

WOOD₂ENERGY Database

O. Khaliukova, Research Associate I
The University of Tennessee
Center for Renewable Carbon

Pellet Fuels Institute Annual Conference
July 28, 2014 - Orlando, FL

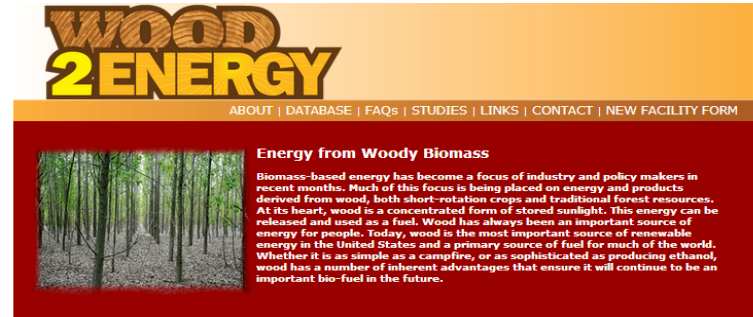


Wood2Energy Project

- Started in 2008
- ❖ US Endowment for Forestry & Communities
- ❖ UT Center for Renewable Carbon
- ❖ 5 regional centers of Sun Grant Initiative
- ❖ USDA Forest Service

- Initial objectives
 - ❖ State of the Science Report
 - ❖ Database

- Surveyed 2,300 companies



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Energy from Woody Biomass

Biomass-based energy has become a focus of industry and policy makers in recent months. Much of this focus is being placed on energy and products derived from wood, both short-rotation crops and traditional forest resources. At its heart, wood is a concentrated form of stored sunlight. This energy can be released and used as a fuel. Wood has always been an important source of energy for people. Today, wood is the most important source of renewable energy in the United States and a primary source of fuel for much of the world. Whether it is as simple as a campfire, or as sophisticated as producing ethanol, wood has a number of inherent advantages that ensure it will continue to be an important bio-fuel in the future.

The Wood to Energy Project

This project aimed to accomplish two primary objectives related to the state of the science in wood to energy research and industry. These objectives included providing a complete literature review on the state of the science and developing a database of wood to energy related industries in the US and Canada. These industries include major forest product industries that produce residues, users of residues for energy (boilers, ethanol, etc.) and related industries.


News

- [New partnership ensures future for North America's premier database of wood-to-energy producing/consuming facilities](#)
- [Wood2Energy: A State of the Science and Technology Report released](#)
- [Database Launch Webinar Now Available Online](#)
- [Coalition of Forestry Interests Launch North America's First Publicly-available Database of Woody Biomass Users](#)
- [Wood to Energy Industrial Facility Database Premier Launch Webinar Set for January 25, 2010](#)


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Charter sponsors



Forest Products Association of Canada | Association des produits forestiers du Canada | American Forest & Paper Association | Improving Tomorrow's Environment Today.®



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Highlights

Advantages

4 search options

Interactive maps

Free access

Improvements

Data validation

Monthly updates

Database revision

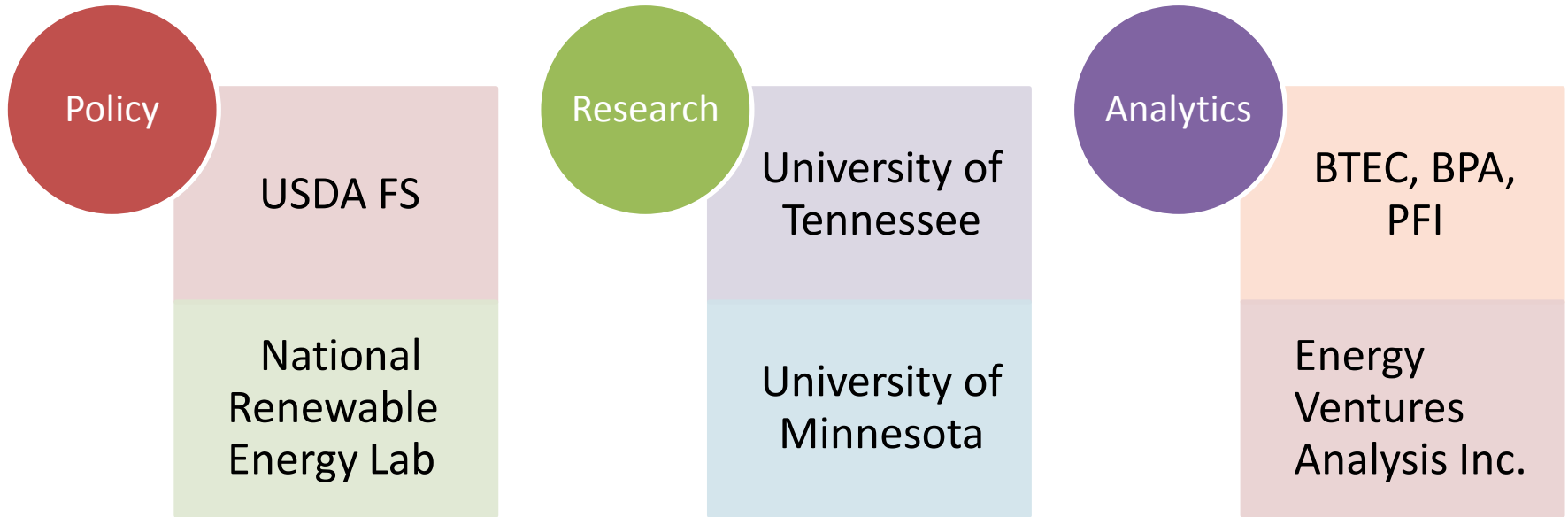
Applications

Project Research

Market Analysis

Market Development

Users



Sources

USDA - FS



Department of Energy



US Endowment for Forestry and Communities



Pellet Fuels Institute



Biomass Thermal Energy Council



Biomass Power Association



Biomass Magazine



UC Berkeley Woody Biomass Utilization



Pellet Magazine

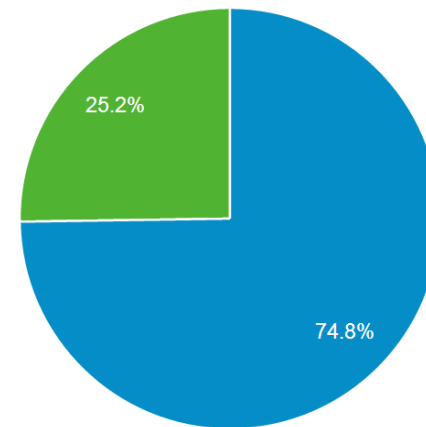


Users

January - July 2014

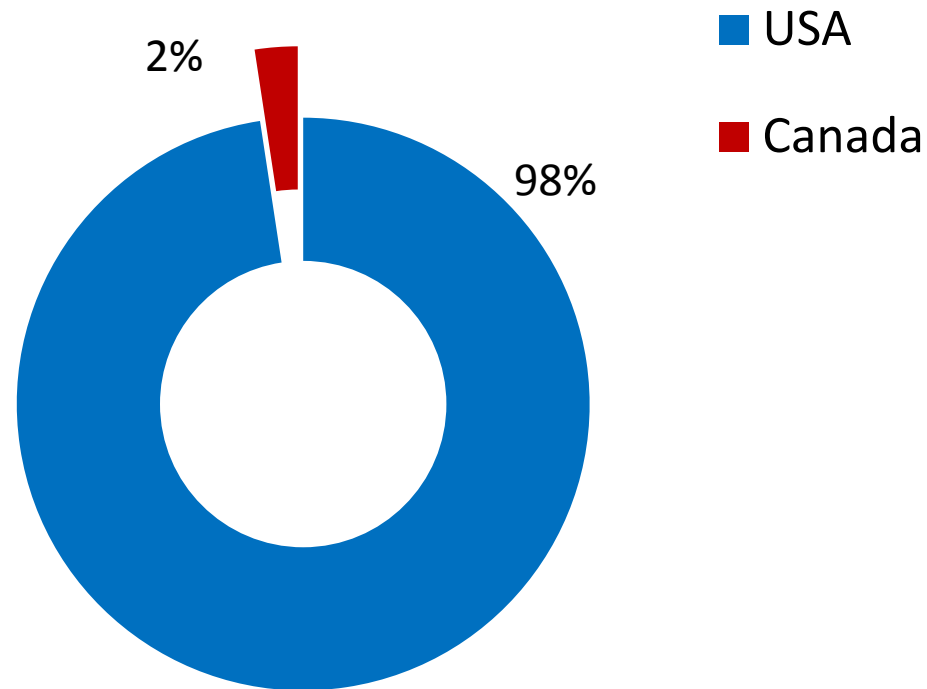
- ❖ **4,562** visitors
- ❖ **5,984** visits
- ❖ **19,114** pages
- ❖ **3.19** pages/session
- ❖ **2:58** Average Session Duration

