



Westers Wester

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

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











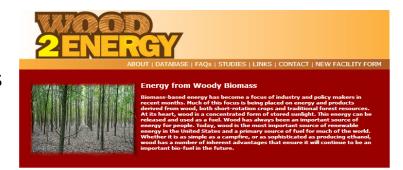






Wood2Energy Project

- o 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



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

- 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 Webins
- or January 25, 2010



Financial sponsors 2013-2014

















































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Pellet Fuels Institute





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Forest Products
Association of Canada

Association des produits forestiers du Canada fpac.ca



Natural Resources Canada Ressources naturelles Canada





Highlights

Improvements

Advantages

4 search options

Interactive maps

Free access

Data validation

Monthly updates

Database revision

Applications

Project Research

Market Analysis

Market Development

















Users

Policy

USDA FS

National Renewable Energy Lab Research

University of Tennessee

University of Minnesota

Analytics

BTEC, BPA, PFI

Energy Ventures Analysis Inc.

















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















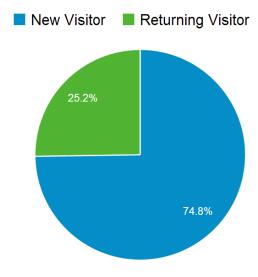




Users

January - July 2014

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













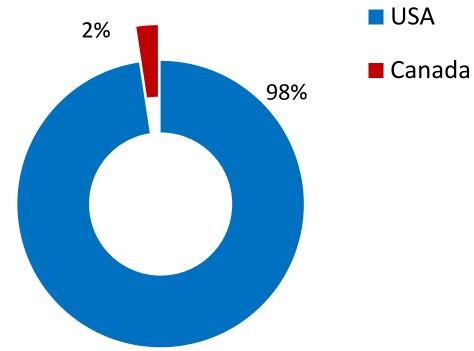






Data overview

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

Operational 95%

Proposed expansion

Proposed

Proposed Conversion

Conversion under construction

Under construction

Project abandoned

Temporarily closed

Project on hold

Idle

1%









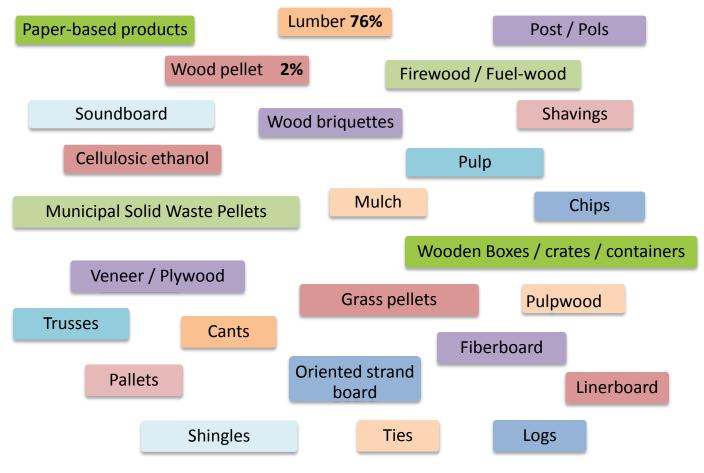








Product Types



















System Types

Back-pressure extraction steam turbine

