figures are equally impressive in global terms, with Iran possessing 12 per cent of the world's proven crude oil reserves and 15 per cent of its natural gas. Indeed, if we return to the reserve strength and production level discrepancy, to which I referred at the start of this address, we see that Iran accounts for just 5.7 per cent of world crude oil production in other words, in percentage-point terms, less than half the figure for reserves. The discrepancy is even greater for natural gas, where marketed production is just 3.3 per cent of the world figure in percentage- point terms, just over a fifth of its global reserve share.

The underlying message of all this is the huge potential the Islamic Republic has to expand its presence within the global hydrocarbons sector for decades to come, and the Iranian Government's recognition of this and plans to invest heavily in further developing this vital industry right along the supply chain and increasing its global outreach are crucial to the future of the country. On top of this is the fact that the relatively low costs of production make upstream investment highly conducive to its profitability.

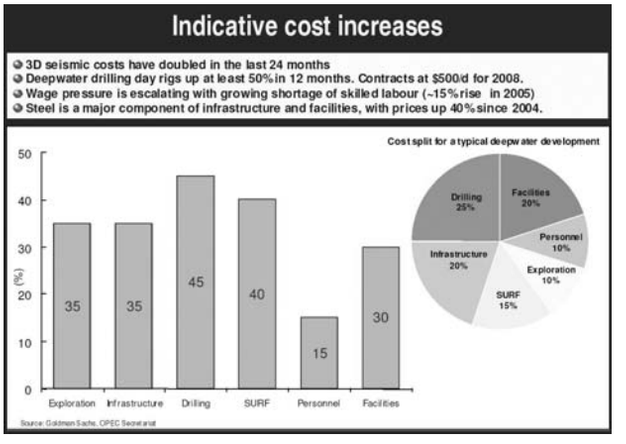
The challenges and opportunities facing the Islamic Republic are recognised by OPEC at large and are mirrored across the Organization, in accordance with individual resource endowments, domestic policies and other national attributes. Significantly, they demonstrate the willingness and ability of OPEC and its Member Countries to supply the incremental barrel and the seriousness they attach to the future of the oil industry.

But it is not all plain sailing and. when the wind picks up, many practical difficulties can manifest themselves. Among them are the problems for effective investment strategies created by uncertainties over such key factors as world economic growth levels, advances in technology and policy measures in consuming countries. OPEC scenarios have illustrated how, even over the medium term to 2010, there is an estimated range of uncertainty of $50 billion for required investment, and this increases to as much as $240bn by 2020. Thus there is a heavy burden of risk for producer countries, with the huge amounts of capital that must be committed up front and the long lead times. Similarly, the IEA's World Energy Outlook expresses concern about the impact of uncertainties.

This is why OPEC repeatedly calls for more transparency in the evolution and implementation of policies among consuming countries, so that better assessments can be made to undertake the appropriate capacity expansions and prevent waste of precious financial resources. Perhaps the international oil companies with substantive investment portfolios in oil-producing developing countries should do everything they can to impress this fact up on their host governments in consuming countries. (figure 8)

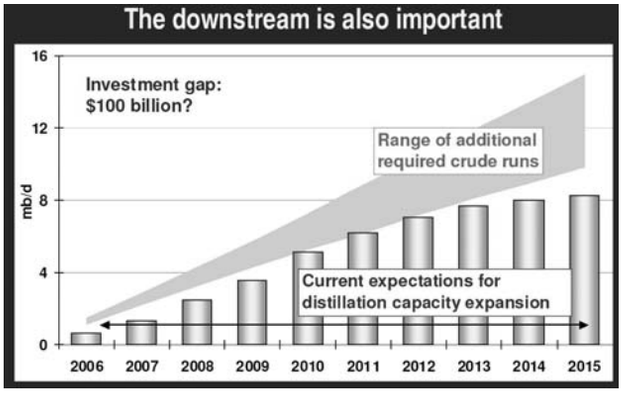


Another aspect is the cost of infrastructure, such as rigs and tankers, as well as the cost and availability of human resources. For example, drilling costs have increased by 50 per cent since 2003, with steel prices rising by 40 per cent since 2004. In 2005 alone, wages in the industry increased by about 15 per cent. We believe that better cooperation between the international and national oil companies could lead to significant cost reductions in such areas. Furthermore, the number of students enrolling in petroleum-related courses has also shown a significant decline since the mid-1980s, and we need to make the industry attractive to prospective graduates and employees the world over. (Figure 9)



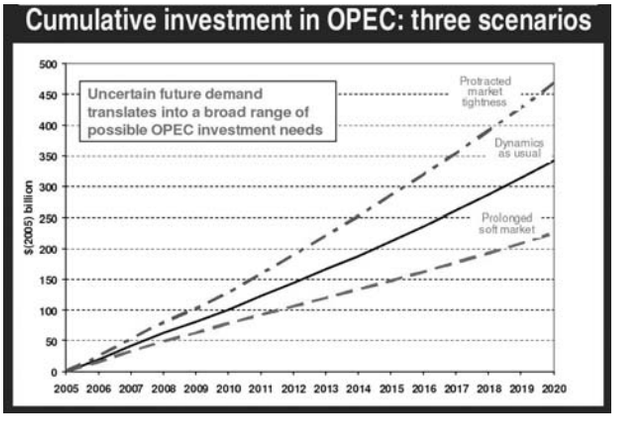
Notably, enhancing cohesion among Member Countries is of crucial importance here. As the OPEC Long-Term Strategy puts it: "The Organization should expand intra-OPEC interactions, networking and dialogue at the level of Ministers of Petroleum/Energy and national oil companies. Cooperation should also be pursued in the technological and scientific areas of higher education in Member Countries."

In addition, downstream tightness, in the form of inadequate refining capacity in some leading industrialised countries, has been putting a lot of pressure on oil price levels and differentials over the past couple of years. Despite the number of major refining projects worldwide, the long construction lead times, combined with typical delays and project terminations, will most likely mean that the existing refining tightness will not ease until at least 2009 or 2010. (figure 10)



It is estimated that $160bn in downstream capacity investment will be required by 2015, with another

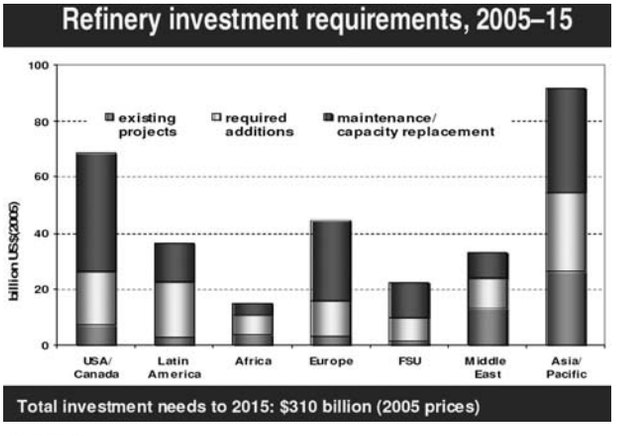
$150bn needed for maintenance and replacement of lost capacity. However, present commitments leave a shortfall of around $100bn. Our Member Countries are very concerned about this pail of the international supply chain and have a growing amount of investment downstream, including joint ventures in refining and petrochemicals in key markets. However, there is only so much OPEC can do downstream, since this is essentially and traditionally the domain of consuming countries, which have the primary responsibility for investment in this sector. (Figure 11)



The downstream is also important

Refinery investment requirements, 2005—15

Total investment needs to 2015: $310 billion (2005 prices) (Figure 12)



OPEC's commitment to the environment

OPEC is also very committed to efforts to protect the environment, as one of the three pillars of sustainable development, as defined at the world summit on this crucial human issue in Johannesburg in 2002. Both collectively and at individual Member Country level, with mutual encouragement and collaboration all round, the Organization has participated actively and with resolution in all the major meetings of the United Nations Framework Convention on Climate Change (UNFCCC), as well as the Kyoto Protocol. Indeed, we were well represented at the 12th Conference of the Parties to the Convention which has just been held in Nairobi, Kenya.

This topic is, of course, a familiar one to our friends in the Islamic Republic of Iran, which ratified the convention in 1996 and the protocol in 2005.

However, we are quite clear in OPEC about the nature of our commitment, since it must be centred around the principles of 'common, but differentiated responsibilities' and 'respective capabilities'. Developing countries, including Members of our cherished Organization, have not been responsible for the historic emissions that are having such an impact on the world environment today. Their root causes can be found in the industrialised societies that emerged in Europe in the 18th century and subsequently proliferated among what are now considered to be the richer nations of the world. Furthermore, developing countries are neither technologically or financially capable of adapting to the negative impacts on the environment. Indeed, policy measures adopted by major industrialised countries to combat climate change can easily have a negative impact on the economic wellbeing of our Member Countries. Therefore, we fervently believe that any 'post-Ky oto' agreement must adequately and comprehensively address these concerns, so as to ensure a fair and balanced global approach to handling these very serious issues.

The other two pillars of sustainable development are social and economic development, and OPEC is deeply aware of the needs of other developing countries, as they seek access to modem energy services to transform their domestic infrastructures, sometimes from a state of extreme poverty. Without outside assistance, many appear to have no means of escape from the poverty trap. As developing countries ourselves, we are constantly mindful of the fact that poverty eradication is the first UN Millennium Development Goal.

Challenges for oil-producing developing countries

In a nutshell, these are to provide regular supplies of crude to consumers at reasonable prices both now and in the future and to use the resulting revenue for several distinct purposes beyond the normal commercial ones: first, to help develop our domestic economies and provide better life-styles for our citizens; secondly, to plough back into the industry to ensure that future consumer needs are well-catered for the world over; and thirdly, to provide assistance to other impoverished nations in the true spirit of sustainable development, as encap sulated at the World Summit in Johannesburg four years ago.

To use petroleum revenue to:

• help develop our domestic economies and provide better life-styles for our citizens;

• plough back into the industry to ensure that future consumer needs are met;

• provide assistance to other impoverished nations in the true spirit of sustainable development.

Dialogue

To address such challenges, there is widespread agreement on the need for a constructive, sustained process of dialogue at a global level, involving all the interested parties and prepared to tackle all the major topical issues affecting the industry. In today's globalised environment, interconnected through trade, no individual country or group of countries can comprehensively carry out this formidable task alone.

Such an awareness led to OPEC's pioneering collaborative efforts to initiate producer-consumer dialogue 15 years ago and this has since been transformed into the International Energy Forum, which has its headquarters in another OPEC Member Country, Saudi Arabia. The Islamic Republic of Iran has been an active participant in the forum since its inception, and, indeed, an official from this country has served with distinction on the forum's Executive Board. This, in fact, is just one example of many forms of dialogue and cooperation our Organization and its Member Countries have been involved in over the years. Another form worthy of mention here relates to the formal energy dialogues OPEC set up with the European Union, China and Russia last year, and these have enormous potential for an enhancement of the already good relations between the respective groups. The EU-OPEC energy dialogue has led to a series of concrete proposals to jointly examine in depth topical matters of mutual interest, as well as embracing a proposal to establish an EU-OPEC technology centre.

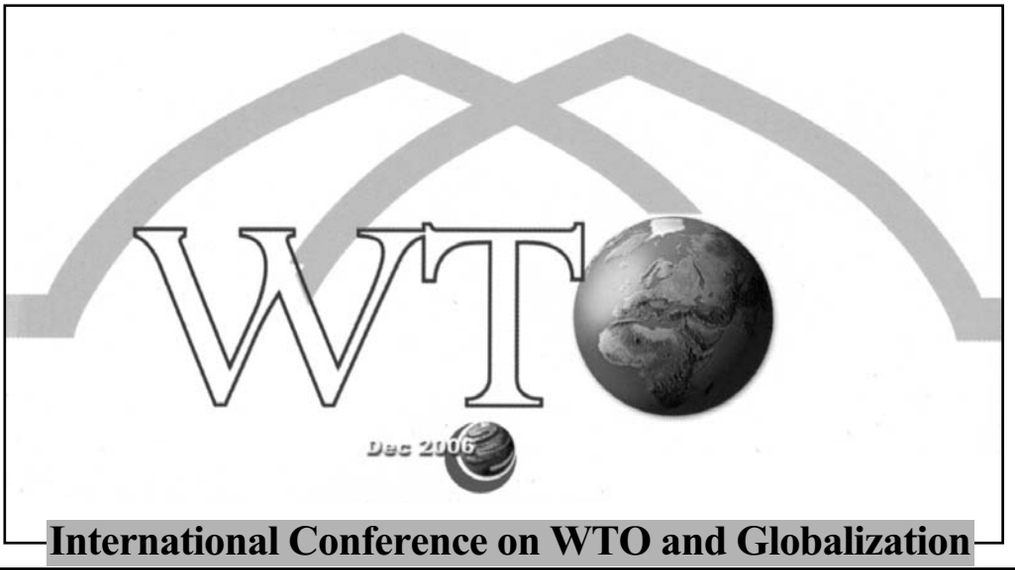
Meaningful dialogue is always preferable to other more direct and less constructive means of handling issues, and to what was said at the start of this address —that every country has a sovereign right to decide how it powers its national domestic, commercial and industrial infrastructures, in peaceful coexistence with other nations. The choice of an optimal energy mix is the inalienable right of every country.

