

Real Energy Sustainability

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Sustainability should be a steady conservation process, not a political weapon to block progress.

In agriculture, manufacturing, and other human industries, the term “sustainability” has come to mean continuing use of free-enterprise innovations in energy, water, land, and materials use in order to reduce waste, save money, and continue long-term operations. But among environmental radicals, the concept has become a rhetorical weapon in their campaigns to block human activities and advancement. The “progressives” become regressive. Having achieved most of the ecological and pollution-reduction objectives set forth around the first Earth Day in 1970, the environmental movement has increasingly been dominated by professional campaigners who employ clever terminology and tales of looming catastrophes to advance anti-fossil fuel, anti-chemical, anti-development agendas. With cumulative annual budgets of many billions of dollars, they also enjoy the support of politicians, regulators, journalists, academics, and corporations, all collaborating to promote environmentalism along with their own ideological, financial, and other interests.

The Foundation Search USA database shows 345,052 grants to environmental groups from 2000 to 2012 just from foundations, and not including donations from individuals, corporations, or government agencies. Giving USA Institute reports show more than \$80 billion in grants to environmental groups 2000-2012: or about \$6.6 billion per year. Just the top 50 foundations gave U.S. green groups \$813 million in 2010 alone.¹

These radical elites no longer want mining, drilling, and manufacturing done responsibly, correctly, and sustainably; they want them stopped. Their agenda is furthered by the fact that most people in this primarily urban era are so far removed from the actual sources of their food, electricity, and consumer goods that few understand how modern amenities arrive in their homes, or comprehend the threat that extreme, authoritarian environmentalism poses to their livelihoods and living standards.

It is especially hard to comprehend radical environmentalists’ implacable opposition to “fossil” fuels. These carbon-based fuels—coal, oil, and natural gas—provide the abundant, reliable, affordable energy that powers civilization and makes our industries, jobs, medical care, nutrition, living standards, leisure, and life span possible.

Today, more than 80 percent of global energy still comes from fossil fuels. Most of the “renewable” energy employed worldwide is from wood, grass, and animal dung: the fuels of poverty, misery, disease, and early death. A large proportion of renewable energy is hydroelectric. Barely one percent is

wind, solar, and biofuels.²

According to the International Energy Agency, 20-25 years from now, total global energy demand will be 30 percent greater than it is today, and 75 percent of that world energy will still be fossil fuels. If allowed to do so, these fuels will bring health, prosperity, and modern living standards to billions more people around the world who even today still live without electricity, in abject poverty, and on the brink of famine, disaster, and death.³ Without major breakthroughs, especially in battery technology, wind and solar energy and electric vehicles will continue to play only minor, niche roles. Moreover, keeping our fossil fuels in the ground would mean no longer having the hydrocarbon raw materials required for paints, plastics, pharmaceuticals, synthetic fibers, smartphones, knee and hip replacements, and literally thousands of other vital products—including wind turbine blades and solar panels.

Advancing an anti-fossil fuels agenda requires more than simply saying, “We hate fossil fuels.” As the Club of Rome recognized decades ago, sending oil, natural gas, and coal into history’s dustbin requires creating what the Club called “a common enemy against which we can unite.”

Even if fossil fuels are branded Public Enemy Number One, what’s needed, the Club said, is allegedly looming disasters, “caused by human intervention in natural processes,” and requiring “changed attitudes and behavior” to avoid global calamities—threats to the very survival of our wildlife, civilization, and planet.⁴

Equally essential from the activists’ perspective is that they and their government allies must be the ones in charge. They must have the power to end fossil fuel use and prevent alleged calamities by controlling our energy use, economic growth, and living standards, but without having any real accountability for mistakes they make or damage they inflict. That also means controlling debate on these issues, by vilifying, marginalizing, and silencing experts who would question or challenge their “facts,” agendas, and “solutions.”

The Three Mantras of Planetary Destruction

1. Dangerous Man-made Climate Change

This “looming disaster” consists of exaggerated or even fabricated disasters found in computer simulations but not in the real world.

