The future: supply

The oil industry faces unprecedented change as con
demand cleaner fuels. Its reaction, says **Robert Corz**

The message is i

Two things the international oil industry can depend on are change and uncertainty. Over the next few years those two elements are likely to figure even more prominently than they have in the past.

The challenge will be compounded by the widening range of issues facing the industry, from the often unpredictable evolution of technology to rapidly changing energy markets, which are increasingly being influenced by equally unpredictable political factors.

Social pressures are also bearing down on the industry, which is being forced into roles which were inconceivable just a few years ago.

Uncertainties abound. These include conflicting theories about resource availability and the prospect of another oil crisis in coming years.

One area where many of these factors come together is in the debate over future fuel standards and types.

The broad trends in the industry are relatively clear. Natural gas, for example, is making deep inroads into traditional oil markets, especially for power generation. Although very low oil prices over a prolonged period could slow the substitution of gas for fuel oil in some countries, environmental factors alone suggest that gas will continue to be the fuel of choice for greenfield power generation projects in most parts of the world. The need for countries to meet new targets to reduce emissions of greenhouse gases should encourage even greater use of gas to generate electricity.

Another clear trend is the shift towards the "whiter", or "cleaner", parts of the oil barrel. Figures from the International Energy Agency, the Paris-based group that monitors world energy markets on behalf of the industrialised countries, illustrate the trend. In 1982 US demand for residual fuel oil – the "blackest" part of the barrel – was running at 1.72m barrels a day. By last year it had fallen by more than half, to just 800,000 b/d.

The IEA statistics also highlight the steady demand in all regions for transport fuels. Gasoline demand in the US – the biggest oil market – rose from 6.54m b/d to 8.01m b/d between 1982 and 1997.

But even though such trends are clear, what is less discernable is the specific type of fuels that will be demanded by consumers and, perhaps more importantly, by governments, in the years ahead.

Over the past decade or so there has been a steady trend towards cleaner fuels, with refiners having to progressively reduce the quantity of pollutants, such as

facturers are exploring alternatives to oil AP

…such as jet fuel. Once again, different companies are pursuing different technologies. But optimum combinations of technologies are likely to emerge in the next few years as they join forces to establish commercial projects in areas with large volumes of low cost gas.

The cost of building such plants is coming down rapidly to the point where they would be competitive with new refineries. But the bi[g] question is whether consum[ers] and governments will b[e] willing to pay the premiu[m] that companies say the[y] require to make large-scal[e] investments in gas-to-liquid[s] viable?

As Mr Bulkin observes: "T[…] will be politics and technol[…]ogy that dictate where w[e] will be in terms of fuel stan[…]dards and types in the nex[t] decade."

The crisis is confidence, not supply

The Middle East will not take the world back to the 1970s, says **Mike Charnley-Fisher**

Warnings of a 1970s style oil supply crisis reflect deep-seated fears about the ability of the Middle East to control oil supply and price.

But the bargaining position of the Middle East has changed significantly over the past two decades with the biggest single factor in that change being the dramatically increased ability of the world to substitute for the region's oil should the Middle East try to raise prices. Alternatives could not be sourced over night but they could be found.

On the supply side gas reserves and the infrastructure to transport them are now available across Europe, especially from the countries emerging from the former Soviet Union.

The Asia Pacific coast is also building regional and national gas transportation infrastructure (for example, planned pipelines from the gas region around Sakhalin island and the high pressure distribution network in South Korea) and the move away from long-term LNG contracts in the region may be partly explained by this emerging opportunity.

The proximity of China to the reserves in Siberia has not gone unnoticed. Lastly, the ability of the world to quickly develop commercial scale conversion plants should not be underestimated.

On the demand side, the turbine technology now employed to generate power has much greater flexibility in terms of choice of fuel and the scale required to be commercial. Witness the rapid growth of small independent power producers (IPPs) around the world. And alternative fuel options are also becoming available in the transportation arena.

Other factors – new entrants to the energy supply market, the strength of the buyer community (assisted in part by global communications), the relative weakness of the supplier side of the equation and the highly competitive nature of the industry – all serve to suggest that oil prices will be market, rather than politically, driven. The inability of Opec nations to co-operate until oil prices fell to recent levels confirms this assertion.

This presents a much changed scenario to that of the 1970s, the only constant is the importance of oil to the Middle East.

Oil revenue has to sustain and build the infrastructure, provide security and meet the demands of the people of the Middle East. But it is clear that the Middle East is struggling to maintain the status quo in terms of public expenditure, national security and domestic stability under current oil prices.

Nevertheless, a politically driven short-term price increase by the Middle East would inevitably speed up the pace of fuel substitution, particularly by gas. This would have a detrimental medium-term impact on the Middle East market share of energy supply.

