

OIL

By Terry Shulze

All of us are accustomed to growth; it is difficult to imagine that growth is a transitory phenomenon. We don't like to think of ourselves going through the life to death process but we do, we also go into denial of our own demise, but the end happens regardless of the denial. Everything changes, we must acknowledge the demise of nations or species or that oil production will peak and decline to exhaustion.

I still remember 1973, almost two generations do not; there are many in our society that exist in a false world where oil is always plentiful. In 1973 the curtailed production and increased costs of oil had significant cascading effects through the American society. America is not alone; all the modern developed societies are reliant on cheap oil. In 1973 America's GDP fell by 6% and unemployment doubled. Japan's GDP declined for the first time since WWII. What happened in 1973 was just a quick look through a time portal to the future.

At the time of the first oil shock there had been oil fields outside of the Persian Gulf that had been discovered, but not developed. Such fields as the English North Sea and the Alaskan Prudhoe Bay field were immediately brought on line. Those fields and the others outside of the Persian Gulf are now drying up. The North Sea field discovery peak occurred in 1980; production is just now peaking. The United States had its discovery peak in the 1930's; production then peaked in 1970. Norway is the second largest exporter of oil; it will be halved by 2006. Prudhoe Bay discovery peaked in 1991; it will eventually generate only about 12.5 GB for the entire field.

Australia is the third largest consumer of oil per capita in the world. However, Australia has only about .2% of the world's endowment of oil and about 2% of its gas (80% of which is offshore). Australia has now depleted its oil endowment by 50% and about 7% of its gas. The Bass Strait field peaked in 1986; it is now 43% of the 1986 level. The Carnarvon Basin on the West Coast peaked in oil production in 1996 and will be just 25% of that peak in 2008 (however, condensate from gas will still be constant). By 2010 Australia will have consumed 75% of its conventional oil. By 2015 Australia will have only a token oil production.

Diesel is the highest growth rate fuel; it is a fuel made from the heavier hydrocarbons. Australia imports all of the crude oil that gives rise to diesel, lubricating oil and bitumen from the Persian Gulf. It is expected that world shortages for oil could develop by 2005, the competition for Persian Gulf oil will become fierce. Demand is increasing, in 1995 it was 68 million barrels a day, by 2010 it will be 94 million barrels a day. Demand will exceed production before 2010. By 2010 the Persian Gulf will provide over half the world's oil, the Gulf will have control of the price of oil. The Persian Gulf will peak in production around 2008-12.

Agriculture in Australia depends on cheap oil. The present agricultural practices utilize mechanized farming, petrochemical fertilizers, herbicides and pesticides. The enormous distances require cheap transport and processing. Tourism is heavily dependent on cheap transport. It is probable that the tourism industry in Australia is already at its peak and will decline in the near future. The roads that were sealed in the 1960's have a life of about 40 years, where will the next lot of bitumen come from?

Gas consumption in Australia should increase rapidly from 2010 for use in transport, but at what cost? How economic is it to deliver natural gas to the Eastern States from the northwest shelf? The spin-doctors and politicians talk of alternative energy. Oil is unique in fueling the world's transport; there is nothing in sight to match it. Perhaps trains might revert to coal, but not your car, the road trains or the airlines. There is a joke in the oil industry about oil shale "Oil shale, the fuel of the future – and always will be". The oil sands of Canada are very rich, but the cost of extraction is above \$50 per barrel. Any change over to coal will require massive infrastructure investments, when will it begin? How much will it cost? The cost of transport will escalate, the much alluded to Global Economy will decline.

The geology of oil discovery and production is well known. There are only certain geological conditions that give rise to oil and gas. The entire earth has been mapped in extreme detail thanks to advances in seismic surveying. By analogy, it is like the earth has had a very high quality x-ray which shows every detail in three dimensions. About 70% of the world's endowment of oil lie in just 30 major petroleum systems. At present, we find just one barrel for every four we consume. Soon we will be finding just one for every five we consume. The reports of improved recovery rates of existing fields are largely an illusion reflecting reporting procedures rather than any technological achievement, those techniques will have no impact on the year of peak production. The constraints of oil production are not scenarios – they are facts.

History has seen the rise and fall of many individual civilizations, but never the rise and fall of an entire global culture and economy. Over the eons the human tree of life has had many branches, some continued, others faded; the days of "Hydrocarbon man" are limited. There is no political, economic or military solution to the decline in the production of oil. Whereas, the development of the world economy based on cheap oil took many decades, the rate of the collapse in that economy is likely to exceed the rate of its development. If there should be a major war in the Persian Gulf over oil, which is likely, then any disruption to oil supplies will probably be greater, the impact to the world immense.

If ever there was a time to stop building toll-ways and parking lots it is now. Sydney will not need a second airport by 2025. Infrastructure devoted to tourism is futile; no more Darling Harbors, Casinos or Olympic venues are necessary. No more denial should be permitted. Public transport should be expanded, the railroads revitalized, agricultural methods modified and incentives for alternative energy development expanded. The future is only a tomorrow away.