



ELEMENTS

**KANSAS CITY REGIONAL
BY-PRODUCT SYNERGY INITIATIVE
FEASIBILITY STUDY**

EXECUTIVE SUMMARY

Prepared for:
Mid-America Regional Council
Solid Waste Management District

Prepared by:
Andrew Mangan, Robert Berkebile, Jason F. McLennan, Phaedra Svec, William E. Franklin,
Beverly J. Sauer, Shelly H. Schneider, Robert Mann and Otavio Silva
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CONTRIBUTORS:

Andrew Mangan
(512) 328-8795
mangan@as-llc.com

US Business Council for Sustainable Development
1906 Apricot Glen
Austin, TX 78746
(512) 328-8795 (512) 328-7410 fax

Robert Berkebile, FAIA
(816) 783-1633
bberkebile@bnim.com

The Elements Division of
Berkebile Nelson Immenschuh McDowell Architects
106 West 14th St.
Kansas City, MO 64105
(816) 783-1500 (816) 783-1501 fax
www.bnim.com
elements.bnim.com

Jason F. McLennan
(816) 783-1601
jmclennan@bnim.com

Phaedra Svec, AIA
(816) 783-1630
psvec@bnim.com

William E. Franklin
(913) 649-2225 x 232
wfranklin@fal.com

Franklin Associates a Division of ERG
4121 West 83rd St. Suite 108
Prairie Village, KS 66208
(913) 649-2225 (913) 649-6494 fax
www.fal.com

Shelly H. Schneider
(913) 649-2225 x 224
sschneider@fal.com

Beverly J. Sauer
(913) 649-2225 x 228
bsauer@fal.com

Robert Mann
(816) 561-1061 x 108
rjm@bridgingthegap.org

Bridging The Gap
435 Westport Rd.
PO Box 10220
Kansas City, MO 64171
(816) 561-1087 (816) 561-1091 fax
www.bridgingthegap.org
www.environ-excellence.org

Otavio Silva
(816) 561-1061 x 111
otavio@bridgingthegap.org

SPONSORS:

MARC Solid Waste Management District
600 Broadway, Suite 300
Kansas City, MO 64105
(816) 474-4240 (816) 421-7758 fax
www.marc.org/environment

Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
(573) 751-5401 (573) 526-3902 fax
www.dnr.state.mo.us

EXECUTIVE SUMMARY

Background

In December 2002, the Mid-America Regional Council Solid Waste Management District (MARC SWMD) contracted with the Elements Division of BNIM Architects to undertake a six-month feasibility study of a By-Product Synergy (BPS) project in the Kansas City region. Interest in a Kansas City Regional BPS Initiative was first generated when Andrew Mangan, an originator of the BPS process, made a presentation to the Environmental Excellence Business Network (EEBN) of Kansas City in July 2002. To complete the feasibility study, a team was formed consisting of Andrew Mangan, the Elements Division of BNIM Architects, Bridging The Gap (BTG), and Franklin Associates.

The purpose of the feasibility study was to determine whether there is sufficient interest in the Kansas City region to embark on a By-Product Synergy Project. A BPS Project requires commitment, participation, communication, and information exchange from 10-20 diverse organizations over a yearlong process. The process enables the participants to discover possible synergies in material exchange and then to determine the feasibility of implementing those synergies. Although possible connections and synergies that may emerge during the process remain unknown in the feasibility stage, it is possible to determine in advance whether there is an appropriately diverse group of organizations that may be willing to participate in a BPS Project.

According to the Feasibility Study Contract and Scope of Work, the project team was to:

- Assess and recommend appropriate methodology for project implementation
- Determine the optimum geographic breadth for project implementation
- Engage select leaders in the community to determine potential project support
- Facilitate dialogue among project sponsors and potential participants on the merits of such a project, and
- Design a plan of action if project results indicated feasibility.

