OIL

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In a review of the oil market for the year 2001, the most striking feature is the weakening of the price of oil, starting late in September and continuing into 2002 (see Figure 1). The oil price fell from about US$25/bbl held in the first nine months of the year to US$17-18/bbl by November. However, as noted in last year's Mining Annual Review, the price of oil had already fallen from a peak greater than US$35/bbl reached in early autumn 2000 and had been subject to downward pressure since then.

A main factor contributing to this price decline was the weakening demand for oil (see Figure 2 and Table 1). Again, this had already started in the year 2000, but became more noticeable in 2001. It was brought about mainly by the decrease in economic activity in the US and the Far East.

Another feature of last year's global oil scene has been the policy actions undertaken by the Organisation of Petroleum Exporting Countries (OPEC). Four times over a period of 12 months, OPEC decided to decrease the level of its crude oil production. OPEC's production ceiling was lowered by a total of 5 Mbbl/d. These are shown in Figure 1 and listed in Table 2.

A more systematic review of the market is given below.

Distribution of Supply and Demand

In any analysis of the oil market, it is always useful to note the uneven geographic distribution of oil supply and demand in the world. This situation leads to the large-scale global trade in oil. Almost 60% of the produced oil is traded internationally until it reaches the world's main consumption centres. In addition, a great deal of trade and transportation takes place within each country.

The Middle East produces about 30% of the oil in the world, while it consumes about 6% of it. Consequently, the Middle East is a major oil exporter. Conversely, North America (mostly the US) consumes about 31% but produces 19% of the world's oil, thus it is a major oil importer. The Asia-Pacific region is also a major oil importer; it consumes 27% but produces 11% of the oil in the world.

Demand for Oil

The main trends of world oil demand were referred to above and are listed in Table 1 and illustrated in Figure 2. They show that the annual increment in world oil demand was weak in the year 2000 and even weaker in 2001. World oil consumption grew by only 100,000 bbl/d in the year 2001 and by 600,000 bbl/d in 2000 in comparison with 1.8 Mbbl/d in 1999.

The major changes in demand occurred in North America and the Asia-Pacific. The annual demand increment in North America fell from 700,000 bbl/d in 1999 to 300,000 bbl/d in 2000 and it actually became negative - a decrease of 200,000 bbl/d in 2001! The declines in the incremental demand of the Asia-Pacific were similarly impressive: 1 Mbbl/d in 1999, 400,000 bbl/d in 2000 followed by no growth in 2001. Latin American demand had increased by 100,000 bbl/d in 1999, it had remained unchanged in 2000, but fell by 100,000 bbl/d in 2001.

These decreases in oil demand reflect the decline in economic activity and recession in these regions. The North American region had not suffered from the 1998 recession experienced in Asia, but it experienced its own recession late in the year 2000, in 2001 and into 2002. The tragic events of September 11 lengthened this recession.

Table 1 - Oil Demand in the Main Geographic Regions of the World (Million Barrels per Day)