One of the difficulties facing oil producers from this part of the world especially is that their rich endowment of heavily demanded natural resources means that the international spotlight will always be focused on them, and as we know too well very often in a negative manner. In today's world, this is unavoidable and something we must live, unfortunately.

Concluding statement

A central task of oil producers is to meet the growing energy needs of the global community and, most especially, those of the world's poorest nations in their long-overdue quest for sustainable development.

It is up to all of us to rise to these challenges, and OPEC maintains its longstanding resolve to do this, to the benefit of producers and consumers a like and in support of sound, sustained growth across the global economy.



International Conference on WTO and Globalization

The Gathering Could Have Been Held Better

By: Mahyar Emami

I attended the "International Symposium on WTO and Globalization: Challenges for Muslim Countries" held at the IRIB International Conference Centre in north Tehran, December 3 -4, 2006.

There were a variety of very interesting presentations by Iranian and international attendees. Topics included:

* The Role of an Islamic Capital Market and Trans-National Corporation in Developing the UMMAH presented by Dr. Abdul Khalid Ibrahim from Malaysia;

* Globalization and Economic Challenges for Muslim Countries in the 21st Century presented by Dr. Mohamed Aslam Haneef, Associate Professor, Department of Economics, IIHUM.

* Position of Developing Countries in Multilateral Commerce System presented by Dr. Alireza Shykhattar, the Economic Deputy of Foreign Affairs Minister.

* The Implications of WTO Agreements on Muslim Countries presented by Dr. Ruzita Mohd Amin.

* Prospects of Preferential Trade for Muslim Countries in WTO presented by Dr. Hamid Nazeman.

My take from the conference is essentially this: globalization entails the lowering of barriers to the flow of goods, services, capital, labor and' technology, as well as the harmonization of a number of regulations across countries. An impact of globalization is increased competition across borders, followed by changes in wage rates, rate of return on capital, real income, income distribution, employment, economic growth and in other areas of social life. These changes are not always necessarily beneficial as they depend on a country's institution and policies.

Here are some quotes from some of the presentations:

* Price of manufactured goods from developing countries has been decreasing overtime with a greater percentage than those from developed countries. One implication is that the workers in the developing countries are not benefiting as much as the workers in the developed countries. Hence the standard of living in the developed countries is increasing at a rate higher than the standard of living in developing countries.

* In general, trade liberalizations benefit developed Countries especially from NAMA.

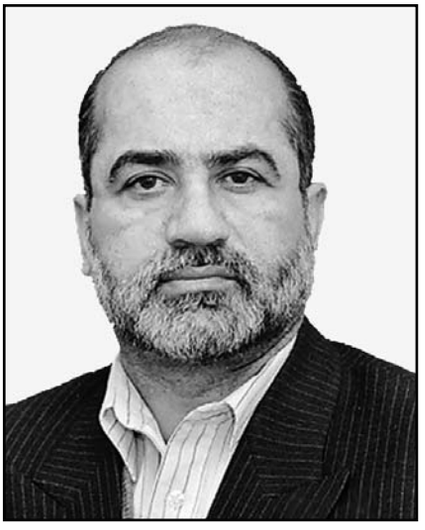
* Agricultural trade liberalizations have a negative impact on food I importing countries.

* For trade liberalization negotiations, local industry protection should result on export promotion. This would lead to local industries becoming competitive in the international markets.

* To date, most of the developing countries have been cautious in their offers in the General Agreement in Trade in Services (GATS).The reason is that the developing countries are skeptical of the benefits of liberalizing the services sector and have been resenting it for fear of losing out to foreign service providers.

* Global economic agenda targets issues that benefit the developed countries. Issues that are important to developing countries rarely make the agenda.

Although generally the words "Muslim Countries" appeared in the presentations, the topics were relevant to alt developing countries. The conference could have perhaps attracted more participants with a wider range of topics of interest had the name of the conference not suggested religious connotations.



Broad objective of NIOC exploration department

The Exploration Department of NIOC will be holding a conference in Vienna during 1-2 Feb 2007 to present details about the '17 Oil Blocks' of Iran, which have considerable potentials.

To grasp the general objectives of the Dept., has been done an interview with Hossein Roshandel, deputy director of the Exploration Department, which follows:

-How many structures are there in Iran which would require exploration? And what are the exploration plans for them?

"We can specify any exact figure. Possibly hundreds. This is because some of them lie in the plains. Some geological surveys need to be done to pinpoint their locations and then they have to be prioritized for studies".

- Foreign companies are less willing to participate in new tenders. Is that because of rise in the exploration risk or some other reasons are involved?

"I don't believe in that. The Exploration Department of NIOC issued the tender for exploration/development of 16 oil blocks in early 2004 and four of them ended in contracts, which, I think is a great achievement. Of course, political issues do affect foreign investments in all sections.

I believe we have no exploration risk and I don't think that the issue of potential reserves would affect the number of participants in our tenders.

We have great potentials compared with other parts of the world and hopefully political issues will not have any adverse effects on the tenders".

-What are the exploratory objectives foreseen in Iran's '20-year Prospects' and the 4th Development Plan?

"The Prospects plan includes some wide-ranging objectives and the Exploration Department is using its utmost technical capability to realize those goals".

-Is "Local Content Law" applied in the exploration tenders?

"Some 90% of the onshore exploration is carried out by local companies, because there are 5-6 local firms active in geological and geophysics studies.

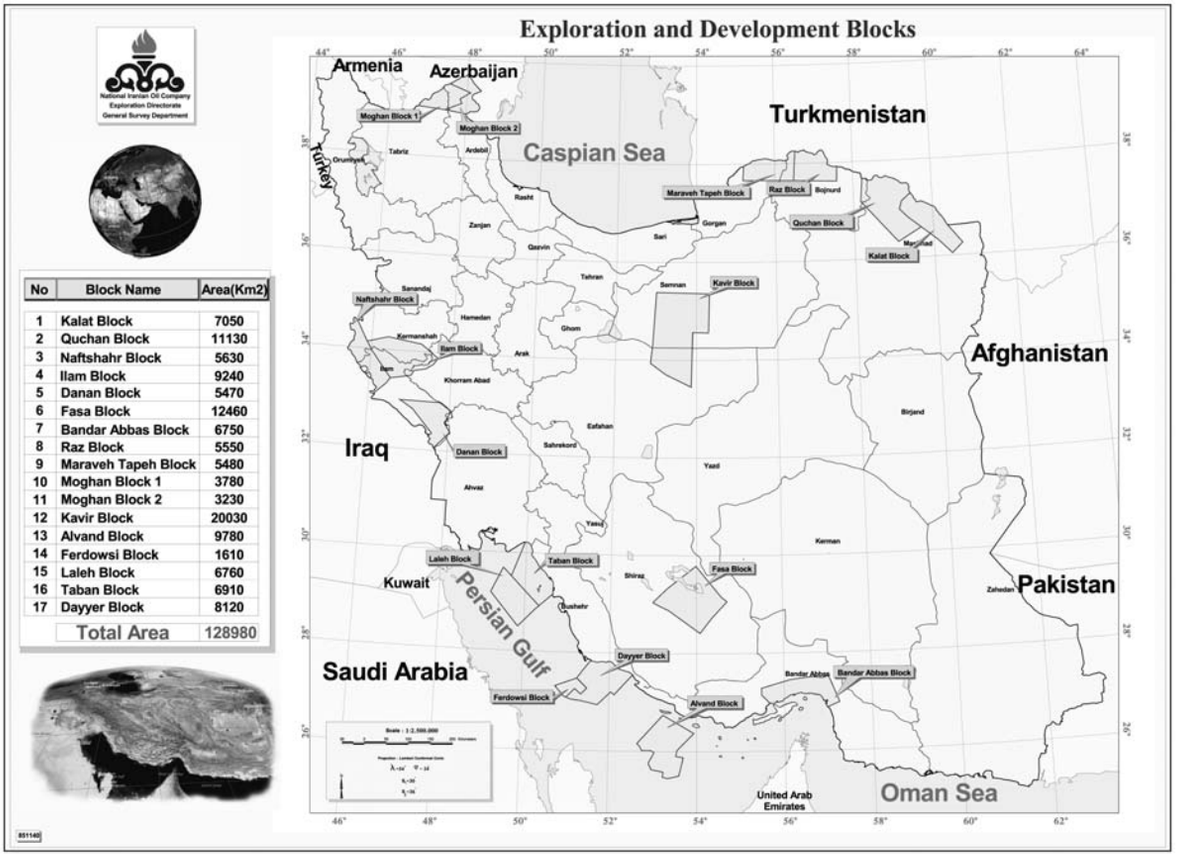
Local capabilities are put to good use in the drilling sector and only some needed drilling materials are imported.

It is hoped that the number of drilling companies would be raised in the future so that 3-4 local firms, and not just NIDC, would participate in each drilling tender. In the offshore sector, however, we have some problems. Luckily, we could use Shahid Rajaie drilling rig in Iranmehr, Forouz and Tousan blocks, where Petrobras and Repsol were active.

Fortunately, great deals of capabilities in exploration have been created inside the country".

-To what extent are Iranian consulting/contracting companies active in investment or exploration? Is that going up or down?

"There are two issues here. First consultation and second investment.



No	Block Name	Area(Km2)
1	Kalat Block	7050
2	Quchan Block	11130
3	Naftshahr Block	5630
4	Ilam Block	9240
5	Danan Block	5470
6	Fasa Block	12460
7	Bandar Abbas Block	6750
8	Raz Block	5550
9	Maraveh Tapeh Block	5480
10	Moghan Block 1	3780
11	Moghan Block 2	3230
12	Kavir Block	20030
13	Alvand Block	9780
14	Ferdowsi Block	1610
15	Laleh Block	6760
16	Taban Block	6910
17	Dayyer Block	8120
	Total Area	128980

By and large consultation is not taken seriously in Iran. In Iran, production is often believed to be more important and hence consultation and services are not adequately funded, leading to their inefficiency.

As for investment, we have no 'exploratory investor' in Iran and at present it should not even be promoted. No local company can invest Rials 220 Bln in an exploration project. We also recommend companies to spend more money on development and training skilled workforce and only base their job on exploration, because the risks involved in exploratory activities are pretty high.

Local and foreign companies are hoped to work closely together in new tenders and the private sector will be better off establishing close ties with capable foreign exploration companies and get more engaged in development job.

NO	Project Title	Location	Price of Tender Documents (Euro)	Minimum Exploration Expenditure (Million Euro)
1	Kalat Block	Onshore	15,000	22.0
2	Quchan Block	Onshore	15,000	22.0
3	Naft Shahr Block	Onshore	27,000	22.0
4	Ilam Block	Onshore	27,000	21.0
5	Danan Block	Onshore	27,000	21.0
6	Fasa Block	Onshore	15,000	21.0
7	Bandar Abbas Block	Onshore	30,000	22.0
8	Raz Block	Onshore	12,000	22.0
9	Maraveh Tapeh Block	Onshore	12,000	23.0
10	Moghan Block 1	Onshore	19,000	28.0
11	Moghan Block 2	Onshore	19,000	28.0
12	Kavir Block	Onshore	8,000	05.0
13	Alvand Block	Offshore – Persian Gulf	38,000	34.0
14	Ferdowsi Block	Offshore – Persian Gulf	38,000	63.0
15	Laleh Block	Offshore – Persian Gulf	38,000	37.0
16	Taban Block	Offshore – Persian Gulf	38,000	37.0
17	Dayyer Block	Offshore – Persian Gulf	38,000	32.0

Oil Contracts and Asymmetric Information

The debate on the buy-back oil contracts is still a hot topic. It was announced lately that a new reviewed version of these contracts have been presented.

This writer has always been of the view that some of the problems attributed to the buy-back contracts, type of the contract or the solutions searched within the contract are not issues and problems within the contract itself but they are in fact issues beyond the context of the contract.

