

2016 Michigan Recycling Coalition Summit and Conference

Zero Waste to Landfill Efforts in the West Michigan Region

Bill Stough
Sustainable Research Group

Review of ZWL User Group Activities

Environmental Sustainability

MMTC-West Learning Series

Zero Waste to Landfill

Mission:

The mission of the Zero Waste to Landfill (ZWL) Learning Series is to encourage and assist businesses prevent waste from being sent to landfills. The user group will promote the Reduce, Reuse, Recycle, Recovery (energy) hierarchy. It will help members keep materials otherwise destined to be landfilled into a productive closed-loop cycle of commerce through education, evaluation, research and joint activities.



ZWL User Group Membership

- **Members Meet Six Time per Year**
- **2nd Thursday of Every Other Month**
- **Focus on Finding Solutions to Hard-To Recover Wastes**
- **Currently There are Eight Member Companies**
- **Cost is \$795 per Year per Company**
- **Up to Two Company Representatives**
- **Facilitated by Sustainable Research Group**

Zero Waste to Landfill

LANDFILL-FREE VERIFICATION PROGRAM

Presented by
Bryan Dayton, MS, CHMM, CPEA



ZWL Member

Powder & Wood Waste Generation Survey

- Powder coat waste (3 member companies)
– **920 Tons per Year**
- Wood waste (3 member companies)
– **61,300 Tons per Year**

Powder Coat Waste

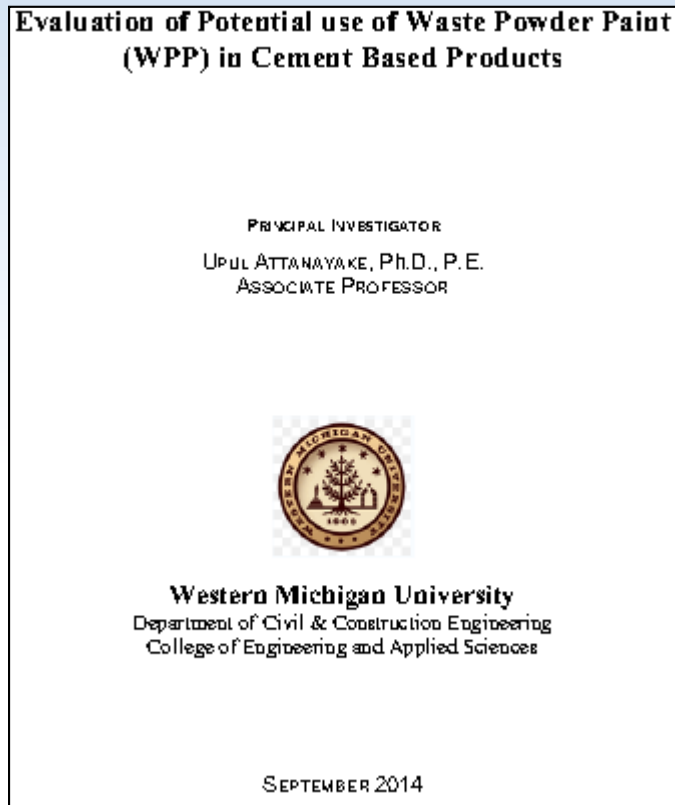
Compiled a list of 12 Active Powder Coat Waste Brokers seeking Material

RECENT POWDER COAT RECYCLING CONTACTS

1. Shanghai Kima Chemical Co., Ltd. is a Chinese leading chemical enterprise and is engaged in the operation of agrochemicals, water treatment chemicals, Silicone sealants, Thickeners and some other chemicals. From the establishment in the year of 2004, the

Powder Coat Waste

Presented with a Powder coat Waste Research Project
by WMU



Recycled & Recyclable Industrial Filters

Using recycled waste plastic scrap to manufacture new industrial filters



**Turning waste to *energy*,
liabilities to *assets*
and visions into *reality*.**

HTI is a technology company which specializes in distributed renewable energy power plants and design systems which convert organic wastes to energy.



