

Final Report:
E&E Fund Knowledge Network – E&E Project #121
January 2006

This Project has been delivered with the assistance of Stewardship Ontario's Effectiveness and Efficiency Fund, a Fund financed by Ontario municipalities and stewards of blue box waste in Ontario. Notwithstanding this support, the views expressed are the views of the author(s), and the Association of Municipalities of Ontario and Stewardship Ontario accept no responsibility for these views.

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INTRODUCTION:

In the fall of 2004, Stewardship Ontario sought the professional services of e-learning companies through a competitive bid process to carry out research, recommend approaches and design, and build and launch a Knowledge Network in support of the Effectiveness and Efficiency Fund for Ontario's Blue Box System. A project Steering Committee made up of two municipal representatives and two Stewardship Ontario staff interviewed companies that had submitted the best proposals and recommended to WDO's Municipal Industry Programs Committee (MIPC) – the committee in charge of reviewing E&E Fund applications - that the firm Vubiz be awarded a one year contract for this project.

The objectives of the proposed Knowledge Network project were:

- to support the E&E fund in attracting high quality proposals (i.e. by providing targeted knowledge products that are of high value to employees responsible for managing/delivering the Blue Box Program in their jurisdiction); and
- to support knowledge sharing and information dissemination related to key Blue Box issues, with an emphasis on encouraging greater program effectiveness (i.e. increasing tones recycled) and supporting system efficiency (i.e. reducing program costs).

As per the agreement between Vubiz and Stewardship Ontario, the project's workplan included the following five tasks:

Task 1: Needs Assessment & Concept Level Design

Task 2: Real Time Technical Exchange –1 vs 2 Stream Issue

Task 3: Model Contract Information

Task 4: Information Sharing on Multi-Family Recycling Challenges

Task 5: Recommendations for a Long Term Plan

As an e-learning solutions provider, Vubiz made available to this project a full range of services including:

- A Learning Management System (LMS) with a variety of collaborative communication tools including dialogue threads, document repositories and email alerts (English and French);
- VuBuild Service - a self-authoring tool that enables clients to build their own e-learning modules;
- Custom courseware development (built to SCORM and AICC standards);
- Training & consulting services including instructional design, e-learning strategic planning, needs analysis and usability testing; and
- Web hosting and maintenance

These existing services became the foundation for the E&E Knowledge Network. This report summarizes the steps involved in researching and developing the Network. The project's main deliverable – the web-based Network itself – can be viewed at <http://www.Vubiz.com/stewardship>.

Vubiz worked collaboratively with Stewardship Ontario and the project Steering Committee throughout the development process to ensure the objectives of the Knowledge Network were being addressed. A prototype of the Knowledge Network was created and presented to Stewardship Ontario and the Committee early in the process. The prototype site delivered the necessary functionality of the Knowledge Network. Similarly, the Vubiz authoring tool, vuBuild, was used to create the e-learning products that were the key deliverables for this project. Throughout the project period, Vubiz obtained feedback from the Steering Committee, Stewardship Ontario project team members, subject matter experts, and end users, on the graphic design/interface of the site prototype as well as the e-learning products. This feedback was gathered through face-to-face meetings, teleconferences and electronic user surveys. Based on this feedback, Vubiz developed a new “look and feel” for the Knowledge Network site and determined that the output from the authoring tool, along with some custom media development work, was satisfying the needs for e-learning products (referred to as “Knowledge Products”).

Task 1 - NEEDS ASSESSMENT & CONCEPT LEVEL DESIGN

Audience Analysis: The first task for this project was to establish a thorough understanding of the intended audience – municipal employees with waste management and residential recycling program responsibilities as the primary audience; and private businesses as a secondary audience – and their needs. To do this, Vubiz conducted a web-survey with a representative sample of the intended audience. This survey was designed to identify current perceptions of the EE fund, to identify what needs were not currently being met and could be addressed in the future by the Knowledge Network; and to define a “typical” technology profile – i.e. to identify the type of technology end-users were comfortable using and how they would like to interact with the proposed Knowledge Network. The Zoomerang web-survey tool was used to obtain this vital information quickly and easily. The results of this survey can be accessed at: http://www.zoomerang.com/reports/public_report.zgi?ID=L22CCCQCJ2D




From a total of 195 municipal staff originally contacted, 57 responded to the survey, representing a response rate of nearly 30%.