Gas turbine

Biochemical conversion

Boiler combustion

Condensing steam turbine

Extraction steam turbine

Back-pressure steam turbine

Gasification

Kiln

Steam turbine

Wood Pellet Boiler

Wood Chip Boiler

Webb Burner









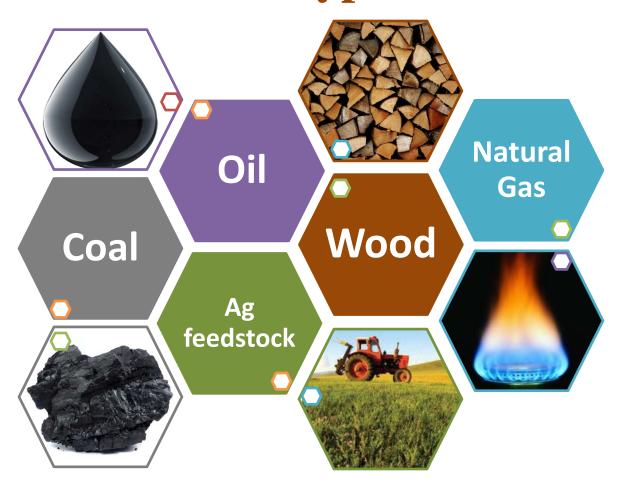






WOODZENERGY

Fuel Types











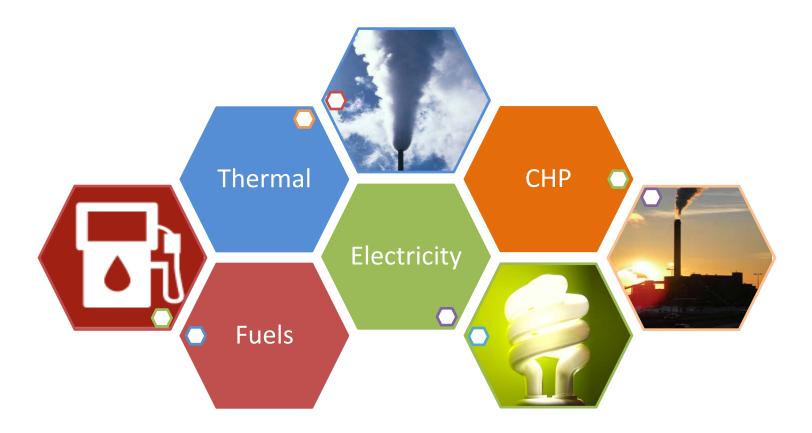








Energy Types











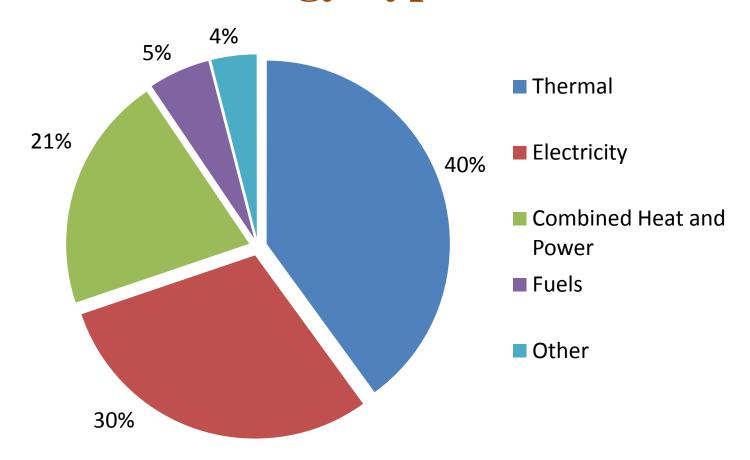








Energy Types



















Search Engines

4

facility Search options

Search

Clickable Map

Search by State/Province

Map Search Tool

Wood to Energy User Facility Database

HOME ABOUT DATABASE FAQS STUDIES LINKS

NEW FACILITY FORM 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 ExcelTM 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.

Home | About | Database | FAQs | Studies | Links | Contacts | New Facility Form

















Search Engines: 1. Search

	Wood to Energy Facility Search
	Please enter at least one search criteria below.
HOME ABOUT	Operator Name:
DATABASE	Facility/Site Name:
FAQs	City/Town:
STUDIES	State/Province:
LINKS CONTACT	ZIP/Postal Code:
	Facility Type:
	Facility Status:
NEW FACILITY	Energy Type:
FORM	Fuel Type:
	Wood Product Type:
	Search
	Home About Database FAOs Studies Links Contacts New Facility Form

















Search Engines: 1. Search

	Wood to Energy Facility Search
HOME ABOUT DATABASE FAQs STUDIES LINKS CONTACT	Please enter at least one search criteria below. Operator Name: Facility/Site Name: City/Town: State/Province: New York County: ZIP/Postal Code:
NEW FACILITY FORM	Facility Type: Facility Status: Operational Fuel Type: Wood Product Type: Wood Product Type: Under construction Proposed conversion Conversion under construction Project on hold Proposed expansion Project abandoned Idle

