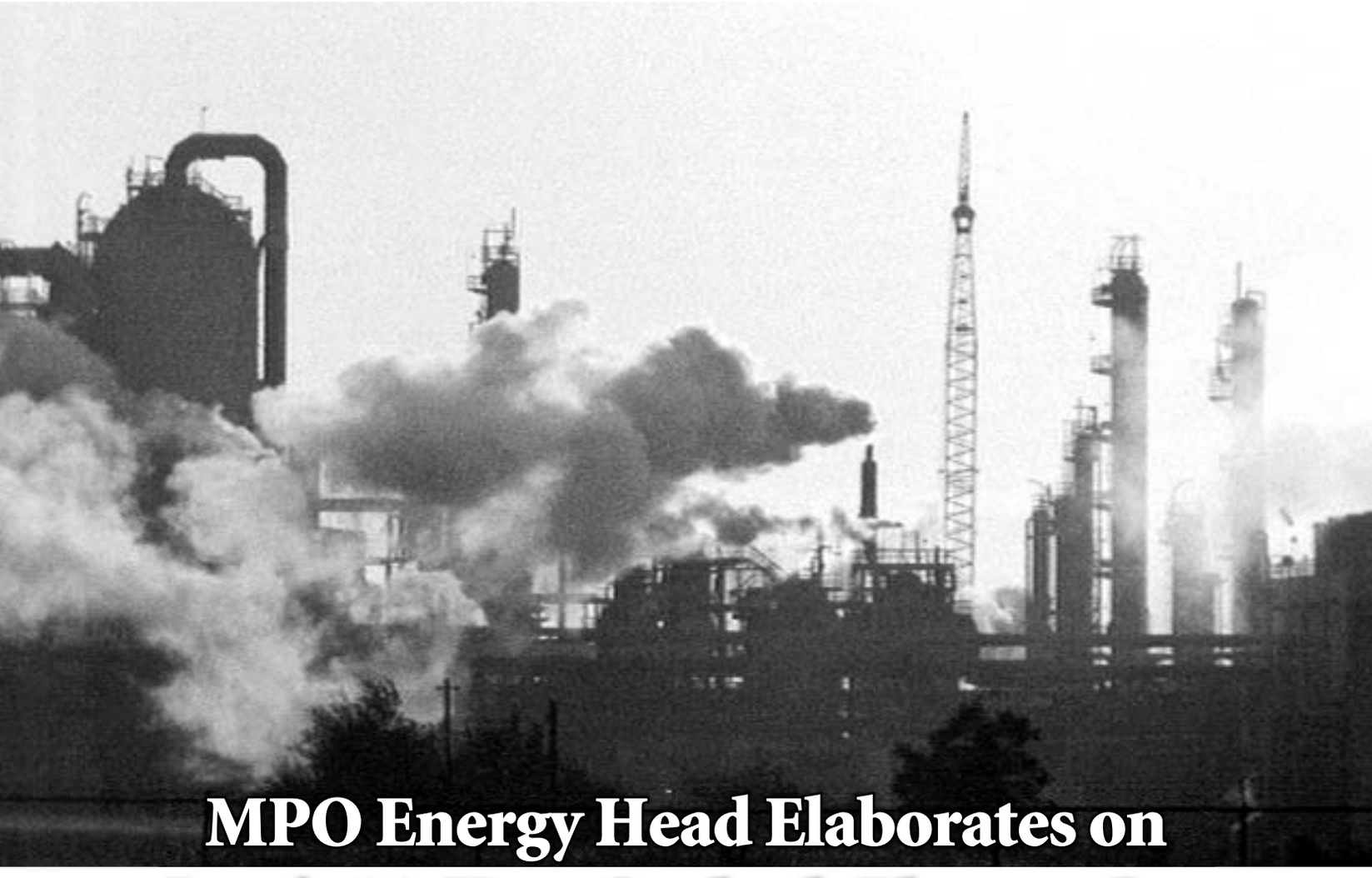
The oil contract under our discussion is the regulator of relations between a National Oil Company (NOC) like the National Iranian Oil Company (NIOC) and an International Oil Company (IOC) for determining the forms and methods of investment to develop an oil field and the manner for the return of investment. An oil contract has a limited capacity. The expectations from an oil contract should only be within the limit of its capacity. Therefore, it should not be expected from a contract to deal with all the issues and obligations that must occur and implemented prior or after its conclusion. For instance, if master development plan and prioritization of development of a set of hydrocarbon reservoirs under the authority of a state oil company is not known, it would not be possible to specify it through conclusion of a contract. Also, it is incorrect and imperfect to begin contract negotiations when even the exploration studies of an oil reservoir are not completed and its economical advantages or disadvantages are not clear. Therefore, it should not be expected that the text of the contract are free from any shortcomings.

In other words, an oil contract, whether it is a buy-back type or production-sharing type, can not be considered as employing an attorney with full authority to take care of all the unsolved organizational, managerial and other issues. Rather, it is merely a contract for development of an oil or gas reservoir.

The conclusion of an oil contract of any type is an endeavor to bring in line the interests of a national oil company with that of an international oil company in the intended cooperation. The interests of international companies are not necessarily the same as those of state companies. Rather, it can perhaps be said that their interests are necessarily different. When a state oil company doesn't have a defined and clear interest and is not even clear whether it is an economic institute for maximizing profit or whether it is a government institute for maximizing the national interest; and when it is not so clear how the legal and contractual relations between the government and the national company for exploitation of hydrocarbon reserves is regulated, and who takes the roles of producer or supervisor of improved oil recovery, then how can it be expected that an oil contract be so comprehensive that could cover all those shortcomings?

Conducting successful contractual negotiations and concluding a suitable contract with successful implementation, requires preliminary actions and a lot of preparations.

There are some preparations needed that must be



MPO Energy Head Elaborates on Iran's 20-Year Outlook Plan on Gas

After the compilation of the 20-year Outlook Plan, the macro-policies of the energy sector for the next two decades have been outlined. The plan, which can be the base for programming and adopting the future energy strategies of the country, is the outcome of two-year expert-level studies of the Management and Planning Organization (MPO) and interaction with oil, energy, as well as industries & mines ministries. To discuss different aspects of the 20-year Outlook Plan and challenges it faces, we have conducted an interview with Eng. Ahmad Davoudi, the MPO's Energy Department director general.

Q: Although the plan has been drawn up for different economic sectors, it looks that the 20-year Outlook Plan for the gas sector has been paid special attention. Before elaborating on the issue, would you please explain what has made the government to draw up this plan?

A: In various parts of the energy sector, the government needs to outline long-term plans to show the road the energy sector will move on in the future. Such a policy prevents the plans from facing sudden and short-lived changes and assures that the state strategies will be put into action effectively.

The view also caused the MPO's Energy Department to outline long-term outlook plans for different sectors, including the gas field.

The plan has put both gas supply and demand into consideration in order to guarantee the regular enforcement of its strategies. It also guarantees that this sector's policies and strategies for the development plans will keep on going and face no interruption.

Q: How has the view been translated into action?

A: The initial stages of the Outlook Plan started in 2003 and its first report entitled "The 20-Year Outlook Plan for Gas Industry" was offered to the Oil Ministry in 2004.

The aforesaid necessities made the Oil Ministry's Economic Council compile a long-tern Outlook Plan for the gas sector in 2005 that is the main source for all strategic policies.

Later, the Management and Planning Organization revised the Outlook Plan after exchanging views with Oil Ministry and its affiliated companies as well as with ministries of energy and industries.

The report was finalized in the month of Khordad of the current Iranian calendar year (May 24 to June 24, 2006) and is ready for submitting to the Economic Council. The plan, however, has been already delivered to the Oil Ministry to make a change, if necessary, before presenting to the council.

Q: How reliable are the statistical data and sources included in the plan and how are they organized?

A: The 20-year Outlook Plan for the gas sector comprised three main sections. The data on natural gas resources and reserves is provided through calculating the production and consumption expected in the coming years.

The data and statistics needed for each of these three parts have been prepared in different ways. Concerning the volume of gas reserves, we have naturally relied on the Oil Ministry's official reports that have estimated the volume of gas fields' reserves and associated gasses. We confirm such data and take it reliable.

The next issue – production of natural gas in the country – could be somehow posed to some change. In this regard, we have counted on the projects and the production has been estimated according to the contracts and developments plans outlined for the years to come. Concerning those fields, whose production stage is not yet clear and no contract has been signed for them, we have taken the related compiled plans as the facts that could undergo some changes and consequently the estimated figures change in the future. Naturally some of statistics and estimates in such plans are not exact, but we are optimistic that the uncertainty is not considerable.

Regarding consumption, we have used all expert methods to estimate it. To this end, we have exchanged information as much as possible with industries and energy ministries and the affiliated companied of the Oil Ministry.

Q: How has been the data summed up and analyzed? Have you applied the common econometric or mathematical patterns?

A: The estimates on production are based on the engineering projects outlined in the gas sector and the reports and studies have been also used.

We have used the technical and engineering models for estimating the consumption because the gas consumption in the country is affected by the development of the supplier and the gas market has not been organized on a supply-and-demand system. Econometric models do not make it as they have been previously used, giving no correct responses. We have used technical models of each part. For instance, we have discussed power plants with the Ministry of Energy and then estimated the consumption according to the ministry's strategies and developments plans for the power plants. On industries, we also studied the related issues with the Ministry of Industries and paid due heed to its development plans, as well.

Concerning the volume of gas required to inject to the oilfields, we have put the National Iranian Southern Oilfields Company's (NISOC) future plans into consideration and the engineering data on the deposits has been also used.

On the household consumption, the Management and Planning Organization has included all towns and cities of the country and the population in the next 20 years.

In regard to optimization of gas supply, we have used the linear planning models, aiming to maximize the country's interests.

Q: Will this plan lead in the next stages to the preparation of the whole Outlook Plan for the energy sector?

A: Before compiling the Outlook Plan for the gas sector, the draft of plans for the oil and power sectors were prepared and later merged with that of the gas, representing the 20-year Outlook Plan for the country's energy sector.

Based on the whole plan, the country's initial annual supply of energy will soar by 4.95 percent within the next 20 years and the energy intensity will decrease

from 1.12 to 0.63 – equal to barrel of crude oil for each million-rial (111-dollar) gross national product (GDP). It means an annual 2.9 percent decrease that took the country until 2024.

The share of various types of energy carriers is among important issues. For example, the natural gas share will increase to 69 percent in 2024 from the current 53 percent while the crude oil share will decrease to 28.6 percent from about 44.7 percent and the shares of hydroelectric energy and renewable energies will rise.

The consumption of natural gas will totally increase by 6.3 percent per annum and some 2.6 percent of oil and oil products will be annually reserved.

The Outlook Plan is a coherent and integrated program and helps achieve the objectives targeted for the country's energy sector within the next 20 years if it is fully and appropriately implemented.

Q: The 20-year Outlook Plan has paid due attention to the three issues of production, consumption, and gas reserves. What has the plan predicted for gas production?

A: The volume of gas production in different fields has been estimated on the basis of the method I explained earlier. Of course, there is difference between our estimates and the Oil Ministry's predictions because we have predicted a figure that we are completely sure about it. There is no figure in our Outlook Plan, whose risk rate is above 15 percent. In other words, the estimated production offered in the plan is fully guaranteed.

According to this reliable policy, the rich gas production that hit on average 458 million cubic meters per day in 2005 has been estimated to reach 1404 million cubic meters daily on average in 2024.

To estimate this figure, we have not studied just the average annual production.

In our initial report (in 2004), we put the average annual production into consideration, but we had to review it as the gas sector has complicated features. For instance, there are great differences between the eight warm months of the year and the remaining four cold months because the sectors' consumption models for the warm and cold seasons are completely different.

For the same reason, the estimates in the plan have been made for the two eight-month and four-month periods.

Q: Is it possible to make a balance between household and industrial consumptions?

A: It is somehow possible to balance the production between these two periods – the first eight months and the remaining four – but it is almost impossible to interchange the consumption in these two periods. For example, the consumption of household and industrial sectors that use gas mainly for heating soars in the cold season while the consumption of natural gas by the power plants will increase in the warm months as they use more electricity to cool their systems.

Q: Have you realized imports in your estimates?

A: The offered statistics included some part of imports. According to the contracts, Turkmenistan imports to Iran and it will continue in the future.

In fact, the presented statistics on gas are available and include all types of consumption.

Q: How have you calculated consumption?