The effort was designed to provide the project sponsor with sufficient information to determine whether to support implementation of a Kansas City Regional By-Product Synergy Project and if determined to be feasible, design a plan of action.¹

Scope of Work

The following task structure from the Scope of Work forms the structure of section 2.0 of this report:

- 2.1 Finalize Scope and Charter Team
- 2.2 Assess Methodology
- 2.3 Determine Geographic Breadth
- 2.4 Educate & Engage Select Kansas City Leadership
- 2.5 Facilitate Dialogue Among Sponsors & Potential Participants
- 2.6 Deliver Recommendations for Implementation
- 2.7 Project Management

Summary of Tasks

Task 2.1 Finalize scope and charter team

The project scope of work was formalized in the contract. The project team, made up of the four participating groups, was engaged. The team roles were established and are outlined in the report.

¹ Kansas City Regional By-Product Synergy Feasibility Study Scope of Work, December 2002.

An Advisory Committee of private and public sector representatives was formed at the beginning of the project. These representatives were a part of an existing byproduct synergy workgroup established after the July 2002 presentation made by Andrew Mangan. The project team communicated with the Advisory Committee in three facilitated dialogue sessions and through the distribution of minutes from those sessions. **Task 2.2 Assess**

methodology

The project team reviewed and customized the methodologies used by Andrew Mangan in previous By-Product Synergy Projects for the Kansas City Region. The project team developed a financial model for use in implementing a Kansas City Regional BPS Initiative. The team established funding requirements as well as opportunities from both the public and private sectors. The methodology is established in the report.

Task 2.3 Determine geographic breadth

The project team examined the geographic region of Kansas City to determine an ideal target area from which to identify the diverse participants and potential sponsors for the project. The team explored key participants who might lie beyond the target area. The geographic breadth, determined to be the eight county MARC region, is described in the report. The target area proved to be adequate to generate the number diverse industries required to make a successful BPS project.

Tasks 2.4 and 2.5 Educate & engage select Kansas City leadership; facilitate dialog among sponsors and potential participants

The project team created and prioritized a database of potential participants to identify the potential early adopters for a Kansas City Regional By-Product Synergy Initiative. When the priority list was established, the team arranged meetings with key public and private sector leaders to educate the group about the merits of the project and to determine interest in the project concept. From these meetings and dialogs, the team determined whether the level of interest expressed would be sufficient to recommend launching a project in the Kansas City region. The results of these tasks are summarized here and in the report.

Private Sector

A database of regional industries with over 2000 entries was analyzed during a series of prioritization exercises until a list of approximately 200 organizations remained. From this list, a priority group of 34 potential early adopters was identified. The team relied on its own network and that of the Advisory Committee to find the right contact within each organization. Informational packets were distributed to all of the potential participants and meetings were arranged with those interested. At each meeting, company representatives were briefed on the BPS process, its goals, general financial and human resource requirements and the efforts of MARC SWMD with regard to the feasibility study. Each organization was asked if they would be interested in participation knowing that participation would require an executive commitment, a human resources commitment of one company representative with direct access to decision makers for about ten percent of staff time during the yearlong project, and a financial commitment estimated between \$10,000 and \$15,000.

Of the 34 potential participants contacted with project information, 22 private and public sector organizations expressed sufficient interest to justify further interaction during the implementation process. Twelve organizations expressed little or no interest at this time. Individual responses are characterized in the report.

In previously successful BPS projects, participants teamed with Andrew Mangan and a community organization to implement the By-Product Synergy process. The goal was to institutionalize the process through the local community organization to keep the effort active and growing into the future. Participants generally realized value through this collaboration and wanted to continue the relationship beyond the one-year process. In implementing a Kansas City Regional By-Product Synergy Initiative, the likely community organization partner is the Environmental Excellence Business Network (EEBN). EEBN is a local network of company representatives with a common goal to achieve sustainable, environmental solutions that protect natural resources and make good business sense. Many of the prospective organizations queried during the feasibility study are already EEBN members. Several organizations expressed interest in using this project to strengthen the EEBN. In addition,

support from EEBN through its parent organization, Bridging The Gap (BTG), was critical in generating interest for the project.

