



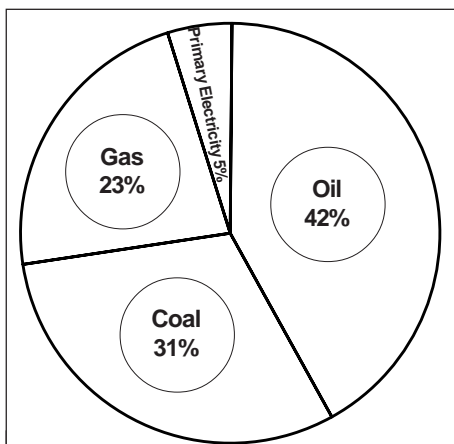
Trade In Oil

Oil fuels the world economy but oil production is concentrated in a few countries, upon which many others depend. This Factsheet will review the major producers and consumers of oil.

Global commercial energy production has increased by 52% over the past two decades. This trend has been disrupted only twice when oil price increases of 1973-75 and 1979-82 shocked the global economy.

Figure 1 illustrates the world-wide percentage contribution of different fuels and highlights oil as the principal energy source:

Fig 1. Sources of Energy (% by type)



"Oil: a concentrated energy source which is easily transported, stored and processed into a huge range of industrial raw materials"

Patterns Of Oil Distribution.

Table 1 indicates the different areas of the world which import and export oil. Some countries such as the USA and Western Europe both import and export oil. In contrast, other areas such as the Middle East, only export oil.

Exam hint - Candidates should be able to provide evidence that they have considered why some countries both import and export oil. Oil is a raw material from which many secondary products are formed. Such products vary greatly in value and it will often be economically sensible to export certain valuable products and import the less valuable ones.

Table 1. World importers and exporters

Oil Importers	Oil Exporters
Western Europe	Middle East
Rest of the World	U.S.S.R (Now C.I.S)
USA	Latin America
Japan	North Africa
Latin America	West Africa
Africa	Rest of the World
	South East Asia
	Western Europe
	USA
	Japan

East Asia, China and Latin America are expected to show the greatest increase in demand for oil largely as a result of:

- Rapid economic growth
- Continued urbanisation
- Increased transportation needs
- Lack of a gas infrastructure e.g. pipeline and port facilities. Therefore the energy demand is largely met by oil.

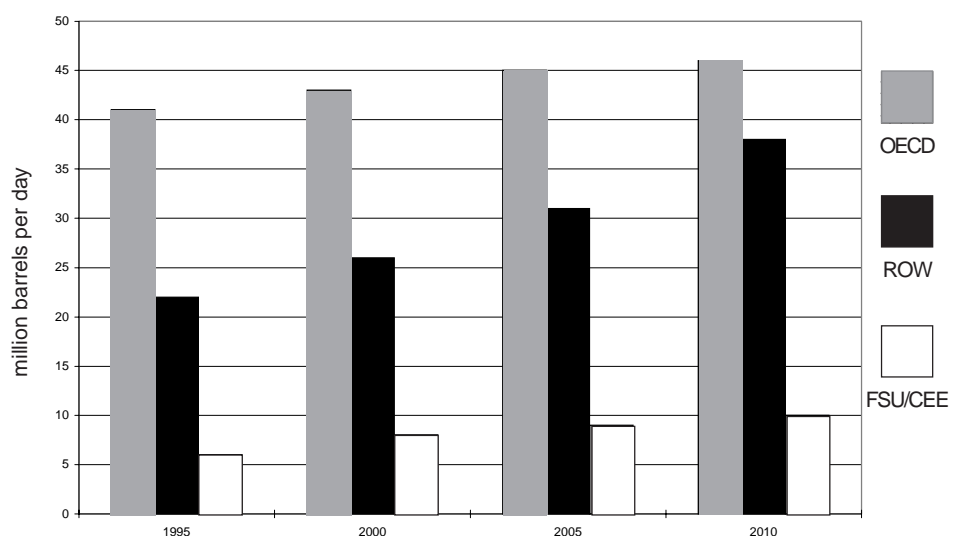
Oil consumption in OECD (see over for explanation) countries is also expected to increase, largely as a result of an increased demand from the transport sector.

