



Four species of sustainability

Paul Driessen is senior policy analyst for the Committee For A Constructive Tomorrow (www.CFACT.org)

Sustainable development and its permutations. Distinguishing the 'real deal' from agenda-driven varieties is key to business success¹

Newspapers and magazines are replete with articles and advertisements about sustainable development, sustainable business practices, and sustainability as an essential component of 'corporate culture.'

Companies, communities, hotels, restaurants, even colleges and religious institutions extol their commitment to it. Initiatives attempt to put the pledges into practice. Sustainability underpins, drives and justifies activist campaigns, United Nations conferences, and US Environmental Protection Agency (EPA) policies. And yet, there is no accepted definition of sustainability.

This oversight allows people and organizations to issue proclamations about what is or is not sustainable, without those assertions being logically or scientifically testable, in a context where it is difficult to question the accuracy of their claims, or examine the actual costs and benefits of proposed policies.

We can nevertheless say this much. True sustainability has three main components: science, economics and innovation. When we talk about a particular human activity, we are asked to judge whether it can continue for as long as humans want. If there truly is a limited amount of something on our planet, we can use it only for limited durations that are determined by particular rates of consumption.

It is a mistake to stop there, however. Humans use natural resources to add value to the natural world. Coal, for example, is worthless underground, but has enormous value when used to generate electricity or fuel factories. When people innovate, they often find new tools or resources that do a job more efficiently, at lower cost or with fewer negative side effects. They may then turn away from current options – to embrace natural gas instead of coal, for instance – or find ways to extend the lives of resources they had thought were being depleted.

This is true of any resource. Value is based on usefulness, and highly valued resources tend to be replaced when growing demand pushes their prices higher than available substitutes, other factors make current resources less attractive, or innovation changes the economics, technological needs or resource discovery and extraction methods.

Moreover, increasing scarcity tends to raise prices, which can spur innovation in the production or use of existing resources.

As oil and natural gas prices rose, for instance, previously uneconomical sources became producible, and technological advances like horizontal drilling and hydraulic fracturing opened vast new deposits that previously were inaccessible. Prices dropped as supplies increased.

Thus, a valuable and economically important way of using a resource need not be sustainable in perpetuity, but only until another resource or production method emerges. That means the sustainability of each natural resource changes constantly, as prices or rates of consumption change – or new sources, production methods, conservation practices or substitutes are discovered.

We can also say that true sustainable development means, or should mean thoughtful, caring, responsible, economical stewardship of land, air, water, energy, metallic, forest and wildlife resources, as well as financial and human resources. Understood in that way, it's clear that every person, company and institution can and should practice sustainability.

In fact, most companies, governments, families and other institutions today largely do strive to employ sustainable approaches – by conserving energy, water and other resources when it makes economic, technological, ecological and ethical sense to do so. Sustainability also entails reducing air and water pollutants and other industrial activities that endanger wildlife, environmental quality, and human health and welfare.

All this reflects principles of 'stewardship of creation,' *tikun olam* (a Hebrew phrase meaning 'repair of the world'), and the Boy Scout prescription that we should leave our world better than we found it.

Fallacies in the sustainable development mantra

The basic problem is that sustainability is often not understood in this way. The concept of sustainable development has become ideological and political. Indeed, it has been that way almost from the outset.

An early landmark in the global sustainability movement was former Norwegian Prime Minister Gro Harlem Brundtland's 1987 report, *Our Common Future*. While it contained much faulty science and flawed economics, to its credit the report focused on achieving sustainable development while alleviating poverty.

In her foreword, Dr Brundtland emphasized that “*sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfil their aspirations for a better life.*” She added: “*Meeting essential needs requires not only a new era of economic growth for nations in which the majority are poor, but an assurance that those poor get their fair share of the resources required to sustain that growth.*”

Unfortunately, these important development concepts never became part of the definition that was ultimately adopted by activists and regulators who wanted to use sustainability to promote anti-development agendas. They devised the most frequently cited definition:

Sustainability means 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.

This may sound logical and ethical at first blush, but any attempt to apply it self-destructs.

No policy maker (or anyone else) ever predicted hydroelectric or nuclear power, for example, or that electricity would safeguard and enhance our lives in the myriad ways it does today. No one anticipated fibre optic cables replacing copper, or mobile phones with more computing power than a 1990 desktop computer. None expected the ‘fracking’ revolution. All of these things happened, however, and today the pace of technological change is dizzying.