Public Sector

Several public entity representatives in the Kansas City region also attended the BPS presentation at the EEBN meeting in July 2002 and agreed to participate on an Advisory Committee for the feasibility study organized by MARC SWMD. These included representatives of the US Environmental Protection Agency Region 7 (EPA), MARC, Missouri Department of Natural Resources (MDNR), state governments of Kansas and Missouri, universities and local governments.. In seeking to determine the level of financial, policy and regulatory support possible for the implementation of a BPS project in the Kansas City region the team looked to the Advisory Committee for guidance throughout the process.

After consultation, the team established a priority list of public sector entities at the federal, state and local levels to approach for support. Twelve public sector organizations were contacted with project information and all of the groups expressed support for a regional BPS project.

EPA Deputy Regional Administrator, Bill Rice, expressed support for the concept and encouraged the Team to seek grant opportunities with the EPA. Based on initial interest expressed by private and public sector representatives, BTG submitted two proposals during the feasibility study process in order to meet grant application deadlines. One grant for \$75,000 was approved and will help to cover the cost of the BPS implementation tasks including negotiating agreements with potential participants.

Andrew Mangan, Ed Van Leeuwen of Hallmark Cards, and Lisa Danbury of MARC SWMD presented the project information to the Environmental Improvement and Energy Resources Authority (EIERA) board in May 2003. A request was made for \$50,000. The board expressed its support and encouraged the team to submit a proposal for consideration at the next board meeting scheduled for mid-August. BTG prepared and submitted the grant request at the \$50,000 level. Board members also expressed interest in taking the concept to other urban centers in Missouri if it was proven successful in the Kansas City region.

Discussions were held throughout the feasibility study with the MARC SWMD representatives. Andrew Mangan made a presentation to the MARC SWMD board in May to explain the outcomes of the feasibility study. MARC SWMD has set aside \$50,000 for market development initiatives, including support for implementation of a BPS Project pending the results of the feasibility study.

The team also explored the potential for a BPS Project to support the development of recycling-based markets as well as an eco-industrial park within the region. Andrew Mangan presented the BPS concept and details of the Kansas City feasibility process at the 2003 annual meeting of the Missouri Recycling Association (MORA) in May and generated additional statewide interest in the project. Meetings were also arranged with the City of Sugar Creek and with a local developer to discuss the potential for a future eco-industrial park to play a role in the BPS process. The By-Product Synergy process was subsequently recommended in a proposal to the City for the development of an eco-industrial park.

Task 2.6 Recommendations for Implementation

The MARC region has a sufficient number of interested and diverse industries to launch a successful Kansas City Regional By-Product Synergy Initiative based on initial responses from the private sector organizations contacted during the feasibility study process. Responses from the public sector institutions approached indicate sufficient support at a federal, state and local governmental level to recommend proceeding with implementation of a BPS project in the fall of 2003.

Implementation

The MARC SWMD representatives expressed strong support for the Environmental Business Network of Kansas City and BridgingThe Gap to serve as the project managers for the implementation of the BPS project.

This recommendation is consistent with recommendations from the private sector as well as Andrew Mangan's experience with previous successful BPS projects. It is the recommendation of this report that EEBN and Bridging The Gap serve as project managers for implementation while Andrew Mangan, Franklin Associates and the Elements Division of BNIM continue to serve the team in a variety of advisory and technical roles outlined in the report.

The next steps for implementation will be to finalize a Participant Agreement, to negotiate agreements with potential participants, and to secure public sector funding. It is the recommendation of this report that these tasks begin immediately with the assistance of Bridging The Gap and include the BPS project team once operational funds are secured.

