



Department of  
**Environment &  
Conservation**

**Tennessee Materials Marketplace**

MS Solid Waste and Recycling Conference – May 17, 2018



**Tennessee Materials Marketplace**

tennessee materials marketplace

**Join the Circular Economy in Tennessee**

Join the Tennessee Materials Marketplace and divert waste from landfills, generate significant cost savings, energy savings, and create new jobs and business opportunities.

GET INVOLVED


[✉](mailto:info@tennessee.materialsmarketplace.org) [🐦](https://twitter.com/TNmaterials)

<https://tennessee.materialsmarketplace.org>




### Intent of the Marketplace


**Tennessee Materials Marketplace in a nutshell**




Create Value




Reduce CO2



Do Good for the Environment




Stimulate & Inspire Local Jobs




### Intent of the Marketplace

**Tennessee Materials Marketplace in a nutshell**




Create Value




Reduce CO2


**Monetize Waste Streams**



Do Good for the Environment



Stimulate & Inspire Local Jobs




# Materials on the Marketplace

skd  
Home Materials My Materials Add Material My Activities Users Settings Language Welcome, Rui Log out


Try to search the material name, zip code, city name, company name...

Grid view List view Map view


Available Materials Wanted Materials




**Monitors**  
Available  
34040 Bayrampazari/Istanbul  
Electronics  
Electronics (functional)  
Quantity 500 Unit




**Office desks**  
Available  
34040 Bayrampazari/Istanbul  
Business Furniture, Fixture and Equipment  
Business Furniture  
Quantity 100 Unit





**Bauxite residual (red mud)**  
Available  
34040 Bayrampazari/Istanbul  
Filter Cake and Sludge  
Sludge  
Quantity 1000000 ton (t)




**Waste paper**  
Available  
34040 Bayrampazari/Istanbul  
Paper and Cardboard  
Quantity 20000 ton (t)









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# Wanted Materials

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Home Materials My Materials Add Material My Activities Users Settings Language Welcome, Rui Log out

Try to search the material name, zip code, city name, company name...

Grid view List view Map view

Available Materials Wanted Materials

**Wanted Aluminum Cans (wanted material)**  
Post consumer aluminum cans that can be recycled to make new aluminum.  
Link

**Wanted Waste paper (wanted material)**  
Post consumer paper waste that can be recycled to make new paper products.  
Link

**Wanted Waste oil (wanted material)**  
Waste oil that has a calorific value of over 8000 btu/lb to be treated as alternative fuel in the cement kiln.  
Link

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## Detailed View

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### Bauxite residual (red mud)

Qty: 1000000 ton (t)

[Filter Cake and Sludge](#)

[Sludge](#)

**Company**  
USBCSD

**Location**  
Baqik, 34306 Bagikgehir/Istanbul, Turkey

**Description of the Resource:**  
Bauxite residue is a by-product in the production of alumina. The resulting residue is high in alkalinity, but can be neutralized.

**Frequency**  
Yearly

**Size Description**  
Components Description  
Sulfide, 40-50%, Heavy metal: 10-30%, Hematite: 10-20%

**Disposal Method**  
Disposed in red mud pond

**Conditions Info**

**Attachments**

[Back](#)
[Add to watchlist](#)
[Contact](#)

## Audience

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Add available material

Basic Info
Specific Info
Attachments
Price
Audience

**Audience**

- Public (viewable to everyone)
- MM users (only MM participants and project staff can view)
- Internal (only users within the company and project staff can view)

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Save

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## Starting the Conversation

skd

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Conversation

Material

I want to start the conversation because  
I am interested in this material and I need to consult more people

My current role is: buyer

Start Cancel

Steel Slag  
Price: \$14 / ton (t)  
Qty: 1000000

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## User Roles

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Conversation

Material

I want to start the conversation because  
I am interested in this material and I need to consult more people

My current role is: buyer

- buyer
- owner
- facilitator
- processor
- transportation
- expert

Steel Slag  
Price: \$14 / ton (t)  
Qty: 1000000

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## Discussion and Negotiation

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### Conversation

**Conversation**

**Rui HE**  
2016-11-21 07:44:03 AM

Hello, Campbell, I would like to reuse some of your steel slag in my cement production process. Could you please give me more details on your material? Thank!

