

EISPC Energy Zones Mapping Tool: <u>http://eispctools.anl.gov</u>

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EISPC Energy Zones Mapping Tool Newsletter

June Webinar Demonstration:

Tuesday, June 24, at 3pm ET/2 pm CT/1 pm MT

Use the following link to attend the webinar: http://anl.adobeconnect.com/eispc_tool_demo/ (Audio via the webinar or by phone: 1-877-685-5350, participant code: 853223). This one-hour demonstration will highlight the capabilities of the policies and regulations database, and also feature recently added Platts mapping layers, including:

- Electric Investor Owned Utility (IOU) Service Territories,
- Electric Non-Investor Owned Utility (NonIOU) Service Territories,
- Electric Planning Areas,
- Independent System Operator (ISO) Zones,
- Liquefied Natural Gas (LNG) Terminals, and
- Natural Gas Storage Facilities.

Clean Energy Technology Spotlight: Clean Coal

The tool includes many capabilities for understanding and analyzing coal with carbon capture and sequestration (CCS) energy technologies, including:



- <u>Technology Descriptions</u> for new Pulverized Coal, Image: Section Combined Cycle, and new Coal Fluidized Bed technologies, as well as retrofit of existing coal plants with CCS technology.
 Image: Section Combined Cycle, and new Coal Fluidized Bed technologies, as well as retrofit of existing coal plants with CCS technology.
- Over 200 <u>policies</u> related to coal with CCS technology such as <u>these policies</u> in Indiana.
- Pre-made PDF maps, such as this map of <u>Coal Resources: Potential Pulverized Coal Plant for CO2</u> Sequestration Retrofitting.
- Clean coal mapping layers, with access to downloadable GIS data, including:
 - Coal Mine/Facilities
 - Mineral Resources
 - Coal Power Plants
 - Coal Basins, Regions and Fields
- <u>Metadata</u> for all mapping layers describing the data sources and other details.

- User-run Pulverized Coal facility <u>report</u> that lists existing Pulverized Coal power plants with potential for retrofit of CO2 emissions control and sequestration equipment to gain effect of a new clean Pulverized Coal plant.
- User-configurable new Pulverized Coal, new Integrated Gasification Combined Cycle, and new Coal Fluidized Bed suitability <u>models</u>.

Sample results of the Integrated Gasification Combined Cycle suitability model are displayed in the map below. The areas with highest suitability for implementing new IGCC technologies are shown in orange and red.



June Mapping Tool Tips and Tricks

In addition to running any of the 37 system suitability models available in the tool, custom models can be designed by following these steps:



1) Click the Analyze icon Analyze in the Main Menu panel to open the Analyze – Run Models and Reports dialog.

- 	Analyze -	Run Models and R	eports	X			
Мо	dels		Create New Mo	del			
	Actions	Resource 🔺	Name				
	÷	Biomass	Biomass Co-Fire With Existing Coal Plant (Corn stover)				
	Description: Some existing coal power plants can consume biomass resources (or be retrofitted to consume them) including forest biomass and wood waste, agricultural biomass and waste, and dedicated energy crops. Sting factors for this model are based on existing coal power plants having any combination of cyclone, fluid-bed, tangentially-fired, and wall-fired boilers, and include proximity to those plants, presence of adequate biomass resources within 50 miles, distance to major roads, distance to barge ports, and distance to rail. Since this model assumes that an existing power plant would be used (or retrofitted) the factors for siting the plant itself are already accounted for, and instead concentrate on the source and transportation of the biomass material.						
±	*	Biomass	New Biomass-fired Plant with Traditional Combustion (Corn Stover)	-			
•	III •						
Re	ports						
	Actions	Resource	Name 🔺				
Ξ	4	Biomass	Methane from Water Treatment Plants	*			
	Descript exceedin it. Based	t ion: Lists wastewate g 5 MGD for the the c on U.S. Environmenta	er treatment facilities with at least one anaerobic digestor and with total influent ounties overlapping the analysis area, and two user-specified distances around I Protection Agency report prepared by Eastern Research Group, Inc.	t id			
±	3		Model Result				
±	3	Water	Non-powered Dams	=			
±	3		Power Plants				
±	3		Protected Land	Ŧ			
•			4 III				

2) Click on Create New Model in the upper right corner of the dialog to open the **Model Launcher** dialog.

🐞 Mode	l Launcher	×
	New Model	
	dd Layer(s) To Model Run	
	Uistance to manismission (>= 345 kV)	
±	Distance to Transmission (>= 500 kV)	
±	Distance to Transmission (>= 735 kV)	
H	Distance to Transmission (DC)	T
Actions	Weight Name 1 ↓ 100 Year Flood Zone 1 ↓ Distance to Transmission (>= 735 kV)	
N	ame: New Model	
	Add Model To Map After Successful Completion	
Syne	rgy	Launch

3) Add screening layers to the model by clicking the down arrow next to Add Layers(s) To Model Run and clicking the Add layer icon ⁽³⁾ next to the layer names.

🎲 Mode	Launche	er		X			
		New Model					
	dd Layer	(s) To Model Run		1			
±	V	Distance to mansmission (>= 345 KV)	*				
E	\odot	Distance to Transmission (>= 500 kV)					
Ð	0	Distance to Transmission (>= 735 kV)					
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			4				
Actions	Weight	Name		- 1			
- Actions	1	100 Year Flood Zone					
	1 ^	Distance to Transmission ($>= 735 kV$)					
	1						
Na	ame: Ne	ew Model					
Notes:							
Add Model To Map After Successful Completion							
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4) If desired, adjust the relative weights given to each screening layer by increasing or decreasing the numbers to the left of the layer names from 1 to 10, with 1 meaning that the layer should be given the smallest possible influence on the model and 10 meaning that the layer should be given the highest possible influence on the model. You can also remove a screening layer from

the model run by clicking the Remove Layer icon 🥯.