And yet, sustainability precepts say we must empower governments to regulate all manner of activities *today* based on the wholly unpredictable technologies and living standards of *tomorrow*. We must also predict the raw materials (and their quantities) that future technologies will require, under constantly changing economic, exploration, drilling, mining, manufacturing and consumption conditions.

Even more absurd and disturbing, we are told that meeting the unforeseeable needs of *future* generations means we must ignore or compromise the needs of *current* generations – including the needs, aspirations, health and welfare of the most impoverished, energy-deprived, malnourished, politically powerless people on the planet.

In essence, we are told the needs of future generations must be sustainable, even if it means current generations themselves are unsustainable, even expendable. That is unethical, unjust and immoral.

The prevailing definition thus gives rise to four different forms of sustainable development.

The four species of sustainability

1. Public relations. Thousands of companies boast of their commitment to sustainability in ads, annual reports and news releases. By claiming to operate sustainably, they seek to improve corporate images and sales, and inspire flattering coverage by the press. However, the statements are often superficial and devoid of real substance.

Bland assertions that a company is devoted to using renewable fuels, reducing its carbon footprint, or (in the case of Coca-Cola’s marketing partnership with the World Wildlife Fund) saving polar bears are generally little more than transparent attempts

to garner favourable press, court customers and appease radical environmental groups. They run the risk of alienating customers who see through the puffery and resent having their hard-earned dollars used to subsidize overly politicized advocacy campaigns.

Moreover, overtly environmental messages have lost much of their former appeal. Polls by GlobalScan Radar and others have found that, even by 2013, consumer concern about environmental issues had slumped to a 20-year low, and many people are put off by efforts to make them feel guilty about being consumers or not buying the more expensive, supposedly ‘greener’ product. Companies today are thus achieving greater success by emphasizing quality, value, the origins of certain ingredients or how their manufacturing processes reduce waste.

Little more needs to be said about this properly endangered PR species.

2. True sustainable development. In economic and scientific terms, true sustainability represents the use of steadily improving technologies and practices to conserve resources, reduce waste and pollution, squeeze the last possible ounce out of energy and mineral deposits, expand our natural resource base, and leave the world better than we found it. These practices also benefit consumers, while helping companies save money, maintain profitability and keep employees employed.

In agriculture, for example, it means wisely using fertilizer, biotechnology, and other modern high-yield practices to get the most crops per acre, while minimizing environmental impacts. Such practices also feed more people from less land and at lower costs for families, and ensure that more land is set aside for conservation.

3. Political sustainability. This species involves the use of concepts and ideas that arise from true sustainability to present pseudo-scientific justifications for political agendas that extend far beyond genuine economic or scientific matters. Political sustainability is frequently cloaked in altruistic terms, or concerns about resource depletion, biodiversity and precaution.

However, it is often used to justify expansive new government programs, and almost invariably involves government coercion and control, forcing people to do what may not be in their best interests. The statements and campaigns of many environmental pressure groups present excellent examples of the political species, as do recent Environmental Protection Agency regulatory initiatives that the agency says reflect its newfound mission: controlling unsustainable patterns of production and consumption, and encouraging the development of renewable energy and ‘sustainable communities.’

However, the results are often especially harmful to poor and middle-income families struggling to improve their social status and living standards. In many cases, such as wind turbines, the policies actually endanger wildlife and damage the environment more than their alternatives do.

4. International sustainability. This subspecies of political sustainability is even more harmful. It is employed to justify United Nations, developed nation and environmental activist policies and programs that delay or prevent energy, natural resource and economic development in poor countries. In so

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doing, it denies those countries access to large-scale electricity generation and other modern technologies that would create jobs, dramatically reduce malnutrition and disease, and enable billions of impoverished people to rise up out of abject poverty.

Policies and programs like these are often justified by concerns that climate change or resource depletion could lead to armed conflicts over limited land, energy, mineral resources and food. In reality, such conflicts are much more likely under policies that purposely or unintentionally make resources less abundant or accessible, prolong poverty, and reduce people’s hopes and prospects for a better future. Pro-economic growth policies consistent with true sustainability would reduce or avoid these consequences.

Focusing on the differences between true sustainability and political/international sustainability, and examine why those differences matter, can also help avoid pitfalls.