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

ABOUT
DATABASE
FAQs
STUDIES
LINKS
CONTACT

NEW FACILITY FORM 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

<u>Facility Name</u>	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







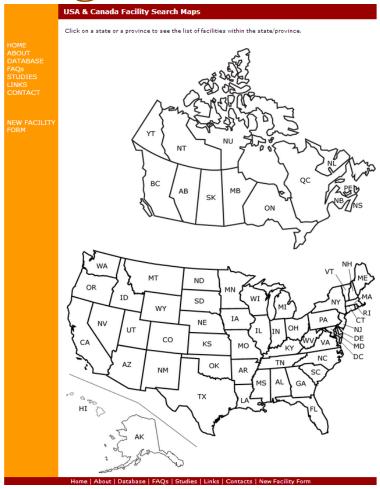


















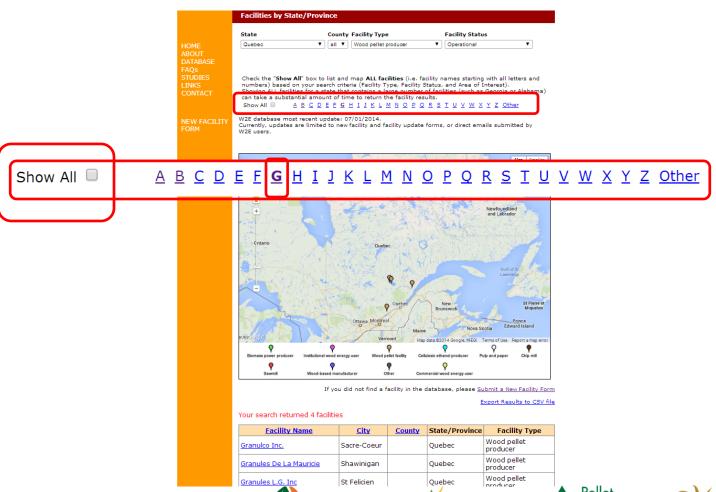


















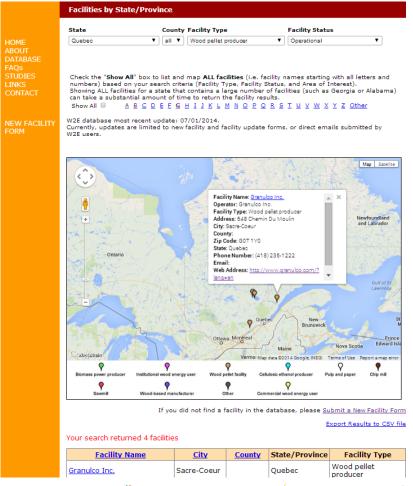


















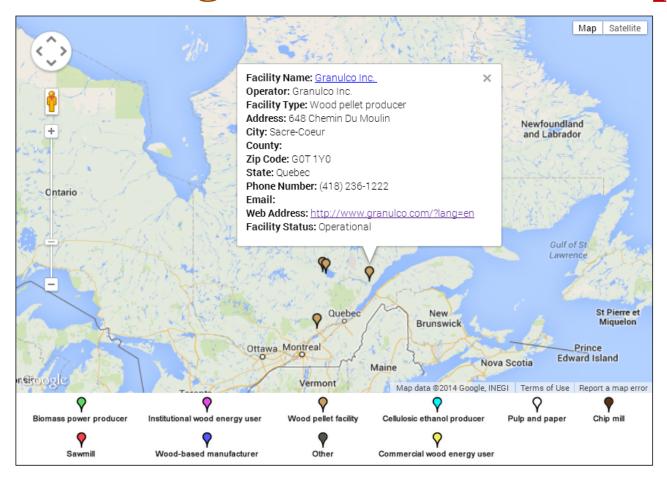




























Search Engines: 3. Search by State/Province

		Facilities by State/Provi	ince				
		State	County	Facility Type	Facil	lity Status)
	HOME	Georgia ▼	all ▼	Biomass power prod	ucer ▼ Prop	oosed ▼	
	ABOUT DATABASE			Facility sub-type	(optional): ▼		
	FAQS STUDIES LINKS CONTACT NEW FACILITY FORM	Check the "Show All" box to numbers) based on your sei- Showing ALL facilities for a s can take a substantial amou Show All ill W2E database most recent up Currently, updates are limited W2E users.	arch criteria (Facility tate that contains a unt of time to return pdate: 07/01/2014.	Type, Facility Stat large number of the facility result:	us, and Area of Int acilities (such as G i.	terest). Beorgia or Alabama)	
State		County	Fa	acility Ty	ре	/ Narako a.	Facility Status
Georgia		▼ all	▼ B	liomass po	wer produ	icer ▼	Proposed •
		Statistics Heat-place Configuration Conf	Southwest Pensacola	Weste Gaines O	Palm Coast Orlando	rms of Use Report a map error	
		Your search returned 12 for Facility Name	If you did not fin	d a facility in the	database, please §	Submit a New Facility Form Export Results to CSV file Facility Type	
		Atlanta Georgia Bio-Enero Park	Cummings	Forsyth	Georgia	Biomass power producer - 100%	
						biomass	

