Thankfully, President Trump pulled the United States out of the Paris Climate Treaty. He also said the U.S. would contribute no more money to the kleptocratic sinkhole known as the UN Green Climate Fund, to give to poor countries, purportedly for climate adaptation and reparations.⁵ The

amount was expected to be some \$23 billion per year initially from American taxpayers—rising to some \$105 billion annually by 2030 (M. Ebell, personal communication, 2017).

Meanwhile, Asian, African, Latin American, and even European countries are using more coal, not less, to power their economies. EU nations in fact are barely meeting their renewable energy targets by spending billions annually on wind, solar, and biofuel subsidies, while causing growing damage to jobs, families, industries, and economies.

2. Dangerous Chemicals

These chemicals are claimed to disrupt endocrine systems, cause cancer at historically unheard-of rates, pollute the atmosphere, and disrupt Earth's climate and weather systems. This prospect necessitates applying the Precautionary Principle, which represents the extreme end of the risk-management spectrum.

Under the precautionary narrative, no new chemical (or other technology) can be permitted until its advocates can conclusively prove it will not harm society, humanity, or the environment—regardless of any benefits that would accrue from using the chemical or technology.

To assess the destructive potential of this infinitely malleable “principle,” one need only imagine how its application would have affected the development of fire, cars, airplanes, computers, the internet, cell phones, electricity, television, or chemotherapy drugs.

3. Resource Depletion

This third “looming disaster” ties neatly into the longstanding “danger” of runaway human population. This is the assertion that humanity is rapidly exhausting the energy and other natural resources that enable societies to function, and that future generations will need if they are to survive and prosper, at whatever level political and environmentalist factions might “permit.”

Preventing this hypothetical disaster is claimed to require sustainability, or sustainable development, especially for energy.

Implementation of the “Sustainability” Agenda

These disaster mantras are used to block energy and economic growth. The goal is to roll back First World living standards, de-develop the U.S. and other industrialized nations, and prevent anything but minimal-to-moderate development in poor countries.

The three mantras are brilliant in their simplicity, audacity, and duplicity. Whatever environmental extremists hate or despise is claimed to be climate-threatening, intolerably dangerous, and unsustainable. Whatever they support, promote, or will profit from is considered to be Earth-friendly, climate-stabilizing, sustainable, and safe.

To further ensure the desired policy and power outcome, radical environmentalists only apply precautionary and sustainability principles to examine risks and harms that a despised action, policy, chemical, or technology might

cause. They never consider the dangers and damages it might reduce, prevent, or eliminate.

Evaluated honestly, these mantras and the associated agendas are not just wrong: They are anti-science, unethical, unsustainable, and sometimes even racist and genocidal. They cause extensive damage to wildlife and the environment. They insult human dignity. They restrict the basic human freedom to choose and innovate. They reduce living standards and lifespans. They are especially harmful to the most impoverished, malnourished, disease-ravaged, energy-deprived, politically powerless people on our planet. They are unjust, inhumane, and eco-imperialistic.

For example, there is no valid scientific basis for the notion of “dangerous man-made climate change.” Earth's climate has changed multiple times over the planet's history, sometimes for the better, sometimes benignly, sometimes disastrously (think of the Ice Ages), in response to many powerful, interconnected natural forces, over which humans have no control. Yet, the environmental movement asserts that humanity can control climate by restricting fossil fuel use and emissions of plant-fertilizing carbon dioxide, the miracle molecule that makes life on Earth possible.

These anti-development attitudes and policies must end. The Precautionary Principle is incorrigibly politicized and unworkable, and must be replaced with evidence-based risk-management principles.

Dissecting Sustainable Development

Resource depletion is a real concern, and we should certainly support real sustainability: thoughtful, caring, responsible, economical stewardship and conservation of land, water, metallic, forest, wildlife, and other natural resources, perhaps especially energy. Responsible businesses, families, and communities practice this kind of sustainability every day.

Public-relations sustainability is not real sustainability. It is meaningless, superficial, and unverifiable. For example, a corporation's image-enhancing assertions that it is devoted to renewable fuels, corporate responsibility, environmental justice, or reducing its carbon footprint are made simply to garner favorable press or appease radical environmental groups.

