PEAK OIL – IT'S COMING (FAST)

Why is peak oil something that planners should worry about?

Oil is a unique commodity, central to most things our civilization does. Figure 1 shows what the problem is. The demand for oil does not stop growing, but the supply, given that oil is a finite resource, will grow to a peak and will then tail off. All the evidence is pointing to the fact that we're very close to the production peak now. Indeed, Dr Bakhtiari, an Iranian oil expert who was in Sydney recently, is convinced that we have already passed the production peak. How will we know? He says that both the price of oil and the production volume will be good indicators.

We will not run out of oil, but we will run out of cheap oil.

He asserted that, because of the physical impossibility of producing oil at a faster rate, we are changing from a demand-led market (where non-OPEC countries would sell everything they could produce, and OPEC countries would supply the balance required) to a supply-led one, where there is only a finite amount to go around – an amount that will decline as time goes on.

At the peak of production, supply will be maintained for a while (perhaps 5 to 8 years) but the price of oil will grow to previously unthinkable levels. He calls this period "Transition 1", which is relatively benign. After a while, the physical decline in production will start to become noticeable. Dr Bakhtiari says that by the year 2020 the world will be producing around 55 million barrels of oil a day, compared to a stagnant 81 million today, Forecasts of demand are predicting 115 million barrels a day by 2020.

Not only will the price rise and the physical availability reduce, but the energy equation will change. There is no technological way round the fact that it requires more energy to extract a given amount of oil from an old field than from a young one (ie the EPR, or Energy Profit Ratio, falls).

If the Ghawar supergiant field in Saudi Arabia (the world's largest) ever nears exhaustion – and it has been in production since 1954 – then the price of oil will go through the roof.

As the slope of the supply curve decline becomes steeper, Dr Bakhtiari foresees a number of further transitions, each one harder to manage than the last.

Our transport systems are heavily oil-dependent today. In a Commonwealth Government White Paper on Energy (2004), most of the transport energy consumption growth to 2020 was seen as coming from road transport and from aviation – the most oil dependent modes. In contrast, rail and sea transport were both a minor part of today's transport energy mix and a minor part of the growth. This is the future our political masters are expecting! It will not happen.

And what of urban form? The Metropolitan Strategy for Sydney advocates greater regionalization, for reasons not connected with oil but the same conclusion would emerge if they were. Unfortunately there is no appreciation of the urgency of doing something now, because once Transition 1 is over it will be increasingly difficult to do anything. No more business as usual, no more big infrastructure projects. We will be in unfamiliar waters.

The age of cheap oil is almost over, and there is no magic bullet waiting to save us from the consequences. At long last "integrated transport and land use planning" will be unavoidable – but what a way to arrive at it.

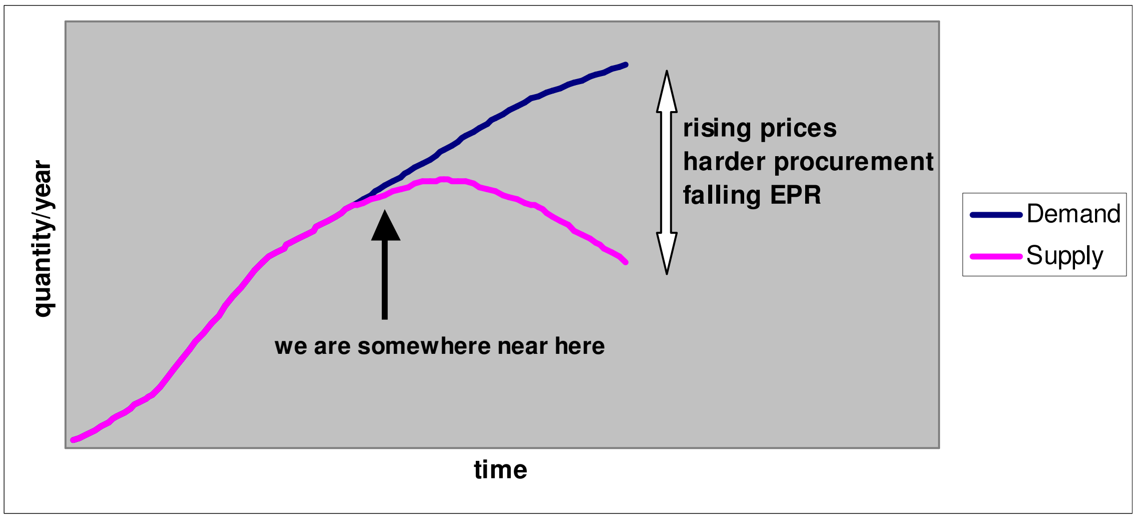

Figure 1: The essence of the peak oil issue