The survey’s key findings are highlighted below:

- The majority of respondents have audio/video capability on their computers i.e. speakers, sound cards, video cards (83%, 85%, 77% respectively)
- The majority of respondents have Internet Explorer as their browser (96%). Other browsers include Mozilla, FireFox and Safari.
- The majority of respondents (85%) have high-speed connection to the Internet. Another 9% have a dial-up connection.
- A relatively high percentage of respondents have participated in Web Conferences (70%) and on-line training courses (38%). Similarly, 38% have experience participating in online discussions/dialogue threads.

Given the results of this survey, it was recommended to the Committee that the features and functionality of the site be designed for high speed users with audio/video capability. Given that approximately 10% of survey respondents use a dial-up connection however, all the interactive features and online learning products were designed to function on a dial-up connection at a reasonable/acceptable level of speed. Furthermore, information conveyed through the use of audio and video were also made available in a text version.

Concept Level Design of the Knowledge Network: The Vubiz Learning Management System was configured to address all the fundamental features and functionality required for the Knowledge Network. By customizing the LMS, Vubiz was able to deliver a highly stable platform, with rich features, within a short timeframe and at relatively low cost. By doing so, the focus of the project was targeted at developing high quality content and meaningful interaction for the end-users. Vubiz worked with the E&E Fund Knowledge Network Steering Committee to identify the key features and functionality to be included in the site. These features include:

	Email Alert	This is a powerful tool. Every member of the team is available to "alert" when you make a contribution to the site. You simply check off who you want to contact, leave a simple message informing the user(s) of the additions you've make, and click send. What the user receives is an alert that there are items of interest at the site. The user will then simply click on a special URL and be brought right into "My World". Note: Do not over use this service - excessive emailing is annoying.
	Dialogue	Where ever you see this icon, you are encouraged to share your thoughts. Simply type a brief message and it will go to the top of the dialogue "thread". That's it! (Oh, this is why you tend to use the email alert, so others can read your dialogue.
	Documents	Used to "upload" a document to the server so other colleagues can access them. Documents sit in a "Repository" available for anyone to "download" to their computer to study.

TASKS 2 &3 – 1 VS. 2 STREAM PRODUCT AND MODEL TENDER PRODUCT DEVELOPMENT

LMS Configuration for the Knowledge Network Prototype

The diagram below shows the execution of the concept level design of the Knowledge Network. This site was used to conduct Task 2 – Expert Discussion on 1 vs. 2 Stream Recycling; to review the corresponding draft e-learning products; and to conduct reviews and pilot testing for Task 3 - Model Recycling Tender Knowledge Products.

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Info Page My Learning Administration Sign Off

Your world is portrayed as series of tasks containing your digital assets.

[Collapse All Nodes](#) [Help Using My Learning](#) [New Postings](#)