A: In relation to consumption, there are two theories (scenarios). One is based on the current trend and the other on the managed consumption.

Unfortunately, the current trend of energy consumption in the country is undesirable and will cause the country serious problems if it develops. The problems are greater in the exports sector and consumption with high value-added. If the ongoing process continues, it is estimated that the consumption in the first eight months will touch 1,250 million cubic meters in 2024 from 437 million cubic meters in 2005 and the figure is predicted to reach 1,503 million cubic meters from 1,501 million cubic meters in the last four cold months of the mentioned years respectively.

Regarding the "managed consumption", we have explored all avenues to cut consumption without reducing the value-added and demoting the public welfare.

If we manage to put the "managed consumption" into action, the country's daily consumption will hit 1,344 million cubic meters in the first eight months of 2024 and will reach 1,346 million cubic meters in the last four months of the same year.

In case the aforesaid goals are achieved, the amount of energy saved through the second scenario could go for consumption with high value-added.

Q: Will the gas consumption expected to increase in the future not reduce the country's exports?

A: When the balance between production and consumption is studied, we regretfully conclude that the current consumption will badly damage the exports sector if it keeps on going as a considerable volume of consumption is suffering from lack of optimization.

The concern has prompted the officials to make every effort to improve the pattern for both household and industrial as well as power plants and giant industries consumption.

We aim to correct the model of gas consumption

in power plants and big industries in the cold months of the year. We enjoy surplus gas in the warm months and therefore export the extra volume and if the consumption pattern is corrected, we could also export the gas in the cold season and calculate the volume of exports during the whole year. The Outlook Plan's supplementary has included the related survey.

To achieve this objective, we increase the output, deliver less gas to the power plants in the cold months, and export the saved gas to foreign countries. Instead, we supply the power plants with more gas oil with the aim of guaranteeing the exports and power generation.

Q: But the plan adds the cost and logically increases the cost price of the export-bound gas. Have you calculated the added amount while fixing the price of export-bound gas?

A: The replacement was also made last year, but its cost was not calculated at the stage of pricing the export-bound gas.

The power plants' gas consumption in the previous decreased by around 90 million cubic meters as they received gas oil as the replacement. But the cost of gas oil was not added to the price of export-bound gas. However, the cost has been calculated in the Outlook Plan.

Q: What figure has the Outlook Plan estimated for the country's gas exports and how can the government manage to carry out the task?

A: By the end of the Outlook Plan, the country has the capacity to export at least 150 million cubic meters of natural gas provided that the price of the export-bound gas is fully calculated that comprises the price of natural gas, the cost of production, the expense of processing and transfer, the expenditure of replacement of liquid fuels, and the value of capital calculated in the optimization model.

Q: Naturally the cost price is the lowest export rate. Have you fixed the real price?

A: The estimated price is between 18 and 19.5 cents for each cubic meter and this the lowest export price. This price guarantees the optimized domestic supply of gas and injection of gas to the oilfields. Of course, it is lowest price estimated in the Outlook Plan.

Q: Have you set the price according to prices in different years or in 2005?

A: All estimates have been made on the basis of the fixed price in the year 2005.

Q: Investment is the main key to the achievement of the objectives included in the Outlook Plan. How much should the government make investment for it?

A: Naturally we have to make enough investment to achieve our goals, including supply of natural gas inside the country during the next 20 years. These objectives also call for investment in other industries such as the power plants.

So if the investment is not sufficient, the figures targeted by the Outlook Plan will be unreachable and consequently the development of the country will receive a severe blow.

We have to invest 71.75 billion dollars within the next 20 years to produce gas and pump to the national network if we are to supply it at the price fixed in 2005.

Q: Will the investment be made equally during these 20 years or will it be different?

A: We have divided it into two 10-year periods. In the first decade (from 2005 to 2014), we need to invest 33.75 billion dollars and in the second 10 years we should make a 38-billion-dollar investment.

Q: Don't you think an average 3.37-billion-dollar investment per annum in the next decade is an optimistic view? Do you believe the country will manage to make a huge investment?

A: The government has also in the past years struggled to make a similar investment although its amount was less. The main point is that we have no alternative but provide the required hard currency for such an investment. Otherwise, the volume of production the Outlook Plan eyes will be out of reach. Of course, the aforementioned investment is a real possibility.

It is also worth mentioning that some part of the investment is domestic investment such as the downstream industries. In the upstream sector, we mainly rely on foreign investment. Despite active domestic contractors and enterprises, the initial investment should be made by foreign companies to enable the government to use their hard currency.

If the initial investment is not made, the objectives will be hardly achieved.

Q: The Outlook Plan has paid due heed to the gas industry and outlined comprehensive and long-term plans for the sector. Will it remain, however, as a proposed plan or be implemented?

A: Based on the Economic Council's ratification, a report on the liquefied natural gas (LNG) exports must have been offered to the council in order that the body makes decision the plans on gas exports. Therefore, the report is still a proposal and should be consulted and we can adjust our plans according to it. In case the report is finalized in collaboration with the Oil Ministry and the Economic Council approves it, it will be the basis for gas exports.

Iran and Global Natural Gas Markets

S.Mohammad Ali Khatibi Tabatabaei
Morteza Behrouzifar, IIES

Abstract

At the outset of the third millennium, natural gas is considered the fuel of choice due to its unique features and lingering concerns about environment. Projections are indicative of a better outlook for this clean fuel in coming years.

IEA projections show that natural gas with its market share growing from 21% in 2002 to 25% in 2030 will be the second dominant fuel after oil by the third decade of the 21st century. Nevertheless, there are concerns about the stability of natural gas prices and markets and whether such natural gas projects as GTL, LNG, and natural gas pipelines are economical. Undoubtedly natural gas industry, particularly in natural gas producing countries will face serious challenges if natural gas markets are not managed in a decent way. Therefore, cooperation between natural gas producing and consuming countries seems to be inevitable and necessary. Islamic Republic of Iran as the world's second biggest country in terms of natural gas reserves cannot ignore international energy markets' potentials for Iranian surplus natural gas exports. Thus Iran has multiplied its efforts to develop natural gas exports since the huge South Pars natural gas field was explored and consequently Iran's proven natural gas reserves increased dramatically.

European Union and South Asian countries such as India and Pakistan with negligible natural gas reserves and high gas demand are among potential profitable markets for Iran's natural gas.

It is projected that natural gas demand in India as the second most populated country in the world will encounter a dramatic growth rate. New power plant, petrochemicals, and other industrial projects contribute in large measure to natural gas demand growth in India. Therefore the most reasonable and cost-effective solution for India will be the import of natural gas by means of an interstate pipeline to meet its increasing domestic demand. As a result, a proposal for transmission of Iran's natural gas through Pakistan to India was put forward.

European Union is projected to face a considerable shortfall in its domestic natural gas production which can be a good opportunity for Iran to find a niche in this big market. The PersianGulf states are also considered prospective markets for Iran's natural gas.

Natural gas prices have recently grown considerably in international markets. The US markets is believed to play a leading role in recent developments. European markets are also predicted to follow the example of the US market experiencing a rapid growth of natural gas prices. However, Asian markets will be affected by the developments with a time lag.

Islamic Republic of Iran, located on a land separating two hydrocarbon-rich regions of the Caspian Sea and the Persian Gulf is of much importance from geopolitical point of view.

More than 70% of the world's proven natural gas reserves are located in the Persian Gulf and FSU region. Such countries as Russia, Iran, and Qatar hold more 55% of the world's natural gas reserves. In 2004, total recoverable natural gas reserves in the region was estimated at 130 TCM which is indicative of the crucial role of the region in providing energy for the world due to the outlook for the share of natural gas in global energy mix at present and future.

Although in many regions, especially in the North Sea, natural gas reservoirs are mature, most of the gas fields in the region are at the beginning stages of production and the R/P ratio in the region is 130 years which is much higher than global standard of 67 years.

There are comprehensive plans pursued by Iran to develop domestic consumption of natural gas considering such factors as Iran's geographical and climate diversity, the government's policies regarding natural gas replacement, a need to gas injection into oil fields, necessity of developing petrochemicals industries, and increasing need to development of power plants. However, Iran with the second larges gas reserves in world cannot ignore global natural gas markets.

Natural Gas Demand Outlook

Natural gas demand will experience an annual growth rate of 2.3% by 2030. The major portion of this demand growth is contributed by power plants. Therefore, the share of natural gas in global energy mix will rise from 21% in 2002 to 25% in 2030.

Natural gas demand growth in India and China will be more than 5% by 2030 due to the replacement of natural gas for coal in power plants. Therefore, share of developing Asian countries in global demand for natural gas will rise to 14% in 2030 from 8% in 2002.

It is projected that power generating sector in

World Natural Gas Primary Demand (bcm)

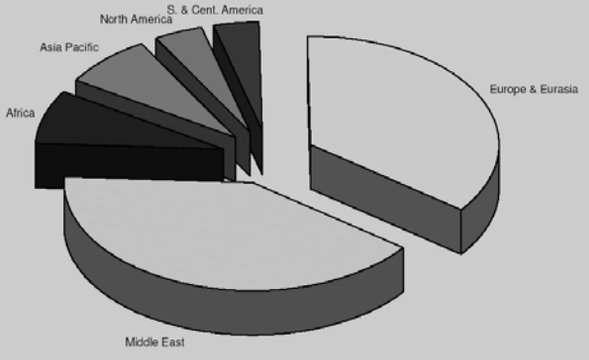
	2002	2010	2020	2030	2002-2030%
OECD North America	759	866	1002	1100	1.3
OECD Europe	491	585	705	807	1.8
OECD Pacific	130	173	216	246	2.3
OECD	1380	1624	1924	2154	1.6
Russia	415	473	552	624	1.5
Other Transition economics	220	254	311	360	1.8
Transition economics	635	728	863	984	1.6
China	36	59	107	157	5.4
Indonesia	36	53	75	93	3.5
India	28	45	78	110	5.0
Other Asia	109	166	242	313	3.8
Brazil	13	20	38	64	5.8
Other Latin America	89	130	191	272	4.1
Africa	69	102	171	276	5.1
Middle East	219	290	405	470	2.8
Developing Countries	597	864	1307	1753	3.9
World	2622	3225	4104	4900	2.3
European Union	471	576	684	786	1.8

developed countries will play a key role in the growth of natural gas demand. Power generating sector is predicted to contribute 59% of natural gas growth by 2030 so the share of this sector will grow from 36% in 2002 to 40% in 2030. It is worth mentioning that the annual growth rate of global demand for natural gas averaged 2.5% in 1990-2002.

World's Conventional Natural Gas Reserves

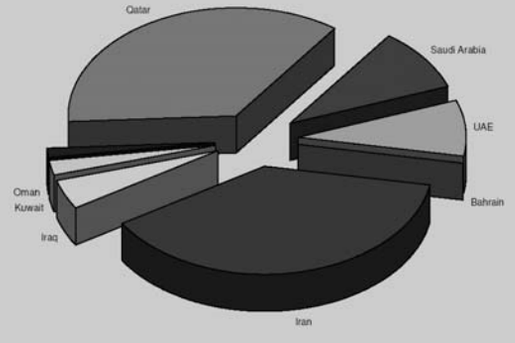
Conventional natural gas reserves in the world were estimated at some 180 TCM by 2004 which has doubled for last 20 years. This volume of reserves will provide the global demand for next 66 years. If the growth rate of global demand for natural gas is supposed to be 2.3% per year, these reserves are able to meet the global demand for natural gas at most for next 40 years. Russia, Iran, and Qatar hold some 55% of conventional proven natural gas reserves in the world.

Figure 1-World's Natural Gas Reserves (2004)



Source: Bp Statistical Yearbook 2005

Figure 2-The Middle East Natural Gas Reserves (2004)



Source: Bp Statistical Yearbook 2005

Unexplored natural gas reserves in the world are estimated at 147 TCM, some 75% of which are non-associated gas reserves and remaining 25% of which includes associated gas reserves.

Natural Gas Production Global Outlook

The future of regional production of natural gas depends to a great extent on the capacity of the reserves in the region and production costs. A majority of huge natural gas reserves are located in areas far from major natural gas markets.

It is projected that natural gas production by such Russia, CIS, and the Middle East countries grow more than the production in other countries. However natural gas production in Africa and South America will face a higher growth rate.

In some areas, production costs are very low. For example in Iran's South Pars gas field; the revenues from the sale of condensates will cover a major part of production costs.

Annual production capacity growth in the third decade will reach 320 BCM. One fourth of this growth will occur in North America where most of the fields are mature and natural decline in higher than other regions. Major portion of the growth in production capacity will be materialized in the Middle East countries and Russia.

