



# P2 Bulletin

the newsletter of the New York State Pollution Prevention Institute (NYSP21)

# Special Edition!

## A P2 Bulletin Special Edition: The Sustainable Supply Chain

A “supply chain,” as procurement professionals know, is the movement of a product or service from a supplier to a customer. Sounds pretty simple...but is it?

“Sustainability,” as originally defined, is the *capacity to endure*. This is never simple. From a business perspective, in order to endure, a business needs to be profitable. To be profitable, you need to use resources that will not become depleted. In order to process those resources, you need a community. In combination, as *environmental* professionals know, this is often referred to as “People, Planet, Profit” or the 3 pillars of *Sustainability*.

Bringing procurement professionals and environmental professionals together, to help move a product or service from a supplier to a customer, will allow a company to be profitable, use few and renewable resources, and support a community of healthy, prosperous workers and neighbors. Well...easier said than done.

When we think “supply chain,” many of us think of Wal-Mart which has about 60,000 suppliers. IBM’s network is made up of about 28,000 suppliers spread across 90 countries. Unilever, the company known for brands like Dove soap, Lipton tea, and Ben & Jerry’s, may have the largest supply network, with over 160,000 companies providing it with goods and services. These are not “*simple* supply chains.” The suppliers to these companies are using a lot of resources, *natural resources*, to create the pieces, parts, or ingredients that go into all of these goods. A lot of labor, possibly cheap labor, or even *slave labor*, is being used around the globe.

How do we know if these resources are being depleted? How do we know if the people working to create the goods that we want are being treated fairly and ethically? How do we know if the people who are gathering these resources are corrupt or are at war over the goods that are being mined from the earth? How do we know the status of a company’s natural capital? Creating a Sustainable Supply Chain will help address these questions. Each company has a responsibility.



### NYSP21’s Sustainable Supply Chain Program

#### **This Special Edition highlights:**

- ◆ *Working Sustainability into the Supply Chain —Improving the Environment and Creating Jobs*
- ◆ *NY State’s Green Procurement Program*
- ◆ *NYSP21’s Sustainable Supply Chain Program*
- ◆ *Case Studies from:*
  - *Mooseberry Soap Co.*
  - *Ecovative*
  - *Ecologic Solutions*

# ***NYSP2I's Sustainable Supply Chain Program Assists Manufacturers to Become More Sustainable Suppliers***

*The Sustainable Supply Chain Program at NYSP2I provides NYS manufacturers with information regarding green supply chain opportunities as well as assistance with relevant environmental non-regulatory standards and certifications and sustainability metrics reporting. One of the goals of the program is to enable NYS businesses to enter new green markets. **Companies such as Wal-Mart, IBM and PepsiCo, and government purchasers, including NYS, have adopted Sustainable Supplier Codes of Conduct and environmentally preferable purchasing policies, where sustainable suppliers are actively sought.** (For NYS purchasing, see pages 4-5 "Businesses: What You Need to Know About New York State Green Procurement.") Suppliers who are able to provide sustainability metrics have an advantage in competing in the green marketplace. NYSP2I offers NYS companies an assessment of their current manufacturing processes and identifies steps necessary to meet and exceed sustainability requirements.*

## **Supply Chains Can Become More Sustainable**

### **What is a "Sustainable Supply Chain"?**

The United Nations Global Compact defines **supply chain sustainability** as, "the management of environmental, social and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services.

The objective of supply chain sustainability is to create, protect and grow long-term environmental, social and economic value for all stakeholders involved in bringing products and services to market."<sup>1</sup>

### **Why is a Sustainable Supply Chain important?**

Sustainability has three commonly accepted pillars — Environmental, Social and Economic, also known as: People, Planet, and Profit. "Sustainability" cannot exist if any one of these pillars is missing.

A sustainable supply chain ensures compliance with laws and regulations, adheres to and supports international principles for sustainable business conduct, and improves social, economic and environmental impacts. Having a sustainable supply chain means acting in the company's own interests, the interests of their stakeholders and the interests of society at large.<sup>2</sup>

### **What are the business benefits of a Sustainable Supply Chain?**

The benefits of supply chain sustainability are often highlighted as reduced carbon footprint, reduced energy, and reduced resource consumption. However, there are many more benefits to a sustainable supply chain. Additional considerations include:

- Corporate customers are requiring suppliers to adhere to sustainable practices in order to continue to conduct business together. Recent research from the Carbon Trust, a non-profit organization, shows that 56% of multinational companies plan to drop suppliers based on low carbon performance.<sup>3</sup>
- Improved bottom line financial results. Examples from leading companies show that good supply chain management can increase shareholder value.<sup>4</sup>
- "Consumers and Wall Street recognize the importance of green practices and sustainability — which can drive increased sales and share valuation."<sup>5</sup> A recent Mercer study stated the best way for financial investors to manage portfolio risk associated with climate

<sup>1</sup> [http://unglobalcompact.org/docs/issues\\_doc/supply\\_chain/SupplyChainRep\\_spread.pdf](http://unglobalcompact.org/docs/issues_doc/supply_chain/SupplyChainRep_spread.pdf)

<sup>2</sup> [http://unglobalcompact.org/docs/issues\\_doc/supply\\_chain/SupplyChainRep\\_spread.pdf](http://unglobalcompact.org/docs/issues_doc/supply_chain/SupplyChainRep_spread.pdf)

<sup>3</sup> <http://www.environmentalleader.com/2011/09/26/half-of-multinationals-to-choose-suppliers-based-on-co2-emissions/>

<sup>4</sup> [http://www.unglobalcompact.org/issues/supply\\_chain/index.html](http://www.unglobalcompact.org/issues/supply_chain/index.html)

<sup>5</sup> <http://www.sustainable-scf.org/>

change may be to shift 40% of their portfolios into climate sensitive assets with an emphasis on those that can adapt to a low-carbon environment.

- Tax and investment incentives from the U.S. government and other countries are being provided to companies with sustainable practices.
- Companies who can successfully identify and implement sustainable supply chain practices experience an increase in positive public relations and goodwill.

### ***Why be part of a supply chain that is environmentally sustainable?***

The environmental impacts from supply chains include: high energy use, abundant greenhouse gas emissions, hazardous wastes and air emissions, water consumption and wastewater generation. Planetary impacts from using natural resources in supply chains can create deforestation, loss of biodiversity and permanent damage to ecosystems. In today's global economy, the effects of doing business can have devastating results if corporations are unaware of the activities of their suppliers, especially in regions of the world where environmental regulations are minimal or unenforced and natural resources are taken for granted.

Business benefits of an environmentally sustainable supply chain include: providing more value to customers, growing customer base, cutting costs, improving productivity, differentiating products, and gaining recognition as an industrial leader.

### ***How do you determine if you are environmentally sustainable as a manufacturer?***

A company can determine how environmentally sustainable they are by measuring the impacts they have on the environment due to their operations and purchasing choices.

By utilizing a Lean Manufacturing or Six Sigma approach, the steps of "DMAIC" (Define, Measure, Analyze, Improve, Control) can be used to assess and improve environmental performance as a Sustainability Management Cycle. The Sustainability Management Cycle process, as used by NYSP2I, can be implemented by any company hoping to make their own operations more sustainable, enabling improved responses to customer scorecards, and generating a periodic sustainability report for stakeholders.

## ***Managing Environmental Impacts in the Supply Chain***

As an organization, it is important to have a plan when considering the utilization of energy, water or materials, and to identify areas of continuous improvement. A successful plan is dependent upon a collective understanding throughout the organization of the company's environmental management objectives. A strong strategic plan based on the most impactful changes and a clear environmental policy will help the organization reach its environmental and associated financial goals. It is important to have measurable targets and several indicators to help evaluate progress toward goal completion.

**Areas of impact to consider include efficient utilization of raw materials, energy use, water use and wastewater generation, material waste, toxics/hazardous waste and air emissions including greenhouse gas emissions.**

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## Businesses: What You Need to Know About New York State Green Procurement

Green procurement is the purchase of environmentally friendly products and services, the selection of “green” contractors and the setting of environmental requirements in specifications and contracts.

### WHAT IS EXECUTIVE ORDER 4?

Established in April 2008, Executive Order 4 (EO-4) creates a New York State Green Procurement and Agency Sustainability Program, which is jointly administered by the New York State Office of General Services and the Department of Environmental Conservation. EO-4 directs state agencies, public authorities and public benefit corporations to green their procurements and to implement sustainability initiatives.

Green procurement is guided through the use of EO-4 specifications. These specifications set forth environmentally friendly criteria that New York State will use to guide the purchase of products and services.

### Is your business currently a NYS vendor? Are you planning to sell to the state in the future?

If you answered yes, it is critical that you review the EO-4 green procurement specifications to:

- Become aware of the green criteria that NYS desires in its products and services
- Ensure that your products and services are compliant with these specifications

*Business input is valued as EO-4 specifications are developed. Get involved in the development of EO-4 specifications by visiting us on the web at:*

*<http://ogs.ny.gov/EO/4/Default.asp>*

### Does your business want to develop its own green procurement program?

If you answered yes, please consider using our EO-4 specifications to guide your procurement. The EO-4 specifications are:

- Available for use and can be downloaded at: <http://ogs.ny.gov/EO/4/ApprovedSpecs.asp>
- Developed by NYS experts and undergo a rigorous stakeholder review process prior to adoption

## EO-4 SPECIFICATIONS

### Finalized Specifications

#### Office and Building Operations

- Compact Fluorescent Lamps
- Drinking Fountains
- Hand Soap/Cleaner
- Industrial/Institutional Cleaning Products
- Ink
- Outdoor Furniture and Playground Structures
- Pest Management
- Printing
- Recycling Services
- Turf and Ornamental Management
- Vacuum Cleaners

#### Food Service

- Single-Use Food Containers
- Single-Use Food Service Utensils

#### Transportation

- Engine Block Heaters
- Hydraulic Oil
- Motor Oil
- Passenger Vehicles
- Pavement Marking Paint
- Traffic Message Boards
- Traffic Safety Products
- Treated Road Salt

### Electronics/Appliances

- Commercial Dishwashers
- Commercial Clothes Washers
- Desktop and Laptop Computers
- Domestic Clothes Washers
- Domestic Dishwashers
- Domestic Refrigerators
- Room Air Conditioners

### Tentatively Approved Specifications (pending a public comment period)

- Toilets
- Acoustic Ceilings
- Carpeting
- Composting Toilets
- Electric Hand Dryers
- Motion-Sensitive Light Sensors
- Photovoltaic Systems

### Sample of Specifications Currently Being Developed

- Office Furniture
- Solar Thermal Panels
- High-End Publications
- Food
- Low-Flow Fixtures

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*Your use of EO-4 specifications will help reduce the cost of green products and services by building a strong market for them.*

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A copy of the final and tentatively approved specifications can be obtained at:

<http://ogs.ny.gov/EO/4/ApprovedSpecs.asp>

Prepared by NYS Department of  
Environmental Conservation



## ***NYSP2I Assisting Companies to Expand their Customer Base***

*NYSP2I's SSC Program assists a wide range of NYS industries – from food processors to chemical manufacturers to packaging producers and more. NYSP2I has assisted companies like Harbec Plastics, Baldwin Richardson Foods, M.C.M. Stone, Mooseberry Soap, Ecologic Solutions and Ecovative. Assistance has included assessments for customer scorecard response, sustainable product differentiation, and identifying means for acquiring a certification, eco-label or standard conformance.*

### **Support for “Contains Organic Ingredients” Certification**

The SSC team completed a project with Mooseberry Soap Co. LLC, to determine if their products could be designated as organic. Mooseberry is a producer of various personal care products made from natural and organic ingredients, with no preservatives, no petroleum products and no FD&C colorants or dyes.

NYSP2I determined which products have the potential for meeting the requirements for the NSF/ANSI 305-2012 Personal Care Products Containing Organic Ingredients. This new standard defines manufacturing, labeling and marketing requirements for personal care products that contain organic ingredients. Through a review of ingredient and supplier documentation, NYSP2I identified five soaps that meet the



criteria and then compared Mooseberry's current production practices against the requirements of the standard to identify gaps. NYSP2I provided guidance to Mooseberry for the creation of an Organic System Plan (OSP) to close the identified gaps. Once acquired, this certification will position Mooseberry to compete more effectively on a local and national level with other certified organic wholesale soap companies throughout the U.S. **Should Mooseberry become certified, they anticipate an estimated 15% increase in sales and a 40% increase in job growth.**

### **Testing Support for “Biodegradable Products Institute” Certification**

Ecovative has developed environmentally responsible alternatives to traditional foam packaging, insulation, and other plastic-based materials. EcoCradle® Mushroom® Packaging is made from agricultural byproducts and mycelium, or mushroom “roots”.

In order to gain key global customers, Ecovative needed to verify that their products were biodegradable and compostable in an industrial composting facility. NYSP2I managed the testing of Ecovative's materials with a certified lab to achieve successful results for acceptance by



the Biodegradable Products Institute (BPI). NYSP2I also developed a disintegration test platform design and test plan, to enable Ecovative to further develop products that can meet biodegradable requirements. Products with the BPI label can be identified as compostable and a sustainable product alternative for consumers. Obtaining the biodegradable product designation will facilitate market expansion and company growth for Ecovative. **Ecovative anticipates an estimated 20% increase in sales and up to a 20% increase in the number of customers due to the outcome of the project.**

*“The NYSP2I Sustainable Supply Chain Program was instrumental in assisting Ecovative to achieve Biodegradable Products Institute (BPI) certification. Ecovative uses fungal mycelium (mushroom “roots”) to bond together locally sourced agricultural byproducts into materials called Myco Foam for use as packaging, insulation and more. NYSP2I researched and managed the testing of Ecovative’s Mushroom Packaging parts to achieve BPI certification which is critical for meeting customer expectations for using a biodegradable package and reducing the environmental impacts of product end-of-use. Additionally, an apparatus and work plan was devised that enables faster future research and testing for compostability claims. These clear and quantified claims allow Ecovative to expand its market opportunities and potentially increase sales by 20%, leading to adding 2 employees.”*

— Gavin McIntyre,  
Co-Founder, Chief Scientist, Ecovative

## Hazard Assessment Framework Development to Support Differentiation

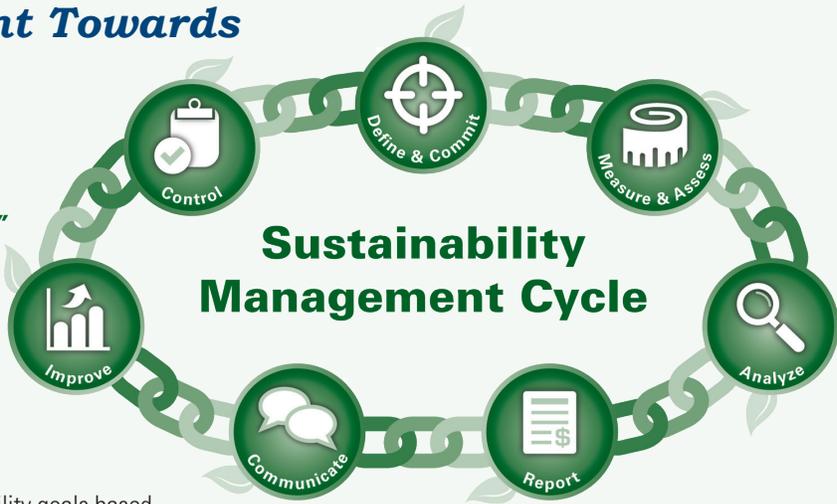
NYSP21 assisted Ecologic Solutions, Inc., with developing a hazard assessment tool to differentiate their products. Ecologic Solutions is a manufacturer of non-toxic and certified environmentally friendly commercial cleaning solutions that wanted to highlight the environmental and health benefits of their cleaners for the food retail industry through a web-based comparison tool.



NYSP21's SSC team developed a hazard assessment framework that enabled the review of human health and environmental impacts of the ingredients in the sanitizer produced by Ecologic versus those of traditional disinfectants. The web-based application allows potential customers to compare products and make more informed purchasing decisions when looking for a commercial cleaner. This helps differentiate Ecologic as an environmentally preferable supplier. The anticipated result of this project is to **enable market growth for Ecologic Solutions with an estimated 15% increase in the number of customers and the creation of six new jobs.**

## Continuous Improvement Towards Sustainability in the Supply Chain

*The Sustainability Management Cycle uses a Lean Manufacturing or Six Sigma "DMAIC" process as a framework. The DMAIC process results in continuous improvement towards sustainability.*



*The steps in the process are:*

**Define & Commit** — Define the company's sustainability goals based on generally accepted sustainability guidance, with a focus on industry-level initiatives. Consideration may be given to responding to customers' sustainability requests or scorecards, developing a supplier requirements program, or pursuing an eco-label or certification.

**Measure & Assess** — Measure the company's environmental performance in one or several areas of impact. First, a baseline needs to be established, then performance is measured at defined periods of time. Areas of impact may include: energy consumption, water use, air emissions, waste generation, chemical use, and procured goods.

**Analyze** — Analyze critical areas or activities at the company having the greatest environmental impact, prioritize the critical areas, to then identify improvement opportunities for those areas.

**Report** — Report to stakeholders, customers and the public in the form of a "sustainability report" once a company has defined their goals, measured performance, and analyzed areas for improvement.

**Improve** — Improve the company's environmental impacts, reduce risk both internally and through suppliers, and become more sustainable by implementing the improvement opportunities identified in the Analyze stage.

**Control** — Control the company's impacts through monitoring, training and process documentation.

## Upcoming Sustainable Supply Chain Event

### GREENSCREEN INTRODUCTORY TRAINING: AN OPPORTUNITY TO SELECT SAFER CHEMICALS



*Learn how companies (like Hewlett Packard, Staples, Wal-Mart, Oatley), certification systems such as LEED, and governments (California, Washington, the European Union & the EPA) are using the GreenScreen to innovate towards safer chemicals and create market efficiency in global supply chains. Case studies will include use of the GreenScreen in advanced manufacturing as well as nanomaterials in clean energy technologies.*

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**To learn how NYSP2I SSC Program can assist your company, please contact**

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