



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

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EISPC Energy Zones Mapping Tool Newsletter

August Webinar Demonstration:

Tuesday, August 26, at 3pm ET/2 pm CT/1 pm MT

Use the following link to attend the webinar: http://anl.adobeconnect.com/eispc_tool_demo/

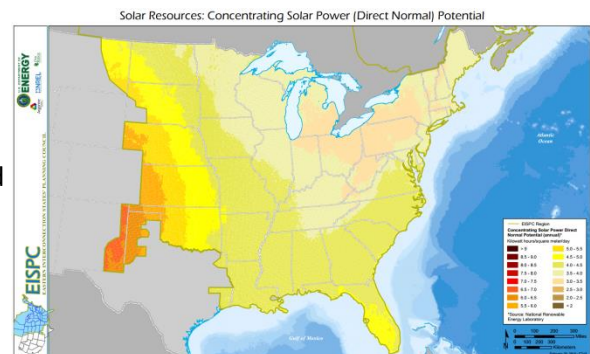
(Audio via the webinar or by phone: 1-877-685-5350, participant code: 853223).

This one-hour demonstration will feature Solar energy resource data, and utility-scale concentrating and photovoltaic solar suitability models.

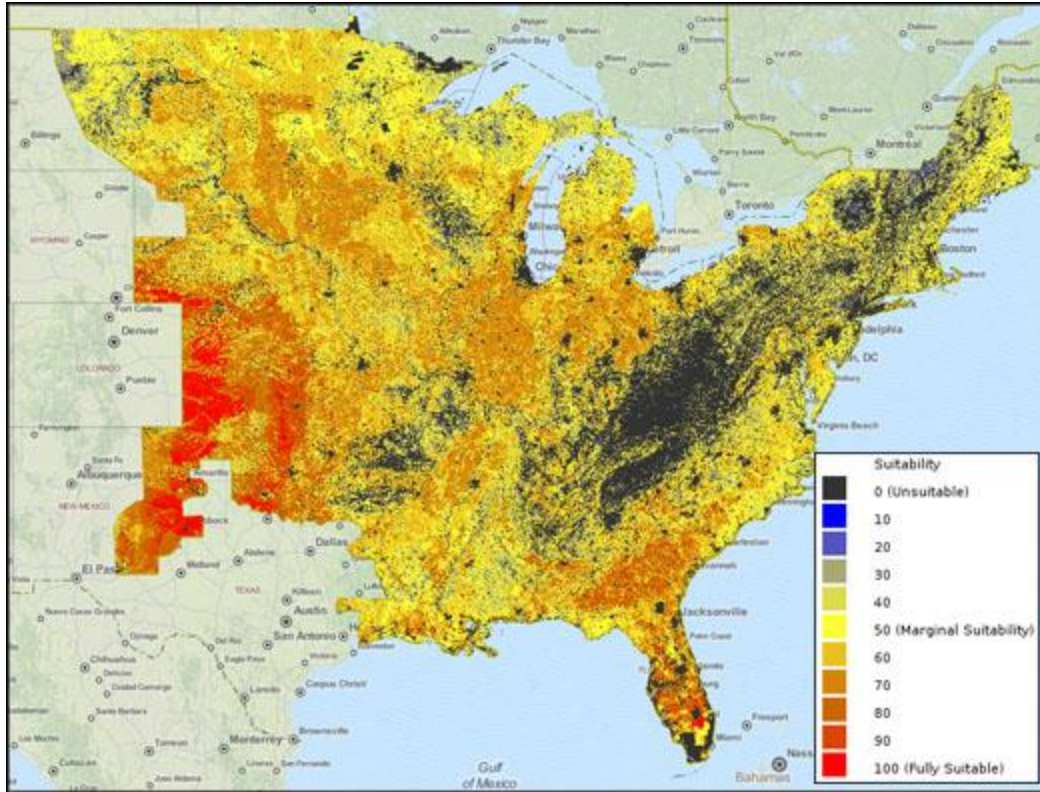
Clean Energy Technology Spotlight: Solar

The tool includes many capabilities for understanding and analyzing solar energy technologies, including:

