Sustainability and the Natural Step Framework: Creating a Win-Win-Win for Business, Communities and the Earth

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So why be hopeful? Because we can create new jobs, restore our environment and promote social stability. The solutions are creative, practical and profitable.
– Paul Hawken, Author and Founding Chair of the Natural Step-US

What is Sustainability?
The Alliance for Sustainability has long defined sustainability as being "ecologically sound, economically viable, socially just and humane, meaning to embody our highest values -- how we treat people, animals and the Earth." (*Manna,* 1984) The United Nations defines sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their needs." (U.N. World Commission on Environment & Development*, Our Common Future,* 1987)

More and more businesses embrace sustainability through the use of a triple bottom line that expands beyond financial to include social and environmental concerns. (John Elkington*, Cannibals with Forks: The Triple Bottom line of 21st Century Business,* 1998) It is sometimes called the "3Ps: People, Planet and Profits", and companies such as Shell are using it along with nearly every major corporation in Europe. It forms the basis for the Dow Jones Sustainability Index with more than $8 billion under management (www.sustainability-indexes.com) and the Global Reporting Initiative with more than 1500 businesses in 60 countries reporting on their social, environmental and financial results (www.globalreporting.org).

Natural Capitalism by Paul Hawken, Amory Lovins and Hunter Lovins documents how we can have 10 to 100 times greater resource productivity, benefiting profits, people and the planet. American companies could cut national electricity consumption by at least 75% and produce approximate annual returns of 100%. Because only about 1% of all the materials mobilized to serve America are actually made into products still in use six months after sale, there is a huge opportunity to turn this 99% waste into profit.

Shift in Public Awareness
Hurricane Katrina, $3 a gallon gas, Nobel Prize and Academy Award-winning Al Gore's *Inconvenient Truth*, and extensive media attention have served to awaken the public to the challenges with climate change and the need for sustainability. The ImagePower Green Brands 2.0 survey released May 1, 2007 by WPP, one of the world's largest communications services groups, revealed that Americans across all socioeconomic and ethnic groups display increasing degrees of green attitudes and behaviors. This is one of the greatest shifts in U.S. consumer consciousness in recent history. According to the study, 34% of Americans are "active green," meaning they identify with the idea that taking care of the environment is society's responsibility. This group is doing everything they can to make a long term positive impact on the environment—including making smarter purchasing choices.

Taking the Natural Step to Sustainability
One of the most widely used and successful approaches for bringing about sustainability is the Natural Step Framework, which was created by Swedish medical doctor and cancer researcher Dr. Karl-Henrik Robert, along with assistance from physicist Dr. John Holmberg. As a scientist at Sweden's leading research

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hospital, Robert was concerned that increasing cancer rates, especially among infants like those he was treating, were tied to environmental factors. He was frustrated by the lack of agreement among scientists about the cause or what to do, so he began a consensus process which resulted in 50 leading Swedish scientists agreeing on the underlying principles needed for sustainability.

He shared this information with major corporations who recognized the need for action. They supported the sending of an audiocassette and brochure to every home and school in Sweden--4.3 million. Leading artists, musicians and scientists produced a national TV special in 1989 to launch an educational campaign. The Natural Step became a nonprofit backed by the King of Sweden.

My mission is to transform my company into a sustainable business—
one that does well by doing good – by using the principles of the Natural Step framework.
-- Ray Anderson, CEO, Interface, world's largest commercial floor covering manufacturer

The Natural Step in Practice
IKEA, the world's largest furniture manufacturer, became the first company to utilize it, soon followed by Electrolux (world's largest appliance manufacturer), and Sweden's railway, largest hotel and supermarket chains, biggest oil company, and McDonald's. It was also adopted by rural communities and large cities like Stockholm who became "eco-municipalities." More than 500,000 young people became involved through the Swedish Youth Parliament for Sustainability, and thousands of farmers utilized the NSF to shift toward sustainable agriculture, saving money and reducing pesticide use 75%.

The Natural Step soon spread to numerous countries and was brought to North America in the mid 90s by *Ecology of Commerce* author Paul Hawken and MIT learning organization leader Peter Senge, author of *The Fifth Discipline*. It was first used by $1.4 billion Interface, the world's largest commercial floor covering manufacturer, which has saved more than $400 million utilizing it. Sustainable forestry products manufacturer Collins Pine saved $1 million a year. It also has been utilized by:

- Hundreds of businesses, including Starbucks, Nike, Rohm & Haas, Bank of America, CH2M Hill Engineering, White Bear Racquet & Swim, Baltix Furniture and Cunningham Group Architecture;
- Government agencies such as the State of Oregon and US Army and Navy;
- The American Planning Association;
- The cities of Whistler, Santa Monica, Portsmouth, Duluth, Madison and 24 WI "eco-municipalities";
- Hospitals such as Ridgeview Medical Center;
- Academic institutions such as the University of Texas, Houston; and
- Religious institutions, such as the Basilica of St. Mary and St. Joan of Arc Church in Minneapolis.

Four Principles of the Natural Step Framework (NSF)
The Natural Step was established with the purpose of developing and sharing a common framework composed of easily understood, scientifically based principles that serve as a compass to guide society toward a just and sustainable future. The NSF emphasizes that the only long-term, sustainable manner in which business and society can operate is within the Earth's natural cycles. This can be accomplished by meeting four basic sustainability conditions or principles:

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The Natural Step Framework (Natural Step www.naturalstep.org) holds that in a sustainable society, nature is not subject to systematically increasing:
1…concentrations of substances extracted from the Earth's crust;
2…concentrations of substances produced by society;
3…degradation by physical means;
and, in that society,
4…people are not subject to conditions that systematically undermine their capacity to meet their needs.