1. Seek the support and guidance of the Environmental Excellence Business Network to finalize the participation fee structure and implement the work plan, timeline and budget.
2. Customize Participant Agreements for the Kansas City region based on agreements used successfully in past BPS projects. Andrew Mangan can provide EEBN with guidance to establish a Kansas City Participation Agreement. EEBN should also consult with a few key potential participants for feedback on a template format.
3. Arrange private meetings with each potential participant to negotiate a participation agreement. The EEBN network and Bridging The Gap staff are available to take the lead on this process before momentum and interest in the project is lost from the feasibility outreach process. Andrew Mangan can provide guidance on the negotiation process.
4. Submit grant proposals for funding to support the project's operational tasks. Bridging The Gap will provide full proposals to: US EPA to secure the \$75,000 grant funds; EIERA to secure \$50,000; and MARC SWMD to secure up to \$50,000. These funds are critical to the success of the project.

Funding

The BPS process has a standard set of tasks and costs, which vary somewhat depending on local conditions. In this case, the project cost has been estimated at \$300,000. This would cover the projected cost to gather data from ten participating companies or entities, analyze the data to uncover possible synergies, guide each project participant through the facilitated brainstorming sessions, identify potential synergies and help prioritize synergies based on feasibility, barriers and strategies for implementation. If more than ten companies are recruited additional participation fees or grant funds would be used to cover the additional costs.

If the full funding is not achieved within a reasonable timeframe, the project scope will be reassessed and presented to participating companies and organizations to determine their interest in proceeding. This timeframe is anticipated to end December 1, 2003. Under such an outcome, the project tasks, and potentially the project team would have to be modified.

In order to achieve the level of funding needed to launch the BPS project, all public and private sector funding sources identified in this feasibility study need to be secured. The project is feasible provided a combination of public and private organizations agrees to participate and contribute project fees and grants that total \$300,000.

An incentive structure has been built into previous BPS projects to reward the project implementation team for successfully implemented synergies while simultaneously providing participating organizations with additional assurance that their specific goals will be achieved. Incentive structures used in previous BPS projects have included a scale of fees and shared percentages derived from successfully implemented synergies. In the Kansas City case the feasibility study finds that companies would not likely participate at fee levels higher than \$15,000

with a small percentage of savings. It is also desirable in Kansas City to share a percentage of the incentive structure with EEBN for implementation beyond the first year.

The incentive structure can be presented in two ways: as a percent of the value of implemented synergies over a period of time or as a formula tied to specific waste reduction goals for individual organizations. The most successful projects have designated a local community partner as the party responsible for tracking the incentive process and sharing in the returns with the project implementation team. In the Kansas City Regional By-Product Synergy Initiative, it is recommended that EEBN play that role.

Project Steering Committee

The number of city, county and state entities interested in the waste diversion, reuse and recycling aspects of the BPS project is notable. Given this and the general interest in community issues by the EEBN members, the Kansas City Regional BPS Initiative should have a Steering Committee that will help to address broad community recycling issues as well as the specific reuse synergies of the company participants. By-product synergies for glass and other municipal streams as well as opportunities for market development will be brought into the project discussion through its public sector participants.

There is also a need throughout the project to assure an open and yet confidential process in which companies can freely and openly talk about their waste and reuse issues without concern of possible sanction. The facilitated dialog throughout the project must be limited to those entities that are project participants bound by confidentiality. On the other hand, public sector sponsors not participating at the synergy table should have an effective way to monitor the project's progress. Regular project reports are one way of achieving this, but in addition it is the recommendation of this report is to establish a formal Steering Committee made up of representatives of the public sector funding agencies, project participants, and the EEBN project team. The Steering Committee would meet regularly during the project to hear of developments, troubleshoot problems and stay in touch with progress.

Task 2.7

The feasibility study was managed by Andrew Mangan of the US Council for Sustainable Development, who served as Project Manager, and the Elements Division of BNIM Architects, who served as Regional Project Coordinator. The feasibility study's six-month schedule is included in the report.

Recommendations & Conclusions

Based on initial responses from the public and private sector organizations contacted during the feasibility study process, as well as the analysis work summarized in this report, the project team concludes that the MARC region has a sufficient number of interested and diverse industries to launch a successful Kansas City Regional By-Product Synergy Initiative. The project team recommends proceeding with implementation of a BPS project in the fall of 2003.