The dominant, duplicitous third version, political/politicized sustainability, like “dangerous man-made climate change,” relies on ideological assertions and theoretical models, as an alternative to actual outside-our-windows reality and evidence that are the foundations of rational, scientific, ethical analyses, discourse, and policy-making. Its real purpose is to gain greater control over people's lives. It reflects an abysmal understanding of basic energy, economic, resource extraction, manufacturing, and human rights realities. In fact, it rejects these realities.

The most common definition of what I call politicized sustainability is that we may meet the needs of current generations only to the extent that doing so “will not compromise the ability of future generations to meet their

needs.” Politicized sustainability thus reflects the assertion that we are rapidly depleting finite resources, and therefore must reduce our current needs and wants in order to save those resources for future generations. This concept of “sustainable development” was developed by the World Commission on Environment and Development, headed by former Norwegian Prime Minister Gro Harlem Brundtland, in a document that came to be known as the Brundtland Report.⁶

At first this sounds logical, even ethical. But as physicist Niels Bohr famously observed, it’s very “hard to make predictions—especially about the future.” And yet, under sustainability precepts, we are supposed to predict future technologies, and ensure that today’s resource use will not compromise the completely unpredictable energy and raw material requirements that those completely unpredictable future technologies will introduce. We are supposed to safeguard the assumed needs of future generations, even if it means ignoring or compromising the undeniable needs of current generations, including the needs, aspirations, health, and welfare of the world’s poorest people, who desperately want to improve and extend their lives. And we’re supposed to do this generation after generation.

For thousands of years, mankind advanced at a snail’s pace. Then, as the modern fossil-fuel industrial era found its footing, progress picked up rapidly, until the pace of change became almost exponential. How today is anyone supposed to predict what might be in store 10, 50, or 100 years from now?

Moreover, as we moved from flint to copper, to bronze, iron, steel, and beyond, we didn’t do so because mankind had exhausted Earth’s metal supplies; we did it because we innovated. We invented something better, more efficient, more practical, and each advance required different raw materials.

Who today can foresee what future technologies we will have, and what raw materials those future technologies will require? How we are supposed to ensure that future families can meet their needs if we cannot possibly know what those needs will be?

Why, then, would we even think of empowering activists and governments to regulate today’s activities, based on the wholly unpredictable technologies, lifestyles, needs and resource demands of distant generations?

Natural resources do not have to last forever, including those energy sources that economist Julian Simon called Master Resources. They only have to last long enough for what Simon called our Ultimate Resource—our creative intellects—to discover real, workable replacements: new deposits, production techniques, raw material substitutes, or technologies.

Those discoveries might bring forth a completely new technology, as with steel, electricity, or nuclear power. Or they might simply make currently vital resources last far longer.

In this sense, horizontal drilling and hydraulic fracturing can properly be seen as vital to energy sustainability. “Fracking” makes extensive new oil and gas resources

available from shale deposits, and in conventional fields enables production of petroleum that previously would have to be left behind as unrecoverable with older technologies.

Is “Renewable” Energy Sustainable?

Politicized sustainability dogma ignores reality. It focuses on ridding the world of fossil fuels, regardless of any social, economic, environmental or human costs of doing so; and regardless of whether supposed alternatives really are eco-friendly and sustainable. For example:

Ethanol

Mandated U.S. ethanol quotas eat up 40 percent of America’s corn, grown on cropland the size of Iowa (more than 36 million acres), to replace 10 percent of America’s gasoline. Corn ethanol also requires billions of gallons of water, and vast quantities of pesticides, fertilizers, tractor fuel, and natural gas to produce energy that drives up food prices, adversely affects food aid and nutrition in poor nations, damages small engines, and gets one-third fewer miles per gallon than gasoline.⁷

Sustainability advocates need to answer these questions: What would it take to replace all U.S. gasoline with ethanol? To replace the entire world’s motor fuels? How much land, water, fertilizer, and energy would this consume? How is that in any way sustainable?

