

A Look Back to Looking Forward

100 years ago in October and November of 1917, four divisions of the Canadian Corps took turns assaulting Passchendaele ridge in Belgium during WW1. After separate attacks, they succeeded in capturing it and the ruins of Passchendaele village from exhausted German defenders.

The battle that had dragged on for months was one of the deadliest in terms of losses on both sides, but showed the rest of the world how Canadian resolve, spirit and resourcefulness could get the job done.

This week the World Energy Outlook 2017 (WEO-2017) was released by the International Energy Agency (IEA). It is the annual update of energy demand and supply projections to the year 2040, with reports under different scenarios, and their consequences for energy security, economic prosperity, efficiency, investment, air quality and climate change.

The highlights are that the global energy landscape is changing and the rate of change will likely vary over the coming decades.

On the World's current path, by 2040, global energy demand is expected to grow by 30% with increasing electrification expected to meet this demand and as the cost of renewables decline, clean energy technologies are expected to meet 40% of the growth.

Solar power is expected to be the cheapest form of new electricity in many countries, with third world developing regions leading the growth. A third of energy demand growth is expected from India with China adopting a new economic strategy on a cleaner growth path to reduce pollution.

China is projected to become a world leader in wind, solar, nuclear and electric vehicles and the source of more than a quarter of projected growth in natural gas consumption.

The USA is expected to be the largest exporter of LNG by the mid 2020's and a net oil exporter by 2030 and the shale oil and gas revolution in the United States continues thanks to the remarkable ability of producers to unlock new resources in cost-effective ways.

Globally, cars are expected to double to 2 billion, but oil for those cars is expected to peak as efficiencies are realized with fuels and with sales of more electric cars, especially in Asian markets.

Oil demand is expected to rise to 105million barrels per day due to commercial transportation, aviation, shipping and petrochemicals and global energy related CO2 emissions are expected to rise slightly.

Severe climate impacts are expected, and commitments to reach limits established by the Paris accord are encouraged.

Definitely not the end of the Oil era

With the United States accounting for 80% of the increase in global oil supply to 2025 and maintaining near-term downward pressure on prices, it is definitely not the end of the Oil era.

Once US tight oil production flattens in the late 2020s and non-OPEC production as a whole falls back, the market becomes increasingly reliant on the Middle East to balance the market.

There is a continued large-scale need for investment to develop a total of 670 billion barrels of new resources to 2040, mostly to make up for declines in existing fields.

As the world's fifth-largest oil producer and a significant gas producer, Canada is well positioned to meet the demand from other countries. Including from oil sands expansion, oil output is expected to grow from 4.5 million barrels per day to 6.2 million.

Will Canada miss the boat?

Canada's competitiveness with the USA and other producing countries will be based on its ability to build new oil and gas infrastructure and construct pipelines in all directions. Recent failures in getting large projects beyond the planning stages is a disincentive to investors and producers alike, that has seen investment dollars go elsewhere and some producers scale down operations or leave.

Providing the certainty of a regulatory process that works for industry and that is acceptable to all stakeholders is desperately required. This will need strong, committed political leadership of the energy sector before investment will return.

The rest of the world is watching, we need to re-kindle the will and spirit of our brave men who played such a big part in Passchendaele and get the job done.

Key World Energy statistics can be downloaded at
<http://www.iea.org/publications/freepublications/publication/KeyWorld2017.pdf>

The IEA has released outlooks yearly and these projections and predictions are published and available on the IEA website for review. Many of the outlooks, in particular the longer term predictions have not always, if ever, met published expectations, mostly for geopolitical reasons, and more recently with rapid advances in new technologies such as deployed with the development of shale gas & oil.

Rod Garland

Rod has recently joined the CAGC in a member services role. He has been involved in the seismic industry since 1975, notably in the survey and line clearing sectors. He has served as a Board member for both Enform (now Energy Safety Canada) and the CAGC and has also represented industry on numerous environmental & safety committees for both the CAGC and the CSEG. He conceived the concept for Seismic-In-Motion which showcases seismic field technologies and is an editor and contributor of "the Source" magazine. He would be happy to meet with any companies or individuals who support the seismic industry and who would benefit from membership with the CAGC.