Natural Gas Trade

Regional trade of natural gas will grow more than three fold by 2030, that is, it will be hiked to 1265 BCM in 2030 from 417 BCM in 2002. In 2030, European Union will rely on natural gas imports to provide 80% of its consumption. North America and OECD Asian members will rank the second and third respectively in terms of domestic demand for natural gas in the corresponding period.

Natural Gas Import Dependence

	2002		2010		2030	
	Bc	%	Bc	%	Bc	%
OECD North America	0	0	33	4	197	18
OECD Europe	162	36	267	46	525	65
OECD Asia	98	98	130	97	183	94
China	0	0	9	15	42	27
India	0	0	10	23	44	40
European Union	233	49	342	60	639	81

The Middle East is projected to become the biggest natural gas exporter in the world by 2030. Natural gas exports from this region will increase to 304 BCM in 2030 from 30 BCM in 2002. In the meantime, LNG regional trade will grow to 250 BCM in 2010 and 680 BCM in 2030 from 150 BCM in 2002. In 2030, more

than 50% of natural gas traded regionally will be in the form of LNG.

Investment Outlook

A total investment of $2.7 trillion should be made by 2030 in order to achieve desired balance of natural gas supply and demand. In other words, some $100 billion should be spent annually on the global natural gas industries by 2030.

OECD countries will absorb half of the projected investments in natural gas industries by 2030. North America will spend one forth of the investments by 2030. In the second rank, Russia, the Caspian region, the Middle East, and African countries will absorb the investments in natural gas industries.

The Middle East will require the biggest portion of the investments in natural gas industries while CIS countries (including Russia) will absorb the greatest portion of the investments in natural gas transmission grids.

A Summary of Iran's Gas Export Projects

Four contracts regarding the export of 17 BCM per year via pipeline have been finalized and signed so far. Natural gas export to Turkey started in 2001. Gas exports to Nakhjavan and the UAE will start this year. The fourth contract is on the export of natural gas to Armenia which will be operational by winter 2007. Other contracts under negotiations are as follows:

• South: Oriental Oil Co, DUSUP, Mobadele, Raas-alKheimeh (natural gas exports to the UAE), Kuwait and Oman

• East: Pakistan-India land pipeline project

• North and North West: Austria (natural gas export to Europe), Switzerland,

Ukraine, France, Greece, and Italy.

It is notable that the contract of natural gas export to Turkey was signed in 1996 with Botas (Turkey). Under this contract, gas exports to Turkey starts from 3 BCM and reaches the maximum amount of 10 BCM. Natural gas exports from Iran to Turkey was a turning point in commercial ties between Iran and international energy markets which is of high importance from economic, political, and long-term international relations point of view.

Studies show that Europe's demand for natural gas will outstrip the domestic supply in next two decades and natural gas imports will double. This indicates that European countries are trying to diversify their natural gas resources with the aim of maintaining the security of supply.

The Middle East countries, particularly Iran, are the most promising potential suppliers of natural gas to global markets, so they are able to play a decisive role in this most important economic region through preparing the ground for their own presence.

The South Pars gas field, which is a common field between Iran and Qatar, is the biggest non-associated gas field in the world located 100 kilometers off Iran's southern coasts. The area of this field is 9700 square kilometers. The capacity of the Iranian side of this field is estimated at some 14.2 TCM which is equal to 7% of world's total natural gas reserves and 38.6% Iran's total natural gas reserves. The amount of condensates in this field is also estimated at 18 billion beo.

South Pars, phases 11, 12, and 13 are specialized for LNG projects. To this end, NIOC has defined four separate LNG projects. Three of these projects are under way as follows:

1. Pars LNG: NIOC (50%), Total (30%), and Petronas (20%). This project includes 2 trains with nominal capacity of 5 million tons per year for each train which is able to consume 1.8 BCF of natural gas per day. At present a Japanese company, JGC, and a French company, Technip, are dealing with the design of the project. The share of Petronas has been recently decreased to 10% and 12% of the project was commissioned to CNPC, China.

2. Persian LNG: NIOC (50%), Shell (25%), Repsol (25%). This project includes two trains with nominal capacity of 8 million tons per year for each train. The natural gas feedstock of the project is equal to 2.8 BCF per day.

3. NIOC LNG: This project is financed by NIOC. This project includes two trains with nominal capacity of 5 million tons per year for each train. The natural gas needed for this project is 1.8 BCF per day. The design of the project has been completed. For more convenience, the project has been divided into three sections:

• First: Natural gas process and liquefaction units, utilities and loading ouflets

• Second: LNG and LPG storage tanks

• Sulphur, LPG, LNG, and NGLs Loading docks which is in bids phase

NIOC LNG project is of greater importance since it is implemented totally by Iranian financers and expertise.

Iran's LNG Contracts

Project		Customer	Latest Status	Sales (mt/y)	Target market	Start of Delivery	Notes
NIOC LNG	1	IBERDROLA	MOU signed	2.4	Spain & Mexico	2009	Sales Contract finalized
	2	IOC & GAIL PAHARAT & PET	In June 2005 finalized and signed	5	India	2009	25 Yrs and extendable by 7.5 Yrs
	3	MITSUBISHI	CA draft signed & Term sheets submitted by Mitsubishi	0.7-2.2	Japan	10/2009	In negotiations Terms sheets
	4	GENRONG (China)	MOU & Agreement signed	2.5-5	China	2010	30 Yrs
	5	SINOPEC (China)	MOU signed & Terms Sheets in negotiations	10	China	10/2009	250 million ton LNG in 30 Yrs
PARS LNG	1	TOTAL & PETOPARS	Terms Sheet signed & Sales contract in final stages	5	England, Mediterranean and Atlantic region, and India	2010	25 Yrs extendable to 30 Yrs
	2	PETOCHINA	MOU & CA signed	3-4	China	2010	25 Yrs
	3	ITOCHO	Preliminary negotiations	-	-	-	-
	4	GAZDOFRANCE(GDF)	HOA Draft prepared and CA signed	2	India & Europe	2010	Terms Sheet in final stages
Persian LNG	1	SHELL & REPSOL	Agreement Signed and Sales contract in negotiations	8	Mediterranean and Atlantic region, and India	11/2010	30 Yrs extendable to 35 Yrs

Iran's Natural Gas Exports via Pipeline

Region		Project	Target Market	Latest Status	Sales (MCM/d)	Contract Period (Yr)	Project	Target Market
South	1	Crescent	Sharjah & Dubai	Contract signed	14	25	2005	Operational contract finalized
	2	Oriental Oil	General	Contract signed	4	3	2006	Pending guarantee submission
	3	DUSUP	Dubai	Time Sheet pending signing & sales contract finalized	20	25	2007	Prices in negotiations
	4	MOBADELE	UAE	Terms Sheet being finalized	28	25	2007	Prices in negotiations
	5	Raas-al-kheimeh	Raas-al-kheimeh	MOM signed	10	25	2007	Terms Sheet in negotiations
	6	Kuwait	Kuwait	Terms Sheet signed	8	25	2008	Terms Sheet in negotiations
	7	Oman	Oman	MOU signed	-	25	2008	Terms Sheet in negotiations
East	1	Pakistan-India Pipeline	Pakistan & India	Times Sheet prepared	100	25	2010	Negotiations on finalizing the framework and principles of contract
West (Europe)	1	Azerbaijan	Nakhjavan	Contract signed	10	20	2005	Operational agreement being finalized
	2	Armenia	Armenia	Contract signed	1.1 -3.2 BCM	20	2007	Operational agreement being prepared & operation started
	3	Austria	Europe	Terms Sheet at final stages	11-3 BCM/y	25	2010	GSPA in negotiations Implementation pending NOBAKU project

Natural Gas Global Developments

International trade of natural gas started in 1964 when Algeria exported its first natural gas cargo. Today, natural gas trade has grown rapidly. Such countries as Indonesia, Algeria, Malaysia, Qatar, Australia, Brunei, Nigeria, Oman, Abu-Dhabi, Trinidad, the United States, Libya, and Egypt are among the exporters liquefied natural gas in the world. Japan with more than 50% share in total global natural gas consumption is the biggest consumer of natural gas in the world. After Japan, South Korea, France, Spain, the United States are the biggest consumers of natural gas in the order mentioned. By 2010-2020, Canada, Mexico, and especially the United States will become the biggest consumers of LNG in the world since demand for natural gas is increasing in North America and these countries are not able to meet the increasing domestic demand.

LNG spot trade which started from 1992 currently accounts for some 4% of LNG market. Expansion of spot sales, particularly LNG cargoes to distant markets which started from 1993 will lead to a change in LNG trade.

There were only three LNG trade markets in the world before, namely, Asia-Pacific, the United States, and Europe with totally independent pricing mechanisms however at present. LNG trade is developed dramatically particularly trading LNG batches over long distances.

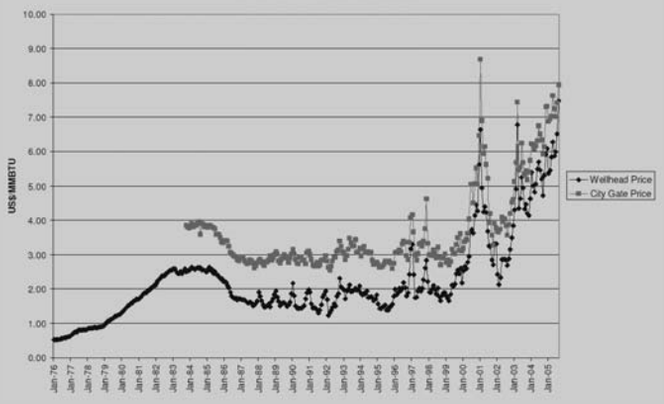
Liberalizing policies in EU markets of natural gas will result in the improved economy of short-term plans of supplying LNG to this region. Although in 1999, some 12% of total imported natural gas and 6% of total natural gas demand in Europe was provided by LNG, the LNG will play a stronger role considering EU plans to move to open markets. LNG prices in European markets should competitive. In any open market, they are competitive prices and

relative advantages which determine the position and share of energy carriers. Therefore, if LNG is willing to increase its own share in the market, its commercial advantages should compete with those of pipeline natural gas.

In Atlantic region, the outlook for LNG is better. There is a good capacity in the United States for the development of LNG trade due to increasing demand for natural gas in this country. LNG markets are acting more freely so that some analysts believe that an LNG factory should not supply for a specific terminal as it was usual in 1970's, but it should adopt a more flexible outlook. It seems that huge markets will welcome LNG since previous long term contracts are to expire and new terminals become operational in India and China.

Development of Natural Gas Prices

Figure 3-Development of Natural Gas Prices In the United States



A survey of natural gas prices in major markets, particularly in the US market which is one the most liberalized markets in the world indicates that well head prices of natural gas in the United States rose from 53 cents per million Btu in 1976 to $7.48/mBtu in August 2005 which is indicative of a growth rate of 1300% in less than three decades. A review of the prices in major US markets shows that in some cases due to natural disasters or rapid temperature changes natural gas prices in some markets rose to $30/mBtu. Or for example, London market spot prices of natural gas have recently reached some $20/mBtu which is a red alert for these markets. If these countries do not take serious actions to build and optimize natural gas transmission, distribution, and storage infra-structures, major natural gas markets will encounter serious crises.

Considering the low prices of natural gas in the past, consumers tried to replace oil with natural gas. But with the rising natural gas prices this trend may be reversed. Recent fuel oil prices might be a harbinger of this reversed trend.

Conclusions

At the outset of the third millennium, natural gas is considered the fuel of choice due to its unique features and lingering concerns about environment. Projections are indicative of a better out look for this clean fuel in coming years.

IEA projections show that natural gas with its market share growing from 21% in 2002 to 25% in 2030 will be the second dominant fuel after oil by the third decade of the 21 century. Nevertheless, there are concerns about the stability of natural gas prices and markets and whether such natural gas projects as GTL, LNG, and natural gas pipelines are economical. Undoubtedly natural gas industry, particularly in natural gas producing countries will face serious challenges if natural gas markets are not managed in a decent way. Therefore, cooperation between natural gas producing and consuming countries seems to be inevitable and necessary.

Islamic Republic of Iran as the world's second biggest country in terms of natural gas reserves cannot ignore international energy markets' potentials for Iranian surplus natural gas exports. Thus Iran has increased its efforts to develop natural gas exports since the huge South Pars natural gas field was explored and consequently Iran's proven natural gas reserves increased dramatically.