Solar

Heavily subsidized solar panels on Nevada’s Nellis Air Force Base generate a minuscule 15 MW of electricity, perhaps during 30 percent of the year, from 140 acres. Arizona’s Palo Verde Nuclear Generating Station generates 760 times more electricity annually, from less land, some 95 percent of the time. Palo Verde can generate 4,000 MW of electricity day and night from three pressurized water reactors that cover a relatively small portion of its 4,000-acre site.⁸

Generating Palo Verde’s output using Nellis technology would require a land area 10 times larger than Washington, D.C., and the solar panels would still provide electricity, unpredictably and sporadically, only one-third of the year in the best solar locations.

Nationwide, Americans consumed 3.5 billion MWh in 2016, compared with the less than 40,000 MWh that the Nellis facility could generate in a year during times when sunlight was available—about one hundred-thousandth of the total amount consumed.

From my perspective, this is not useful, economic, ecological, or sustainable.

Wind

Mandated, subsidized wind energy requires millions of acres for turbines and ultra-long transmission lines, and billions of tons of concrete, steel, copper, rare-earth metals, and fiberglass. The turbines produce intermittent, unreliable electricity that costs twice as much as coal or gas-fueled electricity, and must be backed up by fossil fuel generators that have to go from standby to full-power dozens of times a

day, very inefficiently, every time the wind stops. The turbines kill numerous birds and bats every year.

Moreover, modern coal and gas-fired power plants use less than 300 acres to generate 600 MW 95 percent of the time. Indiana's 600-MW Fowler Ridge Wind Farm covers 50,000 acres and generates electricity about 30 percent of the year.⁹

Suppose the world is going to use wind power to replace today's 25 billion MWh of total annual global electricity consumption. That's electricity only, not total worldwide fossil fuel consumption, such as coal for factories, fuel for vehicles, or petroleum for petrochemicals. Let's also assume we're going to generate enough extra electricity every windy day to charge batteries, to provide backup electrical power for just seven straight windless days.

This would require numerous wind turbines, especially as we rely on locations of lower and lower wind quality. That means, instead of generating full nameplate power (1.5 or 3.0 MW of electricity, for example, under ideal conditions, the generating capacity ascribed to each turbine) for 33 percent of the time, on average, they will do so only 16 percent of the time. The world would need some 100 million wind turbines, each one 400 feet tall, capable of generating 1.8 megawatts at full capacity, when the wind is blowing.¹⁰

Assuming just 15 acres each, those monster turbines would require some 1.5 billion acres. That's 80 percent of the area of the entire lower 48 states, without including access roads and feeder lines to main transmission lines. Imagine what that gauntlet of whirling blades would do to raptors, other birds, and bats.

Manufacturing all those wind turbines would require approximately 30 billion tons of steel, copper, and alloys for the towers and turbines; 55 billion tons of steel and concrete for the foundations; 10 million tons of neodymium for turbine magnets; 5 billion tons of complex composite petroleum-based materials for the nacelle covers and blades; and massive quantities of rock and gravel for some 20 million miles of access roads to the turbines. All these materials must be mined, smelted, manufactured into finished products, and shipped all over the U.S. and world. That process will require massive amounts of fossil fuels, because wind turbines and solar panels cannot produce consistently high enough heat to melt silica, iron, copper, rare earth, or other metals, and keep them molten during the process. Their intermittent, unreliable, unpredictable electricity output means cement kilns, smelters, foundries, refineries, and factories would be inoperable.

In fact, it is virtually impossible for wind turbines and solar panels even to generate enough energy over their operational lifetimes to process the metals, make the concrete, and run the factories to manufacture just the wind turbines, solar panels, and transmission lines, much less to power civilization. These numbers do not include the cement, steel, copper, and other materials for the ultra-long transmission lines required to carry electricity from windy locations to cities, most of which would be hundreds of miles from the big wind turbine industrial sites.