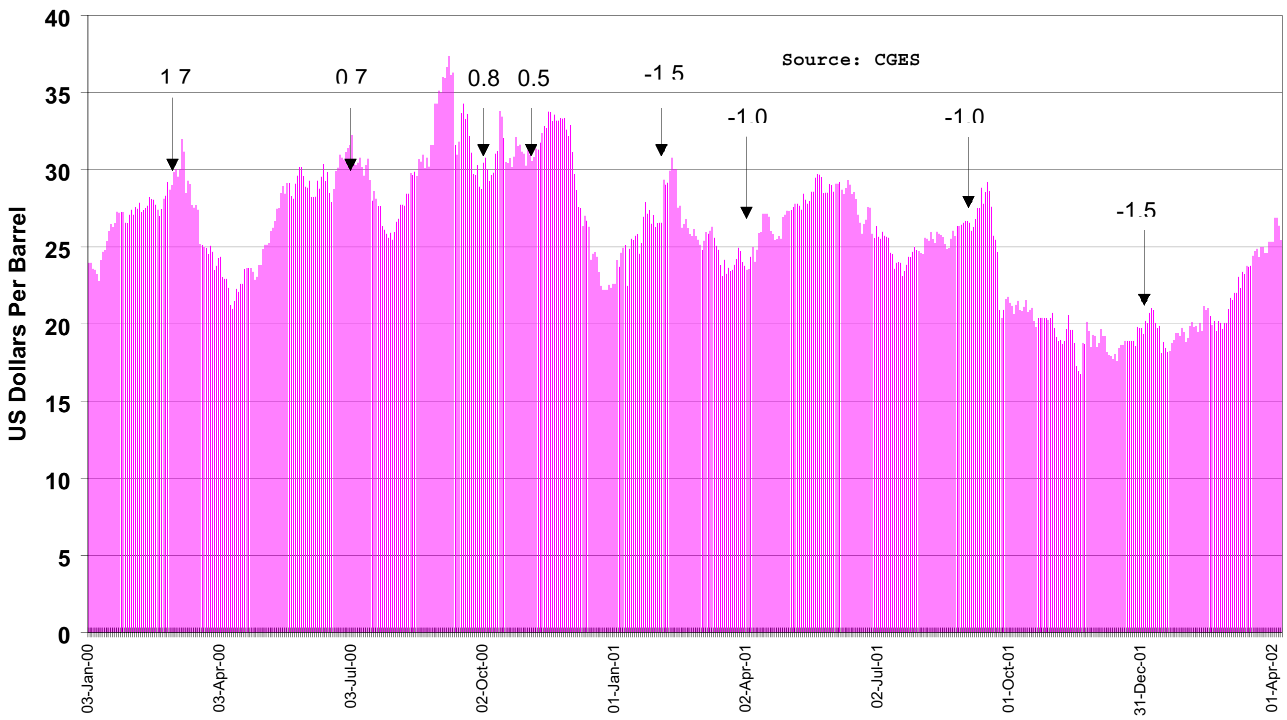
	1997	1998	1999	2000	2001
Actual Demand					
Middle East	4	4.17	4.29	4.38	4.52
North America	22.7	23.09	23.77	24.1	23.89
Asia Pacific	19.9	19.36	20.39	20.75	20.77
FSU	3.8	3.73	3.66	3.61	3.69
Africa	2.3	2.35	2.37	2.37	2.39
Latin America	4.7	4.76	4.85	4.86	4.77
Europe	15.8	16.05	15.92	15.81	15.97
Total World	**73.2**	**73.5**	**75.25**	**75.89**	**75.98**
Incremental Demand					
Middle East	0.2	0.2	0.1	0.1	0.1
North America	0.5	0.4	0.7	0.3	-0.2
Asia Pacific	1.0	-0.5	1.0	0.4	0.0
FSU	-0.2	-0.1	-0.1	-0.1	0.1
Africa	0.1	0.1	0.0	0.0	0.0
Latin America	0.2	0.1	0.1	0.0	-0.1
Europe	0.1	0.3	-0.1	-0.1	0.2
Total World	**1.9**	**0.3**	**1.8**	**0.6**	**0.1**

The outcome of the above developments has been the drastic decline in total world oil demand. Instead of the annual increments of 1.5-2 Mbbl/d in the previous years, the world experienced demand increases of only 600,000 bbl/d and 100,000 bbl/d respectively in the years 2000 and 2001.

Production of Crude Oil

Crude oil production volumes in the main geographic regions of the world in the last four years are given in Table 3. They are also given for OPEC and for the rest of the world over the same period. The figures show a decrease of 311,000 bbl/d in total world oil production for 2001, consisting of a decrease of 926,000 bbl/d in OPEC and an increase of 615,000 bbl/d outside OPEC. It is worth noting that crude oil production actually increased by 616,000 bbl/d in the Former Soviet Union & Eastern Europe (FSU & EE). Moreover, the decrease in OPEC's crude oil production was a deliberate policy action by OPEC 10 (excluding Iraq) in defence of the price of oil, as noted in Figure 1 and Table 2.