Moreover, the picture regarding global production levels is not as bleak as the crisis-mongers make out. A slightly more optimistic view of reserves and, largely due to the current global economic slow-down, a more pessimistic view of demand suggests a later peak in oil production than is predicted by those fearful of a supply crisis.

It is unlikely that we will see another oil crisis of the type seen in the 1970s. Rather, the evidence supports the US Department of Energy's Annual Energy Outlook 1998, which concluded that oil prices will stay at less than $20/barrel for the next decade and that supplies will be maintained beyond 2020.

However, complacency would be dangerous. Warnings of Indonesia style anarchy have featured in the newspaper headlines in some Middle East countries. The loss of production from any one of them would have severe repercussions.

Warnings of an imminent crisis are exaggerated but oil is likely to run short within the lifetime of our children. Governments must increase regulatory pressure to preserve what remains. Unfortunately, a global environmental crisis – such as the movement of the Gulf Stream southwards – seems most likely to force concerted action.

In order to maintain market driven, versus politically driven, oil pricing, it is essential that long-term investment in non-oil fuels continues. Short-term economic pressures to delay expenditure until the future is more certain and over-supply, across the energy spectrum, is met by demand must be ignored.

And, alongside investment in alternative sources, the Middle East should be encouraged to increase oil production capacity since this should begin to redress imbalance between reserves and production and provide greater long-term energy supply stability.

Mike Charnley-Fisher is energy consultant at Ernst & Young

The crisis is confidence, not supply

The Middle East will not take the world back to the 1970s, says Mike Charnley-Fisher

Warnings of a 1970s style oil supply crisis reflect deep-seated fears about the ability of the Middle East to control oil supply and price.

But the bargaining position of the Middle East has changed significantly over the past two decades with the biggest single factor in that change being the dramatically increased ability of the world to substitute for the region's oil should the Middle East try to raise prices. Alternatives could not be sourced over night but they could be found.

On the supply side gas reserves and the infrastructure to transport them are now available across Europe, especially from the countries emerging from the former Soviet Union.

The Asia Pacific coast is also building regional and national gas transportation infrastructure (for example, planned pipelines from the gas region around Sakhalin island and the high pressure distribution network in South Korea) and the move away from long-term LNG contracts in the region may be partly explained by this emerging opportunity.

The proximity of China to the reserves in Siberia has not gone unnoticed. Lastly, the ability of the world to quickly develop commercial scale conversion plants should not be underestimated.

On the demand side, the turbine technology now employed to generate power has much greater flexibility in terms of choice of fuel and the scale required to be commercial. Witness the rapid growth of small independent power producers (IPPs) around the world. And alternative fuel options are also becoming available in the transportation arena.

Other factors – new entrants to the energy supply market, the strength of the buyer community (assisted in part by global communications), the relative weakness of the supplier side of the equation and the highly competitive nature of the industry – all serve to suggest that oil prices will be market, rather than politically, driven. The inability of Opec nations to co-operate until oil prices fell to recent levels confirms this assertion.

This presents a much changed scenario to that of the 1970s, the only constant is the importance of oil to the Middle East.

Oil revenue has to sustain and build the infrastructure, provide security and meet the demands of the people of the Middle East. But it is clear that the Middle East is struggling to maintain the status quo in terms of public expenditure, national security and domestic stability under current oil prices.

Nevertheless, a politically driven short-term price increase by the Middle East would inevitably speed up the pace of fuel substitution, particularly by gas. This would have a detrimental medium-term impact on the Middle East market share of energy supply.

Moreover, the picture regarding global production levels is not as bleak as the crisis-mongers make out. A slightly more optimistic view of reserves and, largely due to the current global economic slow-down, a more pessimistic view of demand suggests a later peak in oil production than is predicted by those fearful of a supply crisis.

It is unlikely that we will see another oil crisis of the type seen in the 1970s. Rather, the evidence supports the US Department of Energy's Annual Energy Outlook 1998, which concluded that oil prices will stay at less than $20/barrel for the next decade and that supplies will be maintained beyond 2020.

However, complacency would be dangerous. Warnings of Indonesia style anarchy have featured in the newspaper headlines in some Middle East countries. The loss of production from any one of them would have severe repercussions.

Warnings of an imminent crisis are exaggerated but oil is likely to run short within the lifetime of our children. Governments must increase regulatory pressure to preserve what remains. Unfortunately, a global environmental crisis – such as the movement of the Gulf Stream southwards – seems most likely to force concerted action.

In order to maintain market driven, versus politically driven, oil pricing, it is essential that long-term investment in non-oil fuels continues. Short-term economic pressures to delay expenditure until the future is more certain and over-supply, across the energy spectrum, is met by demand must be ignored.

And, alongside investment in alternative sources, the Middle East should be encouraged to increase oil production capacity since this should begin to redress imbalance between reserves and production and provide greater long-term energy supply stability.

Mike Charnley-Fisher is energy consultant at Ernst & Young