Search Engines: 3. Search by State/Province

State	Coun	ty F	acility Type		Facility Status
New Hampshire	▼ all	▼	Institutional wood en	ergy user ▼	Operational
		E	acility sub-type (1
		L			J
numbers) based or	n your search c ties for a state	riteria (Facilit that contains	ty Type, Facility : a large number o	ility names starting w Status, and Area of In of facilities (such as G cility results.	terest).
W2E database mos Currently, updates				forms, or direct emails	submitted by W2E user
Utica	Glens Falls Salvatoga Springs Schenectady Albanyo Troy Prittsfel	Manpoler Had San Store S	Mesthon Doyn Mesthon Doyn Mesthon Doyn Mesthon Doyn Mesthon Doyn Mesthon Mes	Augusta Bellau Rockland Rockland	a of Use Report a map error / Public howing
		If you o	did not find a facil	lity in the database, p	lease <u>Submit a New Faci</u>
Your search retu	rned 35 facilit	ies			Export Results to
Facility N	lame	City	County	State/Province	Facility Type
Androscoggin Va Hospital					Institutional wood en
nospital	<u>illev</u>	Berlin	Coos	New Hampshire	user - Hospital/Medic center
Carroll County F		Berlin Ossipee	Coos	New Hampshire	user - Hospital/Medic



<u>Hospital</u>



Androscoggin Valley













Search Engines: 3. Search by State/Province

	Facility Details						
	** Information box will be displayed when text containing double asterisk is moused over						
HOME ABOUT	Facility Name: Androscoggin Valley Hospital						
DATABASE		ttp://www.smrtinc.com/media_center/androscoggin-valley-hospital-p					
FAQs	Operator Name:	Coloris to Jane For this For the					
STUDIES		Submit Updates For This Facility					
LINKS CONTACT	Facility Informatio	on:					
	Physical Address:**	59 Page Hill Rd					
NEW EACH TO	City/Town:	Berlin Page 1					
NEW FACILITY FORM	County:	Coos d' + Coos					
10141	State/Province:	New Hampshire ▼					
	Zip/Postal Code:	03570					
	Country:	USA ▼					
	Latitude: 4	14.487122					
	Longitude: -	71.154928					
	Email Address:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
	Phone Number: (603) 752-2200 Google					
		Map Data Terms of Use					
	Contact Person In						
	Name:	Steve Mcmann					
	Email Address:	stephen.mcmann@avhnh.org					
	Phone Number:	(603) 326-5681					
	Facility Information	on					
	Facility Type:	Institutional wood energy user ▼ Sub-Type: Hospital/Medical center ▼					
	Facility Status:	Operational ▼					
	Year of Operation:**	▼					
	Year Closed:	▼					
	Energy Type (Used or Produced):	Thermal 🔻					
	Fuel Type:	Wood ▼					
	Total Wood System Capacity:**	250 Other ▼ HP					

















Search Engines: 4. Map Search Tool

	Search Facilities on	Мар			
HOME ABOUT DATABASE FAQS STUDIES LINKS	Facility Type Institutional wood energy u Facility sub-type (optio	ser ▼ nal):	Facility Status Operational	(i.e. facility names	Select an Area of Interest Select Area
CONTACT	numbers) based on you	ur search criteria	(Facility Type, F	acility Status, and A	Area of Interest). Preturn the facility results.
NEW FACILITY FORM	W2E database most reco Currently, updates are li W2E users.	ent update: 07/0 mited to new faci	1/2014. lity and facility	update forms, or di	rect emails submitted by
	Sounds All Corrections of the Correction Community facility Corrections of the Correction Community facility Corrections	Clens Falls Springs Schenectary Albanys Tr A	Rutland Rutland Rutland Rutland Wor Springfield Other	Westh Additional Westh	ortsmouth
	Facility Name	City	County	State/Province	Facility Type
	Addison County	Middlebury	Addison	Vermont	Institutional wood energy user - Public administration/Government