FIGURE 1 - Recent Profile of the Price of Oil (Dated Brent)
AND Increases & Decreases in OPEC Production Ceiling (Million Barrels Per Day)



Further details of crude oil production trends in a selection of individual countries are given in Table 4. They are arranged according to their 2001 production volume and are grouped under non-OPEC and OPEC. In 2001, oil production increased in the countries of the FSU and EE (616,000 bbl/d), in Mexico (115,000 bbl/d), Brazil (84,000 bbl/d), China (65,000 bbl/d), Malaysia (52,000 bbl/d) and in other non-OPEC countries. On the other hand, the greatest decrease in production occurred in the UK (183,000 bbl/d), followed by Colombia (83,000 bbl/d), Australia (67,000 bbl/d), Egypt (52,000 bbl/d) and others.

Within OPEC-10 countries, Saudi Arabia had the largest decrease in oil production in 2001 (346,000 bbl/d), followed by Venezuela (213,000 bbl/d), the United Arab Emirates (70,000 bbl/d) and others. Iraq has been outside the OPEC agreement on production ceilings. The country had been under UN sanctions for more than seven years; the other OPEC members decided not to subject Iraq to oil production constraints when it was allowed to export its oil under UN supervision. The variations in Iraqi oil production are caused by the changes in the marketing procedures allowed for Iraqi oil and the country's oil production capabilities.

It is worth remembering that in 2000, OPEC had implemented a reverse policy and had actually increased its production ceiling by 3.7 Mbbl/d in order to lower the price of oil. This is shown in Table 2 and Figure 1.

Supply - Demand Imbalance

The decrease in the level of economic activity in the major oil consuming countries was the main factor contributing to the decline in oil consumption in the year 2001. World oil demand grew only by 100,000 bbl/d in that year, compared with 600,000 bbl/d in 2000 and 1,800,000 bbl/d in 1999. Oil production, however, is not directly affected by the status of economy and the variations in global oil demand.

Fields already on stream will usually continue to produce and field development operations will not cease because of changes in oil-market conditions. Oilfield development projects require significant capital. Once a decision is made to commit the investment and the field development work has commenced, in almost all cases the operations will not be stopped. Moreover, the lead-time could be two or more years. Thus the start of production in a particular field might coincide with a strong or weak oil market. Furthermore, although market conditions often change during the life of a field, oil production continues at the maximum allowable rate depending on reservoir capability and other technical considerations.

The international oil industry usually handles the seasonal imbalances in supply and demand by managing crude and product inventories. The other imbalances were also partly handled by the industry in the past, though they could not compensate for the major shifts in supply and demand position, such as those caused by economic cycles or technical problems and accidents in oil operations or severe weather conditions. Moreover, in the past decade, the industry has been reducing the level of its inventories and its working capital in order to cut costs. This has left the industry with less room to manoeuvre and less capable of handling supply-demand imbalances. More and more, these measures are left to OPEC and the governments of the other producing countries to balance the supply and demand and to stabilise the world oil market.

Oil Market in 2002

Late in 2001, OPEC and some other producers decided to reduce their oil supplies in the first half of 2002. OPEC announced a production cut of 1.5 Mbbl/d over the period of January to June 2002, provided the non-OPEC countries pledge a total cut of 500,000 bbl/d. Following some consultations and negotiations, a total of 462,500 bbl/d was pledged by some non-OPEC countries. Relatively large cuts in production or exports were promised by Norway, Mexico and Russia and smaller cuts by other countries. The cuts were to last until June 2002, but Russia's pledge was for three months though the Russians later extended this until June.

The implementation of the cuts by OPEC and other producers has not been complete and compliance has been much below 100%. Nevertheless, the announcements have had a positive impact on market psychology. At the same time, the actual cut in supplies has already made an impact on the physical availability of oil.

Table 2 - Crude Oil Production Ceilings for OPEC 10* in 2000 & 2001 (Mbbl/d)

	Peak	Change
April 1999	22.98	
March 2000	24.69	1.7
July 2000	25.4	0.7
October 2000	26.2	0.8
November 2000	26.7	0.5
Change: Jan 00-Jan 01		**3.7**
February 2001	25.2	-1.5
April 2001	24.2	-1.0
September 2001	23.2	-1.0
January 2002	21.7	-1.5
Change: Jan 01-Jan 02		**-5.0**

**OPEC 10: OPEC excluding Iraq.*

Source: OPEC & CGES.