If impoverished developing countries are to be "allowed"

to have the same abundant electricity and living standards that we enjoy in the U.S., all these numbers must at least be doubled. To add in a global fleet of all-electric vehicles, and to replace almost all other global fossil fuel energy with wind power, the numbers must be tripled, quadrupled, or quintupled.

These are only general estimates, but they underscore the utter insanity of renewable energy utopian claims, and the need to analyze them much more carefully, before the siren-calls for a renewable nirvana lure humanity onto the rocky shoals and destroy our lands, wildlife, and civilization.

Aside from the numbers, there is the human cost of obtaining the component materials. The U.S. allows very little mining within its borders at present. Thus, most of the mining for rare earth, lithium, cadmium, and other exotic metals required for wind turbine magnets, backup battery arrays, and batteries for electric vehicles, laptop computers, cellular telephones, and other high-tech gadgetry is done by workers, children, and families overseas, often under horrific, unsafe, inhumane conditions few of us can even imagine. Those technology slaves receive a few pennies or dollars a day, while risking cave-ins and enduring constant exposure to toxic contaminants in mud, dust, water, and air. What may be called "clean" and "renewable" here is far from clean, renewable, eco-friendly, safe, healthy—or sustainable—if we count the externalities and damage to human health imposed on the poorer peoples of the world.

Batteries

Without fossil fuels, ensuring predictable electricity for smelters, assembly lines, the internet, hospitals, and cooking would require storing "renewable" energy output in massive battery arrays. Just to have enough to cover 2016 global electricity consumption for seven windless days, the world would need approximately 5 billion 100-kWh lithium-ion battery packs, such as those that Tesla uses in its latest electric cars. The current price is \$209 per kWh. They would need to be replaced about every 10 years.

Biofuel

In the effort to replace coal, American and Canadian companies have been cutting down thousands of acres of forest habitats, and turning millions of trees into wood pellets that they send by train to coastal ports and transport on oil-fueled cargo ships to England. There the pellets are hauled by truck and burned to generate electricity, so the UK can meet its renewable fuel targets.¹¹ The pellets cost more than coal, which Britain still has in abundance. So, utility companies receive hundreds of millions of dollars in taxpayer and consumer subsidies every year to make up the difference.

Ironically, when wood pellets (and ethanol) are burned, they still generate "climate-wrecking" carbon dioxide—more, in fact, than coal or gas plants on a life-cycle basis. This includes the entire process of planting, growing, and harvesting the trees, converting them into pellets, transporting them across the Atlantic to UK generating plants, and burning them.

Is Sustainability the Real Objective?

Given the facts above, why should we replace coal mining and fracking—or nuclear energy—with wind turbines, wood pellets, and other pseudo-renewable, pseudo-sustainable alternatives? The reason is that the goal is not real sustainability, but the fake or public-relations sustainability of activists, politicians, regulators, and crony capitalists imposing their views and controlling people's lives by dictating energy use, economic growth, and living standards—and thereby enriching themselves. It is ordinary people—especially poor, minority, and working-class citizens—who pay the price, with the world's poorest paying the most.

Some 1.2 billion people around the world still do not have electricity. Another 2 billion have electrical power only sporadically and unpredictably. In India alone, almost as many people as live in the U.S. still lack electricity. In Sub-Saharan Africa, 700 million people (the population of Europe) rarely or never have electricity, and still cook and heat with wood, charcoal, and animal dung.^{12,13}

Hundreds of millions become ill and 5 million die yearly of lung and intestinal diseases from inhaling particulates from open cook-fires, and from lack of clean water, refrigeration, and bacteria-free food. Largely because their nations lack energy to power modern economies, hundreds of millions are starving or malnourished, nearly 3 billion survive on a few dollars per day, and millions die every year from preventable or curable diseases.

These people simply want to take their rightful place among Earth's healthy and prosperous people. Instead, they're being told "that wouldn't be sustainable." They are being told they must be content with a few wind turbines near their villages, and little solar panels on their huts, to generate the quantities of electricity that radical environmentalists might "permit." That amount would allow the world's most destitute people to charge their cell phones, pump a little water, power a few light bulbs, operate tiny refrigerators, and replace open fires with "sustainable, climate-friendly" solar ovens that can take 40 minutes to boil an egg. They would be able to improve their lives, but only a little, at the margins.

