A SIMPLE FACT:
Electricity Came AFTER the Discovery of Oil

ALL electrical generation from hydro, coal, natural gas, nuclear, wind, and solar are ALL built with the products, components, and equipment that are made from the oil derivatives.

By **Ron Stein**, Founder of PTS Advance | **March 9, 2024**

The more than 6,000 products in today's societies are based on crude oil, which now supports:

- Electricity that is being generated by hydro, nuclear, coal, and natural gas.
- Airports that accommodate the 20,000 commercial aircraft, and more than 50,000 military aircraft.
- Shipping terminals that accommodate 50,000 merchant ships.
- Hospitals.
- Communications.
- Electronics.

All the above did not exist a few short centuries ago, before the 1800's. We've become a very materialistic society over the last 200 years, and the world has populated from 1 to 8 billion because of all the products and different fuels for planes, ships, trucks, cars, militaries, and space programs that did not exist before the 1800s.

As technologies advance for more reduced carbon electricity generation and use, there will be more requirements for critical minerals such as copper, lithium, nickel, cobalt, and rare earth elements that are essential components in many of today's rapidly growing electricity technologies – from wind turbines and electricity networks to electric vehicles. Demand for these minerals is growing quickly as electricity transitions gather pace. All those exotic minerals and metals only produce electricity, as they CANNOT make any PRODUCTS used in today's economy.

Most government officials and policymakers are unaware that ALL electricity came AFTER the discovery of oil, starting with the light bulb made from oil. All electrical generation from hydro, coal, natural gas, nuclear, wind, and solar are ALL based on the products, components, and equipment made with PRODUCTS made from oil derivatives manufactured from crude oil.

It seems that we're living in a time where intelligent CONVERSATIONS are silenced so that stupid people won't be offended.

All that electrical transformation equipment for wind, solar, and EV batteries will require billions of tons of cobalt, lithium, copper, nickel, graphite, iron, aluminum, rare earths, and other raw materials at scales unprecedented in human history. Thus, unprecedented levels of mining, ore processing, manufacturing, land disruption, and pollution are in the future. The metals and minerals needed for batteries alone are enormous. Minerals such as copper, nickel, graphite, cobalt, and lithium are required as more electricity generation is projected from wind and solar, and more electricity is used for transportation.

To produce these metals for EV batteries, wind, and solar requires gigantic equipment. For example, look at the 400-ton mine haul CAT 797B truck below. This modern and efficient truck uses a 4,000-hp Diesel engine for propulsion. Keep in mind that ore deposits are mostly dirt with a little bit of metal. Typical rich copper deposits are about 1 -2% copper. So, it takes about 50-100 tons of ore to produce one ton of copper. So, it takes huge haul trucks to move a lot of dirt and rock for these small percentages of metal.

All the tires, parts, and components for this huge CAT 797B to mine for those exotic minerals and metals took a lot of oil derivatives manufactured from crude oil to make this monster!

The administration is laser-focused on ending the "climate crisis" by switching to "clean" electricity. It has few qualms about importing the critically needed materials from foreign countries, primarily under total control by China – regardless of economic, defense, national security, ecological or human rights implications. The administration just wants all the dirty aspects of "clean" electricity far away and out of sight.

Just for electricity from EV batteries and the electricity occasionally generated from wind turbines and solar panels, the World Bank estimates that more than three billion tons of metals and minerals could be required over the next three decades to power the technologies for a global electricity transition. The transition to electricity and its inescapable mineral requirements are discussed in detail in this 46-minute video by Mark Mills.

The supply of cost-effective products essential to human flourishing is almost never discussed. But wait. Life without oil is NOT AS SIMPLE AS YOU MAY THINK, as breezes and sunshine can only generate intermittent electricity, and neither wind turbines nor solar panels can manufacture anything for society.

Today's materialistic world cannot survive without crude oil! Conversations are needed to discuss the difference between just "ELECTRICITY" from renewables and the "PRODUCTS" that are the basis of society's materialistic world. Wind turbines and solar panels are themselves MADE from oil derivatives and only generate occasional electricity but manufacture NOTHING for society.

To accommodate the health, safety, and well-being of the 8 billion on this planet, the PRODUCTS from oil and gas supported the huge mining of iron ore, industrial metals, and technology and precious metals. In 2022, there were 2.8 billion tons of metals mined:

Iron ore – 2,600,000,000 Tons
Industrial Metals – 185,111,835 Tons
Technology and Precious Metals – 1,500,008 Tons

Industrial Metals include aluminum, chromium, Copper, manganese, zinc, titanium, lead, nickel, zircon, and manganese.

Technology and Precious Metals include tin, rare earth oxides, molybdenum, cobalt, lithium, vanadium, tungsten, niobium, silver, and cadmium.

Of the three fossil fuels — coal, natural gas, and crude oil — most government officials and policymakers are unaware that coal and natural gas are mainly used to generate electricity. The third fossil fuel, crude oil, is virtually never used for the generation of electricity but is the basis of more than 6,000 products that did not exist 200 years ago.

> **How dare the ruling class, powerful elite, and media avoid energy literacy conversations about the "Elephant in the Room." The end of crude oil, which is manufactured into all the products and transportation fuels that built the world to eight billion people, would be the end of civilization, as "unreliable electricity" from breezes and sunshine cannot manufacture anything.**

Thus, before we abandon crude oil and introduce shortages of all those PRODUCTS supporting the economy and the 8 billion now on this planet a crude oil replacement must be identified as the world needs a back-up plan that replaces crude oil that will support the manufacturing of the PRODUCTS of our materialistic society.

Rid the world of crude oil, and we'll be back in the pre-1800s without merchant ships, planes, trains, hospitals, airports, shipping terminals, communications, electronics, and more!

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Ronald Stein, P.E. is an engineer, energy consultant, speaker, author of books and articles on energy, environmental policy, and human rights, and Founder of PTS Advance, a California based company.

Ron advocates that energy literacy starts with the knowledge that renewable energy is only intermittent electricity generated from unreliable breezes and sunshine, as wind turbines and solar panels cannot manufacture anything for the 8 billion on this planet.