The oil market conditions in early 2002 were a continuation of the weak market conditions in 2001. The 2001-2002 winter in the northern hemisphere was also mild, reducing oil consumption. Global oil demand in the first few months of the year was about 600,000 bbl/d less than the same period in 2001. In the OECD countries, the decline in this period was greater than 800,000 bbl/d, but a modest increase in demand occurred in China (greater than 100,000 bbl/d) and a marginal increase in the rest of the world. The oil price remained weak.

For the rest of the year, the growth in oil demand will depend on the economic performance of the US and its impact on Asia and the Far East. Most expectations are that these countries will resume economic growth in the second half of 2002 and that world oil demand in the last few months of 2002 will be 1-1.5 Mbbl/d higher than the corresponding months of 2001. The total increase in oil production outside OPEC could be almost 1 Mbbl/d, expected mostly in Russia, Kazakhstan, North America and Africa. The level of global oil inventories (as of March 2002) is low, though relatively reasonable. However, it might not provide sufficient cover for the expected rise of oil demand in the coming months. Some analysts suggest that OPEC should soon increase its production in order to avoid supply shortages and a hike in the price of oil in the summer and later in the year.

However, an increase in the price of oil began in March and the dated Brent price reached about US$25/bbl toward the end of the month (see Figure 1). The physical supply/demand balance did not warrant such an increase at this time and the price rise was most probably influenced by the changing perceptions for the future market conditions. In particular, non-commercial traders had shifted their positions in the market, exaggerating the price increase. It is estimated that the changing perceptions might have contributed to a price rise of about US$3/bbl during the month of March.

These were attributed to a number of factors. There was growing concern that an unexpected fall in supplies might occur if the US takes military action against Iraq. Secondly, some observers believe that the US economic recovery will be stronger and will occur sooner, boosting economic growth in Asia and other parts of the world and leading to an earlier and much higher increase in the demand for oil. There was also some concern that the disagreements within the Venezuelan national oil company could disrupt field operations and reduce oil production and exports.

A second increase in the price of oil occurred in late March and early April, with dated Brent crude reaching greater than US$27/bbl. This rise was attributed to the fear of supply cuts following the escalation of the Palestinian/Israeli conflict. Iraqi authorities had stated that oil producers should impose an embargo on oil exports to Western countries. Early in April, Iraq announced a one-month suspension of its oil exports in protest at the military actions by Israel. The suspension was to be reviewed and could possibly continue longer. It was also feared that actions of sabotage could possibly occur, resulting in the cutting of oil supplies from other countries. As before, the position of non-commercial traders had also exaggerated the price hike.

OPEC Options

Whether OPEC should act in response to these changing market perceptions is debatable. The organisation has stated that it does not intend to take action on such short-term speculative positions, but some OPEC ministers have also stated that they will quickly increase their supplies in response to an actual physical shortage of oil in the world.

Table 3 Crude Oil Production ('000 bbl/d)