■ New Visitor ■ Returning Visitor



Data overview

23,404 facilities



Facility Types



Wood Pellet
Producer



Commercial Wood
Energy User



Biomass Power
Producer



Institutional Wood
Energy User



Cellulosic Ethanol
Producer



Wood-based
Manufacturer



Chip Mill



Pulp and Paper

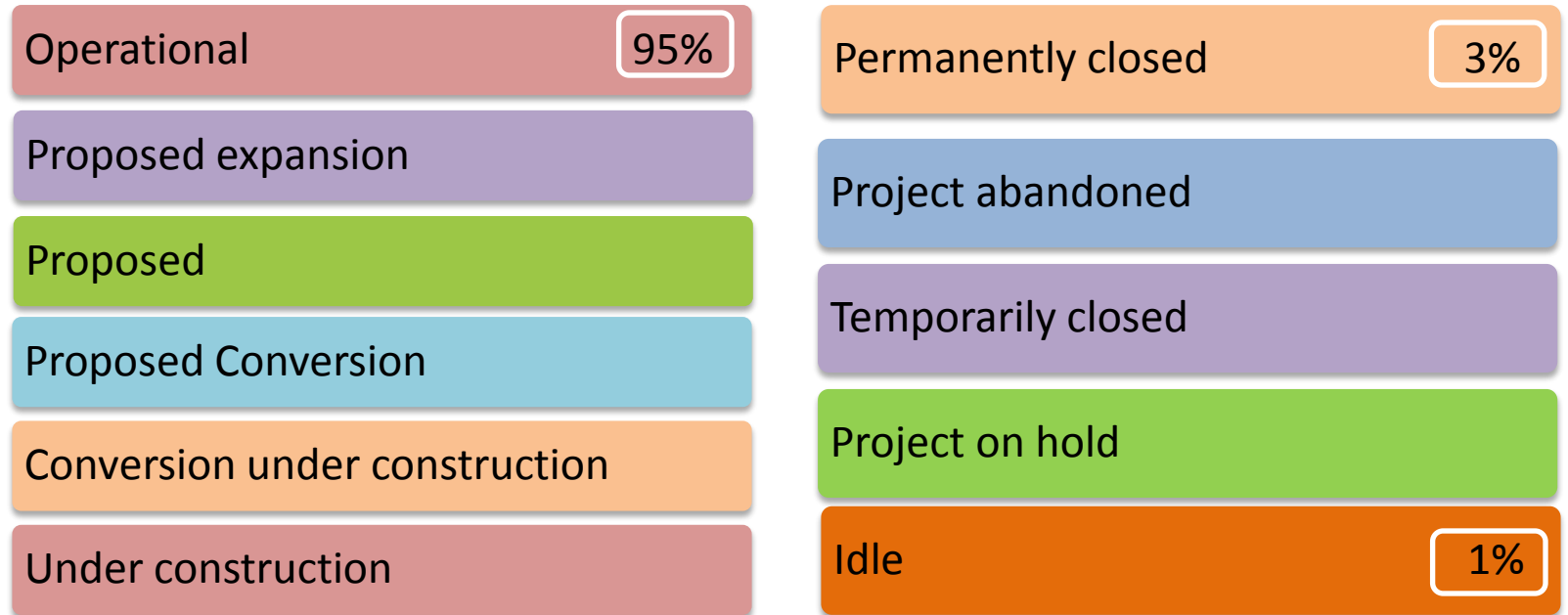


Sawmill

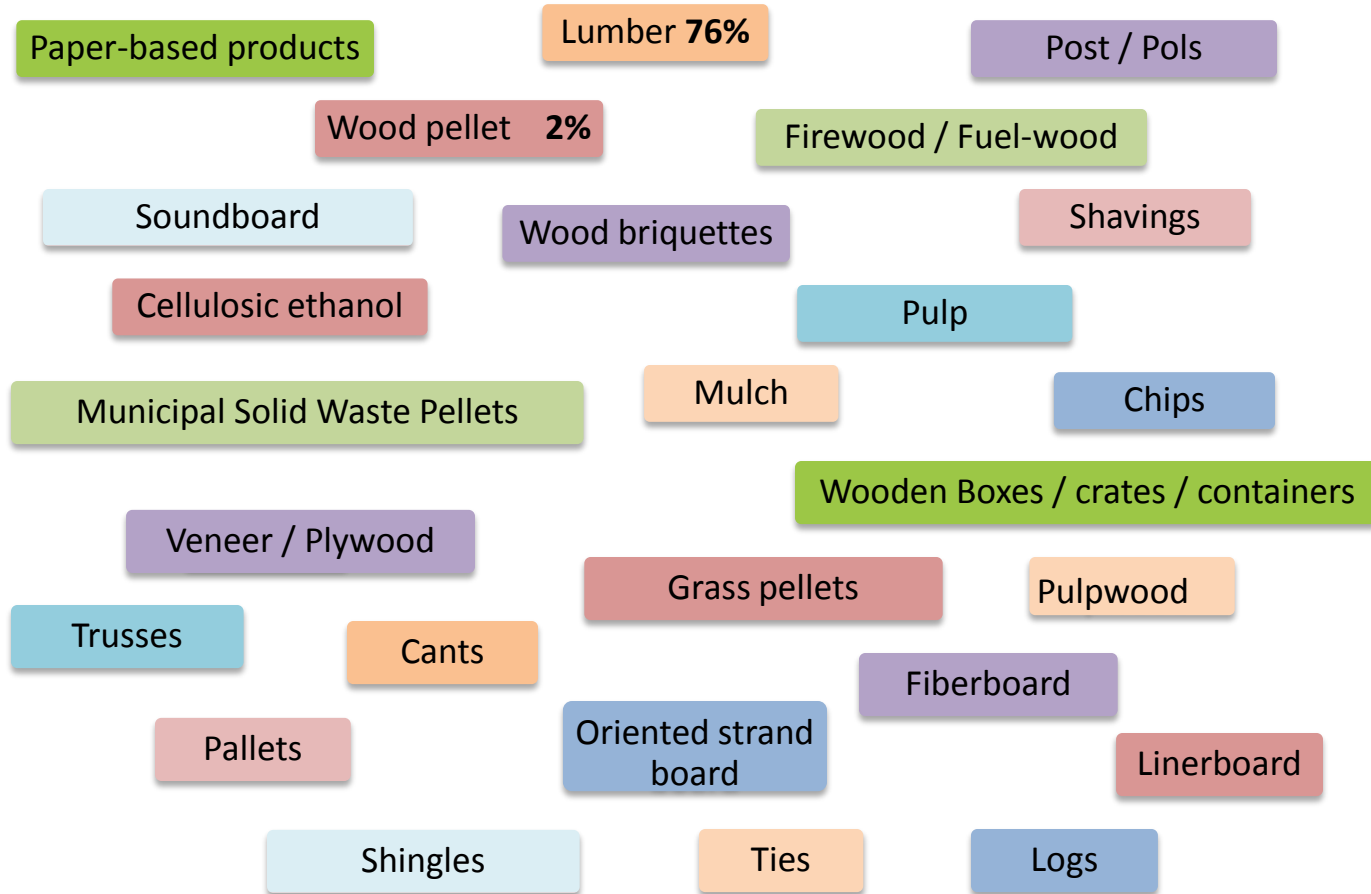


Other

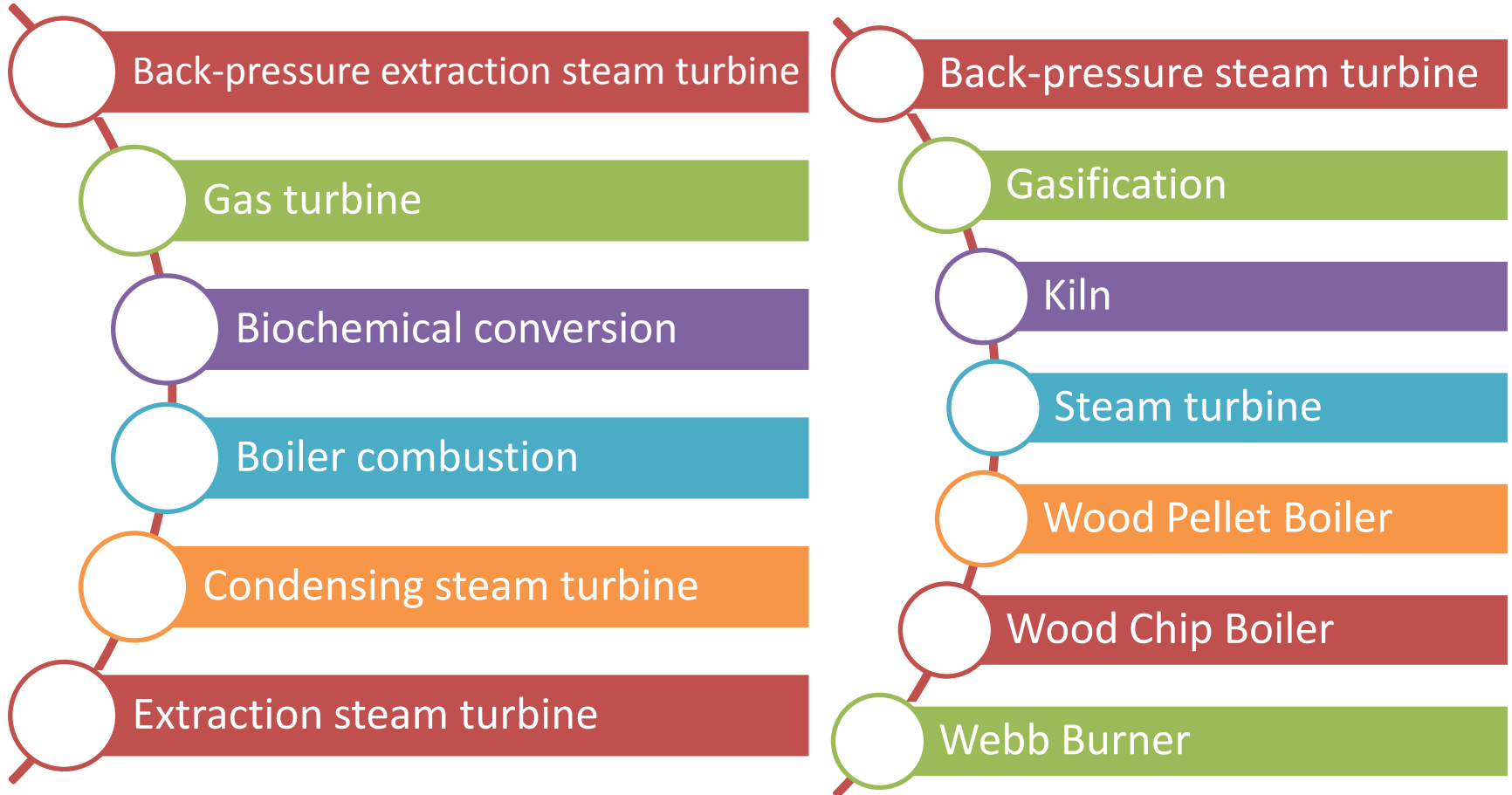
Facility Status



Product Types



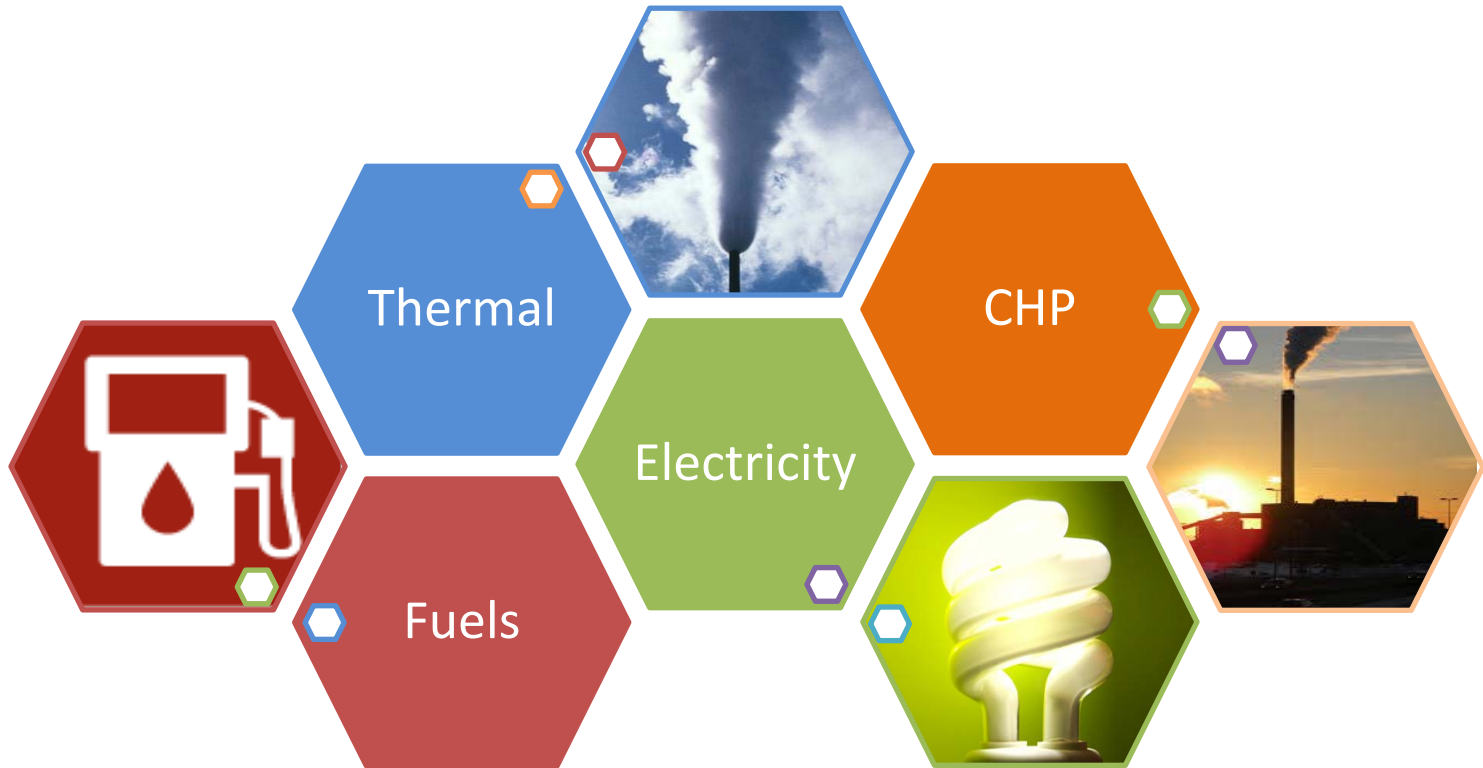
System Types



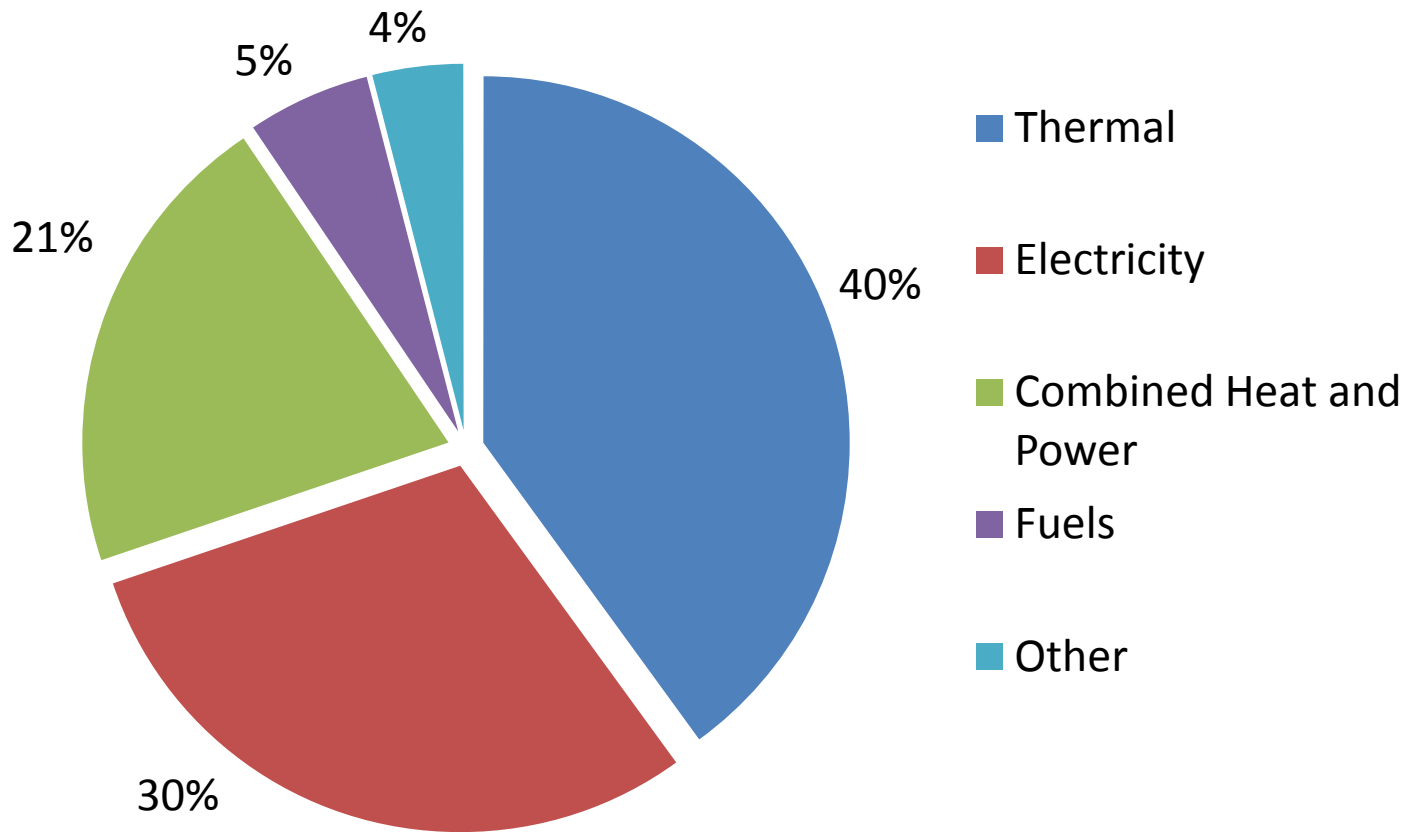
Fuel Types



Energy Types



Energy Types



Search Engines

4

facility Search options

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[Search by State/Province](#)

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Wood to Energy User Facility Database

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The Wood2Energy database provides the most comprehensive and up-to-date information base of its type. Such information is vital to making sound planning and business decisions to expand uses of wood for energy while protecting the long-term sustainability of North America's rich forested estate.

Data accessible in the Wood2Energy system includes green energy developed and used on-site as a byproduct of a primary manufacturing process such as that produced by sawmills or pulp and paper mills, the largest single producers of energy from woody biomass. It also includes the growing number of facilities dedicated to conversion of wood to energy. The data available in the current version of the database is considered to be version 1.0. New data are coming in regularly and periodic updates of the database will occur.

The system is being continuously updated to ensure that it is as comprehensive as is practical. The primary method to access the database is through one of the search options listed below. Information is available in tabular as well as map form. Data can also be downloaded as a Microsoft Excel™ file for further use (see download link below). Note this file contains multiple worksheets that mirror the W2E database structure (several data tables).