True sustainability: adding to human and planetary welfare
Stewardship of creation includes personal actions that advance sustainability: keeping cars tuned up and tires properly inflated, using water, electricity and insecticides responsibly, and disposing of chemical and other wastes properly, for instance. Worthwhile government actions include computerized traffic light sequencing that reflects road use patterns during rush hour and other times, to improve traffic flow and reduce pollution and wasted fuel.

At the corporate level, countless programs promote sustainability. Incremental improvements in metallurgy and extrusion technology have made recyclable aluminium beverage cans more than 40% lighter than they were in the 1960s. The advances reduce material needs, energy requirements, and fuel used to transport lighter pallets of goods, while decreasing the likelihood of breakage and spills.

Improvements in tensile strength and architectural design mean high-rise buildings require 35% less steel than their counterparts did just a few decades ago. A 1,000-meter (3,280-foot) 24-fiber optic cable made from 45 pounds of silica sand (Earth’s most abundant element) carries thousands of times more information more safely and securely than a much thicker, 3,600- pound RG-6 copper cable, which cannot carry high-definition video signals.

Packaging protects valuable and often-fragile products that represent the contribution of thousands of hours, millions of dollars, large quantities of fuel and raw materials, the extraction and processing of ores, the manufacturing and shipping of

goods, and significant environmental impacts. However, packaging also represents up to one-third of the United States’ total waste stream and are the largest single component of municipal solid waste.

Companies thus manufacture packing material from wastes otherwise destined for landfills, and devise new ways to use fewer materials and less energy, reuse packaging components, and make lighter yet stronger packing products that require less energy to ship goods and can then be recycled or reused.

Waste disposal companies are turning batteries, chemicals, food wastes and fibres of every description into useful new products. Other material that once went to landfills is burned in high-tech, gas-fired waste-to-energy facilities that generate electricity for tens of thousands of homes and businesses, while emitting almost no pollution because fuel sources are burned completely in closed-cycle units.

Modern combined-cycle natural gas turbines almost double the efficiency of older electricity generating plants. In some cases, they also recycle formerly wasted hot air and coolant waters to heat buildings and even use still-warm water to heat hothouses for growing fruits and vegetables.

The flip side of conservation and recycling is finding new deposits and prolonging the life of old ones. Horizontal drilling and hydraulic fracturing does this while demolishing the ‘peak oil and gas’ mantra, by providing at least a century of new hydrocarbon supplies. Fracking opens new oil and gas fields, prolongs the life of old fields, and promotes sustained resource conservation by extracting far more of the original in-place fossil fuel resources than previously possible.

Fracking also uses far less water than commonly assumed. US Department of Energy data reveal that fracking typically requires 0.6 to 5.8 gallons of *fresh or brackish* water per million Btu of energy produced. By contrast, corn-based ethanol requires 2,510 to 29,100 gallons of *fresh* water – and biodiesel from soybeans consumes an astounding 14,000 to 75,000 gallons of fresh water per million Btu.

Oilfield technologies are now being adapted for hardrock metals mining, to find and extract previously inaccessible deposits far beneath the surface. Unmanned drones gather data that are processed by supercomputers to identify ore deposits. Seismic trucks and drilling rigs with electronic probes help delineate deposit boundaries, generating three-dimensional images to further narrow the search. Sophisticated fracking technologies may soon shatter deposits and inject liquid solutions that dissolve desired minerals and bring them to the surface.

Sustainability as a political movement

By contrast, political sustainability is primarily an environmentalist campaign theme and justification for expanded government powers and regulations.

Scottish scientist Alexander King and Club of Rome secretary general Bertrand Schneider argued the new environmental movement would prosper if it could create *“a common enemy against whom we can unite.”* In defining this enemy, they said, it was important to ensure looming disasters were presented as *“caused by human intervention in natural processes”* and say only *“changed attitudes and behaviour”* could prevent the disasters. In other words, the *“real enemy is humanity itself.”*

The Club of Rome's 1972 best-seller, *Limits to Growth*, used faulty computer models and neo-Malthusian precepts to promote the idea that 'unchecked' economic and population growth was rapidly depleting finite natural resources, setting the stage for imminent and unprecedented global calamities.