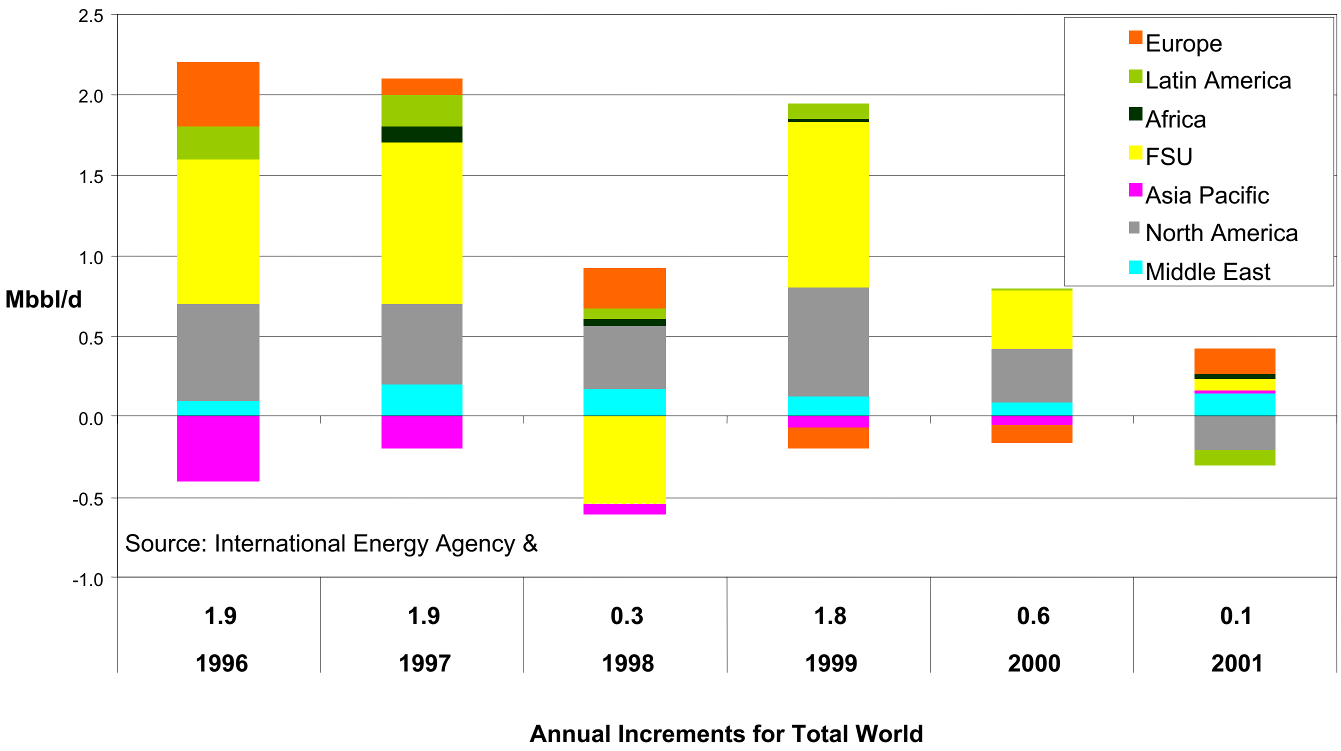
	1998	1999	2000	2001
Middle East	20,973	20,268	21,445	20,781
The Americas	17,727	16,883	17,188	17,152
FSU & E. Europe	7,236	7,335	7,748	8,364
Asia Pacific	7,051	7,020	7,322	7,311
Africa	6,907	6,634	6,930	6,898
Western Europe	6,252	6,380	6,377	6,188
OPEC	**27,832**	**26,603**	**28,085**	**27,159**
Non-OPEC	**38,332**	**37,893**	**38,918**	**39,533**
Total World	**66,164**	**64,496**	**67,003**	**66,692**

Totals may not add up due to independent rounding.

Source: Oil and Gas Journal.

Examining the oil market fundamentals, it has to be acknowledged that there exists a high degree of uncertainty in the above demand and supply expectations and their policy implications. The economic recovery might not occur or it might be mostly in the high technology sector not resulting in much growth in oil demand. This uncertainty is compounded by the experience of demand forecasting for 2001. The estimates by various

FIGURE 2 - Incremental Demand in the Main Geographic Regions



analysts for the incremental demand in that year were revised down from nearly 2 Mbbl/d to 100,000 bbl/d in their successive forecasts over a 12-month period! Secondly, the fear of supply disruptions might also be unjustified. Nevertheless, OPEC and the governments of other producing countries are left to manage the supply of oil for the rest of 2002. And they have to make decisions in the light of all these uncertainties.

In the past two decades, OPEC has tried to stabilise the oil market by balancing the world supply of oil - increasing it in a strong market and decreasing it in a weak market. On occasions, some of the producers outside OPEC have also co-operated by reducing their supplies. These measures were generally taken once or twice a year - as major steps to balance the overall global market.

