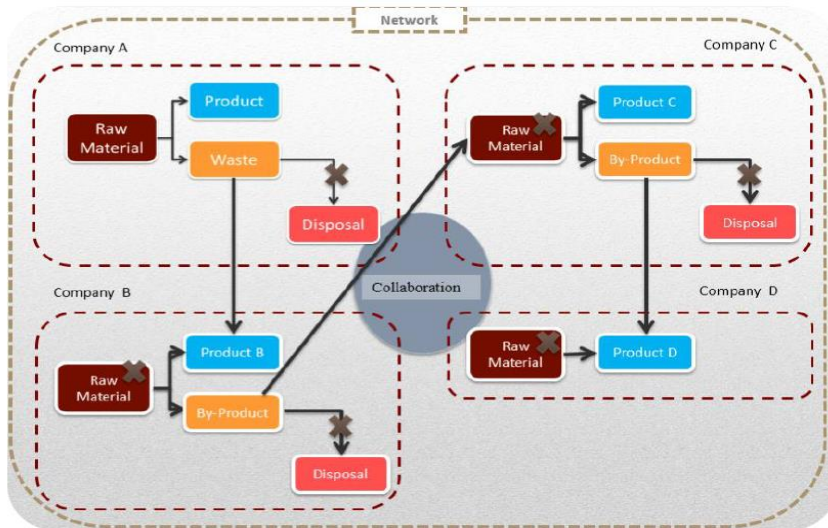




Recycling Waste Materials: Creating an Interactive Materials Exchange in Tennessee

TN Chamber of Commerce and Industry Energy and Environment Conference 2016

The Industrial Ecology of Material Re-Use



A Goal of the 2025 Solid Waste Plan

1. ***TDEC will facilitate the development/enhancement of online materials exchanges and/or opportunities for cooperative marketing of recycled materials.***
2. ***TDEC will develop or oversee the development of a user-friendly online tool/website to help generators identify materials processors in Tennessee.***
3. ***TDEC will research and, as appropriate, provide information about third-party organizations that provide recycling on the TDEC website.***



The Hurdles of Materials Networking

- ✓ **Lack of Relationships: A loose industrial coupling**
- ✓ **Lack of Interest: Supplier Commitment**
- ✓ **Lack of Trust: Buyer Uncertainty**

PRODUCTION AND OPERATIONS MANAGEMENT

PRODUCTION AND OPERATIONS MANAGEMENT

Vol. 24, No. 9, September 2015, pp. 1473-1483
 doi: 10.1111/poms.12345
 ISSN 1059-14781 (print); 1937-5956 (online); 1151-2409 (eprint)

Repurposing Materials and Waste through Online Exchanges: Overcoming the Last Hurdle

Suvrat Dhanorkar
Smear College of Business, The Pennsylvania State University, University Park, Pennsylvania 16802, USA, dhanorkarsuvrat@gmail.com

Karen Donohue, Kevin Linderman
Carlson School of Management, University of Minnesota, 321 19th Avenue South, Minneapolis, Minnesota 55455, USA, donoh008@umn.edu, lindke037@umn.edu

Online material and waste exchanges (OMWEs) provide online channels to repurpose by-products, unused materials and waste from industrial and commercial facilities. Unfortunately, OMWEs also have challenges. First, sellers may have access to other disposal options and, as a result, may not fully commit to the exchange. Second, buyers can face high uncertainty about the product exchanged and the transaction being undertaken. Overcoming these challenges is the "last hurdle" to making OMWEs successful. This study investigates the factors that reduce the buyers' uncertainty and increase the sellers' commitment to the OMWE. We analyze novel transaction-level data from an online exchange (MNEExchange.org) combined with other archival public records on county-level repurposing and disposal statistics. First, we find that regional repurposing policies and alternatives have a complementary effect on sellers' commitment toward OMWEs, resulting in increased OMWE exchanges. However, regional disposal policies and alternatives have a substitution effect on sellers' commitment, resulting in reduced exchange success. Further, greater product and transaction information reduce the buyer's uncertainty and increase exchange success. Finally, the analysis shows that users (buyers and sellers) heavily rely on their prior experience with OMWEs. Specifically, higher familiarity between the buyer-seller pair and familiarity with the OMWE system leads to higher likelihood of exchange success. This study lays the foundation for understanding OMWEs and has important implications for developing policies and operations to increase online transactions of by-products, materials and wastes.

10.87 in

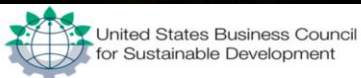


Technical Advances are also needed

Across the nation, all 25 existing online materials exchanges are in serious need of an upgrade.



The Upgrade We Needed



The Partnership begins



United States Business Council
for Sustainable Development

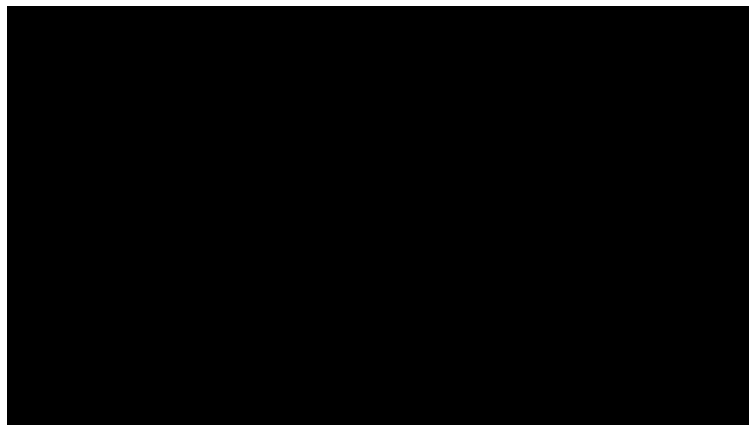


The US BCSD is an action-oriented and member-led nonprofit business association, founded in 1992 to give leading US businesses a platform to mobilize boots on the ground and work together to design, implement and scale sustainability solutions. The US BCSD is a Global Network partner of the World Business Council for Sustainable Development.



An award winning and proven system

The United States Business Council for Sustainable Development created the Materials Marketplace. This marketplace facilitates company-to-company industrial reuse opportunities that support the culture shift to a circular, closed-loop economy.



Questions?

On a planet of finite resources, the circular economy is not optional, it is inevitable.

— Hermann Erdmann, CEO, REDISA

From the recent report Growth Within: A Circular Economy Vision for a Competitive Europe



Vaughn Cassidy

Office of Sustainable Practices

Vaughn.Cassidy@tn.gov

731-512-1343