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It has been a tough couple of years. All of Canada is figuring out how closely it is tied to the price of oil and other resources. Our dollar is dropping, EI rolls are being hit in all Provinces, and our growth is slowing. We are absolutely moving to a lower standard of living. The Celebrity Circuit decries the greed of the Oil and Gas Industry which is allegedly ruining our world yet fails to appreciate where their wealth came from – on the backs of a culture with leisure time and excess money from a standard of living brought on by fossil fuels. On this note an interesting article follows:

### **EVOLUTION vs. REVOLUTION**

**By Pierre Desrochers is an associate professor of geography at the University of Toronto. Magazine: Canadian Fuels Association - Perspectives – Fuel 2015**

*From wind to horsepower to steam power and internal combustion engines – how we get around has evolved our world.*

*Two centuries ago, renewable technologies such as human and animal power, windmills and watermills helped feed and drive economies for the world's 1 billion human inhabitants. Those power sources were, of course, the best available.*

*At that time, humans had a one in three probability of being malnourished, average incomes of around a dollar a day and a life expectancy of around 30 years. Life was short, even for most of the relatively well off. Put another way, people's average standard of living in wealthier nations in the early 1800s was similar to the poorest rural inhabitants of today's least developed economies.*

### ***Then something extraordinary happened....***

*Humans began to develop coal, crude oil and natural gas-powered technologies. With the introduction of the internal combustion engine, fuelled by hydrocarbons from petroleum, the commute to prosperity and personal independence was underway. These innovations played a crucial role in changing some very grim statistics.*

*In 2015, human life has improved beyond recognition in most of the world, especially in developed countries. We are born, go through our daily existence and die surrounded by petroleum-derived products, and petroleum continues to be the most reliable liquid energy known to humankind. It has brought us greater wealth by enabling swift and affordable transportation, by bringing us consumer goods that improve our lives, by fuelling the delivery of foods and other necessities from around the world—the list goes on. Our resulting greater wealth has helped society build better infrastructure, technologies and supply chains of all kinds that constitute our best possible insurance against starvation and other potentially fatal challenges.*

*The fact is, petroleum-derived products have changed our lives, mostly for the better. And that reality isn't going to change any time soon.*

*Has our transformational relationship with petroleum-based fuels arrived with some risk? Certainly. Greenhouse gas emissions are a serious concern in many quarters of society and there is no doubt that we must move forward with measures to protect the environment from further harm. But the associated rewards of having modernized society through the use of petroleum-based products far outweigh the hazards by most people's reckoning.*

*Consider a world without petroleum-based products. Life as we know it would be brought at a near standstill, as roughly two thirds of these products are used as fuels to power land, water and air transportation. Cars and, to a lesser extent, buses, trains and aircraft give us unprecedented individual mobility, not to mention the associated benefits such as access to employment, more varied recreational options—in general, greater prosperity and personal independence.*

*Equally important, the large-scale, reliable and affordable long distance transportation of goods—be it by petroleum powered trucks, railroads and container ships—has also delivered a wide range of benefits.*

*Consider:*

- improved nutrition with the concentration of food production in the areas best suited to grow it, making food more plentiful, diverse and affordable*
- the eradication of famines by moving surpluses from regions with good harvests to those that have experienced mediocre ones*
- large-scale urbanization and the wealth creation that can occur only when a large number of people move away from the countryside and into cities Can you imagine a world in which we would be comfortable getting along without these conveniences and necessities? Neither can I.*

*So, what do we do?*

### ***Many options, but no magic solution***

*There is much wishful thinking in society about a “revolution” in transportation energy that would see widespread adoption of electric cars, for instance, or hydrogen fuel cells on the road in high numbers. It's an alluring fantasy indeed.*

*But I prefer to focus my attention on the realities: No viable alternative exists at present to the high energy density, affordability, relatively clean combustion, relative safety, greater ease of extraction, handling, transport and storage of raw product than petroleum-derived fuels. Alternative power sources such as wind turbines, solar panels and geothermal systems that produce electricity are showing some promising applications. And many talented individuals and organizations are working toward incremental solutions that will, eventually, broaden the mix of fuels available and the technologies to utilize them.*

*But where the rubber hits the road in today's day and age, electricity has been shown not to be of much practical use— at least not until a radically new battery design comes along that can reliably and sustainably power trucks, aircraft or container ships. Most locomotives continue to be powered by diesel because battery technology is not yet a realistic option for trains that travel beyond the geographical confines of large urban areas. Generous taxpayer-subsidized research has enabled some progress with battery electric, hybrid electric and plug-in hybrid vehicles for regular Canadians. But we have not yet seen meaningful gains in market share against gasoline or diesel-powered cars.*

*Part of the challenge is the limited power and range of electric vehicles, the charging period they require, their performance in cold weather (relatively poor) and security concerns, especially in collisions. Another significant challenge is the time and investment Canada will need to build a robust production and delivery infrastructure for electrically powered vehicles. The fact is, you have to fill up somewhere, and you can't always be close to home. Realistically, Canada will need a national network of fuelling stations for electric cars (likely decades in the making) before Canadians will adopt these vehicles in high numbers.*

*One bright spot for alternative fuels is the recent abundance and affordability of natural gas, which, in its liquid form, could be a worthy option in some niches. But natural gas is not as energy dense as petroleum fuels. And, again, Canada faces a challenge with the delivery infrastructure for natural gas. Realistically, natural gas is well suited to vehicles that have large storage capacity and that can return regularly to fuelling stations. This makes it a viable alternative for city buses, which is encouraging.*

*As for biodiesel and ethanol, even Canada does not have sufficient agricultural capacity to produce more than a tiny fraction of the fuel our modern economies would require without gasoline and diesel.*

*The future will see incremental innovation*

*Most observers agree that over the next 25 years or more, petroleum-based fuels will provide 85 percent of global transportation needs. That's the reality and we need to move forward as constructively as possible within it. Without a doubt, climate change is a major concern and focus for Canadians, and fossil fuels contribute to the GHG production that has exacerbated climate change.*

*But we're getting better.*

*The Canadian transportation fuel industry had made great strides in reducing its GHG production at refineries (page 32). More efficient fuel consumption by Canadians, better driving behaviors (page 26) and smart urban planning are all part of the short-term solution to reducing Canada's GHG production (page 12).*

*Petroleum-based fuels are far from perfect. And they clearly will not last forever. But they have been a remarkable blessing to humanity, and the way humans use them continues to improve*

*with every passing year. Together, Canadians can make a difference in reducing transportation's environmental footprint by fully understanding the complexities and options within our situation, by accepting the realities of our continuing dependence on petroleum-based fuels, and by sharing in the real, actionable opportunities for becoming more environmentally aware and responsible within a society that will continue to be petroleum-based for many years to come*

Appreciate what we have before fear and politics take it all away.....

From Brainy Quotes

*Growth is the only evidence of life.*

**John Henry Newman**