In recent years, OPEC has been driven into more short-term measures. It has also tried to play a more pro-active role. The ministers meet more frequently. They continue to examine the market, consult each other on the phone or hold bilateral or regional meetings and negotiate with non-OPEC producers. These occur several times between their official OPEC meetings. They try to foresee the trends and initiate policies aimed at stabilising the oil market. However, OPEC has also been criticised on the details of its policy, eg, doing too little too late to avoid price hikes or a price collapse. It should be remembered that many factors influence the market especially over the short term and they cannot be easily compensated by producers' policies. Speculations, changing market perceptions and global geopolitics all play a role in the international oil market. Uncertainty cannot be avoided and OPEC obviously prefers the upside to the downside risk.

The target price for oil is not very clear and covers a wide range, particularly following the weakening market conditions in 2001. Nevertheless, most OPEC authorities still regard the US$22-28/bbl (for OPEC basket) as a price band "to guide their deliberations".

Table 4 Crude Oil Production ('000 bbl/d)

	1998	1999	2000	2001
Non OPEC				
FSU & E Europe	7,236	7,335	7,748	8,364
US	6,244	5,882	5,822	5,848
China	3,200	3,195	3,236	3,301
Norway	3,015	3,018	3,205	3,237
Mexico	3,071	2,906	3,012	3,127
UK	2,633	2,725	2,514	2,331
Canada	2,017	1,901	2,035	2,053
Brazil	956	1,086	1,128	1,212
Oman	900	895	933	964
Argentina	847	800	751	764
Egypt	866	852	812	760
Malaysia	720	723	692	744
Angola	735	762	741	696
India	658	652	650	644
Australia	535	518	700	633
Colombia	754	816	687	604
Syria	553	537	523	518
Syria	553	537	523	518
Ecuador	378	376	393	407
Yemen	385	408	354	350
Denmark	238	300	363	349
Vietnam	190	190	304	305
Gabon	355	340	327	301
Congo	265	264	265	265
Sudan	12	12	187	200
Brunei	141	163	177	180
Equatorial Guinea	83	94	168	170
Non OPEC	**37,540**	**37,287**	**38,250**	**38,845**
OPEC				
Saudi Arabia	8,297	7,816	8,264	7,918
Iran	3,608	3,504	3,682	3,696
Venezuela	3,122	2,787	3,028	2,815
UAE	2,297	2,045	2,233	2,163
Nigeria	2,132	1,964	2,034	2,083
Kuwait	2,075	1,948	2,099	2,042
Libya	1,392	1,347	1,414	1,365
Indonesia	1,315	1,280	1,267	1,214
Algeria	824	754	809	836
Qatar	661	633	688	672
Iraq	2,110	2,525	2,567	2,355
OPEC	**27,832**	**26,603**	**28,085**	**27,159**

Totals may not add up due to independent rounding.
Source: Oil and Gas Journal.

The US Treasury Secretary considers US$18-25/bbl (probably for WTI crude in the US - about US$2/bbl higher than OPEC basket) as reasonable for ‘sustainability’. Authorities in other non-OPEC countries have also mentioned other ranges for the target price. As noted in the previous issues of Mining Annual Review, a global consensus is required. Nevertheless, these policy measures would only give direction to the market; they could not reverse market fundamentals.

Market Outlook
We have to consider the following issues for the rest of 2002 and early 2003:

- Will the US economic recovery materialise? What will the strength of such a recovery be? To what extent will it lead to recovery in other countries? And in any event, will economic recovery have a significant impact on oil demand?

- Will the US threat lead to military action against Iraq? Will this result in a reduction or indeed a complete suspension of Iraqi oil exports? Similarly, will the Palestinian/Israeli conflict lead to a reduction of oil supplies?

- Will OPEC maintain its present production ceiling beyond June 2002 or will it raise the ceiling? In any case, how will OPEC members comply with their current or future ceilings?

- Similarly, will the non-OPEC countries maintain their limits on supply beyond June 2002 or will they increase their production and exports? In any case, how will they keep to their current or future pledges?

The reader is left to reach his/her own conclusions!