- [Technology Descriptions](#) for Solar technologies.
- Over 200 [policies](#) related to solar technologies such as [these policies](#) in Florida.
- Pre-made PDF maps, such as this map of [Solar Resources: Concentrating Solar Power \(Direct Normal\) Potential](#).
- Solar [mapping layers](#), with access to downloadable GIS data, including:
 - 1-Axis Tracking Flat-Plate Collector
 - Tilted Photovoltaic Potential
 - Concentrating Solar Direct Normal Potential
 - Photovoltaic Potential
- [Metadata](#) for all mapping layers describing the data sources and other details.
- User-configurable Concentrating Solar Power (CSP) and Utility-scale Photovoltaic (PV) suitability [models](#).
- A model results [report](#) for a user-generated CSP or Utility-scale PV suitability model. The report provides detailed information and graphs for analyzing the model results and determining what factors influence the suitability results.




Sample results of the utility-scale PV suitability model are displayed in the map below. The areas with highest suitability for implementing utility-scale PV technologies are shown in orange and red.



August Mapping Tool Tips and Tricks

The EZ Mapping Tool includes over 260 mapping data layers. The tool sorting and filtering features simplify the search process to find specific layers.

Under the Main Menu, click on the **Library** icon  to access the entire list of mapping layers available in the **Mapping Library**. Filters are used to search for specific layers, and are accessed by placing the cursor over the column heading, clicking on the down arrow, and using the menu that displays. Any column can be sorted using the same menu, or by left-clicking on the column header. The example below shows the results of filtering titles by "natural gas."

