

Mike Doyle is the President of the CAGC - the Canadian Association of Geophysical Contractors - representing the business interests of the seismic industry within Canada. The CAGC website may be found at www.cagc.ca.

How the world has changed in a year. The impending feeling of doom is gone but industry remains quiet for this time of the year. Oil is up above \$70 a bbl but Natural Gas still remains around mid \$4 a GJ. The clear split between Oil and Natural Gas has highlighted the great reliance Alberta has had on Natural Gas. First and foremost reflected in pure drilling numbers, we see numbers for 2009 that date back to 1992 levels. These are pretty much mirrored across the board – land sale prices, land bonuses, right through to Alberta's current deficit situation.

One (perhaps) positive side to all of this is that there is a greater emphasis on the natural gas lobby as Industry is beginning to talk about Natural Gas as the necessary stepping stone towards climate change. Hopefully Governments will consider this and begin to implement such policy changes. Consider replacing coal with natural gas for electricity generation for example. This is not something even Alberta has been willing to consider yet to this point with over 70 % of its electricity supply still coming from coal.

September 2009 marked Oil's 150th birthday. Colonel Edwin L. Drake found oil in Pennsylvania in August 1859. This began the remarkable 150 year "Oil Age" that transformed the world. Conventional wisdom in the market may be gone. We watched oil spike to \$150 a bbl until things crashed largely based upon the failing of the US economy. Notably China's economy suffered but has been very aggressive about reclaiming its growth curve. Recently it surpassed Canada as the number one exporter to the USA. We are seeing the US Dollar continue to fall against world economies and Gold continue to increase in value. Will the European Common Market be able to take the place of the US as the new world order?

The new reality may therefore be that Oil Supply has peaked – world numbers suggest this happened in about 2005. 10 % of the world's population – represented by the Organization for Economic Cooperation and Development (OECD) countries – use 56 % of the world's fossil fuels. It is likely that OECD countries' demand has peaked but the other 90 % of the world (China, India, Brazil, the Middle East) are just beginning to move up their prosperity curve. This is one of the major impediments behind making changes that will affect the carbon balance as it relates to climate change.

Why is Oil important? A reduction of as little as 10 to 15 per cent could cripple oil-dependent industrial economies. In the 1970s, a reduction of just 5 per cent caused a price increase of more than 400 per cent. Most farming equipment is either built in oil-powered plants or uses diesel as fuel. Nearly all pesticides and many fertilisers are made from oil. Most plastics, used in everything from computers and mobile phones to pipelines, clothing and carpets, are made from oil-based substances. Manufacturing requires huge amounts of fossil fuels. The construction of a single car in the US requires, on average, at least 20 barrels of oil. Most renewable energy equipment requires large amounts of oil to produce. Metal production - particularly aluminium - cosmetics, hair dye, ink and many common painkillers all rely on oil.

Natural Gas declines faster than Oil however has enjoyed a bit of a supply respite with the recent unconventional shale plays in North America. Conventional plays in North America have a rapid decline rate – 30 to 35 % in one year without massive added drilling. This alone points to a large hit on royalty numbers in Alberta in coming years. The exploration drilling for Natural Gas has largely stopped in Alberta following the Royalty Review (driving away investment dollars) and then followed by the perfect storm of a global recession. Even as commodity prices rise Alberta will suffer from a hangover phase that will go beyond the recession.

Shale gas has offset some of the North American numbers. It however has higher decline rates than conventional sources and has greater challenges. It requires massive amounts of water and requires steady drilling. However the fact that the US Shale Gas plays came on as the economy went into recession has dampened the commodity price tremendously. LNG that looked destined for the US has to find markets elsewhere.

As odd as it sounds we (the world) are quite possibly in the calm before the storm. Any increase in world demand for oil will recreate the price spike. The push/pull relationship with other types of energy supplies will shift the commodity balance as it becomes more cost effective to use natural gas than oil (where possible). The developed world is slowly doing a better job at building and utilizing alternative energy sources. But all of this and more will likely be offset by the developing world. Another large challenge in all of this is transportation. Again some movement here towards hybrid technologies and/or pure electrical power but transition so far has been slow and societal pick-up minuscule.

Using a “witching stick” or any other type of guess, Oil is likely to last another 40 to 50 years; Natural Gas has a bit longer of a window – another 20 to 30 years; Coal the longest – probably 150 to 200 years. These are likely to stretch out if/when alternative energy sources become more relied upon. The carbon debate is interesting – it may or may not have an effect on this. Certainly it is and will cause societal change within developed countries but may have little impact on many of the developing countries. Humankind does not do well with global concepts in the face of the individual.

What are we prepared to give up? Real conservation means things like: Reduce/end long-distance commuting; grow food locally; produce goods close to consumption point and the design new generation of “people movers”. It is probably safe to say that my grandchildren will not live in the world I do.

From the Thursday Files

It is not necessary to change. Survival is not mandatory.

- W. Edwards Deming