European Union and South Asian countries such as India and Pakistan with negligible natural gas reserves and high natural gas demand are among potential markets for Iran's natural gas. European Union is projected to face a considerable shortfall in its domestic natural gas production which can be a good opportunity for Iran to find a niche in this big market. The Persian Gulf states are also considered prospective markets for Iran's natural gas. Based on Iran's 2015 outlook, the country should become the third biggest natural gas producer in the world with 10% share of global natural gas trade, therefore the production should increase to 900 MCM per day.

Natural gas prices have recently grown considerably in international markets. The US markets is believed to play a leading role in recent developments. European markets are also predicted to follow the example of the US market experiencing a rapid growth of natural gas prices. However, Asian markets will be affected by the developments with a time lag.

intermingled with suitable controls and supervision during implementation and delivery periods. There are:

- The clarity of policies and priorities;
- Sufficient insight about the reservoir under contract; and
- Presence of coordinated negotiation team or teams consisting of different related specialists and familiarity with negotiation techniques.

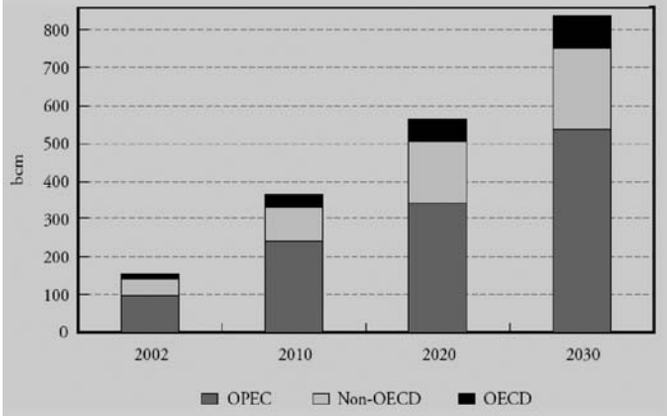
In this writing, attempt is made to point out to a deficiency which has received little attention. It seems this deficiency has cast shadows on the proper selection of international companies, on contractual negotiations as well as on many other detailed issues and works which would have negative consequences. Asymmetric information of a national company and international companies is the result of such a deficiency. Information deficiency exists in all technical, legal, economic, financial and even possibly political dimensions. Of course, such a deficiency can be eliminated to a large extent with planning and centralized efforts and endeavor. Some aspects of asymmetric information and the solutions to eliminate it are mentioned in the following. It is hoped that the following list would be completed by specialists.

1. In many cases, the technical insight of international oil companies with respect to oil fields' characteristics is more than the state company who is a negotiant party. Make no mistake. It is not meant that they necessarily possess special and complex technical know-how that we do not have it. Rather, it mainly means that they possess practical experience and information system. Geological phenomenons have been repeated in different locations of the earth. The international oil companies have been present in different countries developing or producing reservoirs with similar characteristics. The development of an oil field involves risks and uncertainties. Experience is required to determine what new technology and know-how for improved oil recovery has positive or negative impact on which type of reservoirs. It is possible that all companies are familiar with related technology but its practical result is not known to them. It is sometimes even possible that some international oil companies have historical data and information more than what we possess. Such companies had presence in Iran at some periods in the past. They have returned again after a gap of time. Naturally, our data should be more than theirs. But unfortunately, the data at our disposal are not centralized and organized and have not been converted into information. One of the strength of the international companies is organizing and updating the information. Here also a kind of deficiency exists in the utilizable and analyzable information. In principal, information is worthwhile when it is utilizable and analyzable. One of the manifestations of non-uniform information is evident with respect to shared reservoirs and the companies operating on both sides. As an example, the French company "TOTAL" has a presence on both side of the South Pars Field (shared with North Field of Qatar). The problem of information deficiency in the technical area under our discussion, although perhaps can not absolutely be eliminated, but it is definitely eliminable to a large extent. Having comprehensive database of the country's hydrocarbon reserves and its development trend doesn't require a complicated and inaccessible technology. It may perhaps require organizational and management amendments. Success and failure of various oil companies in employing new technologies on different oil reservoirs around the globe is not undetectable. A significant part of this information is open and published. The important thing is the capability to gather and organize this information. It would definitely be feasible for our research institutes to create database for all the world's petroleum reservoirs by employing efficient and specialist manpower. By following projects implemented on those reservoirs, they can update their databases. This will also have other great and valuable achievements. One of such achievements will be the ability to present en exact prediction of future crude oil supplies.

2. International oil companies have the experience of concluding various types of contracts with different countries having distinctive types of political systems and domestic rules and regulations. Naturally, many contracts may be faced with some problems and frictions or encounter deadlocks. Experience is obtained by solving contractual problems and finding solutions to overcome deadlocks. Gradually, it becomes clear that how each Article, Clause or Word can contribute to creation of problems by facing with various interpretations and comments. Such experiences would increase the capability and attention of international companies in concluding new contracts. To obtain information in these areas similar to those of the international companies is not impossible. However, it requires widespread legal studies. In this respect, the oil lawsuits and claims under investigation in the world should be carefully followed and their informative points recorded. After the Revolution and following the eviction of foreign oil companies, many legal oil lawsuits placed on the Iranian government in the international courts. These lawsuits played an important role in elevating knowledge and the level of international understanding about the intricacies of oil contracts. But it is doubtful if we have really been able to document, transfer and teach this valuable experience.

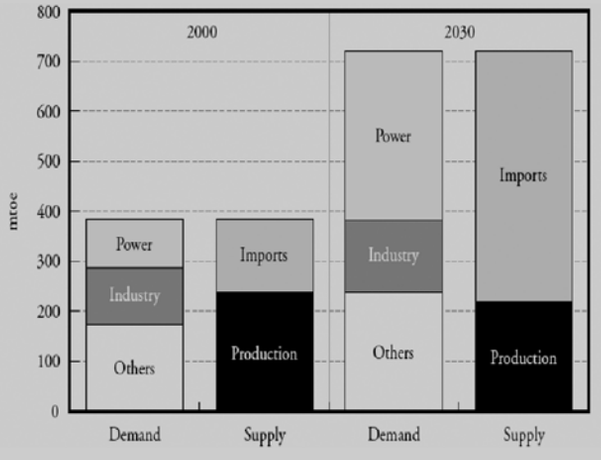
3. The international oil companies are aware of our national companies' requirements. These requirements, especially with respect to our country, are more obvious. This is due to the fact that our choices are narrower due to the sanctions imposed on us by the American oil companies. But we are usually unaware about the intensity of the need of a foreign company for making investment. The presumption that we are in need rather than foreign companies, puts us in

Sourcing of LNG

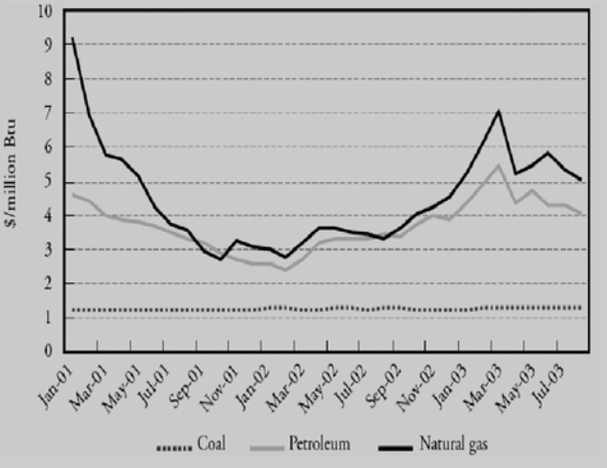


Evolution of US gas production and consumption

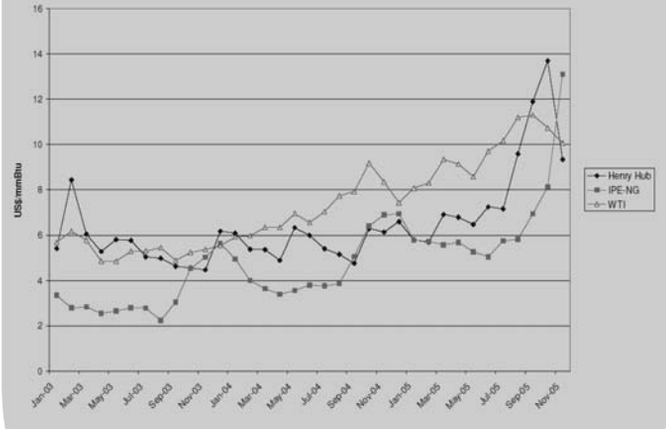
OECD European gas demand vs. Production/imports 2000-2030



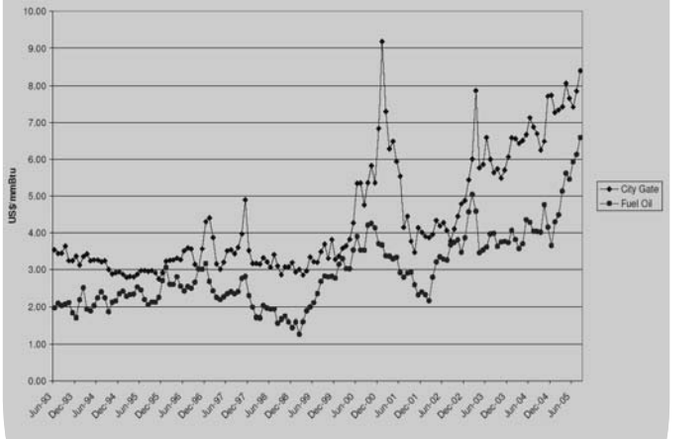
US spot fuel price for power generation



Development Trend of Oil and Gas Price in US and UK Markets



Development Trend of Crude Oil and Gas Price in US Market



Regulations on the Use of Land & National Resources in the Free Trade-Industrial Zones

Chapter one: Definitions

Article 1

In these regulations, the following terms are used in lieu of the relevant phrases:

Country: Islamic Republic of Iran.

Zone: Each of the Free Trade-Industrial Zones of the Islamic Republic of Iran.

Authority: The organization of each Free Trade-Industrial Zone of the Islamic Republic of Iran.

Regulations: The Regulations on the Use of Land and National Resources in the Free Trade-Industrial Zones of the Islamic Republic of Iran.

Chapter Two: Ownership

Article 2

All the land located within the boundaries of each Zone which is owned by, or is at the disposal of, the government shall be subject to these regulations.

Note

Lands and improvements to the Kish Development Authority, are hereby transferred to the Kish Free Zone and shall be subject to these regulations.

Article 3

Persons who have started construction or improvement on land after the general registration or in accordance with contracts concluded with the Authority before the entry into force of these regulations, shall have priority over others for the purchase or lease of land on which such constructions or improvements are located.

Article 4

Encroachment on land recognized as the property of the government shall be considered encroachment on State-owned land and the Authority, as the representative of the government, shall be obliged to pursue the matter by instituting legal proceedings or through law-enforcement forces.

Article 5

By virtue of these regulations, all the rights related to the lands subject to the Law on Urban

Land and the Law on Nationalization of Forests and Pastures as well as the Law on Preservation and Exploitation of National Forests and Pastures and the Law on Coastal Lands and Buildings, as located within the boundaries of a Zone, shall be exercised by the Authority.

Article 6

With respect to all land subject of Article (5) these regulations, the relevant Registry of Deeds and Real Estate Office shall register in the Real Estate Registry State-owned land in the name of the government as represented by the respective Authority of the Free Zone and shall modibi the Previous documents accordingly.

Article 7

As from the date of approval of these Regulations, all the debts, rights and duties of National Organization of Land and Housing and the Forests and Pastures Organization and entities whose names by the requirement of those regulations must be mentioned, with respect to the affairs of the natural resources lands, shall be assigned to the Authority.

Article 8

Any use of land is permitted within the framework of the master plan and the internal regulations of the Authority.

Note

As of the date of the approved of the master plan by the High Council of Free Zones, the Authority is empowered to issue permits for the land use in accordance with zoning plans.

Article 9

The sale and conclusive transfer of land to foreign nationals as well as to companies whose capital wholly or partially is owned by foreigners is prohibited.

Article 10

In the event that the National Land and Housing Organization has already entered into contracts with persons for transfer of land for housing purposes, the Authority is obliged to comply with the provisions of such contracts and wherever possible to assign to the applicant the same land or another land in replacement thereof in the event that the use of land is not designated for housing purposes. Advance payments made by an applicant to the National Land and Housing Organization shall be deemed as payment by the applicant and the balance of the price of the land shall be paid to the Authority.

