

The Natural Step

One of the most well known and widely applied sustainability frameworks is The Natural Step (TNS), founded by Karl-Henrik Robert in Sweden in 1989. TNS is an internationally recognized organization with offices located in Australia, Brazil, Canada, Israel, Japan, New Zealand, South Africa, Sweden, United Kingdom, and the United States. It's been successfully applied across a wide variety of industries, including real estate, metals, appliances, utilities, food, retail, apparel, fast food, healthcare, paints, chemicals, furniture, and more. TNS has been adopted and successfully used by over 100 major companies including Bank of America, McDonald's, Nike, Interface, Starbucks, Home Depot, and Ikea.

TNS represents a systems approach to sustainability analysis and is based on four fundamental Principles of Sustainability.

1. "Prevent the progressive buildup of substances extracted from the Earth's crust." For example, mining, extracting, and refining of the naturally occurring and highly toxic element mercury from cinnabar ore and preventing its subsequent accumulation in our environment through sustainable, lossless reuse.
2. "Prevent the progressive buildup of chemicals and compounds produced by society." For example, avoiding the buildup of highly toxic man-made compounds in the environment such as dioxins, PCBs and DDT, by using non-toxic, sustainable alternatives.
3. "Prevent progressive physical degradation and destruction of nature and natural processes." Examples include sustainable harvesting and replanting of forest regions, avoiding depletion of soil nutrients by using sustainable agriculture practices, and preserving fisheries and diversity of species through sustainable commercial fishing practices.
4. "Promote conditions that empower people's capacity to meet their basic human needs (for example, safe working conditions and sufficient pay to live on)." Other examples

include offshoring and outsourcing operations that promote safe working conditions and standard wage levels, which combat the causes of social unrest, violence, and political instability.

The TNS Framework employs a practice of “backcasting,” or working backwards, from a desired future state, one of ideal sustainability. In backcasting, you start with a vision of the future, and iteratively plan actions that take you ever closer your future ideal. This is similar to traditional strategic planning methodologies, such as SWOT (Strengths, Weaknesses, Opportunities, and Threats) and SCAN (Strategic Creative Analysis) that begin with a desired end state or objective, identify internal and external factors that are favorable or unfavorable to achieving success, and then plan incremental steps to reach the desired objective. There are now many successful case studies of this process to draw from.

Ashforth Pacific, Inc., is a typical, successful example of the TNS framework that produced a wealth of tangible and intangible benefits. Ashforth Pacific has a total of 55 employees and provides third-party property management, construction, and parking management services to markets throughout the Western United States. The company currently manages over 15 million square feet of office space. By applying the four TNS Principles, Ashforth developed a variety of sustainability programs that focused on energy, water, waste, and toxic materials. Over a five-year period, Ashforth saved a total of \$654,000 by reducing energy consumption through adjustments to lighting, heating, and cooling systems throughout its building inventory. They saved over \$43,000 annually through several water conservation projects that included sustainable improvements to their landscape irrigation systems. They also instituted a variety of waste reduction programs, including increased emphasis on electronic communication, double-sided copying, use of recycled paper (\$15,000 annual savings), recycling of construction materials, and centralization of trash collection.

At the other end of the spectrum is Nike, Inc., with annual revenues of over \$18 billion and nearly 800,000 workers in contract factories spread across the world. Nike senior management, led by CEO Phil Knight, began adopting the principles of TNS in 1997. Nike has continued to infuse TNS principles into their product lifecycle, strategic decision process, and employee

culture for over ten years. By 2003, Nike manufacturing operations reduced their solvent use by 95 percent by instituting the use of alternative water-based cements, cleaners, and similar materials. The reduction in the use of hazardous chemicals not only improved worker safety, it significantly reduced the environmental impact of Nike manufacturing operations. The resulting annual cost savings on materials alone amounted to nearly \$4.5 million in 2003. In another example, Nike introduced improved machine technology for manufacturing its shoeboxes (which were already using recycled materials) in 2008 and realized not only a material savings of 4,000 tons per year, but an additional annual cost savings of \$1.6 million. Over the years Nike has increasingly woven the principles of sustainability into its product line and design philosophy, and earned rewards in the form of tangible cost savings and intangible social capital, market positioning, and competitive advantage.

These are just a few examples drawn from a much larger collection of case studies that span the entire spectrum of industries worldwide. They consistently demonstrate not only tangible cost benefits but a broad range of intangible benefits resulting from increased sustainability. The next section narrows this focus to a particular aspect of the enterprise, IT.