- 5) Change the default name of the model and add any notes about the model run by typing in the boxes at the bottom of the Model Launcher dialog.
- 6) Check the box at the bottom of the dialog to add the model to the map after the model run has completed. Click **Launch**.

7) View the status of the model run by clicking on the Results icon Results. When the Analysis Results window is open, an hour glass icon in the Status column indicates that the model or report is running, and a checkmark icon indicates it is complete. Clicking on the add results icon

allows the user to display modeling results on the map immediately. (Hovering the cursor over the other **Actions** icons will reveal **tool tips** about their functions, and clicking on the **Actions** icons will run them.)

A	Analysis Results							
	Actions	Туре	Owner	Status	Name	Extent	Created -	
±	🔀 🛃 🎲 🤛 👄	Model	Me	3	New Coal Fluidized Bed	EISPC Region	6/16/2014 4:03 PM	-
±	o 📑 o 🔯 🖨	Report	Me	V	Pulverized Coal Report J	Kentucky	6/11/2014 9:39 AM	
±	🔀 🛃 🎲 🤛 👄	Model	Me	V	New Integrated Gasificat	EISPC Region	6/10/2014 2:08 PM	
±	🔀 🛃 🎲 🤛 👄	Model	Me	V	Concentrating Solar Pow	EISPC Region	5/13/2014 8:48 PM	
±	o 📃 o 🤯 🖨	Report	Me	V	Corridor Report	Corridor PA and	5/8/2014 2:32 PM	
±	🐹 🛃 🎲 🤛 👄	Model	Me	V	Biomass Co-Fire with Exi	EISPC Region	5/8/2014 11:44 AM	
±	o 📃 o 🤯 🖨	Report	Me	V	ModelResult Report CAE	Michigan	5/1/2014 3:32 PM	
±	o 📑 o 🔯 🖨	Report	Me	V	ModelResult Report FL	Florida	5/1/2014 1:43 PM	
±	🐹 🛃 🎲 🤛 👄	Model	Me	V	Compressed Air Energy	EISPC Region	5/1/2014 1:41 PM	
±	o 📑 o 🔯 🖨	Report	Me	V	ModelResult Report	Alabama	5/1/2014 1:13 PM	
±	o 📑 o 🔯 🖨	Report	Me	V	ModelResult Report	Michigan	5/1/2014 12:58 PM	
±	o 📑 o 🔯 🖨	Report	Me	V	Methane from Animal Ma	Michigan	5/1/2014 12:56 PM	
±	• 📑 • 🔯 🖨	Report	Me	V	ModelResult Report _MI	Michigan	5/1/2014 10:18 AM	-
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Refresh								

See the tool <u>Help Manual</u> or help videos such as <u>Running a Model</u> for more details on managing model and report results through the **Actions** icon functions. These are available at the top right of the <u>Home</u> <u>Page</u>.

Highlight: EISPC Studies and Whitepapers

EISPC study and white paper topics include Coal-Fired Power, Co-Optimization, Demand Response, Energy Efficiency, Market Structures, Natural Gas, Nuclear Power, Resource Adequacy, and Risk Assessment. The associated completed reports are posted on the <u>Documents</u> page of the tool and are also available at <u>www.naruc.org/eispc</u>. The reports were subcontracted to research institutions, consulting firms, and non-profit organizations, and reviewed by EISPC representatives, National Laboratories, and other stakeholders.

The completed studies and Whitepapers available on the Documents page include:

- Assessment of Demand-Side Resources within the Eastern Interconnection, Navigant Consulting, March 2013.
- Assessment of the Nuclear Power Industry, Navigant, June 2013.
- <u>Clean Energy Zones Study</u>, Argonne National Laboratory, Oak Ridge National Laboratory and the National Renewable Energy Laboratory, October 2013.
- <u>Co-Optimization of Transmission and Other Supply Resources</u>, Illinois Institute of Technology, Iowa State University, Johns Hopkins University, Purdue University, West Virginia University and the National Renewable Energy Laboratory, September 2013.
- <u>Current State and Future Direction of Coal-Fired Power in the Eastern Interconnection</u>, ICF International, June 2013.
- The Economic Ramifications of Resource Adequacy, Astrapè Consulting, January 2013.
- Market Structures and Transmission Planning Processes in the Eastern Interconnection, Christensen Associates, June 2012.

- <u>State-by-State Existing and Potential Clean Energy Zones: Survey of Relevant State Laws,</u> <u>Rules, Regulations and Orders in the Eastern Interconnection</u>, Clean Energy States Alliance, September 2013.
- <u>Transmission Planning</u>, Navigant Consulting, January 2014.

Recent EZ Mapping Tool Updates

Added/updated the following data layers:

- Conserved Land (ME)
- Conserved Land (NH)
- Critical Habitat Area
- Florida Conservation Land (FL)
- Florida Forever Board of Trustees Project Area (FL)
- Mountain Treasures Area
- Natural Area (DE)
- Natural Diversity Database (CT)
- Natural Heritage Area (RI)
- Natural Heritage Inventory Managed Area (OK)
- Rare, Threatened, and Endangered Species and Significant Community (VT)
- Southeast Resilience Project
- State Owned/Leased Land (LA)
- State Claimed Water Body (LA)