To address the first three, strategies include both dematerialization (using less resources to accomplish the same task), substitution of alternatives, more efficient use of materials and the 3 Rs and 1 C: Reduce, Reuse, Recycle and Compost. To make these four principles more accessible to the public, the Alliance for Sustainability and other groups utilize an easy-to-understand, practical way of addressing the principles:

1. Limit What We *Take* from the Earth: Minimize the Mining of Metals/Minerals and Burning of Fossil Fuels - Simply, we need to use renewable energy and nontoxic, reusable materials to avoid the spread of hazardous mined metals and pollutants. Why? Mining and burning fossil fuels release a wide range of substances that do not go away, but rather, continue to build up and spread in our ecosphere. Nature has adapted over millions of years to specific amounts of these materials. Cells don't know how to handle significant amounts of lead, mercury, radioactive materials and other hazardous mining compounds, leading to learning disabilities, weakened immune systems and stunted development. Burning fossil fuels contributes to smog, acid rain and climate change.

Action: We can reduce energy, purchase renewable energy and support sound public policies. We can walk, bike, carpool, use public transit and "eco-drive" (properly inflate tires, drive the speed limit and avoid sudden stops/starts - save 25-35% on fuel). We can reduce heating/cooling (save 20%), turn off computers (save $120/yr) and use compact fluorescents (save $25-50), LEDs, Energy Star appliances (30% energy saving), proper insulation, battery lawnmowers (save $65/year), and "smart power strips" (save $120/yr). We can decrease mined metals through recycling (cans, fluorescents, electronics), reused rings, rechargeable batteries (two save $1000), non-mercury thermometers, soy inks, and sustainable building.

2. Avoid Toxic Substances We *Make*: Find Substitutes for Hazardous Pesticides, Plastics and Chemicals - Simply, we need to use safe, biodegradable substances that don't cause the spread of toxins in the environment. Why? Since World War II, our society has produced more than 85,000 chemicals, such as DDT and PCBs. Many of these substances don't go away, but rather, spread and bio-accumulate in nature and the fat cells of animals and humans. Cells don't know how to handle significant amounts of these chemicals, often leading to cancer, hormone disruption, improper development, birth defects and long-term genetic change.

Action: We can use non-toxic, natural cleaning materials (chlorine-free), personal care products (no anti-bacterial soap), toys, paints and renovation materials (formaldehyde-free). We can reduce plastics with reusable bags, plates, cups, cutlery, and water bottles, while reusing packaging, recycling containers and purchasing bio-based, compostable containers. We can use safe, natural pest control in our parks, schools, workplaces, homes and yards. We can have chlorine-free spas/pools and use "green dry-cleaning". We can eliminate factory farm feedlots and support sustainable agriculture by voting with our dollars by purchasing certified organic food and clothing. We can utilize used clothes and toys and then share them with others.

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3. *Respect* the Earth: Protect Biodiversity, Ecosystems and Natural Resources - Simply, we need to safeguard our soils, water and air, or we won't be able to eat, drink or breathe. Why? Forests, soils, wetlands, lakes, oceans and other naturally productive eco-systems provide food, fiber, habitat, oxygen, waste handling, and other essential goods and services. For millions of years they have been purifying the planet and creating a habitat suitable for human and other life. When we destroy or deplete these systems, we endanger both our livelihoods and the likelihood of human existence.

Action: We can reduce paper use through two-sided copying, electronic communication, cloth napkins, reusable shopping bags and getting off junk mail lists. We can purchase certified, sustainably-harvested forest products and use 100% post-consumer recycled content paper, tissues, towels, and toilet paper. We can eat lower on the food chain with an organic, plant-based diet and reduce or eliminate our consumption of endangered and factory farmed fish and seafood. We can protect and conserve precious water with low flow faucets, toilets and showers, native landscaping, green roofs and rain barrels and gardens. We can compost yard material and food scraps. We can encourage smart growth and protect wildlife habitat.

4. *Meet Human Needs*: Remove barriers to People Meeting Their Fundamental Needs - Simply, we can consume less and save money while allowing every person to meet their fundamental needs. Why? The US makes up only 4% of the world's population but consumes about 25% of its resources. People living in the lowest 20% by income receive only 1.4% of the world's income. Just to survive, they see no choice but to cut down rainforests, sell endangered species, and use polluting energy sources. The alternative Nobel Prize-winning work of Manfred Max-Neef shows how we can meet the fundamental needs of everyone, address our consumption addiction or "affluenza," and transform our lives and planet.

Action: We can support policies promoting social justice, health and a local living economy. We can smile, treat everyone with respect, connect with neighbors, make socially responsible investments, purchase fair trade products, and donate our time and resources to create a sustainable community. We can practice a healthy lifestyle and seek to meet our fundamental needs (Manfred Max-Neef), ask if we really need more stuff, and design our workplaces, homes and organizations to give us more of what we want (healthy, attractive and nurturing environments) and less of what we don't want (pollution, stress and expense).

Next Steps
Consider attending or organizing an introductory presentation on Sustainability and NSF, one-day or two evening seminar or train-the-trainer. Individuals use it to save money and strategically reposition their life and organization, discovering a sense of hope and possibilities. Organizations and communities use it to bring together diverse participants to create a shared understanding of sustainability, inspiring vision and practical sustainability action plan. They reduce costs, improve performance, build safer, healthier environments, encourage innovative thinking, attract and retain employees, and create aligned teams.

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