Select an Area of Interest

Select Area





Search Engines: 4. Map Search Tool

	Search Facilities on Map		
HOME ABOUT DATABASE FAQS STUDIES LINKS CONTACT	Facility Type Institutional wood energy user ▼ Facility sub-type (optional): ▼ Check the "Show All" box to list and numbers) based on your search criteri Selecting a large Area of Interest can Show All ■		rea of Interest).
NEW FACILITY FORM	W2E database most recent update: 07/ Currently, updates are limited to new fa W2E users.		ect emails submitted by
	Contand Ithea Norwich Oneonts Felispin Oneonts Rome Curacuse Utica Sariatoga Sariatoga Utica Sariatoga Ithea Norwich Oneonts Felispin Oneonts	Monty-tier White Mountain Majorial Forest Wester Washington Washington Worcester Northampton Worcester Northampton Worcester Worcester Newtonic blost Ouiney Springfields Maj data 22014 Millary Publication	ortsmouth









If you did not find a facility in the database, please Submit a New Facility Form



Export Results to CSV file















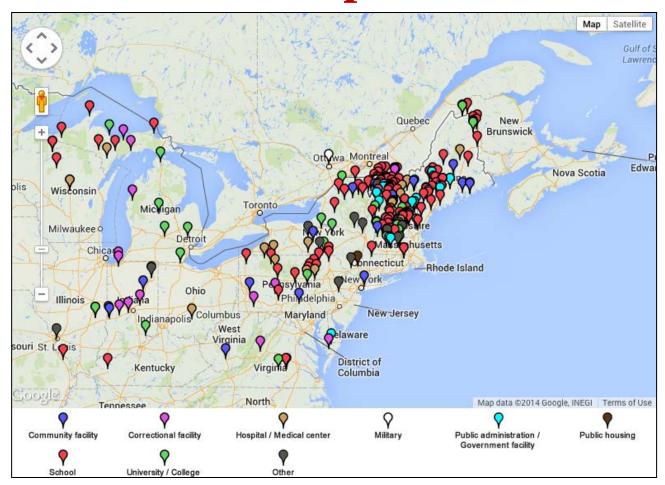




































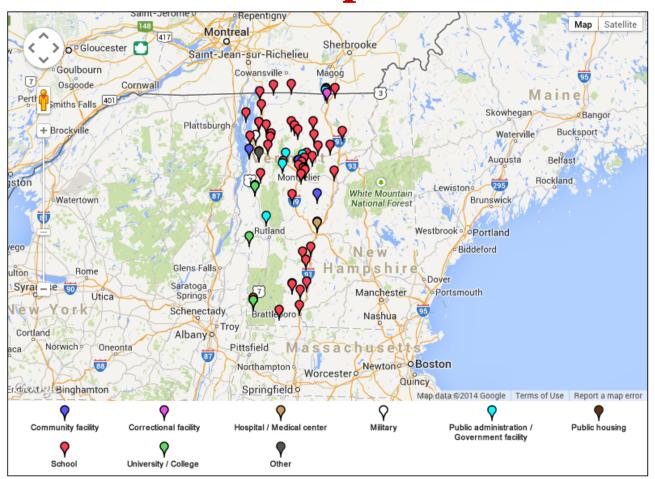




























Forms

- New Facility Form
- Update Facility Form

















Wood to Energy User Facility Database

HOME ABOUT DATABASE FAQs STUDIES LINKS CONTACT 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.

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NEW FACILITY FORM

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Clickable Map

Search by State/Province

Map Search Tool

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The database basic information document <u>Wood2Energy DatabaseGuidelines.pdf</u> 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.

Home | About | Database | FAQs | Studies | Links | Contacts | 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: **Check Against Existing Facilities** Last Name*: First Name*: Email Address*: Verify Email Address*: **Facility Name:** Check Against Existing Facilities 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:

















	e a deste		
Contact Person In			
 Same as submitted 	by		
Name:	Olga Khaliukova		
Email Address:	okhaliuk@utk.edu		
Phone Number:	8653080464		
F:::: T£			
Facility Information	on		
Facility Type:	Institutional wood energy user 🔻	Sub-Type:	
Add Facility Type Facility Status: Year of Operation:** Year Closed:	Biomass power producer Cellulosic ethanol producer Chip mill Commercial Wood Energy User Institutional wood energy user Other Pulp and paper Sawmill		
Energy Type (Used or Produced):	Wood pellet producer Wood-based manufacturer		
Add Energy Type Produc	ed		
Fuel Type:	•		
Total Wood System Capacity:**		•	

















