

POSSIBLE FUEL SHORTAGES:

an overlooked factor in risk management in the resources industry

THE MINING INDUSTRY DIRECTLY uses 7.6% of Australia's refined products, some 4,000 million litres p.a. plus all the extra fuel for freight transport and fly-in, fly-out (FIFO) workers travel.

Australia's oil vulnerability is very high; - and future fuel supplies cannot be guaranteed. Already 91% of our fuel is imported, either directly or as crude to be refined locally.

The NSW National Road and Motorists' Association (NRMA) in two hard-hitting reports by Air Vice Marshall John Blackburn has warned that Australia has only some three weeks of fuel on hand if imports stop for any reason.

NRMA's Australia's Liquid Fuel Security report says that in 2000, our combined dependency on crude and fuel imports was around 60% of our needs. It is now in excess of 90%. If we have no refineries in Australia by 2030, our import dependency will rise to 100% as all fuel products will have to be fully imported. With no refineries we will not be able to refine any Australian sourced oil and will be completely dependent on imports.

According to the Australian Association for the Study of Peak Oil convenor, Bruce Robinson global oil production has been

almost static since 2005 and is forecast to start declining soon. The output from most of the world's major oilfields is already in decline, just as Australia's oil production has been falling steadily since 2000.

"The implications of this situation are serious and affect all Australians," says Mr Robinson.

Currently there is no plan to stop our dependency growing to 100% or to halt the further decline of our fuel security. Furthermore, the report says there are no coherent contingency plans to deal with the devastating impact of any cut to overseas supply because of war, economic turmoil or natural disasters.

One scenario which would see fuel supplies in Australia cut is increasing instability and wider warfare in the Middle East. 20% of the world's oil is shipped from the Persian Gulf through the narrow Strait of Hormuz off the coast of Iran. This choke-point is very vulnerable if there are hostilities involving Iran. Of course, there is also the possibility of an outbreak of peace in Iraq in which case we may not have to worry.

Mr Robinson is very concerned about the lack of attention to the fragility of future fuel supplies in Federal and State Governments and as well in industry.

"Australia's significant oil production started in the Bass Strait, but those fields are very largely depleted now. The production reached its peak in 2000 from the North West Shelf fields, but these have been declining steadily since then. Most of the oil we do produce is exported, resulting in the need to import crude for our dwindling number of refineries as well as refined fuel."

Global oil production is also forecast to reach its peak soon, perhaps in five to 10 years, and then decline. Many of the world's giant oilfields that drive global oil production were discovered in the mid-20th century, and many are in serious decline. The fields being found now are small and have high production costs. The US shale oil boom is likely to peter out quite soon due to sharp production decline rates in shale oil wells. The US Energy Information Administration has also recently dramatically downgraded its forecast of oil reserves in the Monterey shale in California by 96%. This has cut the estimate of recoverable US shale oil by 60%.

Declining availability of oil on global markets is quite probable, even before 'Peak Oil', as oil producing countries are using more





of their oil domestically, leaving less for export.

PREPARING THE INDUSTRY

Future fuel availability planning in the resources sector should be considering both sudden short-term stoppages and the forecast more gradual mid- to long-term decline in global oil supplies.

An oil vulnerability assessment is a good way of looking at future fuel supply risks. This would point to areas with high fuel demand, and to possibilities of reducing fuel use if prices or availability change in the future. For instance, given the choice of trucking ore to port or building a slurry pipeline, it would be worth considering the extra resilience afforded by a pipeline powered by grid electricity if available. Simple things, like considering larger on-site storage of diesel stocks, might cost more initially, but substantially increase resilience in the event of fuel shortages.

Many business plans either assume diesel costs will remain much the same, or perhaps increase just with CPI. They should also consider serious rises such as the CSIRO Future Fuels scenario of \$8/litre from its economic study. Indirect oil vulnerability should also be considered, such as staff travel to work (especially FIFO), and the vulnerability of key suppliers and major clients. For instance a decline in global oil production will hit automobile sales, and hence the demand for steel, and then for iron ore.

The resources industry, and other crucial sectors like agriculture, should also be recommending to governments that serious fuel emergency planning and fuel allocation schemes are implemented as a matter of urgency. Currently the Liquid Fuels Emergency Act gives the Federal Government power to declare a liquid fuel emergency, and responsibility for managing fuel shortages falls to State Governments. Sadly, nothing much more sophisticated than odd-and-even number-plate fuel availability has been proposed, and fuel allocation will be largely left to industry and service stations. In the event of a fuel

emergency there would be much greater possible fuel savings, just as people were able to reduce water use in the droughts in the Eastern States in 2006-2007.

A well-tested government tradeable electronic fuel allocation system would be a major asset in the event of sudden fuel shortages, so there was an equitable and practical method of sharing limited fuel amongst all the competing users. Allocation of limited fuel to various industries and sectors should be considered well in advance with consultation with stakeholders and industry bodies.

Another approach, according to Mr Robinson is to raise fuel taxes to European levels via a fuel tax escalator would greatly encourage fuel-saving strategies and provide funding for improved public transport.

“It would also help us value petrol as a scarce resource, just as the big drought forced us to value water supplies.”

“The foreshadowed petrol tax rise is an important step towards reducing our oil vulnerability,” Mr Robinson said.

“Perhaps fuel will be available as it is now, but there is a sizable chance that shortages will occur in the foreseeable future. We should be planning for the worst as well as hoping for the best.”

THE NRMA REPORT SUGGESTS AUSTRALIA CONSIDERS CHANGING ITS:

- Mode shifting, such as transporting freight by rail rather than road and supporting increased use of public transport; Improved efficiency of vehicles;
- Expansion in the number and use of electric and fuel cell vehicles;
- Alternative sources of liquid fuels such as biofuels; and
- Increased liquid fuel stockholdings.

AUSTRALIA IS MOVING TOWARDS A SITUATION WHERE BY 2030 WE COULD HAVE:

- No refineries;
- Less than 20 days of liquid fuel; and
- 100% imported liquid fuel dependency.