**Rui HE (buyer)**  
(you)

**Campbell McNeill**  
(owner)

Ok, we generate 1 million tons of these slag material at our plant in Texas. We know they make perfect cement clinker. You can crush them into finer sizes if you like.

Send

### Material

**Steel Slag**

Price: \$14 / ton (t)

Qty: 1000000

### Transactions

**Quantity**  
500000 / 1000000

**Pending**

Cancel the transaction

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## Activities

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Ongoing Conversation
Conversation Invites
Recommendation
Completed Transaction
Cancelled Transaction

ID	Last Update	Material	Participants	Role	Activity Type	Quantity	Action
2	Nov 18, 2016 8:17:37 AM	Steel Slag	Daniel Kietzer (Participant Role: buyer) Rui HE (Participant Role: owner)	owner	Conversation Invites	2	<a href="#">View</a>
3	Nov 21, 2016 2:35:12 PM	Bauxite residual (red mud)	Rui HE (Participant Role: buyer) Campbell McNeill (Participant Role: owner)	buyer	Conversation Invites	500000	<a href="#">View</a>
5	Nov 21, 2016 3:43:09 PM	Steel Slag	Rui HE (Participant Role: buyer) Campbell McNeill (Participant Role: owner)	buyer	Conversation Invites	500000	<a href="#">View</a>

Showing 1 - 5 of 5 items.

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# Specific Report

## Used Shot Blast Recycling

Materials Marketplace Network: Tennessee Materials Marketplace  
 Timeline: one-time on 01/25/2018  
 Participants: David Choate, Shiloh Industries (Owner), Queen City Metals (Taker)

### Flow Chart



### Description

Shiloh Industries manufactures a variety of light-weight automobile parts. Their blasting process uses cast steel abrasive for treating aluminum surfaces. After the abrasive is used, the shot blast residue is mixed with aluminum and is no longer useful. However, the high steel content still makes the material highly desirable for metal recycling. Through the Tennessee Materials Marketplace, Queen City Metals was able to get in touch with Shiloh and recycled all the 12 barrels (roughly 12 tons) of the used shot blast that Shiloh had.

### Estimated Benefits

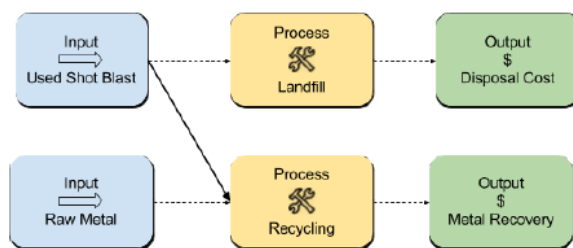
Economic<sup>1</sup>: Owner savings: \$360<sup>2</sup>, Taker Savings: \$1440<sup>3</sup>.  
 Environmental: 22 MTCO<sub>2</sub>e emission is avoided<sup>4</sup>, which is equivalent to conserving 2,474 gallons of gasoline.  
 Societal: NA

<sup>1</sup> Transportation cost and distance is not considered  
<sup>2</sup> Assuming a landfill tipping fee of \$30/ton  
<sup>3</sup> Assuming a scrap steel price of \$2.00/lb (<https://lookawayrecycling.com/scrap-metal-prices/>)  
<sup>4</sup> Based on EPA WARM V.14 ([https://www.epa.gov/warm/versions-waste-reduction-model-warm#warm Tool V14](https://www.epa.gov/warm/versions-waste-reduction-model-warm#warm%20v14))



