



BY-PRODUCT SYNERGY NW

Turning Waste into Profit

Information:
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www.pprc.org/synergy/

CHARTER COMPANIES

Boise Cascade
 Cook Composites and Polymers
 Genie Industries
 LaFarge Cement
 Seattle Public Utilities
 Shell Puget Sound Refinery
 ShoreBank Pacific
MORE TBA

FOUNDING ORGANIZATIONS

Pollution Prevention Resource Center
 Network for Business Innovation & Sustainability
 Local Hazardous Waste Management Program - King County IMEX
 Washington State Department of Ecology
 EPA Region 10
 Pacific Northwest National Laboratories
 ENSR

MENTOR ORGANIZATION

US Business Council for Sustainable Development

ENDORSEMENTS

City of Seattle
 Susan Shannon, Office of Economic Development

Puget Sound Regional Council: Executive Director Bob Drewel; Prosperity Partnership

Enterprise Seattle

Washington Clean Technology Alliance

Endorsements Invited:

City of Seattle: Mayor Greg Nickels; Seattle Climate Partners; Office of Environment & Sustainability; Seattle Public Utilities

King County: King County Executive Ron Sims; Office of Business Relations & Economic Development

Others TBA

BY-PRODUCT SYNERGY NW – Turning Waste into Profit

By-Product Synergy Northwest is forming to help Washington companies increase the amount of their output that is actually profitable and reduce their environmental impacts. Through a process developed by the U.S. Business Council for Sustainable Development, the network of Northwest companies will work together to identify and implement “synergies” that will allow one company’s waste to become another company’s resource. A launch event was held on June 28th at Seattle City Hall with attendance by some 70 companies and organizations from a diverse range of business sectors. Since then, charter members have joined and initial synergy opportunities are being explored.

The basis for by-product synergy is found in natural ecosystems where there is no waste -- everything is reused. In business terms, that equals 100 percent product, not zero waste. Synergies exist among companies, but businesses don’t often know about them because they are insulated within their own industry or business. By-product synergy is a creative, proactive process that works through active participation of the companies involved. What makes it worthwhile is that a synergy once implemented often results in an impressive return on a company’s investment.

NORTHWEST OPPORTUNITIES: CHANGING THE WAY COMPANIES THINK ABOUT BUSINESS

By-product synergy encourages companies to look beyond their traditional physical and sector boundaries in the pursuit of creating an environmentally sustainable economy. A preliminary inventory of materials – both needed and available for reuse here in the Northwest – includes chemicals, metals, plastics, demolition materials and biological and food products. In addition to the companies named as charter members, other industries being pursued include health care, biodiesel/renewable energy, agriculture, construction, education, electronics and other engineering and manufacturing sectors.

The project supports a variety of important goals for the region and for industry including:

- Reduced resource use – energy, water, petroleum, natural resources
- Reduced carbon emissions resulting from the reuse of existing materials rather than use of new materials with a carbon laden extraction/production stream; additional reductions from sourcing locally rather than importing resources and materials from other regions.
- Reduced waste to landfill and reduced processing and disposal costs of hazardous materials
- Innovations in manufacturing discovered and developed for efficiency & productivity
- Opportunities to address regulation issues and reduce barriers to materials exchange processes

ADDITIONAL BENEFITS: ENHANCED REGIONAL AND NATIONAL LEADERSHIP IN SUSTAINABILITY

- Ability to grow a core competency that is required by all businesses in the future
- Innovative economic development platform
 - New industry opportunities discovered – new businesses and job creation
 - Potential industry attraction for clustering around synergistic opportunities

KEYS TO SUCCESS & NEXT STEPS:

Endorsements	Obtain endorsements from key city, county and multi-county leaders and organizations.	October & November Letters of endorsement Highlight in Newsletters & Websites
Strategic Plan	Review project budget and strategic Project goals & timeline	Early November
Funding	City/County/State Funding pilot year Grants, Sponsorships/Scholarships	November – December & 2008 Funding for pilot year
Company Participants	1. Charter Companies - 15 2. First Round Synergy Group -25	1. Confirmed by November 15 – begin data gathering 2. Confirmed December & January
Launch	Convene By-Product Synergy Companies	January '08



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ADDITIONAL BACKGROUND INFORMATION – By-Product Synergy and US Business Council for Sustainable Development:

Current By-Product Synergy Projects affiliated with US Business Council for Sustainable Development:

- **Chicago Waste to Profit Network** : A project led by the US BCSD, Chicago Manufacturing Center and the city of Chicago
- **National Industrial Symbiosis Program (NISP)**: a program implemented on a national scale in the United Kingdom, based on the US BCSD BPS program
- **Regional BPS Projects**: BPS projects are at various stages of development in Connecticut-Massachusetts, Milwaukee, Southeast Michigan, **Washington State Puget Sound** and SF Bay Area.