Chapter Three: Miscellaneous Regulations

Article 11

The sale price of each square metre of land shall be determined by the Authority, taking into account the economic potential and zoning designation of land in addition to the cost for preparation thereof such as division, leveling, excavation, Street layout and drainage.

Article 12

Assignment of contracts for the sale or lease of land to others is authorized, upon obtaining permit from the Authority. Force major transfer are exempt from this rule.

Note

The transfer of the object of the contracts relating to assigning the land for housing purposes is authorized after the construction thereon and the issuance of the official title deed.

Article 13

Contracts assigning the land shall contain provision stipulating the required period for commencement and construction of building; in the event that no action is taken within the set period, the Authority can obligate the contract.

Article 14

Contracts between the Authority and the applicants are considered official documents; all the banks are obliged to accept such contracts as the equivalent of official documents and grant the relevant credit and legal facilities.

Article 15

As of the date of approval of these regulations, all the powers conferred upon the responsible Ministers, powers relating to encroachment, unlawful possession and destruction of State-owned and coastal lands and peripheries thereto, in accordance with the Law on the Preservation and Exploitation of National Forests and Pastures, enacted in 1348, and the amendments thereto, and the Law on Emerging and. Coastal Lands, as approved in 1354, as well as powers subject of Article (11) to (15) of the Law on the Protection and Amelioration of Environment, approved in 1353, which are vested in the Environmental Protection Organization, and also the special powers conferred, in such respects, upon other governmental organizations, shall be delegated to the Authority with respect to the land located within the boundaries of the Free Zones.

Article 16

Upon observance of all the laws approved in this field, the power to assign to natural or legal persons the right to exploit national resources is vested with the Authority.

a passive position while they are put in a superior position. But it may be possible such presumptions are not always and necessarily correct. Obtaining information on financial condition, status of projects, level of investments and assets and new investment opportunities of an international company is certainly difficult but not impossible. The list of companies that cooperate with us is not too long and one can enter into contractual negotiations with them in a more dominant position by obtaining information on their economic and financial conditions.

4. From a political point of view, in many instances, the companies pretend to be under restraining political pressure for not cooperating with us. It should not be assumed that such claims are always correct. In many instances, it may be a maneuver for bargaining and obtaining further financial concessions. The giant oil companies, famous as Seven Sisters, learned for the first time in 1928 and during an agreement called "Red Line" to divide activity zones among themselves. The companies outside of the Seven Sisters had no place in that agreement. Later on, the Japanese, Italian, and particularly French companies showed their desire to take advantage of Seven Sisters' vacuum (everywhere and for any reason). It is not claimed that such relations and associations are still ongoing in today's world. However, in view of many evidence, it is nonsensical to ignore the possibility of some agreements, collusions and rivalries. Therefore, also in this case, the authenticity of their claims can be evaluated by continuous monitoring of political developments as well as the companies' developments.

5. With the presence of the international oil companies in our country after the war and during a period called as "Construction", the buy-back contracts were proposed to the international oil companies as the only method of cooperation for development of oil fields. From the outset, the international oil companies claimed buy-back contracts do not provide the necessary attractions compared to other methods of contracts such as production-sharing and other opportunities available to them. It is not denied that such a claim could have some truth in it. But there is also likelihood that it is a lever for bargaining. The companies, by claiming it, may wish to obtain further financial concessions during contract negotiations knowing that using production-sharing contracts, for a variety of reasons, is not possible for NIOC. This claim, thus, can not and should not simply be accepted and taken as a presumption during negotiations. Later on, the companies also raised this issue under another pretext attributing it to our own problem. It was cited that under the context of buy-back contracts, they lack the necessary incentive to employ latest technologies for improving oil recovery due to the limitations for cooperation between NIOC and international companies. More precise investigation may not fully confirm the authenticity of such claims.

Today, most OPEC member countries and oil producers in the Persian Gulf region are using service contracts (buy-back contract is a kind of service contract). We are aware that few national companies, particularly in developing countries, tend to conclude production-sharing agreements with foreign companies. In addition, the comparison between the level of profitability of companies with that of recent years when oil prices were relatively high can be surveyed to get the real facts. In principal, the oil companies who have had more contracts in the form of production-sharing should have acquired higher profits at least in the upstream sector. Since, the simple and preliminary assumption is that: In the service contracts, the international oil company is paid in cash for its share and its revenue is not affected by an increase in the price of crude oil. But in production-sharing contracts, the foreign oil company receives part of crude oil barrels for its participation share. So, it should normally benefits more from a rise in the oil price. Anyway, it should be investigated that whether financial performances, balance sheets and status of shares of the companies endorses this issue or not. Although it is true that in the production-sharing contracts, a share from a barrel of oil is allocated to the oil company, but the taxation mechanisms controls and adjusts such a share.

Also, this issue should be investigated whether any different technical activities have been implemented in the areas that production-sharing contracts have been concluded by the oil companies. To distinguish about the issues put forward for bargaining purposes and what is actually true, requires acquiring and analyzing the information that are not inaccessible.

6. The international oil companies act merely as general contractors in oil projects. A project may be divided into tens of cases of commodity procurement and services and submitted to sub-contractors. Therefore, during the implementation period, the recognition of the relations between international companies with selected sub-contractors is important.

As it was mentioned above, for concluding a good contract with desirable implementation, it would not be possible to include everything in the text of the contract. Rather, many endeavors should be conducted before the start of contract negotiations. Also a successful and just negotiation needs for negotiating parties to possess symmetric information.

Director

Oil Deals in Euro: Opportunities and Challenges

Iranian government has recently announced that its foreign currency transactions and foreign exchange reservation would be based on euro thereafter, bringing the euro-oil relation into spotlight in economic circles.

Known as spiritual father and founder of the euro, Jacques Santer, a member of the European Parliament (MEP) and former president of the European Commission, the European Union's executive body, delivering speech in a Europe-PGCC joint economic summit some years ago proposed the Persian Gulf oil producing states to replace the dollar with the euro in their deals.

He added, "I am certain if the euro is the basic currency for oil contracts, confidence and cooperation between the European Union and the Persian Gulf Cooperation Council (PGCC) will be boosted, leading to stabilization of the international market."

The "Eghtesad-e-|Energy" monthly took the government's recent decision as a good opportunity to sturdy the euro-oil relation.

After the "Breton Woods" monetary system dominated in the world in 1944 and particularly following its collapse and the dollar's floating in 1971, the dollar has been always considered and used as the main hard currency for international pricing and trading and the United States has used it as an effective tool for carrying out its hegemonic economic policies in the world.

Given oil pricing in dollar and the first oil shock in 1973 that sharply increased the commodity's price in the world markets, the demand for the dollar considerably grew while the currency was falling and the depreciation in its value had turned it into hot money. The mentioned developments, however, helped hot dollars turn into petrodollars.

On the other hand, OPEC member states' purchasing power, thanks to the dollar's weakening against other valid currencies, was greater when compared to that of industrialized countries. As the majority of OPEC member countries were dominated and influence by the United States, the increase in oil price during the first shock helped a considerable amount of dollars return to the U.S.

The hike in the world oil prices during recent years has also served the U.S. macroeconomic policies.

No doubt, all countries of the world were under great pressure when the Breton Woods monetary system dominated and helped the dollar rule the global economy. Naturally, the European community and Japan endured greatest suffering because they were developed states and enjoyed strong economies, having the ability to compete with the United States in many fields particularly technology. However, the U.S. economy and the dominance of the dollar have been the main factors that have kept them as the second-grade economic powers.

For these reasons, European states have strong motives for confronting the global dominance of the dollar – the motives outlined overtly and covertly in their national strategies since long ago. The European states excelled the U.S. as their economies merged and the unity reached the turning point of establishing a unified monetary unit – euro. Comparison of figures and statistics in the euro lands and the U.S. shows that Europe enjoys the capacity to compete with the U.S. in different areas, including population, gross domestic product (GDP), share in world trade, productivity, and the like. The point is that none of the member states of the European Monetary Union was not able to compete with the United States individually. Therefore, if the dollar dominance in the world economy ends and the euro gradually gains an appropriate status and plays a major role, the era of the United States' hegemony in the international economy is terminated, as well.

What mentioned above is only the ideals of the European community, which needs to take the historical opportunities to identify and settle the problems at due time in the long run.

The euro will leave the dollar behind only after playing an effective role in the pricing of products and such a role demands constant strengthening of the euro and permanent weakening of the dollar. Oil, too, is an important factor as the commodity is regularly traded in huge volumes. If the OPEC oil exporting member states sell the commodity in euro and keep their currency reserves in euro, the demand for euro will grow while the demand for dollar will be lower, leading to the strengthening of the European currency and weakening of the U.S. monetary unit. Crude oil deals by itself constitute some 10 percent of the world's total trade.

So, if the oil exporting countries use the European currency in their deals, they could play an influential role in strengthening of the euro and weakening of the dollar and helping the European community achieve its ultimate goal. The oil exporting states, however, are faced with a main paradox. Although the oil exporting countries, like other states, will take advantage of loosening

the dollar grip on the world economy in the long run, the weakening of the dollar will damage them in the short and medium terms, during which crude oil price is based on the currency. The weakening of the dollar against other currencies particularly yen and euro reduce the purchasing power of the oil exporting countries in Japanese and European markets.

In other words, support for the euro will serve the oil exporting countries in the long run and these countries suffered a lot from the dollar rule (particularly when the dollar had been devalued), but the issue is different in the short run and the depreciation of the dollar is tantamount to the weakening of these states' purchasing power in non-dollar blocks. The problem is more serious for the Islamic Republic of Iran that has severed trade ties with the United States .

Hence, if the European Monetary Union expects the oil exporting countries (OPEC and non-OPEC states) to use euro in their deals in a bid to support the European currency in the long run, it needs to compensate for their losses in an appropriate way and pay them subsidies As mentioned before, when the euro manages to play a role in the pricing process of cruse oil, the paradox is resolved and there is no need for granting subsidies.

However, the oil exporting countries should know that dependence on the euro for pricing crude in the long run is a mistake like the blunder they made in dealing with the dollar. The crude pricing should be based on a basket of at least three hard currencies – yen, dollar, and euro – to ensure more stability and make up for their individual fluctuations.

In addition, OPEC should regularly regulate oil prices according to the dollar depreciation.

OPEC and Production Paradox

World oil prices, under the effect of the relative calm of two sets of factors, namely psycho-political issues and natural disasters, continued their downward trend. And even OPEC's decision to reduce crude oil production on October 20, 2006 failed to make any change in this trend Many analysts attributed the OPEC's ineffective decision to the market's lack of confidence in seriousness of OPEC members in abiding by its decisions. But perhaps such a justification is not very convincing as lack of seriousness has always been the case with OPEC members. Yet, OPEC decisions regarding output cut have always had psychological effects on the market, relatively increasing prices. Therefore another explanation should be found for the current situation of the oil market.

It seems that OPEC has faced a kind of paradox during the last few months which is unprecedented in the organization's history. It may last for sometime and, thus, it is a necessity to get an insight into this subject.

To understand this contrast, it should be mentioned that at least during the last three decades and following oil price shocks in the 1970s, the industrial countries, along with their energy planning and strategies, had relied on oil storage (strategic and commercial), as well as OPEC's spare capacities to control price shocks and to make up for sudden and short term shortages in the market. Experience has shown that taking from strategic reserves to control short term oil market fluctuations is neither compatible with the objectives of their oil storage policy, nor is it simply feasible since by doing so, the market may see it as the emergence of a critical situation in international conditions and its psychological impact may even aggravate the problems. Therefore, OPEC's spare production capacities have proved to be of higher importance for controlling market fluctuations. Relying on its spare capacity, OPEC has mainly played the role of the market regulator.

With the worldwide hike in oil demand and an increase in OPEC's oil output during the past two years, the organization's spare production capacities stayed at its lowest or even at zero levels. It was only Saudi Arabia claiming to have a spare capacity of about one million to 1.3 million barrels per day. But oil analysts had serious doubt about such a claim. Lack of OPEC's spare production capacity had intensified the market's sensitivity and vulnerability during this period.

In addition, the industrial countries which are members of International Energy Agency had been forced to increase their oil storage which in turn resulted in higher demands for oil to store.

With more stability coming to the market along with relative decrease in world crude oil demand in recent months, OPEC has felt obligated to reduce its output. The reduction of OPEC output means an increase in the spare production capacity of the organization's members. As it was mentioned, spare production capacity did not exist for a relatively long time. Once again the existence of spare production capacity brings some relief to the world oil market, the psychological impact of which is apparently stronger than the effect of actual OPEC physical output cut. In such circumstances, the decision by OPEC to reduce production has caused a reverse effect. The prevailing situation is predicted to continue until the time that OPEC's spare production capacity reaches a sufficient level from the market's point of view.