# Specific Report

### Flow Chart



### Estimated Benefits

Economic<sup>1</sup>: Owner savings: \$360<sup>2</sup>, Taker Savings: \$1440<sup>3</sup>.  
 Environmental: 22 MTCO<sub>2</sub>e emission is avoided<sup>4</sup>, which is equivalent to conserving 2,474 gallons of gasoline.  
 Societal: NA



## Who's Involved

<p>Akebono Brake Corporation          American Snuff Company          Bridgestone          Caraustar          Carbide Industries LLC          Ceradyne, Inc., a 3M company          City of Chattanooga          Complete Recycling          DENSO Manufacturing TN, Inc.          EC Fibers LLC          Fibertronics          First Tennessee Development District          Florim USA, Inc          Fraley and Schilling Inc.          Franklin County Solid Waste Management          General Motors          Hankook Tire Manufacturing, Tennessee LP          Hawkins County Solid Waste          Ideal Clamp Products          Interlocal Solid Waste Authority          La Z Boy          Lucite International, Inc.          McKee Foods Corporation</p>	<p>Memphis-Shelby County Office of Sustainability          Metro Nashville Public Works          Newell Brands          Nissan North America, Inc.          Northwest Tennessee Development District          Owens Corning          Patriot Recycling Inc          Perdue Farms          Peregí          Phoenix Foods          Plum Creek          Plum Creek Environmental          Red Knight Distribution          repurposedMATERIALS          Rockwood Recycling LLC          Suppliers Partnership for the Environment          Tennessee Manufacturing Association/Tennessee Chamber of Commerce &amp; Industry          Tennessee Valley Authority          TN Dept. of Environment and Conservation          Upper Cumberland Development District          Volkswagen          Waste Management Recycle America          WestRock          Yazoo Brewing Company</p>
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## Opportunity

- **Narrow**



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Conservation



## Opportunity

- **Narrow**
  - Web of partnerships (tile manufacturer and local landfill)

## Opportunity

- **Narrow**
  - Web of partnerships
  - Waste diversion / cost savings (fluid recovery operation)

## Opportunity


- **Narrow**
  - Web of partnerships
  - Waste diversion / cost savings
  - In-house sustainability goals (automotive manufacturers)

## Opportunity

- **Narrow**
  - Web of partnerships
  - Waste diversion / cost savings
  - In-house sustainability goals
  - “Better” feedstock (outdoor furniture manufacturer)

## Opportunity

- **Narrow**
  - Web of partnerships
  - Waste diversion / cost savings
  - In-house sustainability goals
  - “Better” feedstock
- **Broad**



## Opportunity

- **Narrow**
  - Web of partnerships
  - Waste diversion / cost savings
  - In-house sustainability goals
  - “Better” feedstock
- **Broad**
  - More resilient local economies (diversity of options for farmers)



## Opportunity

- **Narrow**
  - Web of partnerships
  - Waste diversion / cost savings
  - In-house sustainability goals
  - “Better” feedstock
- **Broad**
  - More resilient local economies
  - Highlighting focus areas (input / output tables)

## Opportunity

- **Narrow**
  - Web of partnerships
  - Waste diversion / cost savings
  - In-house sustainability goals
  - “Better” feedstock
- **Broad**
  - More resilient local economies
  - Highlighting focus areas
  - Seeding high-value jobs throughout supply chain (entrepreneurs)

## Not just Tennessee

- Existing Marketplaces
  - Austin, Texas
  - Ohio
  - Tennessee



## Not just Tennessee

- Existing Marketplaces
  - Austin, Texas
  - Ohio
  - Tennessee
- Upcoming
  - Michigan
  - Minnesota



## Not just Tennessee

- Existing Marketplaces
  - Austin, Texas
  - Ohio
  - Tennessee
- Upcoming
  - Michigan
  - Minnesota
- Interested and Developing Marketplaces
  - Louisiana
  - Washington



## Thank you

- Questions?

**Waste is just a resource  
out of place**

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DSWM – Recovered Materials  
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