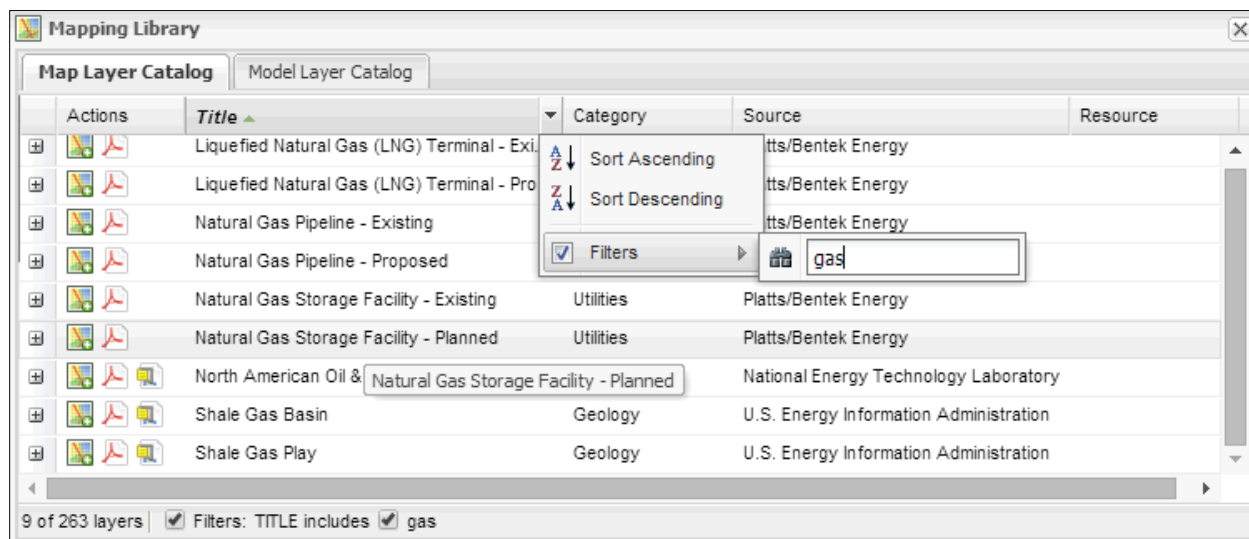
Mapping Library

Map Layer Catalog | Model Layer Catalog

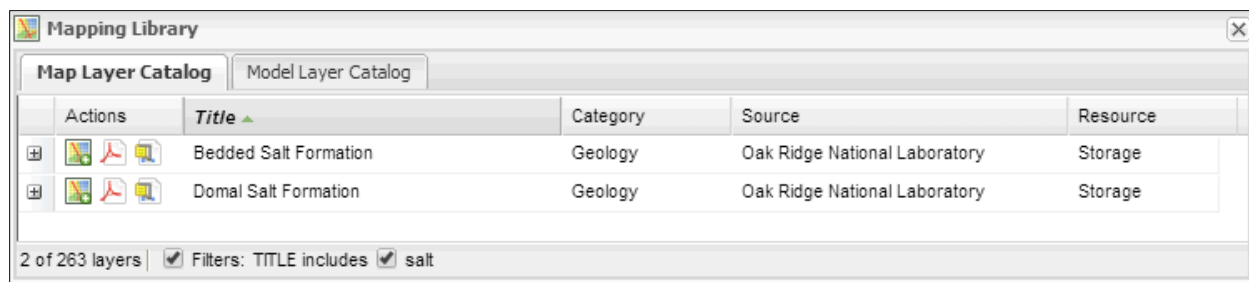
Actions	Title	Category	Source	Resource
	Liquefied Natural Gas (LNG) Terminal - Exi		ttts/Bentek Energy	
	Liquefied Natural Gas (LNG) Terminal - Pro		ttts/Bentek Energy	
	Natural Gas Pipeline - Existing		ttts/Bentek Energy	
	Natural Gas Pipeline - Proposed		ttts/Bentek Energy	
	Natural Gas Storage Facility - Existing	Utilities	Platts/Bentek Energy	
	Natural Gas Storage Facility - Planned	Utilities	Platts/Bentek Energy	

6 of 263 layers | Filters: TITLE includes natural gas

However, to find shale gas layers, filtering for “gas” would be necessary to capture additional layers. The three additional layers that would be displayed, North American Oil & Gas Fields, Shale Gas Basins, and Shale Gas Plays as shown in the Figure.



Natural gas can be stored in salt formations and filtering the catalog for “salt” provides the Bedded Salt Formations and Domal Salt Formations layers. To remove all filters, click on the checked box in front of “Filters.”



The mapping layers can also be filtered by Category, Data Source, or Resource as shown in the illustrations below.

Mapping Library

Map Layer Catalog | Model Layer Catalog

Actions	Title	Category	Source	Resource
	Coal Power Plant	Utilities	Sort Ascending	ogy Laboratory Coal
	Submarine Cable	Utilities	Sort Descending	atmospheric A...
	Petrochemical Facility	Utilities	Filters	tratory
	Crude Oil Pipeline - Existing	Utilities		<input type="checkbox"/> Boundary
	Crude Oil Pipeline - Proposed	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Buildings
	Electric Investor Owned Utility (IOU) Service Territory	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Cadastre
	Electric Non-Investor Owned Utility (NonIOU) Service Terr...	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Climate
	Electric Planning Areas	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Communications
	Existing Hydropower Dam (At least 50MW)	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Demographics
	Independent System Operator (ISO) Zone	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Ecology
	Liquefied Natural Gas (LNG) Terminal - Existing	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Environmental Hazards
	Liquefied Natural Gas (LNG) Terminal - Proposed	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Fauna
	Natural Gas Pipeline - Existing	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Flora
	Natural Gas Pipeline - Proposed	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Geology
	Natural Gas Storage Facility - Existing	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Hydrography
	Natural Gas Storage Facility - Planned	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Improvement
	Potential Retrofitted Pulverized Coal Plant	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Land Status
	Power Plant - Existing	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Landform
	Power Plant - Not Operational/Unknown	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Military Operations
	Power Plant - Planned	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Suitability Models
	Refined Product Pipeline - Existing	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Transportation
	Refined Product Pipeline - Proposed	Utilities	Platts/Bentek Energy	<input checked="" type="checkbox"/> Utilities
	Substation	Utilities	Platts/Bentek Energy	<input type="checkbox"/> Visual
	Transmission Line - Existing	Utilities	Platts/Bentek Energy	
	Transmission Line - Planned	Utilities	Platts/Bentek Energy	
	Commercial Nuclear Power Plant	Utilities	U.N. Environment Programme/GRID	Nuclear
	Coal Plants Suitable for Co-Firing Biomass	Utilities	U.S. Environmental Protection Agency	Biomass
	Electrical Power Plant Capacity	Utilities	U.S. Environmental Protection Agency	
	Wastewater Treatment Facility	Utilities	U.S. Environmental Protection Agency	Biomass