The system also includes means for individual facilities to update their information to ensure the most up-to-date data is available. If you wish to update information on a facility in the database, please use the link on that individual facility's page to update the information.

To access and search the database, choose one of the following options. Please note that when viewing maps of states or provinces with large numbers of facilities, maps images make take a longer time to load:

[Search](#)

[Clickable Map](#)

[Search by State/Province](#)

[Map Search Tool](#)

To download the current set of data (07/01/2014):

[W2E_Data_All.xls](#) (a 16.7 MB .xls file, click "Save" in File Download Dialog)

The database basic information document [Wood2Energy_DatabaseGuidelines.pdf](#) describes the Wood to Energy project, data sources and challenges, database coverage and expected benefits for potential users. It provides detailed description of the variables present in the Wood2Energy database.

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Search Engines: 1. Search

Wood to Energy Facility Search

Please enter at least one search criteria below.

Operator Name:

Facility/Site Name:

City/Town:

State/Province:

ZIP/Postal Code:

Facility Type:

Facility Status:

Energy Type:

Fuel Type:

Wood Product Type:

Search

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Wood to Energy Facility Search

Please enter at least one search criteria below.

Operator Name:

Facility/Site Name:

City/Town:

State/Province:

County:

ZIP/Postal Code:

Facility Type:

Facility Status:

Energy Type:

Fuel Type:

Wood Product Type:

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Search Engines: 1. Search

Wood to Energy Facility Search Result

[Back to Search](#)
 If you did not find a facility in the database, please [Submit a New Facility Form](#)
[Export Results to CSV file](#)

W2E database most recent update: 07/01/2014.
 Currently, updates are limited to new facility and facility update forms, or direct emails submitted by W2E users.

Your search returned 9 facilities

Facility Name	City	County	State/Province	Facility Type
Associated Harvest	Lafargeville	Jefferson	New York	Wood pellet producer
Curran Renewable Energy	Massena	Saint Lawrence	New York	Wood pellet producer
Deposit Manufacturing Facility	Deposit	Broome	New York	Wood pellet producer
Enviro Energy Llc	Unadilla	Otsego	New York	Wood pellet producer