"Building an environmentally sustainable future requires restricting the global economy, dramatically changing human reproductive behaviour, and altering values and lifestyles," argued Worldwatch Institute founder Lester Brown. *"Doing this quickly requires nothing short of a revolution."*

In his book *Earth in the Balance*, former Vice President Al Gore stated:

"Minor shifts in policy, moderate improvements in laws and regulations, rhetoric offered in lieu of genuine change – these are all forms of appeasement, designed to satisfy the public's desire to believe that sacrifice, struggle and a wrenching transformation of society will not be necessary." [emphasis added]

In its 2010 report, *Sustainability and the US EPA*, the National Research Council proposed 'sustainable development' as a new EPA mission:

Sustainable development... raises questions that are not fully or directly addressed in US law or policy, including how to define and control unsustainable patterns of production and consumption and how to encourage the development of sustainable communities, biodiversity protection, clean energy, environmentally sustainable economic development, and climate change controls.

Then-EPA Administrator Lisa Jackson said the report would help to usher in *"the next phase of environmental protection"* and the study's findings would affect 'every aspect' of EPA's work, including attempts to incorporate concepts of 'environmental justice' into the agency's pollution and climate change programs. Implementing the envisioned changes would require that EPA's jurisdiction penetrate even further into Americans' daily lives, as the agency seeks to control corporate and individual actions that do not comport to its vague sustainability paradigm.

These visions are nevertheless already being implemented – via the President's Council on Sustainable Development, the United Nations Economic and Social Council (ECOSOC), the U.N. Framework Convention on Climate Change (UNFCCC), Earth Charter agreements, Agenda 21 campaigns, multiple EPA programs, and countless other government agency and activist programs and campaigns.

The 1992 Rio Earth Summit showcased 'sustainable development' as the United Nations Environment Programme's gravest concern. When the US Senate rejected the proposed Biodiversity Treaty, activists shifted gears and settled on 'catastrophic global warming' as their new rallying cry.

When the global warming meme no longer resonated, 2012 Rio+20 Summit organizers repackaged global warming, species diversity, social justice and peak oil 'crises' under the sustainability mantra – at both the national and international levels. Now climate change may be back in vogue.

UNFCCC Executive Secretary Christina Figueres told delegates at the 18th Conference of Parties (COP 18), held in Qatar in 2012,

"What is occurring here, not just in Doha, but in the whole climate change process, is the complete transformation of the economic structure of the world."

Changes like these come with a price, however. Activists, politicians, and regulators feel little pain as they control and redesign other people's lives, with little or no accountability for errors, omissions or deliberate harm. Middle-income and poor citizens pay a heavy price, as do many wildlife species.

On a torrid August 2012 day, Great Britain's 3,500 wind turbines generated a mere 12 megawatts of electricity, 0.032% of the 38,000 MW the country was using at the time. Had it not been for barely adequate supplies of conventional fossil fuel power, the UK grid would have shut down, causing widespread chaos.

During winter months, thousands of elderly Brits now die annually from hypothermia, because 'green' energy programs have made adequate home heating unaffordable, *The Telegraph* has reported. Others stay warm by remaining in bed, riding heated buses all day, hanging out in libraries, or burning cheap books in stoves, as the books cost less than wood or electricity.

Tens of thousands of wind turbines supposedly supply environment-friendly 'renewable' electricity. However, they require extensive scenic and wildlife habitat acreage for turbines, access roads and ultra-long transmission lines from windy areas to distant urban consumers. The installations require enormous quantities of steel, concrete, rare earth metals, copper, oil-based fiberglass and other materials. 'Backup' fossil fuel generators (which actually supply some 80% of electricity attributed to intermittent wind turbines) require still more land and raw materials.

Studies of wind-related mortalities in Germany, Spain and Sweden reveal that these turbines kill millions of birds and bats every year: bald and golden eagles, hawks, falcons, owls, cranes, egrets, geese and other birds, and many species of insect-eating bats. In a number of areas, wind turbines have dramatically reduced bird and bat populations, and driven some species to the verge of extinction.

These realities may make wind power our least sustainable energy option. It would be more sustainable to build conventional power plants, and forget about wind power.

The situation is far worse for people in the poorest developing countries.

International sustainability: denying affordable energy to the world's poor

Nearly 1.5 billion people still do not enjoy the blessings of electricity. In Africa alone, more than 700 million people (twice the population of the United States and Canada combined) have no access to electricity, or only sporadic and limited access. More than 300 million Indians, including one-third of the nation's rural population, still lack electricity.

Instead, they must burn wood and dung for heating and cooking, resulting in lung diseases that kill a million people every year. The lack of refrigeration, safe water and decent medical care also causes nearly two million people to die annually from virulent intestinal diseases.