Contact Person I	information**		
Same as submitted	d by		
Name:	Olga Khaliukova		
Email Address:	okhaliuk@utk.edu		
Phone Number:	8653080464		
Facility Informat	tion		
Facility Type:	Institutional wood energy user •	Sub-Type:	
Add Facility Type			Community facility Correctional facility Hospital/Medical center Military
Facility Status:	•		Other Public administration/Government facilit
Year of Operation:**	•		Public housing
Year Closed:	•		School University/College
Energy Type (Used or Produced):	•		Other
Add Energy Type Produ	uced		
Fuel Type:	•		
Total Wood System Capacity:**		•	

















Email Address: okhaliuk@utk.edu Phone Number: 8653080464 Facility Information Facility Type: Institutional wood energy user Add Facility Type Facility Status: Operational Year of Operation:** Year Closed: Conversion under construction Idle Operational Permanently closed Permanently closed Permanently closed		nformation**
Email Address: okhaliuk@utk.edu Phone Number: 8653080464 Facility Information Facility Type: Institutional wood energy user Sub-Type: Hospital/Medical center Add Facility Type Facility Status: Operational Year of Operation:** Year of Operation:** Year Closed: Operational Operational Permanently closed Energy Type (Used or	 Same as submitted 	d by
Phone Number: 8653080464 Facility Information Facility Type: Institutional wood energy user Sub-Type: Hospital/Medical center Add Facility Type Facility Status: Operational Year of Operation:** Year of Operation:** Year Closed: Conversion under construction Idle Operational Permanently closed Permanently closed	Name:	Olga Khaliukova
Facility Information Facility Type: Institutional wood energy user Add Facility Type Facility Status: Operational Year of Operation:** Year Closed: Conversion under construction Idle Operational Permanently closed Permanently closed	Email Address:	okhaliuk@utk.edu
Facility Type: Institutional wood energy user Sub-Type: Hospital/Medical center Add Facility Type Facility Status: Operational Conversion under construction lide Operational Permanently closed Facility Type Used or Permanently closed	Phone Number:	8653080464
Add Facility Type Facility Status: Operational Year of Operation:** Year Closed: Conversion under construction Idle Operational Energy Type (Used or	Facility Informat	ion
Year of Operation:** Year Closed: Energy Type (Used or	Facility Type:	Institutional wood energy user Sub-Type: Hospital/Medical center
Year of Operation:** Conversion under construction Idle Year Closed: Operational Permanently closed Permanently closed	Add Facility Type	
Year Closed: Idle	Facility Status:	Operational
Coperational Energy Type (Used or Permanently closed Permanently closed	Year of Operation:**	Conversion under construction
Energy Type (Used or Permanently closed	Year Closed:	
- I D Project abandoned	Energy Type (Used or	Permanently closed
Project abalitoried Project on hold	Produced):	Project abandoned Project on hold
Add Energy Type Produced Proposed conversion	Add Energy Type Produ	Icec Proposed conversion
Proposed expansion Temporarily closed		Temporarily closed
Fuel Type: Under construction Other	Fuel Type:	

















		Facility Details	
		** Information box wil	l be displayed when text containing double asterisk is moused over
HOME ABOUT DATABASE FAQs STUDIES		_	Androscoggin Valley Hospital ttp://www.smrtinc.com/media_center/androscoggin-valley-hospital-plans-to-offs Submit Updates For This Facility
	LINKS CONTACT	Facility Informa	ation:
		Physical Address:**	59 Page Hill Rd Satellite ▼
		City/Town:	Berlin
	NEW FACILITY FORM	County:	Coos
	TORM	State/Province: Zip/Postal Code:	New Hampshire 03570
		Country:	USA ▼
		Latitude:	44.487122
		Longitude:	-71.154928
		Email Address:	Conta
		Phone Number:	(603) 752-2200 Map Data Terms of Use
		Contact Person	
		Same as submitted Name:	d by Steve Mcmann
		Name: Email Address:	stephen.mcmann@avhnh.org
		Phone Number:	(603) 326-5681
			(600) 220 000

