Essex Pallet & Pellet	Keeseville	Essex	New York	Wood pellet producer
formerly Dry Creek Products	Arcade	Wyoming	New York	Wood pellet producer
Hearthside Wood Pellets Ltd	Stamford	Delaware	New York	Wood pellet producer
Instantheat Wood Pellets Inc.	Addison	Steuben	New York	Wood pellet producer
Schuyler Manufacturing Facility	Frankfort	Herkimer	New York	Wood pellet producer

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Search Engines: 2. Clickable Map

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Facilities by State/Province

State:
County:
Facility Type:
Facility Status:

Check the "Show All" box to list and map **ALL facilities** (i.e. facility names starting with all letters and numbers) based on your search criteria (Facility Type, Facility Status, and Area of Interest).
 Showing **All facilities** for a state that contains a large number of facilities (such as Georgia or Alabama) can take a substantial amount of time to return the facility results.

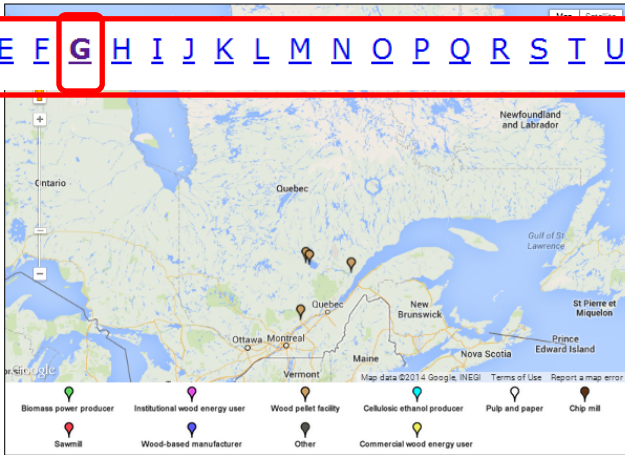
Show All

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) [Other](#)

W2E database most recent update: 07/01/2014.
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Show All

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) [Other](#)



If you did not find a facility in the database, please [Submit a New Facility Form](#)
[Export Results to CSV file](#)

Your search returned 4 facilities

Facility Name	City	County	State/Province	Facility Type
Granulco Inc.	Sacre-Coeur		Quebec	Wood pellet producer
Granules De La Mauricie	Shawinigan		Quebec	Wood pellet producer
Granules L.G. Inc	St Felicien		Quebec	Wood pellet producer

Search Engines: 2. Clickable Map

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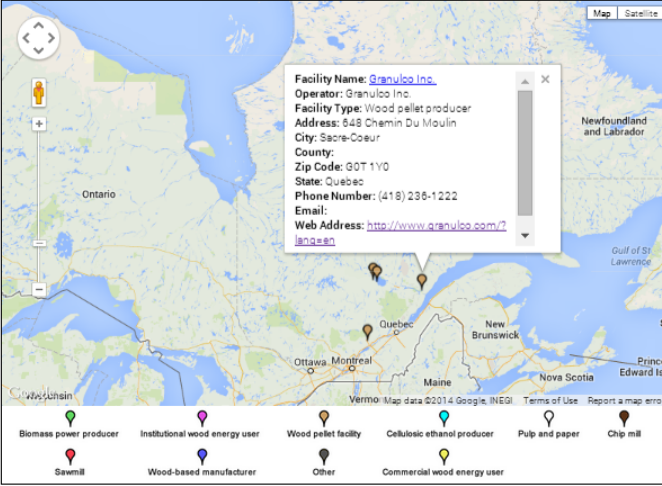
Facilities by State/Province

State	County	Facility Type	Facility Status
Quebec	all	Wood pellet producer	Operational

Check the "Show All" box to list and map **ALL facilities** (i.e. facility names starting with all letters and numbers) based on your search criteria (Facility Type, Facility Status, and Area of Interest). Showing ALL facilities for a state that contains a large number of facilities (such as Georgia or Alabama) can take a substantial amount of time to return the facility results.