Exam hint - The strongest candidates will show that they understand the link between oil consumption and general economic development - Does development always mean greater use of fossil fuels?

Oil Demand

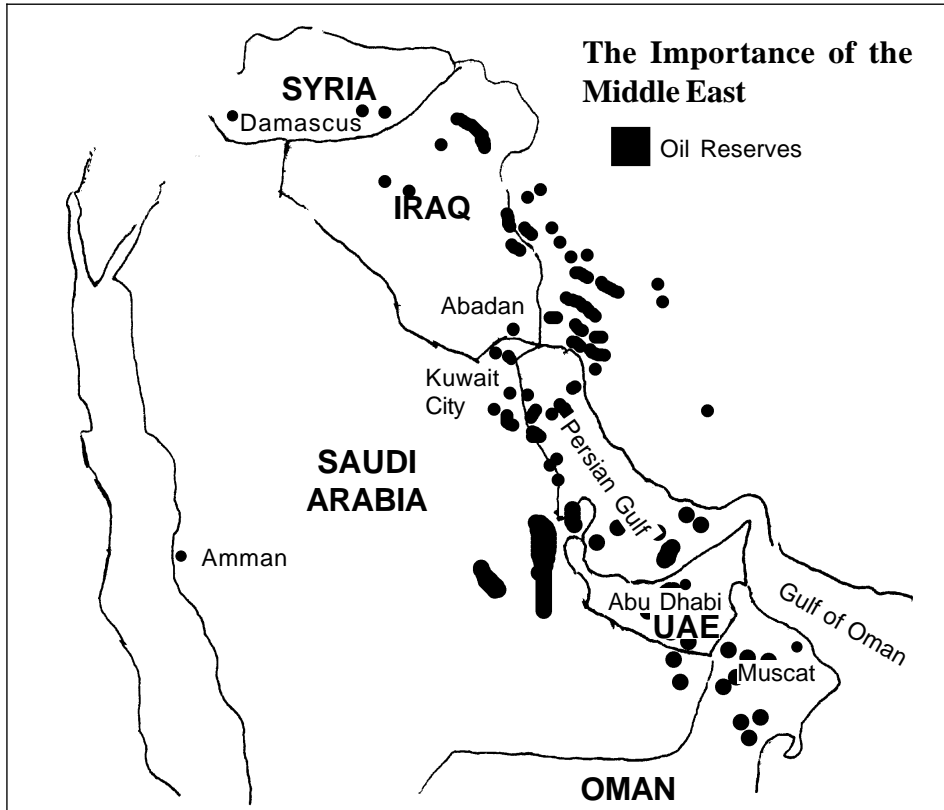
World oil demand is rising at an average rate of 1.8% per annum, with the greatest increase expected to occur in the Rest of the World (ROW) countries (Fig 2)

Fig 2. World Oil Demand 1995 - 2010



Key: ROW = Africa, Latin America, Middle East, China, South East Asia and East Asia.

Of these, East Asia is expected to show the greatest incremental increase



The Importance of the Middle East

Oil Reserves

Almost 65% of the world's proven oil reserves lie in the Middle East. Saudi Arabia alone has nearly 25% of the world's resources. However, all production in the Middle East fields is approaching capacity and Saudi Arabia is having to spend nearly 2 billion dollars annually just to maintain current production levels.

As demand rises and Middle Eastern and Saudi Arabian production, in particular, peaks, the vulnerability of importers increases. This is particularly true of those countries which base their wider economic development on oil. In the past, even modest political disruptions in oil-producing countries has led to huge and immediate price increases.

- Although there is some idle production of oil in Iraq and a limited number of OPEC countries, these countries require a large capital investment in order to expand their oil capacity. However, this expansion is hindered by financial and political problems in countries such as Iraq and Libya which discourage foreign participation in their oil industries. Any expansion of oil production invariably requires huge investment and this competes with other investment priorities in the national budget.