Policies such as these are unjust, inhumane, imperialistic, and lethal. The only sustainability they ensure is sustained poverty, disease, and early death. They are the polar opposite of the sustainability we ought to be practicing. They ignore the monumental environmental impacts and raw materials demands associated with the renewable technologies upon which the radical "greens" insist we must rely in order to have a future.

How Did Environmentalism Reach This Point?

Like authoritarians before them, radical greens seem to have convinced themselves that theirs is the best or only way forward, that humanity and technology are destroying Earth, and their policies will prevent planetary Armageddon. They believe their own mantras and horror stories, surround

themselves with like-thinking people, ignore and vilify those who offer different analyses and solutions, and are convinced that their insights and wisdom qualify them to have all decision-making authority.

They have little confidence in, or respect for, the "less educated" citizenry or free-enterprise approaches, and are deeply committed to one-world governance, with themselves and their allies at the helm.

By allying themselves with powerful political, economic, media, and industrial players, they have amassed even greater power and influence; insulated themselves from any real transparency or accountability; and been able to stifle debate and impose their agendas in local, state, national and international arenas. Many have become wealthy in the process, and certainly have acquired immense stature and prestige.

Radical environmentalists appear to believe that while it may be unfortunate that billions remain impoverished, and millions are dying every year from diseases of poverty and energy deprivation, their program is necessary if human populations are to be controlled and the planet saved. It just happens that every "sustainability" proposal that they put forward makes them and their fellow ruling elites wealthier and more powerful—at the expense of nearly everyone else, who must submit to a regime of global governance in which personal property, aspirations, and decision-making are vestiges of the past.

Guidelines for True Sustainable Development

History has demonstrated that authoritarian, centrally planned societies and economies have never worked. Hundreds of millions perished, and the promised utopia never arrived. Despite their many faults, democratic free-enterprise systems have always brought the greatest benefits to the greatest numbers of people, amid the greatest environmental improvements. True sustainable development improves living standards instead of paying mere lip service to them. It gives people everywhere the freedom to decide for themselves—the freedom to develop and employ new technologies and practices that conserve resources, reduce waste and pollution, and use fossil fuels for as long as necessary. This enables current generations to maintain their living standards in industrialized nations, while poor countries have the energy and resources needed to end the poverty, disease, and malnutrition that for too long have made lives nasty, brutish, and short.

Real sustainability tells poor nations: "Don't do what rich countries are doing now that they are rich. Do what rich countries did to become rich, and do it as responsible stewards of God's creation." It recognizes the vital role of unleashing human ingenuity, under governments that protect personal and intellectual property rights, maintain law and order, enforce societal rules and voluntary contracts, help ensure responsible behavior, and punish miscreants.

Giving billions of individual people the freedom to pursue creative solutions to energy, pollution, economic,

health, and climate problems almost always yields far better answers than forcing humanity to conform to the wishes of ruling elites who “know what’s best” for everyone.

By providing a viable alternative to oil from oceanic leviathans, Dr. Abraham Gesner, Col. Edmund Drake, John D. Rockefeller, and the Petroleum Age saved Earth’s whales from imminent extinction.^{14,15} By harnessing the creative and manufacturing skills of miners, designers, artisans, and assembly line workers all over the world—without any of them knowing of the contributions by the others—free-enterprise capitalism has brought us products from wondrous automobiles, jetliners, and cell phones,¹⁶ to items as mundane as pencils¹⁷ or fresh tomatoes in the midst of an Alaskan winter.

Central planning, politicized sustainability, and over-precaution would likely have killed all these innovations.

Real sustainability enables people of today to prosper, while leaving the world better than we found it, and paving the way for future generations to benefit from the wisdom and innovations that we, their predecessors, developed, using the energy and raw materials we need today to make that happen. That is why it is the moral high ground.

Real sustainability isn’t decreed by ruling elites. It happens spontaneously, in free, responsible societies.

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