Show All [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) [Other](#)

WZE database most recent update: 07/01/2014.
Currently, updates are limited to new facility and facility update forms, or direct emails submitted by WZE users.



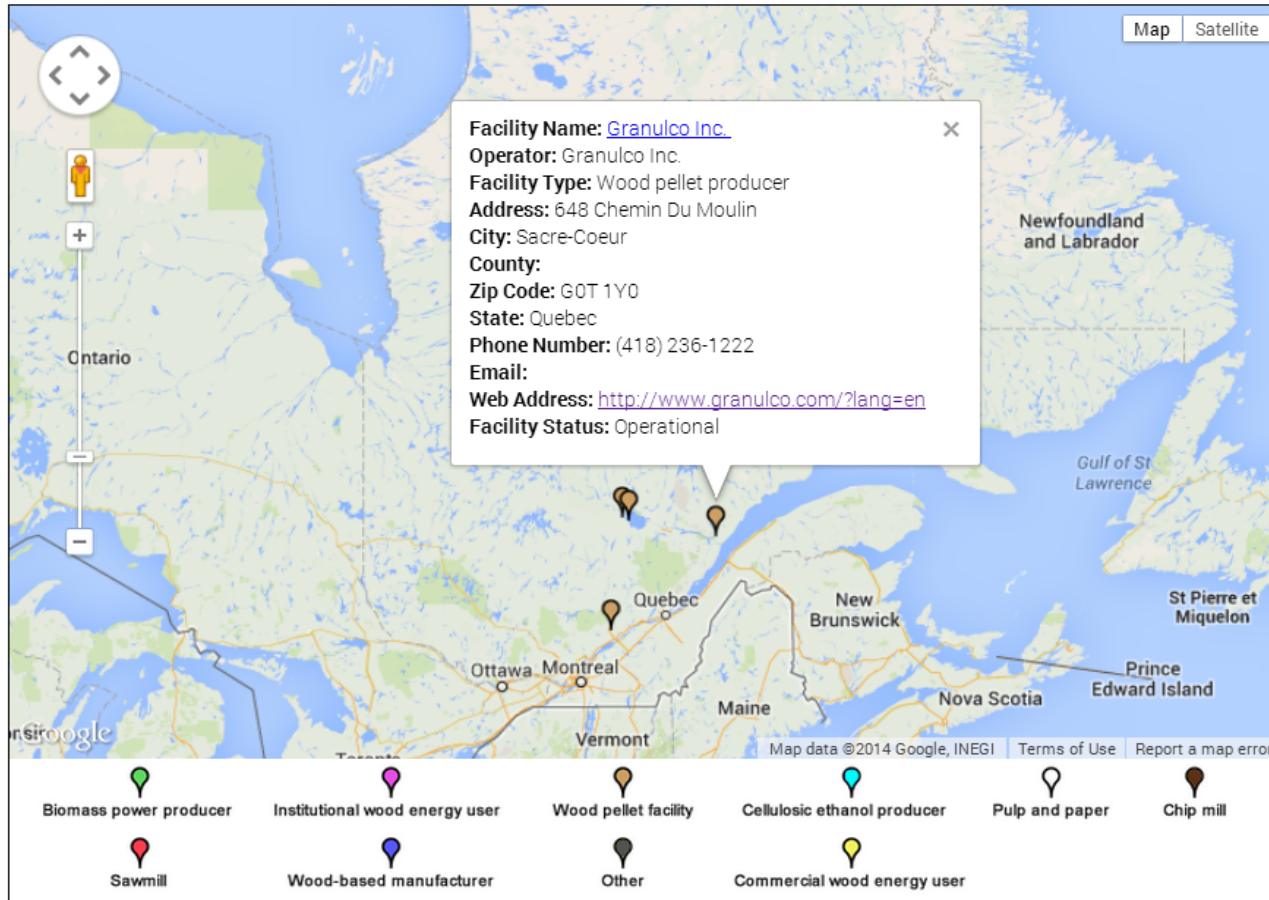
Facility Name: [Granulco Inc.](#)
Operator: Granulco Inc.
Facility Type: Wood pellet producer
Address: 648 Chemin Du Moulin
City: Sacre-Coeur
County:
Zip Code: G0T 1Y0
State: Quebec
Phone Number: (418) 236-1222
Email:
Web Address: <http://www.grnulco.com/>
[login](#)

If you did not find a facility in the database, please [Submit a New Facility Form](#)
[Export Results to CSV file](#)

Your search returned 4 facilities

Facility Name	City	County	State/Province	Facility Type
Granulco Inc.	Sacre-Coeur		Quebec	Wood pellet producer

Search Engines: 2. Clickable Map



Map Satellite

Facility Name: [Granulco Inc.](#) X

Operator: Granulco Inc.

Facility Type: Wood pellet producer

Address: 648 Chemin Du Moulin

City: Sacre-Coeur

County:

Zip Code: G0T 1Y0

State: Quebec

Phone Number: (418) 236-1222

Email:

Web Address: <http://www.grnulco.com/?lang=en>

Facility Status: Operational

Map data ©2014 Google, INEGI Terms of Use Report a map error

- Biomass power producer
- Institutional wood energy user
- Wood pellet facility
- Cellulosic ethanol producer
- Pulp and paper
- Chip mill
- Sawmill
- Wood-based manufacturer
- Other
- Commercial wood energy user

Search Engines: 3. Search by State/Province

Facilities by State/Province

State	County	Facility Type	Facility Status
Georgia	all	Biomass power producer	Proposed

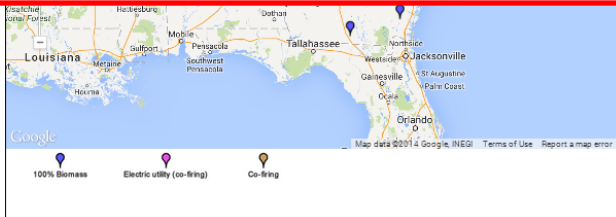
Facility sub-type (optional):

Check the "Show All" box to list and map ALL facilities (i.e. facility names starting with all letters and numbers) based on your search criteria (Facility Type, Facility Status, and Area of Interest). Showing ALL facilities for a state that contains a large number of facilities (such as Georgia or Alabama) can take a substantial amount of time to return the facility results.
[Show All](#)

W2E database most recent update: 07/01/2014.
 Currently, updates are limited to new facility and facility update forms, or direct emails submitted by W2E users.

State	County	Facility Type	Facility Status
Georgia	all	Biomass power producer	Proposed

Facility sub-type (optional):



If you did not find a facility in the database, please [Submit a New Facility Form](#)
[Export Results to CSV file](#)

Your search returned 12 facilities

Facility Name	City	County	State/Province	Facility Type
Atlanta Georgia Bio-Energy Park	Cummings	Forsyth	Georgia	Biomass power producer - 100% biomass
Fitzgerald Renewable Energy	Fitzgerald	Ben Hill	Georgia	Biomass power producer - 100% biomass

Search Engines: 3. Search by State/Province

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Facilities by State/Province

State
New Hampshire ▼

County
all ▼

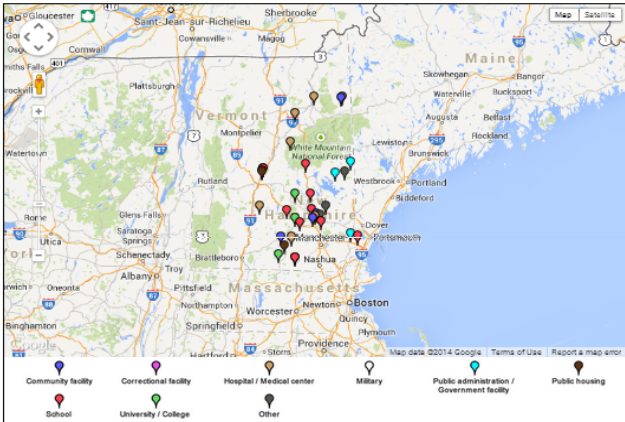
Facility Type
Institutional wood energy user ▼