EFFECTIVENESS & EFFICIENCY FUND KNOWLEDGE NETWORK

- 1 vs 2 Stream Expert Panel Discussion**
 This section is only accessible/viewed by Panel Experts
- THESIS STATEMENT:**
 IS 1 STREAM MORE COST EFFECTIVE THAN 2 STREAM? If yes, in what circumstances? If no, why not?
- Discussion Topic 1 - Closed**
 MATERIALS BEING COLLECTED: How does what you are collecting (now or in the future) affect one-stream vs. two-stream efficiencies? Are you planning on collecting food waste and if so, how does this affect one-stream vs. two-stream collection and processing? What about servicing from the apartment sector?
- Discussion Topic 2 - Closed**
 QUALITY/MARKETS: How does this affect end markets – key issues (now and the future), impact on end product, impact on revenue, impact on mill infrastructure, international/North American perspective?
- Discussion Topic 3 - Closed**
 EQUIPMENT: A) Collection and B) Processing
- Discussion Topic 4 - Closed**
 QUANTITY/RECOVERY: How does this affect the quantity of material recovered including capture rate (holder behaviour), residue rate?
- Summary Phase/June 13th - 25th**
 Click on the Document Repository icon to view a comprehensive summaries of the 1 vs 2 Stream discussions and use the Dialogue icon to give your feedback.
- Discussion Topic 5: Costs - Closed**
 COSTS: How does this affect costs (e.g. total system costs, collection costs, processing costs, what is known now, general predictions of costs impacts available?)
- Public Document Sign Off - Key Issues Primer on One Stream vs. Two Stream Recycling**
 SUMMARY - ANSWER THE THESIS: Is one-stream more cost effective than two-stream? If yes, in what circumstances? If no, why not?
- 1 vs 2 STREAM RECYCLING EXPERT DISCUSSION**
 - A Primer on 1 vs 2 Stream Recycling**
 [A Primer on 1 vs 2 Stream Recycling \[Description\]](#)
 - MODEL TENDER DEMO as of August 22**
 This demo is intended to preview a pilot ready version of the Model Tender Tool. Please note, Introductory Module still under development!
 - MODEL TENDER TOOL**
 - [Draft - Introduction to the Model Recycling Tender Tool \[Description\]](#)
 - [The Tendering Process & Timelines \[Description\]](#)
 - [Key Considerations that Impact Costs \[Description\]](#)
 - [More Upfront Considerations \[Description\]](#)
 - [Crucial Clauses \[Description\]](#)
 - [Ready to Write? \[Description\]](#)

[View Access Filters](#) [Edit Task List](#)

TASK 4 - MULTI-FAMILY RECYCLING PRODUCTS

During the course of the project, it was agreed that developing knowledge products related to multi-family recycling was premature as E&E supported projects related to multi-family recycling had not yet been completed. The Steering Committee agreed that Vubiz should instead focus its remaining resources on supporting the launch of the Network (which was officially launched at an E&E Fund open workshop on November 3rd – see details below).

TASK 5 - LONG TERM PLAN

Meetings with the Steering Committee were conducted to present alternative navigation approaches to be used in e-learning products and the graphical “look & feel” of the overall site. Once approved by the Steering Committee, draft knowledge products were developed and loaded into the system for pilot testing purposes. Necessary design changes were made based on the pilot test feedback and were presented to the Steering Committee for final approval. The following shows the Knowledge Network main page that was officially launched at the Ontario Recyclers Workshop Nov 3rd 2005.

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The Knowledge Network

Hi Marla,

Welcome to the Knowledge Network. The Knowledge Network is a web portal designed specifically for Ontario municipalities to share experiences and key learnings from Effectiveness & Efficiency (E&E) Fund projects. It is a place where municipalities can dialogue with industry experts in the waste management field as well as access practical online Knowledge Products and Templates to facilitate the implementation of innovative solutions to their recycling needs.

We hope you enjoy participating in the Knowledge Network.

[Click for Minister Broten Message Nov 3rd 2005 Ontario Recycler's Workshop](#)

[Change my Password](#)

[User List](#)

Upcoming Projects for the Knowledge Network:

- Public Education Assessment
- Public Education Manual
- Multi-Family Recycling

[Have Stewardship Ontario contact you.](#)

We'd Like Your Opinion.

[Click here to take The Knowledge Network Survey](#)

1 VS 2 STREAM RECYCLING PROJECT [\[Project Description\]](#)

Knowledge Products

- [A Primer on 1 vs 2 Stream Recycling](#)

Resources

Background Info:

- [A List of expert panelists](#)

[Participate in Survey](#) | [Join in Discussion](#) | [Contact Help Desk](#)

MODEL RECYCLING TENDER TOOL [\[Project Description\]](#)

Knowledge Products

- Module 1: [The Model Recycling Tender Tool](#)
- Module 2: [Tender Process and Timing](#)
- Module 3: [Cost and Competition Decisions](#)
- Module 4: [Upfront Systems Decisions](#)
- Module 5: [Crucial Clauses](#)
- Module 6: [Ready to Write?](#)

Resources

Templates - Click on the Knowledge Products above to learn how to use these tools most effectively.