29 of 263 layers | Filters: CATEGORY_NAME = Utilities

Mapping Library

Map Layer Catalog | Model Layer Catalog

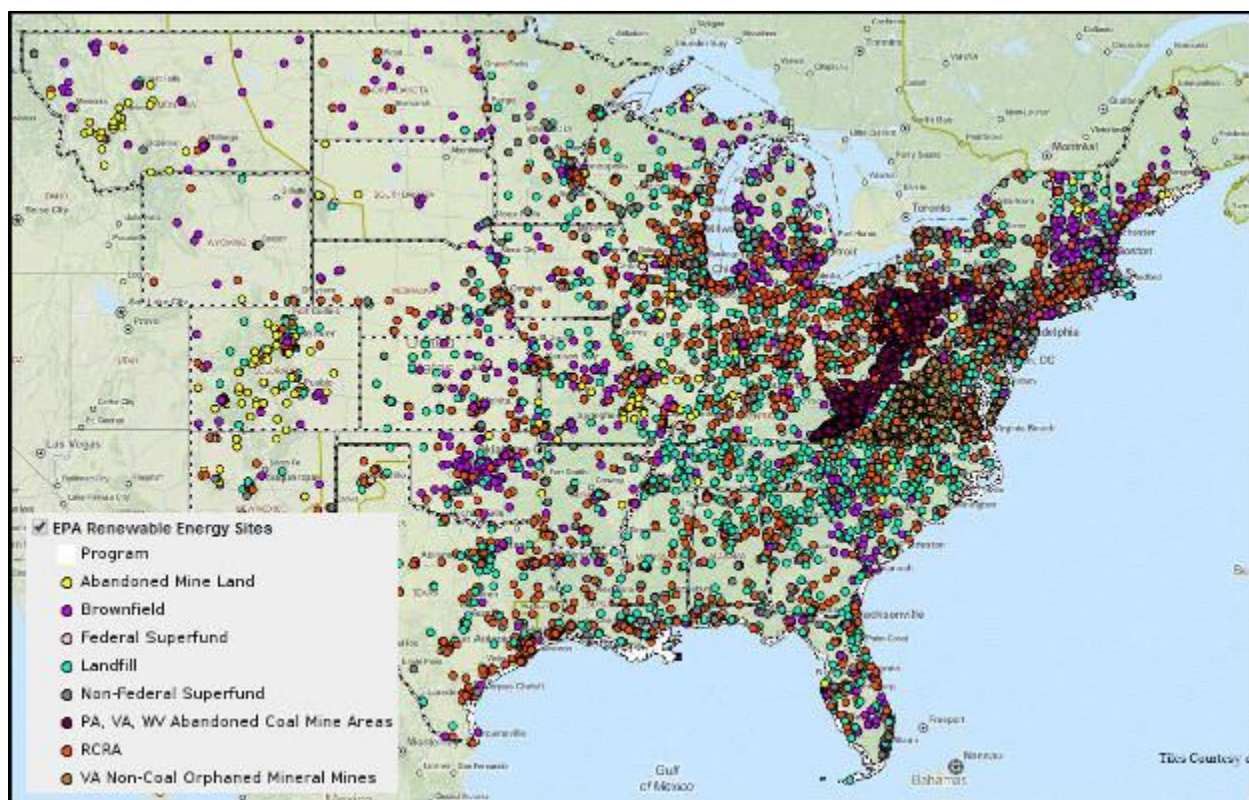
Actions	Title	Category	Source	Resource
	HydroKinetic Project Issued Preliminary Permit	Hydrography	Federal Energy Regulatory Commiss	Sort Ascending
	HydroKinetic Project Pending Preliminary Permit	Hydrography	Federal Energy Regulatory Commiss	Sort Descending
	Tidal - Mean Current Speed	Hydrography	Georgia Institute of Technology, Sa	Filters
	Tidal - Mean Kinetic Power Density	Hydrography	Georgia Institu	<input type="checkbox"/> Biomass
	Wave Energy - Energy Period	Hydrography	National Rene	<input type="checkbox"/> Coal
	Wave Energy - Power Density	Hydrography	National Rene	<input type="checkbox"/> Geothermal
	Wave Energy - Significant Wave Height	Hydrography	National Rene	<input type="checkbox"/> Nuclear
	Wave Energy - Water Depth	Hydrography	National Rene	<input type="checkbox"/> Solar
	Energy Potential Non-Powered Dam	Improvement	Oak Ridge Nat	<input type="checkbox"/> Storage
				<input checked="" type="checkbox"/> Water
				<input type="checkbox"/> Wind