Facility Status
Operational ▼

Facility sub-type (optional):
▼

Check the "Show All" box to list and map ALL facilities (i.e. facility names starting with all letters and numbers) based on your search criteria (Facility Type, Facility Status, and Area of Interest). Showing ALL facilities for a state that contains a large number of facilities (such as Georgia or Alabama) can take a substantial amount of time to return the facility results.
Show All

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If you did not find a facility in the database, please [Submit a New Facility Form](#)
[Export Results to CSV file](#)

Your search returned 35 facilities

Facility Name	City	County	State/Province	Facility Type
Androscoggin Valley Hospital	Berlin	Coos	New Hampshire	Institutional wood energy user - Hospital/Medical center
Carroll County Farm	Ossipee	Carroll	New Hampshire	Institutional wood energy user - Other
Concord Steam - Concord	Concord	Merrimack	New Hampshire	Institutional wood energy user - Hospital/Medical center

[Androscoggin Valley Hospital](#)

Search Engines: 3. Search by State/Province

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NEW FACILITY
FORM

Facility Details

** Information box will be displayed when text containing double asterisk is moused over

Facility Name:

Company Website:

Operator Name:

[Submit Updates For This Facility](#)

Facility Information:

Physical Address:**

City/Town:

County:

State/Province:

Zip/Postal Code:

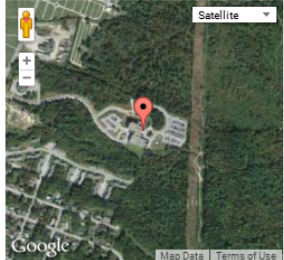
Country:

Latitude:

Longitude:

Email Address:

Phone Number:



Contact Person Information**

Same as submitted by

Name:

Email Address:

Phone Number:

Facility Information

Facility Type: **Sub-Type:**

Facility Status:

Year of Operation:**

Year Closed:

Energy Type (Used or Produced):

Fuel Type:

Total Wood System Capacity:**

Search Engines: 4. Map Search Tool

Search Facilities on Map

Facility Type
Institutional wood energy user

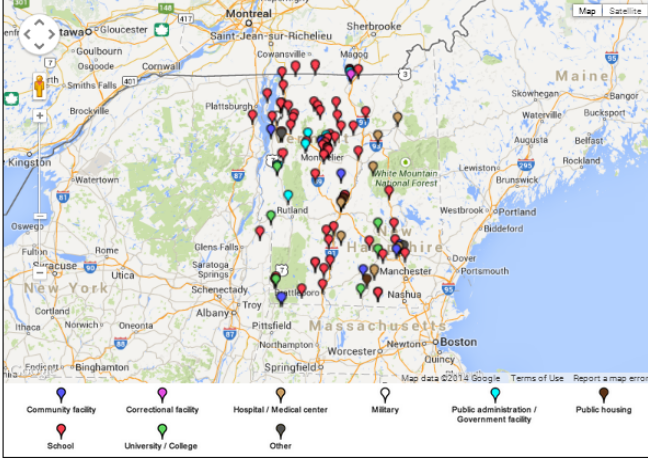
Facility Status
Operational

Facility sub-type (optional):
[Dropdown]

Select an Area of Interest
[Select Area]

Check the "Show All" box to list and map ALL facilities (i.e. facility names starting with all letters and numbers) based on your search criteria (Facility Type, Facility Status, and Area of Interest). Selecting a large Area of Interest can take a substantial amount of time to return the facility results. Show All

W2E database most recent update: 07/01/2014. Currently, updates are limited to new facility and facility update forms, or direct emails submitted by W2E users.



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If you did not find a facility in the database, please [Submit a New Facility Form](#)

[Export Results to CSV file](#)

Your search returned 97 facilities

Facility Name	City	County	State/Province	Facility Type
Addison County Courthouse	Middlebury	Addison	Vermont	Institutional wood energy user - Public administration/Government

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Select an Area of Interest

[Select Area]

Search Engines: 4. Map Search Tool

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Search Facilities on Map

Facility Type

Institutional wood energy user ▼

Facility Status

Operational ▼

Select an Area of Interest

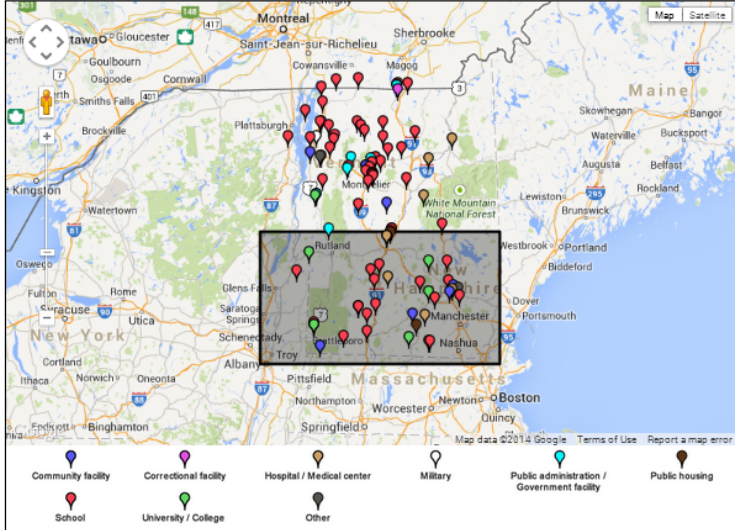
Select Area

Facility sub-type (optional):