- [Model Recycling Tender Text](#)
- [Sample Bid Sheets](#)

[Participate in Survey](#) | [Join in Discussion](#) | [Contact Help Desk](#)

www.stewardshipontario.ca

Stewardship ONTARIO

[Click here if you are having technical difficulties.](#)

Powered by Vubiz

Product Roll-Out Strategy

It is anticipated that approximately 4 to 6 projects will be launched on the Knowledge Network in 2006. Projects will be selected based on users' priorities as identified through the **Knowledge Network User Survey** accessed through the Knowledge Network site. To date, 6 respondents have completed the survey, which results can be viewed at the following address:

http://www.zoomerang.com/reports/public_report.zgi?ID=L22G2RS67656

In addition to user demand, projects selected for inclusion on the Knowledge Network should be interactive in nature and involve dialogue amongst various stakeholders, and have added value when the project information is presented in an electronic/ interactive format

Products Launched at the November 3rd Ontario Recyclers Workshop:

1 – One versus Two Stream

- A Primer on 1 vs. 2 Stream Recycling
- London Update – Lessons Learned from the London Optimization project (to be launched early 2006)

2 - Model Recycling Tender

- Series of 6 modules/Knowledge Products
- Sample tender text template
- Sample bid sheet template

Products Tentatively Scheduled for 2006:

1 – Promotion & Education

- Develop assessment survey
- Create Knowledge Product based on the P&E Handbook that is being prepared through E&E project # 68 (Identifying Best Practices in Municipal Blue Box Promotion and Education)

2 – Potential Future “Projects” for Knowledge Network based and user feedback survey:

- Multi Residential recycling
- Depot/Rural/North/Isolated Communities
- User Pay/Utility: Threaded Discussion
- Automated Sorting technologies and developments
- Cart versus Bag collection systems
- Cooperative Marketing programs

(Note – some of these products might also be developed as “help desk” services to be made available through the Knowledge Network site)

Evaluation Plan:

The evaluation of the Knowledge Network was an important aspect of the site’s development. Mechanisms for capturing data that would enable MIPC and Stewardship Ontario to monitor and measure the impact of the Knowledge Network on increasing the effectiveness and efficiency of Blue Box recycling programs were designed into the site.

Evaluation mechanisms include:

- On-line surveys obtaining user feedback on specific Knowledge Products can determine if users perceive the content/information as useful.
- On-line surveys seek input from users about the site in general and their project priorities for the Knowledge Network.
- System generated activity reports that identify
 - level of activity on the Knowledge Network by user i.e. frequency and time spent on the site;
 - frequency and time spent in each Knowledge Products by user; and
 - overall frequency of access for each Knowledge Product

The data generated from the system reports can be used in the future by MIPC and Stewardship Ontario to determine if there is a correlation between activity on the site and successful implementation of best practices in Blue Box recycling. Furthermore, user feedback survey data will be analyzed and the Knowledge Network site and Knowledge Products will be revised and enhanced to ensure municipalities’ needs and priorities are being addressed. It is important to note that at the time of writing this report, users had no yet completed any survey on their own initiative. This would indicate that direct communication to users inviting them to participate in the Knowledge Network and encouraging them to complete the surveys is necessary for the Knowledge Network to be successful in the long term.

Evaluation Survey Links

1 vs 2 Stream Recycling:

http://www.zoomeang.com/reports/public_report.zgi?ID=L22G8H96HA9Q

Model Recycling Tender:

http://www.zoomeang.com/reports/public_report.zgi?ID=L22G8GKU875R

APPENCICES

Communications Documents - Working Drafts

The Knowledge Network

What it means for Stewardship Ontario's audiences

Municipalities

The Knowledge Network is a new and innovative tool that will save municipalities time and money.

The Knowledge Network is a convenient, anywhere-anytime access to an interactive network that links information, expertise and new ideas on residential recycling in one space.

The Knowledge Network is an inclusive web service that promotes the sharing of ideas and resources to produce better outcomes in waste diversion across the province.

