“GREEN” ENERGY VIEWS

Contentions Vs. Data

Purpose

- To compare the claims of those who oppose fossil fuel development in Canada with the actual statistics on global energy supply, demand and transportation
- To provide useful information about comparisons and trends

“The world is running out of oil.”

- From 1997 to 2017, world oil reserves increased from 1.62 Trillion barrels to 1.7 Trillion barrels
- Reserves are just the economically recoverable portion of resources, which are much, much larger
- From 2007 to to 2017, oil production rose from 82.3 million barrels per day to 92.6 million barrels per day
- The production figures are depressed because of political and geopolitical factors affecting production notably in Venezuela, Iran and Libya

“If Asia can’t get access to Canadian oil, GHG emissions will be reduced.”

- Crude oil is produced in almost 100 countries
- The twelve largest producers in the world, in order, are the USA, Saudi Arabia, Russia, Iran, Canada, Iraq, United Arab Emirates, China, Kuwait, Brazil, Mexico and Venezuela
- There is no shortage of tankers, all of which are now double-hulled, to move oil around.

“The world is running out of natural gas.”

- World natural gas reserves increased from 128 trillion cubic metres in 1997 to 194 trillion cubic metres in 2017.
- World natural gas production increased from 2.94 Trillion cubic metres in 2007 to 3.68 Trillion cubic metres in 2017.
- The average annual rate of growth in natural gas production over this period was 4 per cent.
- The world’s ten largest gas producers, in order, are the USA, Russia, Iran, Canada, Qatar, China, Norway, Australia, Saudi Arabia, and Turkmenistan

“The world will stop using coal.”

- Total proved reserves of bituminous and sub-bituminous coal were 10.4 trillion tonnes at the end of 2017. That is about 280 years of consumption at current rates.
- Coal production increased from 3.3 billion tonnes oil equivalent in 2007 to 3.8 billion tonnes oil equivalent in 2017.
- Over 40 countries have significant coal reserves and production.

“The use of nuclear energy is ending.”

- World consumption of nuclear energy in 2007 was 622 million tonnes oil equivalent. The consumption of nuclear energy in 2017 was 596 million tonnes oil equivalent.
- Consumption declined by 0.7 per cent per year on average during the period.
- If that rate of decline continued indefinitely, the use of nuclear energy would end in 143 years.

”There will be major increases in the use of hydroelectricity.”

- World consumption of hydroelectricity increased from 697 million tonnes oil equivalent in 2007 to 919 million tonnes oil equivalent in 2017.
- The annual average rate of increase over the period was 2.9 per cent, for a total increase of 32 per cent.
- The best and most accessible hydro sites in the world have almost all been developed, and development of the rest faces large barriers in terms of environmental effects and social resistance.

“The entire economy can be electrified.”

- World generation of electricity increased from 20,047 Terawatt-hours in 2007 to 25,551 Terawatt Hours in 2017.
- That was an annual average increase of 2.7 per cent, for a total increase of 27 per cent in a decade.
- Electricity constitutes about 20 per cent of global energy use.
- Just to completely meet all current energy needs, therefore, electricity generation would have to increase 400 per cent.
- At current rates of electricity generation growth, it would take about 150 years to completely electrify the world economy.

“Renewable energy is the most important source of electricity generation.”

- In 2017, world electricity generation by fuel included coal (38%), natural gas (23%), hydro (16%), renewables (8%) and oil (3%).
- The most important sources of renewable electricity generation, wind turbines and solar, are intermittent sources of supply, whose availability does not match demand, thus requiring backup generation, storage or external supply systems.
- In 2017, renewables constituted 3.6 per cent of world primary energy consumption. In other words, over 96 per cent came from other sources.

Source of data

- BP Statistical Review of World Energy 2018