

Green Mission Primer

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Road Map for Organizational Change

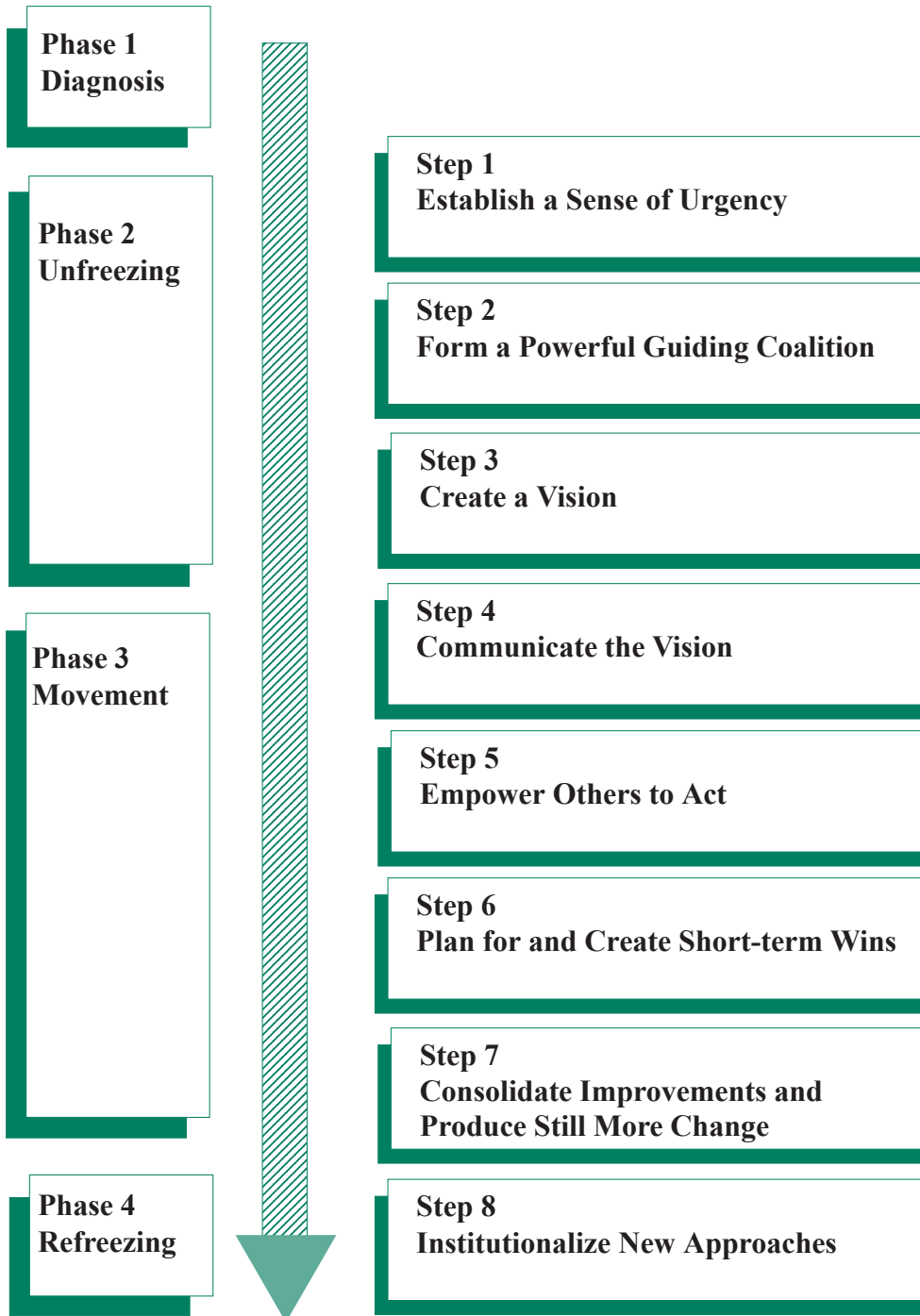


Figure 1

A Road Map for Organizational Change
Source: Hoffman, A. "The Importance of Organizational Change Management in Environmental Decision Making" *Better Environmental Decisions: Strategies for Governments, Businesses, and Communities*, eds. K. Sexton, A. Marcus, and T. Burkhardt (Washington, D.C.: Island Press, 1998).

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From the book **Biomimicry**

© 1997 Biomimicry: Innovation Inspired by Nature Janine M. Benyus, Author, Page 7

Nature runs on sunlight.
Nature uses only the energy it needs.
Nature fits form to function.
Nature recycles everything.
Nature rewards cooperation.
Nature banks on diversity.
Nature demands local expertise.
Nature curbs excesses from within.
Nature taps the power of limits.

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Whole Foods Market Mission Statement (from Website)

Whole Foods Market

Founded in 1980 as one small store in Austin, Texas, Whole Foods Market is now the world's largest retailer of natural and organic foods, with 143 stores in North America. To date Whole Foods Market remains uniquely mission driven: We're highly selective about what we sell, dedicated to stringent Quality Goals, and committed to sustainable agriculture.

We believe in a virtuous circle entwining the food chain, human beings and Mother Earth: each is reliant upon the others through a beautiful and delicate symbiosis.

Whole Foods

We obtain our products locally and from all over the world, often from small, uniquely dedicated food artisans. We strive to offer the highest quality, least processed, most flavorful and naturally preserved foods. Why? Because food in its purest state-unadulterated by artificial additives, sweeteners, colorings and preservatives-is the best tasting and most nutritious food available.

Whole People

We recruit the best people we can to become part of our team. We empower them to make their own decisions, creating a respectful workplace where people are treated fairly and are highly motivated to succeed. We look for people who are passionate about food. Our team members are also well-rounded human beings. They play a critical role in helping build the store into a profitable and beneficial part of its community.

Whole Planet

We believe companies, like individuals, must assume their share of responsibility as tenants of Planet Earth. On a global basis we actively support organic farming-the best method for promoting sustainable agriculture and protecting the environment and the farm workers. On a local basis, we are actively involved in our communities by supporting food banks, sponsoring neighborhood events, compensating our team members for community service work, and contributing at least five percent of total net profits to not-for-profit organizations.

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Facets of the Green Mission for a Supermarket

The Green Mission:

-Green Product Development (an outline): as each subsystem will need to think in terms of changing to a green analog product, whether it's in the building, or in the warehouse, or foodservice, etc.

-Sense of Urgency: the case for the Green Mission as a core business value — largely because it is economical — though the measurements (growth and profitability) are better in 7 to 10 years, than any one year by itself.

-Green Energy: all the “electrons” can be from a green source (solar, wind, biomass), certified green and promoted as such. -Green Buildings: includes design, materials and other “stuffness”, energy efficiency.

-Zero waste management:

- Recycling
- Reusing
- Reducing

-Composting: a specific recycling need in the supermarket industry, due to supply of compostables through your business.

-Training, Education, Marketing: yearning to be green through learning. Greening the audience, medium, and message.

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Green Product Development Issues

(Source: Martin Wolf, Giessen Wolf)

Exhibit 4.1 Green Product Development Issues

Raw Materials Acquisition and Processing

- ◆ Conservation of natural resources like water, land and air
- ◆ Protection of natural habitats and endangered species
- ◆ Waste minimization and pollution prevention, especially the use and release of toxins
- ◆ Transportation
- ◆ Use of renewable resources; sustainable use of resources
- ◆ Use of recycled materials
- ◆ Energy consumption

Manufacturing and Distribution Issues

- ◆ Minimal use of materials
- ◆ Toxic use/release
- ◆ By-product/waste generation and handling
- ◆ Energy consumption
- ◆ Water use
- ◆ Emissions to land, air and water

Product Use and Packaging Issues

- ◆ Energy efficiency
- ◆ Conservation of natural resources such as water required for the use of the product
- ◆ Consumer health and environmental safety

After Use/Disposal Issues

- ◆ Recyclability: ease of reuse, remanufacture, and repair
- ◆ Durability
- ◆ Biodegradability/compostability

The Science of Sustainability: The Natural Step

© 1999 The Natural Step for Business Brian Nattrass & Mary Altomare, Authors, Pages 56 & 57

The Natural Step (www.naturalstep.org)

IKEA, the large “home improvement” retailer based in Sweden, was an early adopter.

IKEA’s process utilizing these principles of sustainability:

Basic Scientific Principles

1. Matter and energy cannot be created or destroyed (according to the first law of thermodynamics and the principle of matter conservation).
2. Matter and energy tend to disperse (according to the second law of thermodynamics). This means that sooner or later matter that is introduced into society will be released into natural systems.
3. Material quality can be characterized by concentration and structure of matter. What we consume are qualities of matter and energy —the concentration, purity, and structure of matter, and the ability of energy to perform work. We never consume energy or matter because it is neither created or destroyed.
4. The net increase in material quality on Earth is produced by sun-driven processes. Photosynthesis is the only large-scale producer of material quality. (i.e. the Green Cell is the only physical source of economic value-added)

-Also the Earth is closed to matter, and open to solar energy. Solar energy creates the wind energy also. Along with the moon, the tidal energy also.

The Cyclic Principle

1. Waste must not systematically accumulate in nature (in nature, there is no waste; “waste” always = food for something else); and
2. The reconstitution of material quality must be at least as large as its dissipation (always work to reduce the rate of entropy) ...

IKEA as a Specific Example of using The Natural Step page 1

The IKEA example since 1990

Russel Johnson, head of quality, summarized the initiative as The Natural Step provided a compass, a means to orient:

-Train the trainers, train leadership.

-Train in four functional areas: product development (e.g. private label), purchasing (approved skus to follow TNS principles), distribution, and finally retail itself.

-"Top Down" strategy; over two years throughout the organization: train leadership first (e.g. this would include TMAG as part of leadership at retail), each member of the management team;

-Ecological principles are to be taken serious throughout the organization, and to that point, every team member was to be certified in the training, and any new leadership employee or trainer was to be certified before any other type of "leadership" training, other than job-specific training.

Karl-Olof Nilsson, IKEA Director of Environmental Affairs says that there are three components to understanding TNS and sustainability:

A) Four fundamental scientific principles underlying the four systems conditions:

1. Everything spreads
2. Nothing disappears
3. Concentration and structure give value
4. Green cells concentrate and give structure.

B) The 4 ecological systems conditions:

1. Cease using resources from the earth's crust
2. Stop using unnatural, persistent substances (e.g. "man-made" chemicals that build up in nature)
3. Allow space for nature and the natural cycle
4. Harmonize use of resources with natural regeneration (Balance the societal demands to meet all human needs).

Continued...

IKEA as a Specific Example of using The Natural Step page 2

C) 8 key concepts to translate the 4 Systems Conditions into possible actions or bases for decisions:

1. Renewable: Change over to renewable raw materials and energy sources (System Condition One)
2. Degradable: Use substances and materials that are easily broken down in nature and converted into new resources (System Condition 2)
3. Sortable: Construct products so that the constituent materials can be easily separated for recycling (System Condition 4)
4. Nature: Refrain from all necessary intrusions into nature and the ecocycle (System Condition 3) {e.g. build topsoil when farming, rather than depleting it}
5. Save: Always ask yourself whether you can avoid or cut back on your use of resources (System Condition 4)
6. Quality: Choose products with a long useful life, which can be repaired if they break (System Condition 4)
7. Efficiency: Plan use of materials, energy I technology, and transport to achieve maximum benefit for minimum expenditure of resources (System Condition 4)
8. Reuse: The greatest savings in our use of resources can be achieved by reusing them (System Condition 4):
 - 8a) Reusing products (i.e. using the same product several times)
 - 8b) Recycling materials (using used material as raw material for a new product)
 - 8c) Incinerating materials to release the energy content, such as using for heating purposes. This is only acceptable if the gases emitted are such that nature can deal with them. Dumping waste into landfill or pumping it into rivers, lakes, and seas is not an alternative in a sustainable society.

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**Industrial Scale Composting:
Community Recycling Example**

Community Recycling of Sun Valley, CA

Contact: Roger Vande Wende 818-767-6000

System designed from supermarket point-of-view: grocery guys put it together.

Largest ISC in US: 1200 stores collection and “growing”.

Unique process: using produce wax cardboard boxes to contain the compostable green wastes; good source of carbon; good source of bulk. Run piles at least 4 months.

Capture plastic, and recycle that separately.

Owns 2500 acres near compost facility, use compost there, grow corn and alfalfa for feed.

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Industrial Scale Composting: Keys to Community Recycling Business Model

Keys:

- * Product driven, therefore customer driven; chemical fertilizers are main competitors
- * Sell end product for \$10/ton FOB (8 years, same price)
- * Customers want less input, more natural soil amendments
- * (Could be OMRI listed for Organic certification)

Supermarkets

- * Steady source of tonnage
- * Need consistent service, e.g.
 - Once per day store p/u that goes back to the d/c compactor for daily p/u
 - Single store with compactor, then once per week
- * Produce: grind it soon, and get it bulked up
- * Average supermarket about one ton per day of waste (“trash”) before composting
- * Composting raises awareness through trash audits: this reduces waste, by reducing shrink, and other product that could go to a food bank, or be recycled (cardboard).
- * “Quit buying things to throwaway!
- * After compost program, range is from 30% of “waste” is compostables to 50% (Whole Foods)
- * “Trash” becomes about 20% of original tonnage

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Industrial Scale Composting: Process
Norcal Waste, Vacaville CA



1st - All Food and Paper waste are dumped into blue containers at the participating business.



2nd - All Food, Paper & waxed cardboard are emptied from blue containers into a large gray dumpster.



3rd - Food and Paper waste are mixed with yard trimmings (green waste) at our Composting Facility.



4th - This material is bagged like sausage, "cooked" for 3 months, and then large items are screened out.



5th - This finished compost, once your food scraps, is used by gardeners to grow more food and flowers.



6th - The rich compost is used like fertilizer to help gardens grow bigger and better.

Brought to you by: Golden Gate Disposal & Recycling Company ~ (415) 626-4000