Even in South Africa, the most advanced nation in sub-Saharan Africa, insufficient electrical power has meant frequent

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brownouts that hamper factory output and force gold and diamond mines to shut down, because of risks that miners will suffocate deep underground during outages. The country also suffers from maternal mortality rates 36 times higher than in the US, and tuberculosis rates 237 times higher. Thousands still die each year from lung and intestinal diseases.

Nevertheless, in July 2009, President Obama told Africans they should refrain from using ‘dirty’ fossil fuels and focus instead on their ‘bountiful’ wind, solar, geothermal and biofuel energy. His Overseas Private Investment Corporation later refused to support construction of a 130-MW power plant in Ghana that would burn clean natural gas that is now being ‘flared’ and wasted, providing reliable, affordable electricity for this power-deprived nation.

South Africa encountered similar problems the following year when it applied for a World Bank loan to finish its 4,800-megawatt coal-fired Medupi power plant, which is being equipped with the latest in pollution control and ‘supercritical clean coal’ technologies. Claiming the project violated climate change goals and sustainability principles, the Center for American Progress, Friends of the Earth, Sierra Club and other activist groups pressured the World Bank and United States to deny funding. The United States ultimately voted ‘present’ and the loan was approved by a bare majority of bank member nations.

In June 2013, Obama announced his *Power Africa* initiative for a ‘sustainable’ African energy strategy that emphasizes wind, solar, biofuel, and geothermal energy. This year, the European Commission is funding a *‘SWITCH Africa Green’* project that the EC claims will “support African countries in their transition to an inclusive Green Economy” and a shift to “more sustainable consumption and production patterns and practices.”

It is ironic that the program is being implemented by a European organisation whose climate and energy policies have caused widespread job losses, financial hardship and inadequate home heating during winter months for Europe’s citizens. It is intolerable that the policies are being imposed on nations where the vast majority of people still do not have access to electricity, decent jobs or modern healthcare.

Ultimately, sustainable development and environmental justice rely on affordable energy. Today’s ‘renewable’ sources cannot

supply sufficient, affordable, reliable electricity for modern societies, and the emphasis on biofuels means using scarce water to turn scarce crops into fuel in regions where people are malnourished and starving.

“[E]nergy poverty causes more harm to the poor than global warming,” and cheap energy *“makes the poor vastly less vulnerable to climate impacts,”* Breakthrough Institute scholars Michael Shellenberger and Ted Nordhaus have emphasized. Electricity would *“dramatically improve their lives, reduce deforestation, and make them more resilient to climate impacts... This is not a low-energy program, it is a high-energy one. Any effort worthy of being called progressive, liberal or environmental must embrace a high-energy planet.”*

For now and the foreseeable future, that means coal, oil, natural gas, hydroelectric and nuclear power, as they are the only abundant, reliable, affordable sources of energy.

Requiring the use of expensive, intermittent, unreliable wind and solar power will condemn poor families to greater deprivation, disease and premature death. Telling destitute Africans to be content with little solar panels on their huts to power a light bulb, operate a one-cubic-foot refrigerator, and charge a cell phone is little more than unjust callous, lethal eco-imperialism.

Conclusion: the future can be far better than some fear

Earth still has vast supplies of energy, minerals and other raw materials. The Stone Age did not end because we ran out of stones, nor did the Bronze Age end because we exhausted copper and tin supplies. Neither will the current Fossil Fuel Age end because we run out of coal, natural gas and oil. Resource use changes constantly because innovators replace less-efficient technologies with better alternatives.

Wise resource use is consistent with sustainable development because creative human minds will continue to devise new technologies and new ways of finding and extracting important natural resources. Unless misguided activists, politicians and regulators place these resources off-limits, we will likely never lack the resources needed to continue improving lives.

Real, ethical sustainable development helps people improve living standards, instead of merely paying lip service to them. It gives them freedom to develop and use new technologies, and employ best practices that conserve resources, reduce waste and pollution, select the most efficient energy and mineral sources, and shift to new technologies and practices when better ones are found.

Real, ethical sustainability will enable people of today to prosper, leave the world better than they found it, and sustain and improve the lives of current generations – instead of sacrificing today’s pressing needs to serve the imagined needs of future generations. ■

Paul Driessen is author of *Eco-Imperialism: Green power - Black death* and co-author of *Cracking Big Green: To save the world from the save-the-earth money machine*

1. This article is adapted from his Heartland Institute report, which contains all sources for the article and is available at http://heartland.org/sites/default/files/06-18-14_driessen_sustainability.pdf