Results & Impacts:

Chicago Waste to Profit Network - Under the leadership of **Mayor Richard M. Daley**, the Chicago Waste to Profit Network has been developed to benefit Chicago-area businesses through a multi-industry collaborative approach to identify and realize opportunities for cost savings and innovation. The Waste to Profit Network was launched by Mayor Daley on October 31, 2006 at the Chicago Cultural Center with over 50 leading Chicago companies in attendance. The initial pilot program, which runs through December 2007, is funded by the City of Chicago, US EPA Great Cities Program, the Illinois Department of Commerce and Economic Opportunity through its Recycling Expansion and Modernization Program, and the National Institute of Standards and Technology's Manufacturing Extension Partnership. They created the **Innovation Network** through which companies commit to closely collaborate for one year or more to transform the wastes of one company into the input of another company. The Network has 27 company members. More recently, a Community Network has been announced.

Benchmarking Goals - Chicago

Original Goal for Membership: 10/20 Companies

Actual Number of Members: 28 Companies, 7 City Departments

Original Goal for Synergy Identification: 10 Synergies Identified

Actual Number of synergies Identified: 104

Original Goal for Synergies Implemented: 3 by 2008

Actual Number of Synergies being implemented (May 07): 51

Goal for Jobs Created: 30

Actual Potential for Jobs Created: Unknown, but several companies are considering investing in entire new facilities to manage synergy opportunities; which has great job creation potential.

National Industrial Symbiosis Program *“NISP is a free business opportunity program that delivers bottom line, environmental and social benefits and is the first industrial symbiosis initiative in the world to be launched on a national scale.”* NISP reports that over two years, its innovative approach has had the following results:

- Diverted more than 2.2 million tons of business waste from landfill
- Eliminated 311,000 tons of hazardous waste
- Saved 4.8 million tons of virgin material
- Saved 2.5 million tons of potable water
- Created 490 new jobs and safeguarded 768 jobs
- Attracted £68 million in new investment
- Reduced carbon emissions by 2.1 million tons
- Generated £104 million in new sales for members
- Saved members £81 million
- Nearly 8000 companies are participating

Numerous case studies and examples of successful synergies are available at www.nisp.org.uk/case_study_index.aspx

Additional information about US Business Council for Sustainable Development is at www.usbcsc.org



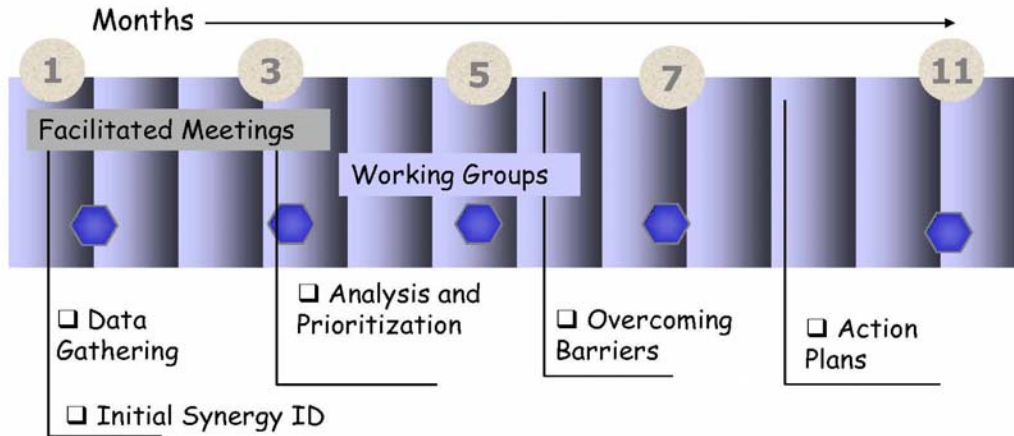
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United States Business Council for Sustainable Development

The By-Product Synergy Process



2007/7/5

www.usbesd.org

15

See attached Participation Agreement and Statement of Work for more information on the steps of the process.

HOW TO JOIN:

Charter Members are being enrolled through November 15th. Additional members will be enrolled through early January 2008. The first convening meeting of the Synergy group will be held in January. Once a company’s member commitment form and payment is received, the data gathering process will begin in preparation for the Launch meeting in January. Early response is encouraged. A commitment form and scope of work document are attached. Frequently asked questions and answers are appended below.

Cost: Companies with 500 employees or more pay a subscription fee of \$5000 per year. Smaller companies pay \$2500 per year. By-Product Synergy NW is pursuing funding to help offset the cost of participation for smaller companies. King County is offering a voucher to qualifying companies to defray part of the participation fee. Please contact Larry Brown at King County IMEX (206)263-8432 about this \$500 voucher for small businesses. Washington State Department of Ecology is also developing a grant program that can be used to cover a portion of the participation fee. Other opportunities will be announced as soon as they are available. To express interest in receiving assistance for your company’s participation, please contact Debra Taevs, program manager.

DELIVERABLES:

- *Meeting Minutes* – The Project Team will prepare and distribute summary minutes for all BPSNW meetings
- *Potential Synergy Report* – The Project Manager and Technical Leaders will prepare the Potential Synergy Report after evaluation of Data Templates.
- *Synergy Implementation Report* – The Project Manager and Technical Leaders will produce an Initial Synergy Implementation Report summarizing synergies chosen for implementation.
- *Year-End Report* – Prepare a year-end report detailing the project status.