Facility Type:	Institutional wood energy user	▼ Sub-Type	e: Hospital/Medical center	▼
, . , , ,			[
Facility Status:	Operational ▼			
Year of Operation:**	▼			
Year Closed:	▼			
Energy Type (Used or Produced):	Thermal ▼			
Fuel Type:	Wood ▼			
Total Wood System Capacity: **	250 O	ther ▼ HP		
Installed Electrical	,	,		
Capacity:** Production Class:		_ _		
Number of Employees		_		
Case Study:**	▼			
Year of Case Study:	•			
Case Study Web Link:				
Droduct Types D	roduced Information**			
Product Types P	Product Type		Quantity p	roduce
▼	71			
Wood Residue Ir	formation			
Production Capacity:	**]		
Type I	Produced		Sub Type Produced	

















			m Types:	Contact Torr			Manufact
I	_			System Type			Manufacturer
1	Wo	od Chip Boiler	7				Messersmith
I	D	System M	odel	Year Installed		Wood Sys	stem Capacity
1				2012 ▼	250	Other ▼ H	P
I	D	Ene	ergy Capac	ity:**		Ther	mal Capacity
1		▼				▼	
I	D O	Actu	al Energy	Output		Annual F	uel Consumption
1						▼	
I	D C	Annual Woo	od Fuel Co	nsumption**		Electricity	Heat Steam
1		▼			[
To	tal An	nual Wood Fu	el Consum	ption:** 2300		Other ▼	Ton/yr
		ectricity:**		2000		O.H.C.	10.1131
F	or He	at/Steam:**					
Wo	od Fu	el Types:**					
		Wood Fuel Ty	/pe				
Т						Wood Fuel Su	b Type
	¥			T		Wood Fuel Su	b Type
_						Wood Fuel Su	b Туре
Pri	mary	Fuel Type:	Wood chips	. 7		Wood Fuel Su	ь Туре
Pri Pri	mary mary	Fuel Type: Fuel Annual Co	Wood chips	. 7			ь Туре
Pri Pri Bac	mary mary :kup l	Fuel Type: Fuel Annual Co Fuel Types:	Wood chips onsumptio	. 7	D=-1	▼	ь Туре
Pri Pri Bac	mary mary kup i	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel	Wood chips onsumptio	n:**	Bac		ь Туре
Pri Pri Bac	mary mary kup i	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel	Wood chips onsumptio	. 7	Baci	▼	ь Туре
Pri Pri Bac	mary mary :kup i	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel	Wood chips onsumptio	n:**	Baci	▼	ь Туре
Pri Pri Bac	mary mary	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel	Wood chips onsumptio	, V	Baci	▼	ь Туре
Pri Pri Bac III	mary mary	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel	Wood chips onsumptio Type	, V	Bac	▼	ь Туре
Pri Pri Bac III	mary mary kup i	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel Output Types:	Wood chips onsumptio Type	, V	Baci	▼ V V V V V V V V V V V V V V V V V V V	
Pri Pri Bao	mary tkup i	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel	Wood chips onsumptio Type Us	y age Amount	Baci	V	
Pri Pri Bao	mary ckup i	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel Dutput Types:	Wood chips on sumption Type Us Type	y age Amount		▼ V V V V V V V V V V V V V V V V V V V	
Pri Pri Bao	mary ckup i	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel Output Types:	Wood chips on sumption Type Us Type	y age Amount		▼ V V V V V V V V V V V V V V V V V V V	
Pri Pri 1 1 Ene	mary mary	Fuel Types: Fuel Annual Co Fuel Types: BackUp Fuel Dutput Types: Energy Output: energy Output: energy Uses:**	Wood chipsonsumption Type Us Type	age Amount		▼ kUp Fuel Sub Type Energy Output Su	b Type
Pri Pri Bacc III 1 1 Ene	mary mary kup is the property of the property	Fuel Types: Fuel Annual Co Fuel Types: BackUp Fuel Dutput Types: Energy Output: energy Output: energy Uses:**	Wood chips on sumption Type Us Type	age Amount		▼ kUp Fuel Sub Type Energy Output Su	
Pri Pri Bao III 1 1 Ene	mary mary ikup i v ergy C Ergy C	Fuel Type: Fuel Annual Co Fuel Types: BackUp Fuel Dutput Types: inergy Output: ergy Output: Wood i	Wood chipsionsumptions	age Amount		▼ kUp Fuel Sub Type Energy Output Su	b Туре
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Heated Square-footage**:			
New or Replacement**:	Replacement ▼	_	
Fuel Replaced:**	Fuel Oil #2		
Estimated Annual Fossil Fuel Offset:**			
Estimated Annual Fuel Savings:**	\$350,000		
Project Cost:**	2800000		
Project Funding:**			
Project Funding Source(s):**			

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Thank you for your attention!

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Booth № 102