OPEC reduces forecast for 2007 world demand

OPEC, supplier of 40 per cent of the world's oil, reduced its forecast for 2007 world demand, and made a larger cut to the amount of crude it expects countries outside its membership to produce this year.

Those changes led to a higher forecast for the demand for crude oil from Organisation of Petroleum Exporting Countries members themselves, particularly in the second and third quarters of this year, the group's Vienna-based secretariat said in its monthly oil market report.

"Warm winter weather has continued into the new year, affecting not only oil demand but also natural gas prices" OPEC said. "Reduced gas prices have encouraged power plants to switch from liquid fuel to gas, which can already be seen to negatively impact oil demand in the US."

Saudi Arabian Oil Minister Ali Al Nuaimi this week rejected calls from other OPEC members for an emergency meeting to discuss possible additional supply cuts, saying that two earlier measures to reduce supply and head off supply gluts are 'working very well." Oil prices have tumbled 17 per cent so far this year, and traded below $50 a barrel briefly in New York.

OPEC revised down its estimate of 2007 world demand by 210,000 barrels a day to 85.39 million barrels a day, meaning it now expects consumption to grow 1.5 per cent, rather than 1.6 per cent. The Paris-based International Energy Agency, which advises oil consuming countries, made similar changes to supply and demand, cutting its demand growth estimate to 1.6 per cent, from 1.7 per cent.

OPEC also made changes to the estimated demand for its own crude, or 'call on OPEC', reflecting changes in other supply and demand figures. The producer group's calculations show demand for OPEC crude will average 30.1 million barrels a day this year, an increase of 100,000 barrels a day.

OPEC's oil production fell more than 110,000 barrels a day last month, mainly because of declines in Kuwait, Saudi Arabia and Iran, the report showed, citing its survey of 'secondary sources', which include estimates from news agencies and independent analysts. Crude oil production from the 10 OPEC members subject to production limits fell to 26.79 million barrels a day last month from 26.9 million barrels a day in November, the report showed.

That's still above a planned reduction in OPEC-10 output to 26.3 million barrels a day that was supposed to begin in November. More supply cuts come into effect next month.

Iraq produced 1.9 million barrels a day and Angola 1.47 million barrels a day in December. Angola joined OPEC member on January 1, becoming its 12th member.

OPEC cut its forecast for oil supply from non-OPEC countries in 2007 by 280,000 barrels a day to 50.9 million barrels a day, the monthly report showed.

NICO will provide for financial needs of Azadegan

Concerning the latest with the development of Azadegan oil field, Mostafa Khouie, managing director of PetroIran Development Co. (PEDCO) told IranOilGas Network: "This project was assigned to the Japanese Inpex in February 2004 and its first phase was foreseen to be completed in 52 months. However, save for some upstream studies and mine-clearance works, the project has made no significant headway yet".

He added: "NICO reassigned the project to PetroIran on Nov 15th 2006. Inpex was supposed to hand over the relevant documents of the project by the end of last December, paving the way for a real breakthrough in the project".

Elaborating on the works carried out so far in this project, he said: "Saipem has completed the early engineering works of the project for establishing the technical specifications of the needed materials. The mine-clearance of the field has been completed and the order for purchasing the equipments, which Inpex failed to buy, has been placed. Inpex has handed over all the documents to PetroIran and a 'project-structure & chart' has been drawn up. The executive plan of the project has been reviewed and its strategy shaped".

As for works undertaken by PetroIran for Azadegan development, Khouie stated: "The $ 95 Mln deal with Jahanpars for civil works of the project has been finalized. We have come to terms with NIDC for providing the required drilling rig plus auxiliary services and the relevant contract, worth $ 300 Mln, will hopefully be signed in two months' time, to be followed by the drilling works of the project".

As for any plan to speed up the project, he noted: "We are in talks with various Iranian and foreign companies, including Saipem, on carrying out the detailed engineering design of the project. We are also finalizing the order for procuring the needed Long Lead Items".

Elsewhere in his remarks, Khouie said: "We welcome the participation of foreign companies in this project", adding: "We have even talked to some Asian and European companies on the issue".

He refrained from disclosing names of those companies.

Concerning the cost of the project, he explained: "Surely, the project can not be done at the price of three years ago and this cost issue has to be resolved", adding: "We have worked out the likely expenses of the project and submitted to NICO. It is now up to NICO to make a proper decision on the issue".

On how the financial needs of the project would be furnished, he said: "NICO's resources are to be used for financing the project".

PEDCO provides fresh schedule for S.P. oil layer

When asked to elaborate on the latest with the development of the oil layer of South pars gas field, Mostafa Khouie, managing director of PetroIran Development Co. (PEDCO) said: "Drilling of six wells has been completed and certain assessments about the volume of recoverable crude oil of the layer have been made".

As for the construction of the wellhead platform of the field, he noted: "The contract for the platform was signed with SAFF on 15th of this January, based on which SAFF is supposed to construct and install this platform in 12 months".

Regarding action taken for hiring a Floating Processing, Storing Oil & Offloading (FPSO), he stated: "Talks with three Dutch, Malaysian and Singaporean companies for the purpose are on track and the deal will be finalized with one of them.".

He went on to add: "The contract for the FEED studies of developing the oil layer has been signed with the British Penspen, which is expected to complete the job and prepare the tender documents in 7 months".

Giving reasons behind the delay in the project, initially foreseen to be completed in 19 months i.e. by the end of last December, he explained: "The delay, which was mainly in the wellhead platform and FPSO sections, was caused by the French Schlumberger, the MC of the project. That is why the MC contract was terminated on Nov 1st 2006 so as to accelerate the job".

He also disclosed that PEDCO had provided NIOC with a fresh schedule, meant to speed up the works.

NISOC finds fresh geological structure

Seyfollah Jashnsaz, managing director of NISOC said: "MDP of Kaboud field, located in north of Khouzestan province, has been prepared and we are busy selecting a contractor for the project".

ICOFC assigned the development of Kaboud oil field to OIEC in 2001, aiming to raise the production capacity of the field from 4,000 bpd to 12,000 bpd; however, in July 2005, the project was reassigned to NISOC.

Disclosing the discovery of a new geological structure in the vicinity of Ab Teymour field, near Ahwaz, Jashnsaz said: "The preliminary studies on this 40 sq km structure are underway".

Explorers deploy more rigs in 2006

Oil and gas explorers deployed an average 3,043 rigs a month in 2006, 11% more than in 2005, as higher oil prices spurred the hunt for reserves, US oil services provider Baker Hughes Inc said in a January 5 report.

Explorers paid record prices last year to hire drilling equipment as demand increased.

Transocean, the world's largest offshore drilling contractor, and other operators have tripled hire rates for rigs in the last two years.

So far, the 32% slide in oil prices from July's record of $78.40 a barrel hasn't curbed demand.

The number of rigs searching for oil and gas in the US increased 16% to 1,695 compared with 1,464 a year earlier, Baker Hughes said on its website.

"The fluctuations in prices are in the short-term,'' said Stephen Hadden, senior vice president, exploration & production, Devon Energy Corp said in Singapore.

"In the longer term, we are confident about our projects.'' There were 356 mobile drilling equipment in operation worldwide in December compared with 344 in the year-earlier period, Baker Hughes said. International oil companies deployed 82 offshore rigs in the Gulf of Mexico, compared with 75 in a year earlier.

Transocean, the world's largest offshore drilling contractor, is charging a unit of Woodside Petroleum $435,000 a day, almost three times what it charged last April, to rent out Sedco 703, a drill ship capable of operating at water depths of 2000 feet, according to Transocean's website.

Chevron Corp will pay $493mn over three years to hire Transocean Richardson, a semisubmersible rig capable of operating in water depths of 5,000 feet, Transocean said in a statement dated January 9 on its website.

Exxon Mobil Corp is paying Seadrill, a Norwegian oil- rig company, $570mn to rent West Polaris, a deep water drill ship under construction at South Korea's Samsung Heavy Industries Co, Seadrill said in a Jan. 10 statement on its Web site. The rig will be delivered in 2008.

Shares of Singapore's Keppel, the world's largest builder of oil rigs, have climbed 47% in the last year in Singapore. Keppel Offshore completed and delivered 26 new rigs and conversions totaling S$2bn ($1.3bn) in 2007, Keppel said in a January 4 filing to the Singapore Exchange.

Contract for Phases 15&16 effective now

The Norwegian Fugro Geoteam is to start on Jan 15th the geophysical and geotechnical works for determining the exact sites of platforms for development of phases 15&16 of Iran's South Pars gas field. The contract for this operation was signed between Fugro and SAFF/ ISOICO in December 2006.

The local firm Akam Sanat Asia (Asia AKAM Industry) is busy carrying out the needed survey for constructing the project's subsea pipelines.

The contract for development of the said phases became effective on Dec 22nd 2006 when the first installment of the down payment of the project was made. The project is to take 52 months to complete from the said date.

As for the onshore section of the project, underway by Ghorb Nooh HQ, an affiliate of Khatam al-Anbia HQ, numerous talks have been held with different foreign companies for the basic engineering design works as well as management of the project; however, they have all proved inconclusive. Apparently, local engineering consulting firms will be the choice for the task.

It has also been heard that the Australian Worley Parsons, which is collaborating with EIED (a subsidiary of OIEC), to prepare the FEED of the development of phases 17&18 of South Pars, might undertake the basic engineering design works of phases 15&16 as well.

The $ 2.1 Bln contract for development of Phases 15&16 of Iran's South pars gas field was signed on July 1st 2006 between NIOC and a consortium of Khatam Al-Anbia HQ, IOEC, ISOICO and SAFF.

Latest with the development of Darkhovin oil field

Development of Iran's southern oil field of Darkhovin, underway by the Italian ENI, is facing a considerable delay.

The executive works of the project, in two phases, started in July 2001.

Phase 1 of the project, meant to produce 50,000 bpd of oil, was commissioned in July 2005. And phase 2, aimed at raising that production capacity to 160,000 bpd, was to go on stream late 2006, but it has not been completed yet.

In phase 2 of the plan, drilling of 15 production and 3 gas-injection wells have been completed but expansion of the production unit has yet to enter the executive stages.

The local outfit "Jahanpars", which built the 60,000-bpd production unit in phase 1, has been reselected to expand that capacity to 180,000 bpd in phase 2.

Prolongation of the tender procedure, for expansion of the production unit in phase 2, and also problems in purchasing the required equipments of the project, particularly the 'Long Lead Items' were the main reasons for delay in the project.

Apparently, the project will not become fully operational in 2007.

Early production of phases 6-8 likely in Q2 2007

The gas refinery of Phase 6 of Iran's South Pars gas field is ready for the pre-commissioning stage and its pilot flare was lit last month, says Rahim Tabrizi, manager of onshore sector of development of Phases 6-8 of South Pars with PetroPars.

Talking to the news agency of Iran's oil ministry, Tabrizi added: "The refinery had made 96% headway by the end of the fall and is a mere 2% behind its initial schedule".

Giving the breakdown of the progress, he said: "The Procurement, Engineering and Construction sectors of the plant had moved 99.95%, 99% and 90% respectively by the said time. But the refinery's full commissioning will begin when its gas feed is supplied by the offshore sector of the project".

As for the progress in the power plant of the refinery, Tabrizi explained: "Needed works have been done for installing the three units of the power plant and its first unit will be coming on stream before the end of this (Iranian) year".

In the offshore sector of the project, the 'SPD 9' platform was supposed to have been loaded out and installed at its site in December 2006. IranOilGas has learnt that the platform will now be ready for load-out towards the end of this month.

Installing the platform requires calm weather, but the climatic conditions of the region are normally turbulent until March.

Given that installing the platform and preparing it for operation would take 2-3 months, the first batch of gas yields of Phases 6-8 will not be available earlier than May or June this year.

Development of Iran's heavy crude fields dragging out

Projects to develop Iran's heavy crude oil fields, underway by PEDEC, are limping ahead.

The needed equipments and pumps of the development of Kouh-e-Mond heavy oil field have been provided and the executive works for placing the pumps on the wells will be starting in mid February, when the required drilling rig is delivered by NIDC.

If the pumps are set up, it is believed that each of the two wells of No.6 and 8 could be producing some 1,000 bpd of crude oil of 18 API grade.

The studies on this field are to continue after its pilot