▼

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Show All

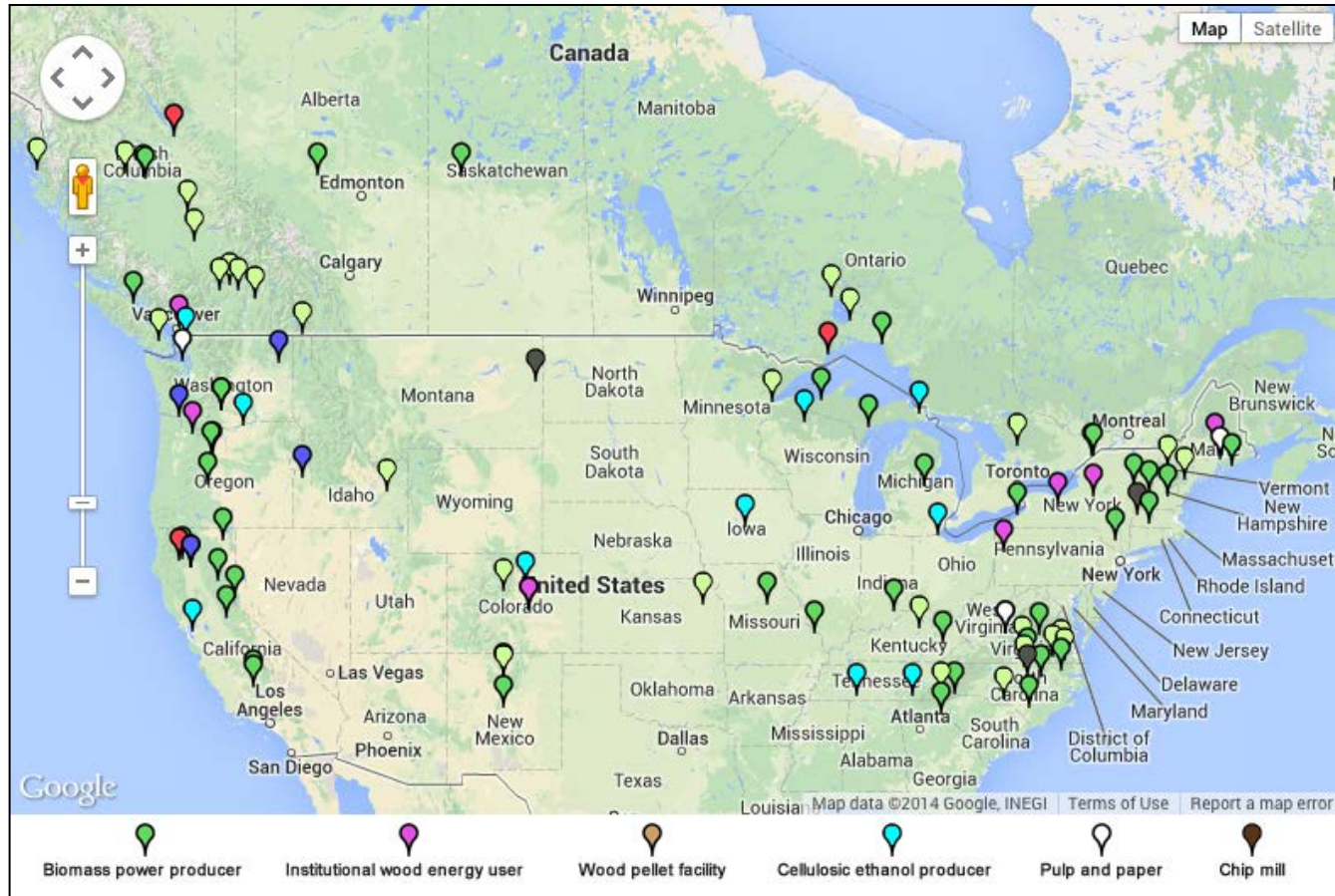
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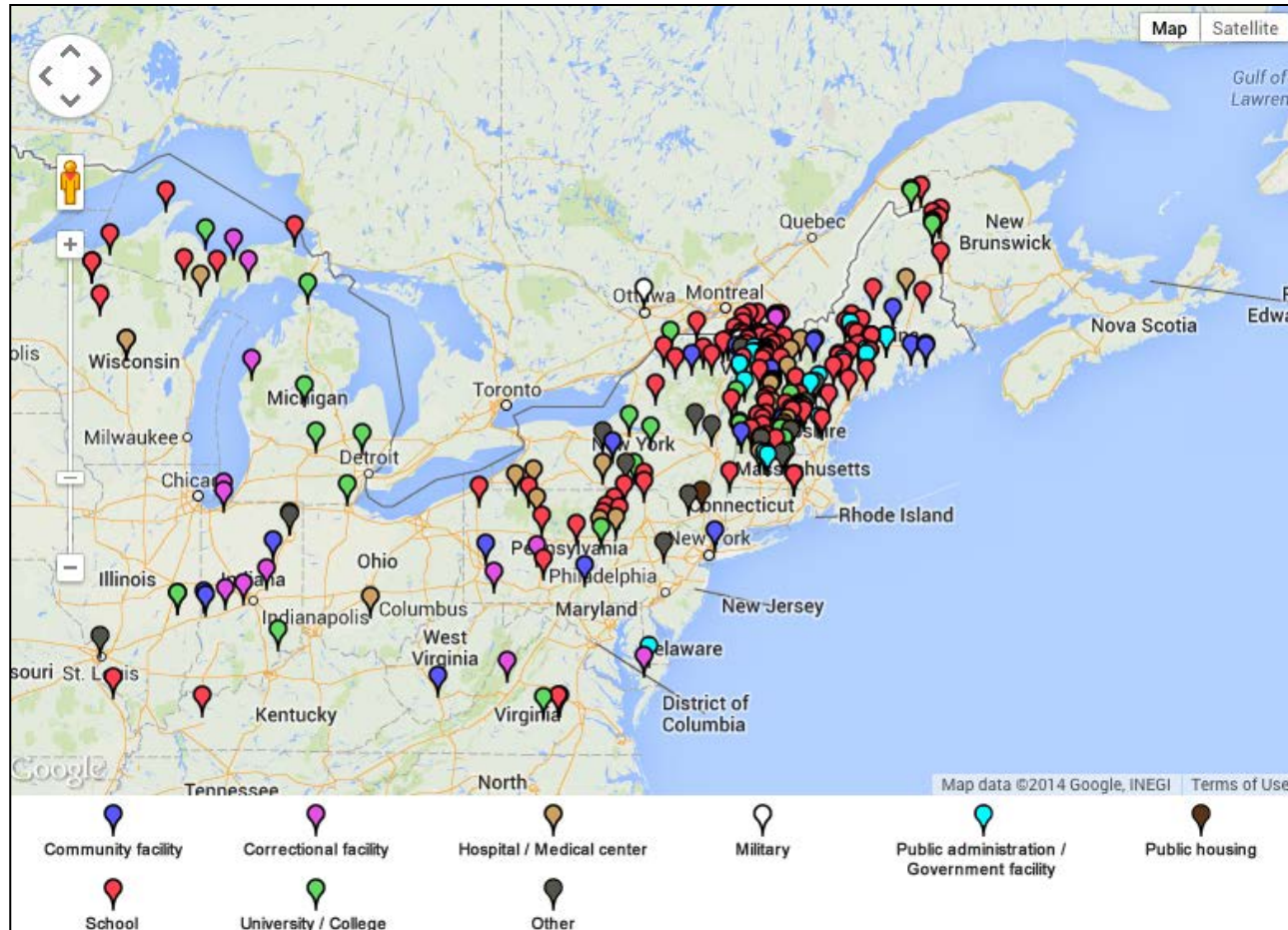
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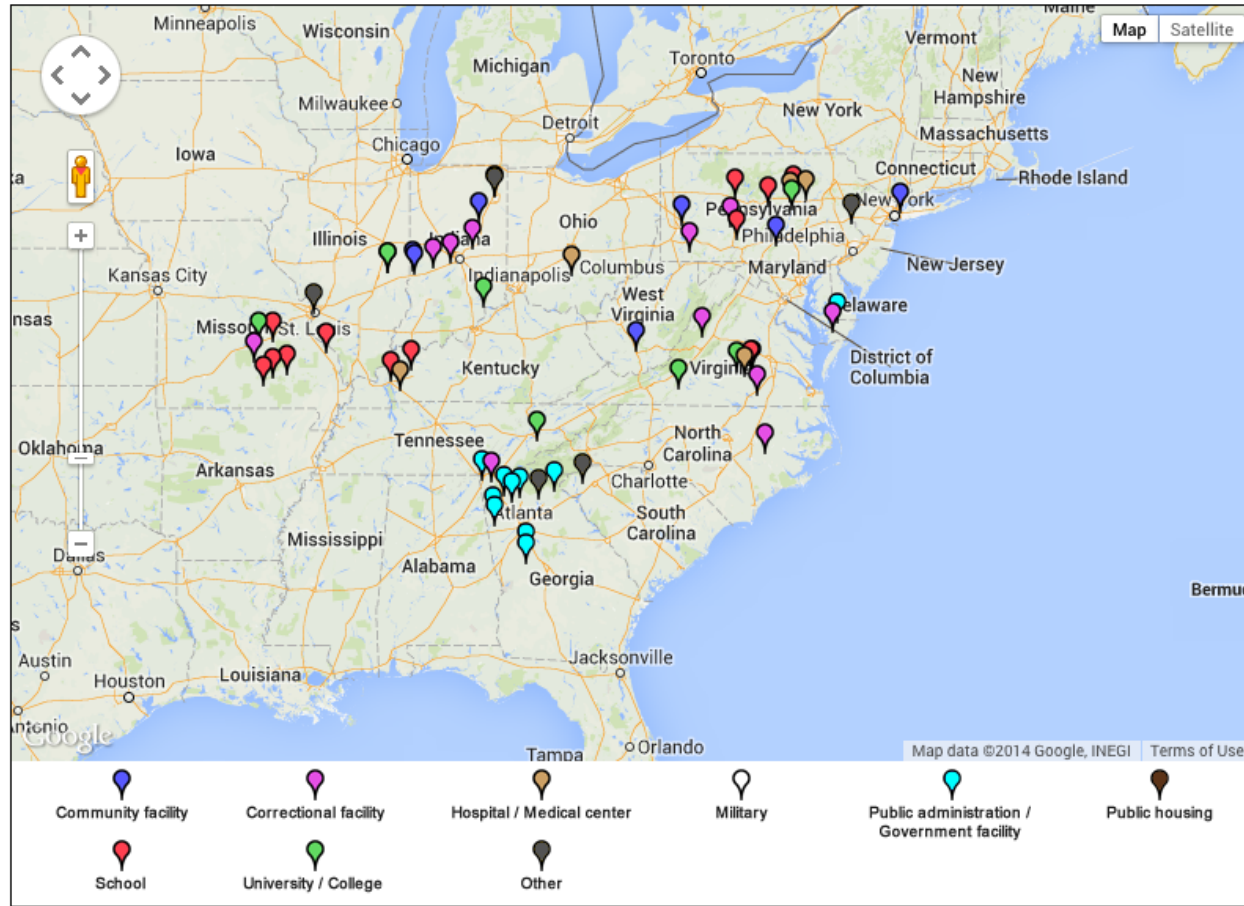
Maps



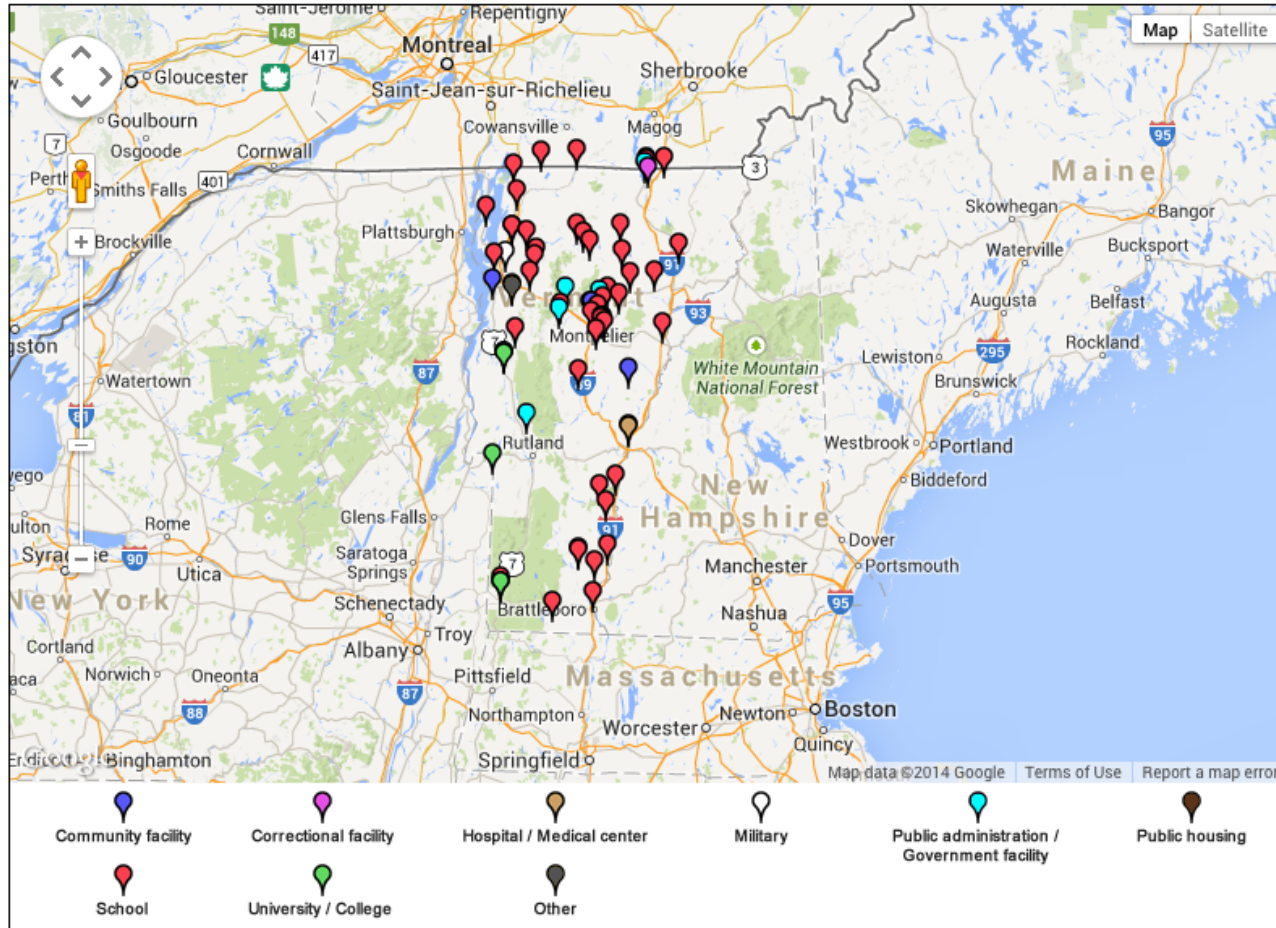
Maps



Maps



Maps



Forms

- New Facility Form

- Update Facility Form

New Facility Form

Wood to Energy User Facility Database

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New Facility Form



New Facility Details Form

* Asterisk indicates a Mandatory Field
** Information box will be displayed when text containing double asterisk is moused over

New Facility Information Submitted by:

Last Name*:
First Name*:
Email Address*:
Verify Email Address*:

Check Against Existing Facilities

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NEW FACILITY
FORM

Facility Name*:
Company Website:
Operator Name:

Facility Information:

Physical Address:**
City/Town:
County:
State/Province:
Zip/Postal Code:
Country:
Email Address:
Phone Number:

Contact Person Information**

Same as submitted by
Name:
Email Address:

New Facility Form

Contact Person Information**

Same as submitted by

Name:

Email Address:

Phone Number:

Facility Information

Facility Type: Sub-Type:

- Biomass power producer
- Cellulosic ethanol producer
- Chip mill
- Commercial Wood Energy User
- Institutional wood energy user
- Other
- Pulp and paper
- Sawmill
- Wood pellet producer
- Wood-based manufacturer

Facility Status:

Year of Operation:**

Year Closed:

Energy Type (Used or Produced):

Fuel Type:

Total Wood System Capacity:**

New Facility Form

Contact Person Information**

Same as submitted by

Name:

Email Address:

Phone Number:

Facility Information

Facility Type: Sub-Type:

Facility Status:

Year of Operation:**

Year Closed:

Energy Type (Used or Produced):

Fuel Type:

Total Wood System Capacity:**

New Facility Form

Contact Person Information**

Same as submitted by

Name:

Email Address:

Phone Number:

Facility Information

Facility Type: Sub-Type:

Facility Status:

Year of Operation:**

Year Closed:

Energy Type (Used or Produced):

Fuel Type:

Total Wood System Capacity:**

- Operational
- Conversion under construction
- Idle
- Operational
- Permanently closed
- Project abandoned
- Project on hold
- Proposed
- Proposed conversion
- Proposed expansion
- Temporarily closed
- Under construction
- Other

Update Facility Form

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NEW FACILITY
FORM

Facility Details

** Information box will be displayed when text containing double asterisk is moused over

Facility Name:

Company Website:

Operator Name:

[Submit Updates For This Facility](#)

Facility Information:

Physical Address:**

City/Town:

County:

State/Province:

Zip/Postal Code:

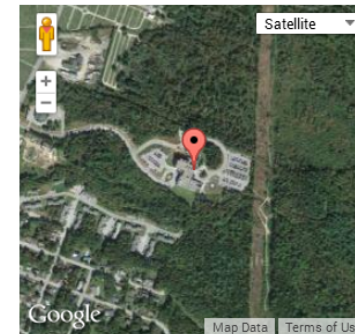
Country:

Latitude:

Longitude:

Email Address:

Phone Number:



Contact Person Information**

Same as submitted by

Name:

Email Address:

Phone Number:

Update Facility Form

Facility Information

Facility Type: Sub-Type:

Facility Status:

Year of Operation:**

Year Closed:

Energy Type (Used or Produced):

Fuel Type:

Total Wood System Capacity:** Other

Installed Electrical Capacity:**

Production Class:

Number of Employees:

Case Study:**

Year of Case Study:

Case Study Web Link:

Product Types Produced Information**

Product Type	Quantity produced
<input type="text"/>	<input type="text"/>

Wood Residue Information

Production Capacity:**

Type Produced	Sub Type Produced
<input type="text"/>	<input type="text"/>

Update Facility Form

Wood to Energy System Information**

Wood to Energy System Types:

ID	System Type	Manufacturer
1	Wood Chip Boiler ▼	Messersmith

ID	System Model	Year Installed	Wood System Capacity
1		2012 ▼	250 Other ▼ HP

ID	Energy Capacity:**	Thermal Capacity
1		

ID	Actual Energy Output	Annual Fuel Consumption
1		

ID	Annual Wood Fuel Consumption**	Electricity	Heat Steam
1			

Total Annual Wood Fuel Consumption:** 2300 Other ▼ Ton/yr

For Electricity:**
For Heat/Steam:**

Wood Fuel Types:**

Wood Fuel Type	Wood Fuel Sub Type

Primary Fuel Type: Wood chips ▼
Primary Fuel Annual Consumption:**

Backup Fuel Types:

ID	BackUp Fuel Type	BackUp Fuel Sub Type
1		

ID	Usage Amount
1	

Energy Output Types:

Energy Output Type	Energy Output Sub Type

Actual Energy Output:**

Wood Energy Uses:**

Wood Energy Use	Wood Energy Use Details

State Air Permit Status: ▼
Emissions Control Device: electrostatic precipitat
Emissions Testing Done:**
Most Recent Test Year:** ▼

Update Facility Form

Institutional Wood Energy User Information

Heated Square-footage**:

New or Replacement**:

Fuel Replaced:**

Estimated Annual Fossil Fuel
Offset:**

Estimated Annual Fuel Savings:**

Project Cost:**

Project Funding:**

Project Funding Source(s):**

Additional Information:

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Thank you for your attention!

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Booth № 102