9 of 263 layers | Filters: RESOURCE_NAME = Water

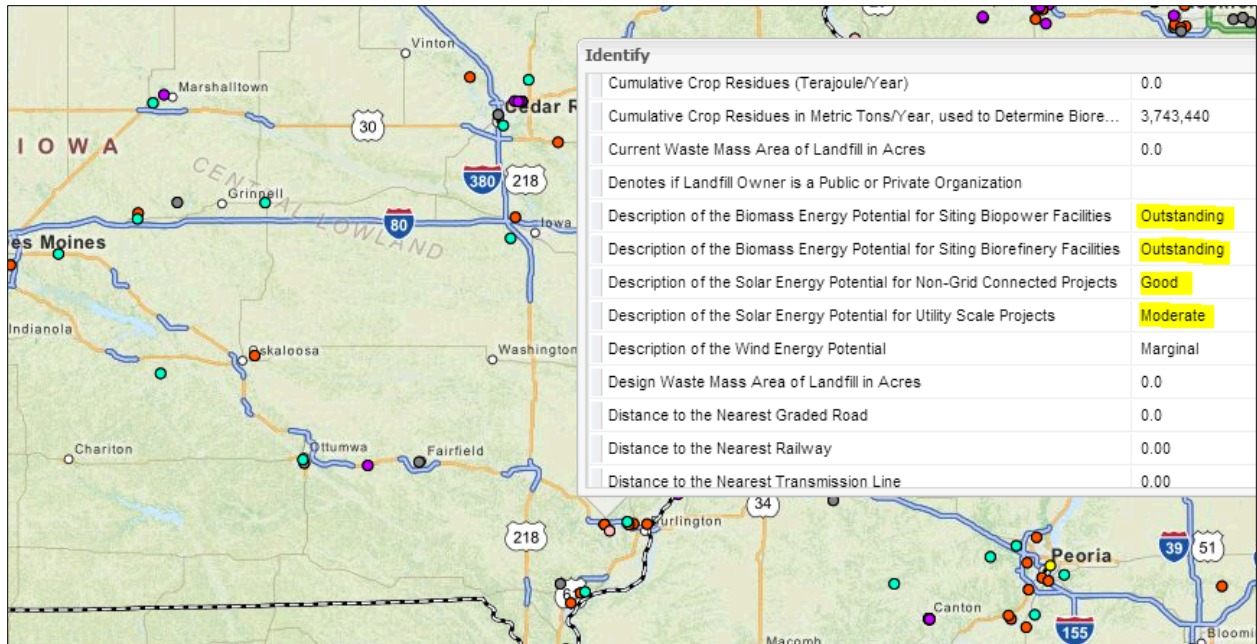
Analysis Highlight: Investigating EPA Brownfield Data and Reports

Brownfields are properties that have already been disturbed, may be especially appropriate for redevelopment for power generation, but may require cleanup activities. The [U.S. Environmental Protection Agency Brownfields Program](#) helps provide information, and includes grants and funding that may be advantageous for energy projects.

Add the **EPA Renewable Energy Sites** layer to the map to view contaminated and mining sites that, according to the [U.S. EPA Re-Powering America's Land Initiative](#), provide for potential renewable energy development. These EPA program sites include abandoned mines, brownfields, federal and non-federal Superfund, and landfill sites, and are shown in the figure.



The EPA Renewable Energy Sites layer can be used to obtain specific information about a site's potential for energy development projects. First click on the identify tool icon  and then on an EPA Renewable Energy site to display details about the site. Information including distance to infrastructure such as roads, railways, and transmission lines, is also provided. A portion of the information displayed using the identify tool for a site in Iowa is shown in the figure. This Iowa site in the example below offers outstanding potential for biopower and biorefinery facility development and moderate to good potential for solar project development.