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BY-PRODUCT SYNERGY NW -- WHO WE ARE:

Pollution Prevention Resource Center (PPRC): *project management, member and endorsement development, marketing and PR, fund development*

Washington State Department of Ecology – *project oversight, funding and technical support, interface with government entities*

Network for Business Innovation & Sustainability (NBIS): *member & endorsement development, marketing & PR support; sustainable business linkages and resources*

Local Hazardous Waste Management Program in King County (IMEX Project)– *linkages, outreach, technical support, vouchers for small businesses*

Pacific Northwest National Laboratory – *strategic and technical support, outreach*

EPA Region 10 – *funding, linkage to other government entities and programs*

ENSR - *strategic and technical support, outreach*

US Business Council for Sustainable Development – *project advisor*

FREQUENTLY ASKED QUESTIONS

Q. How is By-Product Synergy different from a waste exchange?

A. BPS is active, while a waste exchange is passive. Additionally, BPS is a process, whereas materials exchanges tend to be static tools. With a waste exchange, you need to know exactly what material you are looking for at the outset. Also, in a waste exchange you have to take what you can get. The material available may not meet the specs required for your process, the material may not be available in the quantity you need, or the future supply of a material may be uncertain. BPS can overcome all these barriers to using by-products as inputs. For one, you may discover synergies between your materials and those of other companies that you would never have thought of outside of the program. The BPS project may also identify process changes that will allow certain synergies to occur that otherwise would not be feasible. Also, all synergies that are implemented in the BPS project are implemented as business agreements between the interested parties, and therefore incorporate quality and supply issues, mitigating those risks. Experience has shown that it is not usually sufficient to simply identify opportunities in an impersonal format; there are usually barriers to be overcome before results can be achieved. BPS provides the process for communication and resources to overcome some of these barriers.

Q. How can our company benefit from BPS since we are already very efficient?

A. Many of the companies that have benefited from our BPS projects were already leaders in efficiency, and often have benefited to a greater extent than less efficient companies. You may have exhausted the efficiency gains you can achieve within your own operations, however, BPS gives you access to new markets in which to find profitable homes for your by-products or less expensive raw materials. BPS also expands the search for synergies beyond materials to include items like transportation, space, logistics, and other resources. Investigating synergy opportunities with other industries can provide a new way to improve your facility's efficiency. Some of the most profitable synergies have been discovered between very diverse industries. In today's corporate environment, downsizing trends tend to preclude interaction among diverse industries unless they are in the supply chain. BPS creates and fosters this link to diverse industries.

Q. How do we know that other companies won't learn our trade secrets?

A. All participants in the BPS project sign a participation agreement, which includes a confidentiality clause. All data collected in the material synergy database is treated as confidential, and participants choose what data they wish to report. In addition, participants have complete control of what they discuss about their company's products and processes in the working meetings.



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Q. We tried something like this and it didn't work. Why would your program work if we couldn't do it on our own?

A. There are three keys to this program's success, and why it can provide you with new opportunities. The first is diversity. The companies we bring together in these projects represent a wide variety of industries, broadening the markets in which our participants find business opportunities. The second is communication. Our project provides a forum in which participants are comfortable sharing ideas, and stimulates creative thinking to look beyond their company fence-line for opportunities. The third is partnerships. By-product synergy leverages relationships with technical consultants, regulatory agencies, research organizations, and funding sources to assist participants in overcoming barriers to implementing the synergies they identify. Participating in the project also exposes you to opportunities for synergies with companies in other BPS projects.

Q. How much time will be required of my staff?

A. A representative of your staff will need to attend three project working meetings, which occur every four to six weeks during the first stage of the project. They will participate in task groups that form around company-relevant synergy opportunities. And they will need to coordinate the data collection effort for your company, the bulk of which can be delegated to a junior engineer.

Q. We have another facility in the area—can they join, too?

A. You may include as many facilities as you wish in the project, all for the same subscription fee. However, we will only visit one facility per organization, and one representative of the entire organization should be designated as the main participant in the working meetings. You will want to weigh the monetary investment of having each facility join separately versus the investment in staff time to coordinate data collection and participation of all your facilities under one subscription fee.

Q. Will joining the project guarantee that my company will find a synergy?

A. We cannot guarantee you will find a synergy. However, between our material synergy database and the facilitated brainstorming sessions with all the participants, we attempt to identify all the possible synergies that can be created. We also leverage all of our technical, regulatory, and financial partner relationships to maximize the potential for identified synergies to be implemented.

Many of our past participants have stated that monetary benefits from implemented synergies were not the only reasons they joined the BPS project. For many, the opportunity to network with sustainability-oriented business leaders, the introduction to new markets in which they may find business opportunities and being provided a tool for implementing sustainable development within their organization were as valuable benefits as financial gains.

Q. What is the cost to participate?

A. By-Product Synergy is partially supported by government funding and partially supported by the companies who reap the benefits. A large company of 500 employees or more will pay a subscription fee of \$5000 per year. Smaller companies pay \$2500 per year. As a member you will be part of a confidential network in which you may reap substantial benefits beyond the subscription fee.

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