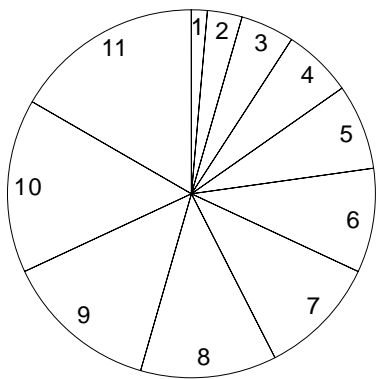
- Oil prices could rise significantly as the demand for oil approaches and exceeds supply capabilities.

Oil Supply

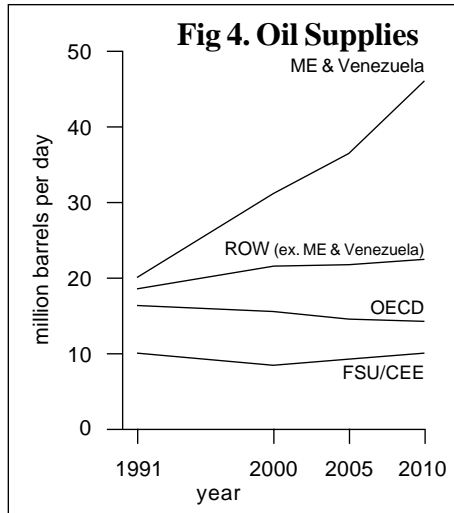
Figure 3 shows oil production by region.

Figure 4 shows expected changes in the pattern of supply to 2010.

Fig 3. Oil Production by region



1. Indonesia 2.3%
2. Canada 2.5%
3. U.K. 3.0%
4. Nigeria 3.0%
5. Venezuela 3.6%
6. Mexico 4.2%
7. China 4.6%
8. U.S.A. 12.2%
9. Former U.S.S.R. 17.6%
10. Rest of World 20.4%
11. Persian Gulf nations 30.6%



The most noticeable trends are:

- 1) decreasing supplies from OECD
- 2) significant increase in supplies from Middle East and Venezuela

There are four important implications of the world oil balance:

- In 1991 OECD countries were dependent upon imports for 58% of their oil but by 2010 this is expected to increase to 68%
- Although oil production by RoW countries is expected to increase, their overall dependence on the Middle East and Venezuela will grow.

OPEC and OECD

There are 13 countries within OPEC (Organisation of Petroleum Exporting Countries) including 6 in South West Asia which produce approximately 40% of the world's oil. The OECD (Organisation for Economic Co-operation and Development), on the other hand, is made up of 24 developed countries, 17 of which are in Europe and which consume 60% of the World's oil.

(million tonnes)				
	Production	Consumption	Export	Import
OPEC	1284	248	1036	0
OECD	772	1799	-	1027

A large part of the 'oil trade' is therefore from OPEC to OECD countries.

Because OPEC members have over 60% of reserves and contribute 40% of total world production, they are able to manipulate oil supply and prices, hence consumption and it is through such mechanisms that proven oil reserves have lasted much longer than initially anticipated.

Trends in the Oil Trade

Developed countries produce 85 % of the energy they consume whilst the remaining 15% (petroleum products) is imported from developing countries - primarily from the Persian Gulf. Overall oil consumption is down slightly since 1979, but consumption has increased since 1985 due to a decline in oil prices.

The energy demand in **developed OECD countries** was significantly affected by the 1973 and 1979 oil price increases. Greater investment was put towards:

- 1) Increasing energy efficiency
- 2) Increasing home production
- 3) Diversification of the energy mix

OECD countries such as Australia, Canada and Switzerland reduced their oil consumption by significantly increasing the contribution of **renewable supplies** to their primary energy supply. Such energy resources included: geothermal, solar, biomass and wind energy.

Nuclear energy production in both France and Japan significantly increased, whilst in Australia and the US, increased coal production reduced total oil consumption.