Stewards:

Stewards should know that The Knowledge Network establishes a process that will directly impact the efficiency and effectiveness of waste diversion programs across Ontario and, indeed, across Canada.

The implementation of The Knowledge Network is a clear signal that Stewardship Ontario is serious about providing real tools to allow for the growth and improvement of recycling programs across the province.

Government of Ontario

Ontario is moving back in front as a leader in waste management solutions.

The Knowledge Network represents a leading edge concept in the creation of new and better ideas for waste diversion in Ontario.

The Knowledge Network is the latest example of a tangible tool that can be put to use by municipalities to improve their existing recycling systems and apply to future projects.

The Knowledge Network is a tangible sign that Stewardship Ontario is committed to Ontario being a leading jurisdiction in the field of waste management.

What is Stewardship Ontario's new Knowledge Network initiative...

Stewardship Ontario is on the verge of launching "The Knowledge Network" – an online *service hub* that will allow municipalities to efficiently explore, adapt and apply innovative solutions to the challenges that face them in operating their residential recycling programs.

The Knowledge Network is a web portal designed specifically for Ontario municipalities to share experiences and key learnings from Effectiveness & Efficiency (E&E) Fund projects and; in turn, create knowledge about their use across municipalities.

The Knowledge Network's key innovation is its interactivity. Input and dialogue from member municipalities and industry experts are critical to maintaining its currency and effectiveness. Each user has the potential to serve as both contributor and beneficiary. The "knowledge" generated from the Knowledge Network site allows the user to realize immediate benefits from work that is literally – 'tried and true'.

The Knowledge Network will put Ontario back in the forefront of the recycling and waste diversion field both in Canada and internationally.

Features on the Knowledge Network website include:

- Knowledge Products – targeted online educational modules
- Online Discussion threads that bring together industry experts and other stakeholders to discuss/debate key issues in the residential recycling field.
- Surveys featuring real-time feedback specific issues

- Templates – tangible tools, such as advertisements or brochures that can be edited for any municipality and are “ready to use”
- Email alerts direct users to the site via a simple URL link when there are “items of interest”.

All of these tools will allow for the sharing and creation of new knowledge that will benefit all users. Key Learning is easier to develop when you are working with real people and real projects.

The Knowledge Network is ideal for municipalities to communicate with each other in a targeted and convenient way. It also offers the convenience of direct anywhere-anytime access to informed stakeholders who otherwise wouldn't be available or even known to a user.

The Knowledge Network developers and sponsors...

The Knowledge Network was devised by Vubiz Ltd., a Canadian company based in Mississauga, Ontario. VuBiz is a full service e-learning company with expertise in creating online communities of learning. VuBiz has extensive experience in the government and not-for-profit sectors and is a vendor of record for the Provinces of Ontario, British Columbia and Alberta. The experience that VuBiz is bringing to this project is built upon the development of their own web Learning Management System (LMS) complete with a suite of interactive features, such as dialogue trends and survey tools along with an e-learning authoring service, VuBuild.

Stewardship Ontario and the Effectiveness and Efficiency Fund

Stewardship Ontario is the funding organization for Blue Box Waste that was designated by the Waste Diversion Organization under the *Waste Diversion Act* (2002). "Brand Owners," "First Importers" and "Franchisors" of products that produce residential Blue Box Waste are obligated under the *Act*. "Stewards" of Blue Box materials pay a fee on the amount of packaging and printed papers their businesses contribute to the municipal waste management system. This provides 50% of the net funding for the municipal residential blue box recycling system in Ontario.

A portion of this (10%) is directed to the Effectiveness and Efficiency (E&E) Fund which offers financial support to Ontario municipalities to identify means of reducing overall system costs and increasing tonnes recovered in residential "Blue Box" recycling programs. Through the first two years of the Blue Box program, the total value of the fund is approximately \$9 million. For more information, about Stewardship Ontario, please see www.stewardshipontario.ca For more information about the E&E Fund, please see: <http://www.stewardshipontario.ca/funding/e&e/thefund.htm> or contact: Geoff Love at eefund@stewardshipontario.ca or 416-594-3460.