[Play HTI Movie](#)

Latest News & Events

February 2014

HTI processes 500,000lbs of turkey litter to recover Phosphorous and Potassium

[MORE](#)

Ceramic Heat Exchangers



Our Heat Exchangers will operate at temperatures 50% higher than the most exotic metal heat exchangers.

[MORE](#)

Fuel Testing Services



We can help you understand the power output that can be expected from your fuel.

[MORE](#)

HTI's Mission Statement

- Identify wastes that have the greatest potential for converting waste to energy.
- Quantify the economic and environmental benefits associated with our biomass to energy conversion machinery.
- Develop and manufacture Ceramic Heat Exchangers that can operate in acidic environments and extremely high temperatures and high pressure.
- Support and assist our customers in the design and application of biomass gasifiers and high temperature Ceramic Heat Exchangers.

Guest Speakers From:

- Integrated Resource Management: Kurt Wirgau, General Manager, **Heritage Interactive Services**
- Powder Coat Waste to Concrete Products – Research Review, Upul Attanayake, Ph.D., P.E., Associate Professor Dept. of Civil & Construction Engineering **Western Michigan University**
- Dave Prouty, President – **Heat Transfer International**
- Brian Smith, Zero Waste Advisor, **New Soil**
- **MI Tech Univ. /MI St. Univ.** ReForge Engineered Wood Recovery Research Program
- Darwin Baas, Director, **Kent County Department of Public Works** – County Zero Waste Initiative

MOU with ZWL Members

THEODORE J. MOHR
Chair

SHARON SHROLL
Vice Chair

WILLIAM BYL
Secretary

DAVID GOENLEER
ROGER MORGAN

DAVE BULOWSKI
RICHARD VANDERMOLEN

DARWIN BAAS
Director



Board of Public Works

Letter of Understanding

Zero Waste to Landfill User Group
C/O Mr. Bill Stough
Sustainable Research Group
PO 1684
Grand Rapids MI 49501

Dear Bill,

This letter is intended to memorialize the ZWTL User Group partnership with Kent County Department of Public Works (DPW) to collaboratively evaluate energy and sustainability options for a variety of industrial and process wastes generated in the West Michigan region and destined for landfill disposal. The project will determine feedstock (waste) supply, develop project concepts that evaluate processing and conversion technology, site location requirements, thumbnail economics, contractual relationships and financing.

The DPW and the ZWTL User Group agree to the following:

- A financial contribution by a supporting member assures involvement in developing and implementing the feasibility study. Supporting members are Grand Rapids Label Company, Hawthorn, Herman Miller, Landscape Forms and Trendway Corporation.
- The project goal is to establish a long-term and reliable option to landfilling.
- Supporting members will be afforded the opportunity to review a draft of the summary report to ensure any proprietary company information is adequately protected and provide input on study conclusions prior to final documents being prepared, reviewed and approved by the Board of Public Works and made available for public consumption.
- Preferred access will be provided to supporting members should the summary report lead to construction of a process and/or facility providing ZWTL technology.
- Any new process or facility developed from this study will not send feedstock materials to a landfill through process residuals may require disposal.

KENT COUNTY DEPARTMENT OF PUBLIC WORKS

Best Regards,

Darwin J. Baas
Director

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Telephone: (616) 526-5294 ■ Fax: (616) 526-5252 ■ E-Mail Address: info@kentcounty.gov

ZWL Members Support Study



Review of Opportunities for Zero Waste to Landfills for Industries

Prepared for:



Kent County, MI
Department of Public Works

Prepared by:

Gershman, Brickner & Bratton, Inc.



**SOLID WASTE
MANAGEMENT
CONSULTANTS**

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www.gbbinc.com

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Review of Past ZWL Activities

- Zero Waste to Landfill Certifications Programs
- Powder Coat Waste
- Construction/Demolition Waste Reduction
- Filter Waste Recycling
- Business Composting Systems
- Recovering Energy From Hard to Recycle Wastes
- MTU/MSU Wood Waste Recovery Research
- Evaluating Local Waste Technology – HTI
- Partnering with Kent County DPW to Assess Material Recovery Opportunities

For further information, contact:

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