Throughout the OECD countries, there have been efforts to decouple continuing economic growth from energy consumption. In broad terms this has been encouraged by:

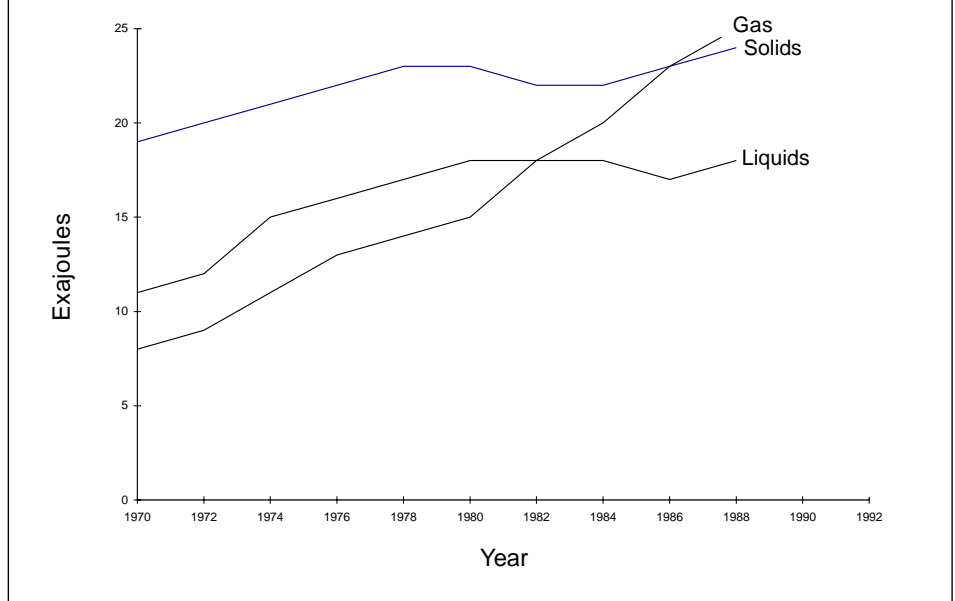
- 1). Maintenance of high energy prices
- 2). Stimulation of the generally less energy intensive service sectors
- 3). Relocation of energy intensive industries to developing countries.

Energy supply and demand in the non-OECD countries was dominated by the Former Soviet Union but since the break up of the region's economic alliance, Central European countries are required to pay for their energy imports with hard currency, placing a heavy burden on these struggling economies.

Exam hint - Candidates are expected to be able to discuss the implications of changing oil prices, both to the producing and importing countries.

Correspondingly, natural gas has emerged as the most important energy resource in the non-OECD developed countries, surpassing oil in 1983 and coal in 1987 (Figure 5).

Fig 5. Energy sources: non-OECD developed countries



In 1989, total production in the non-OECD developed countries fell for the first time due to:

- Depletion of old deposits
- Extremely high capital costs to develop new energy resources in remote regions of Western Siberia
- Economic and political turbulence

Trends In Developing Countries

Ironically, developing countries as a group remain a net exporter of energy, their oil and gas fuelling the economies of the developed countries. However, two important points should be noted:

- Production of energy is concentrated in only a few countries such as the Middle East and Venezuela
- Most developing countries both export and import oil

The exporters in the **developing countries** suffered a significant loss of revenue when prices fell in 1986. This had a number of important implications:

- A slowing of economic growth
- Limited debt servicing by highly indebted countries such as Nigeria and Mexico.
- Slower development of health and agriculture sectors .

Although on a per capita basis, energy consumption in developing countries is only a fraction of that in developed countries, overall oil dependency is growing. In **India** for example total energy use is expected to quadruple over the next 25 years and oil imports are expected to

rise significantly despite the fact that oil already makes up nearly 30% of India's import bill.

Conclusion

Developed countries can be expected to continue to try to maintain energy security by decreasing reliance on imported oil. In most developed countries populations are stable, rising very slowly or falling, energy efficiency is increasing and renewable resources are being successfully developed. Japan remains a notable exception (See Factsheet 14 Optimum Populations).

Many **developing countries** will come to be increasingly reliant on oil since its advantages - high energy content, versatility and ease of transport - outweigh all other factors. Besides diverting funds from other important areas of development, this leaves them vulnerable to price increases which, given that oil is a finite resource, are inevitable.

Acknowledgements;

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