The EPA Brownfields report provides detailed information about the sites within a specified area. To run the Brownfields report, click **Analyze** in the Main Menu, find the Brownfields report in the Reports section, then click the **Run This Report** action. Change any settings, then click **Launch Report**. Click **Results** in the Main Menu to access report runs, and view the finished report. A portion of the EPA Brownfields report results for the state of Iowa is shown in the figure. Other sections of the report highlight other energy technologies and site characteristics.

Sites with Solar Energy Generation Potential

EPA/State Id	Property Name	Utility Scale Stirling Engine CSP Potential	Utility Scale Trough and Power Tower CSP Potential	Utility Scale PV Solar Potential	Non-grid-Connected PV Potential	DNI Solar Resource (kWh/m2/day)	Utility-Scale Solar Energy Potential	Solar Resource Availability (kWh/m2/day)	Non-Grid Connected Solar Energy Potential
NEN000704909	FORMER CARTER WHITE LEAD FACILITY/AREA				Yes	4.3	Good	4.79	Good
24981	Former Atlas "F" Missile Site #1				Yes	4.29	Good	4.79	Good
IAD069624500	Deere, John-Des Moines Works				Yes	4.03	Good	4.58	Good
15382	1201 Camanche Avenue				Yes	3.75	Moderate	4.45	Good
IAD096526108	Dana Glacier Vendervell/Dydo				Yes	4.24	Good	4.71	Good
72641	Larry Wilson Property				Yes	4.07	Good	4.65	Good
615	Boone County SLF				Yes	4.01	Good	4.55	Good

An additional excerpt from the EPA Brownfields report identifies Iowa properties that have outstanding potential for biopower and biorefinery energy generation and is shown in the figure.

Sites with Biopower/Biorefinery Energy Generation Potential: Crop Resources

EPA/State Id	Property Name	Biopower Facility Potential	Biorefinery Facility Potential	Cumulative Biomass Resources (mt/year)	Biopower Facility Potential	Cumulative Crop Residues (mt/year)	Biorefinery Facility Potential
		Crop Residues (Dry mt/year)	Cumulative Biomass Resources (terajoule/year)	Cumulative Crop Residues (terajoule/year)	Crop Residues (terajoule/year)	Energy Crops (Dry mt/year)	Energy Crops (terajoule/year)
IAT200010601	Isu - Chemical Waste Handling Facility	Yes	Yes	8,844,798	Outstanding	6,895,581	Outstanding
		0.0	0.0	0.0	0.0	0.0	0.0
627	Northwest Iowa SLF	Yes	Yes	8,471,041	Outstanding	7,060,022	Outstanding
		0.0	0.0	0.0	0.0	0.0	0.0
IAD000688572	Burlington Northern Santa Fe Railroad	Yes	Yes	8,650,243	Outstanding	5,715,493	Outstanding
		0.0	0.0	0.0	0.0	0.0	0.0
632	Bluestem Landfill Site #1	Yes	Yes	10,196,697	Outstanding	6,959,835	Outstanding
		0.0	0.0	0.0	0.0	0.0	0.0
622	Marion County SLF		Yes	8,823,777	Outstanding	4,292,053	Outstanding
		0.0	0.0	0.0	0.0	0.0	0.0
IAD045372836	CHEMPLEX CO.	Yes	Yes	8,250,289	Outstanding	6,174,014	Outstanding
		0.0	0.0	0.0	0.0	0.0	0.0
	Black Hawk County SLF	Yes	Yes	9,595,886	Outstanding	7,250,720	Outstanding

See the tool [Help Manual](#) or help videos such as [Running a Report](#) for more details. These are available at the top right of the [Home Page](#).

Recent EZ Mapping Tool Updates

The user interface for the **Policy and Regulations** database was updated, improving search capabilities. Also, the following data layers were added/updated:

- Crude Oil Pipelines - Existing
- Crude Oil Pipelines - Proposed
- Existing Hydropower Dams (at least 50MW)
- Imperiled Species
- Midwest Wind Energy Multi-Species Habitat Conservation Plan GI Network
- Natural Gas Pipelines - Existing
- