Planet Earth's Natural Resources are Limited to its 8 Billion Residents

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Our Planet Earth has existed for more than 4 billion years without present-day humans. In the past, dinosaurs and cavemen never used the plentiful natural resources on Planet Earth.

Today, with 8 billion humans on this planet, those natural resources are being extracted by the few wealthy countries at alarming rates, and NOT being replenished.

- Crude oil consumption is more than 35 billion barrels per year with less than 50 years left of known reserves of oil.
- Coal consumption is more than 8 billion tons per year, with less than 135 years left of known reserves of coal.
- Natural gas consumption is more than 132 million cubic feet per year, with about 50 years left of known reserves of natural gas.
- Similar scenarios for the exotic minerals and metals, like lithium, cobalt, manganese, copper, etc., needed to go "green" with EV batteries, wind turbines, and solar panels.

With advances in technology, motivated with the increasing cost of those resources, we may find other ways to locate and extract more, like the "fracking" technology being used to

extract more oil, **BUT Planet Earth's resources are limited!**

Our 4-billion-year-old planet has limited natural resources like oil, gas, coal, lithium, cobalt, manganese, etc. that are being extracted at alarming rates. Even with technological advances and increasing values of those resources in the next few decades, we may find "more", but at current rates of extraction of those resources, the planet may be sucked dry in 100, 1,000, or 5,000 years, but this 4-billion-year-old planet will be here with or without humans. Shockingly, 80% on this planet of 8 billion are living on less than $10 a day.

For the more than 6 billion on this planet that are economically challenged, they may get a sneak preview of coming attractions just by looking at wealthy and expensive California. California, with its 40 million residents representing only a miniscule 0.5% of the world's 8 billion, is a very expensive state to live in, with the separation of the wealthy and the less fortunate growing wider each day. Using California as an example, with about 12% of the USA population, it accounts for 28% of all people experiencing homelessness in the country, and 49% of all unsheltered people in the U.S., so a question for our Energy Literacy conversation is: Should there be a greater focus on the limitations of earth's natural resources now being extracted for the enjoyment by wealthier countries on Earth as our 4-billion-year-old planet will continue to be here, with or without humans?

Renewables, like wind and solar, CANNOT exist without the products made from oil and major government subsidies. Wind and Solar can only generate occasional electricity but CANNOT make any of the 1,000s of products made from oil. In fact, renewable energy equipment is one of the 6000+ products made from oil, without oil, wind and solar would simply not exist.

Renewables CANNOT support Transportation

One of the most visible impacts of fossil fuels is their role in modern transportation. Cars, planes, and ships are all constructed from the products made from the oil derivatives manufactured from crude oil, and all powered by gasoline, diesel, or jet fuel—would vanish in a world without fossil fuels.

Renewables CANNOT support Industry and Employment

In a fossil-fuel-free world, affordable housing itself would be a nearly impossible dream. Industrial processes—construction materials like cement, steel, and glass—are all heavily reliant on fossil fuels. Without the products made from fossil fuels, the scope of construction would revert to pre-industrial techniques: wood, stone, and limited quantities of brick.

Manufacturing jobs, which underpin much of the middle-class prosperity, would never have existed. Instead of large factories producing goods for regional or global markets, small workshops might churn out handmade products—slowly and expensively.

Renewables CANNOT support Agriculture and Food Supply

The impact on agriculture is another glaring area of transformation. Modern agriculture depends on machinery powered by fossil fuels and fertilizers synthesized from natural gas. In a world without these advancements, farming would be labor-intensive, with productivity akin to 18th-century subsistence farming.

Grocery stores might be stocked with a meager selection of locally grown vegetables and grains. Exotic imports like bananas or coffee, enabled by fossil-fuel-powered shipping, would be nonexistent. Seasonal shortages would be a grim reality, and even slight droughts or floods could result in famine. food security would teeter on the edge of disaster,

Renewables CANNOT support Healthcare and Medicine

Without fossil fuels would also strip away much of modern healthcare. Consider this: medical equipment, transportation for emergency care, and pharmaceutical production are all deeply reliant on fossil fuels. Everything from life-saving antibiotics to syringes and IV bags require petrochemical derivatives.

In a fossil free world, we wouldn’t have the resources to provide much beyond rudimentary care. The polio vaccine, dependent on sophisticated manufacturing and distribution chains, wouldn’t exist. The mortality rate for childbirth, infections, and injuries would soar.

Renewables CANNOT support Modern Conveniences

Without fossil fuels, there would be no central heating from oil or natural gas. Residents would chop firewood or rely on coal (itself a limited resource in this hypothetical scenario).

homes would be lit by candles or kerosene lamps, cooking might be done over a wood-burning stove, with meals taking hours to prepare. Refrigeration, an unsung hero of modern life, wouldn’t exist, forcing people to salt, smoke, or can food to preserve it—a time-consuming and imperfect solution.

residents bundled in multiple layers during the winter, huddling together for warmth. Without fossil fuels, their standard of living would regress to pre-industrial levels, where mere survival consumed most of their time and energy.

Renewables CANNOT support Education and Communication

Education, the backbone of a thriving community, would also suffer. Without cheap and reliable electricity, schools would be dimly lit, unheated, and sparsely equipped. Children might need to contribute to farm work or family businesses instead

of attending school regularly. Advanced subjects like chemistry or engineering would be nearly impossible to teach without modern tools and materials.

Communication would revert to handwritten letters delivered by horseback. News would travel slowly, and international correspondence would be a rare luxury.

Renewables CANNOT avoid an Environmental Irony

Advocates for abandoning fossil fuels often highlight their environmental toll. Yet, in a world without them, we'd see a different kind of environmental degradation. Without synthetic fertilizers, agricultural expansion would devour vast tracts of forest to meet basic food needs. Heating with wood would result in widespread deforestation, and rudimentary industries might still pollute waterways without modern environmental regulations.

Fossil fuels are far from perfect

Ironically, while fossil fuels have undeniable environmental costs, their absence wouldn't guarantee a pristine Earth. Instead, we'd face the paradox of localized environmental destruction on an immense scale, driven by humanity's desperate attempts to compensate for the loss of energy-dense fuels. In Africa, this is evident where people have no choice but to chop down valuable indigenous trees to use as fuel for firewood to cook and heat their rudimentary homes. Over 70% of the population of Sub-Saharan Africa relies on wood as their primary household energy source.

Everyone needs to ask each other, Why is it that environmentalists insist on spending money and resources on litigating against the oil, coal, gas and nuclear industries, instead of advancing technologies that truly encapsulate the full circular economy of the energy cycle?

Waste to Energy technologies like tire and plastic pyrolysis

go a long way to close the loop between extracting new resources and deriving the most value out of resources that have already been extracted. These technologies should be receiving support and funding, instead of solar and wind, which create toxic waste and only electricity some of the time. Yet, funding and support to commercialize truly clean technologies remains an elusive bottle neck.

Instead of demonizing the energy sources for the products and fuels that built the world we know as home, we should seek balanced solutions that preserve the benefits of modernity while addressing genuine environmental concerns. A world without fossil fuels might look idyllic in the abstract, but in practice, it would resemble a dystopian world that is harsh, impoverished, and unrecognizably bleak.

Without them, our modern “wonderful life” would never have come to be. Reiterating, Planet Earth’s resources are limited! At current rates of extraction by the wealthier countries of limited natural resources like oil, gas, coal, lithium, cobalt, manganese, etc., the planet may be sucked dry in 1,000 or 5,000 years, but our 4-billion-year-old planet will continue to be here, with or without humans while the separation of the wealthy and the less fortunate continues to grow wider each day.

Please share this information with teachers, students, and friends to encourage Energy Literacy conversations at the family dinner table.

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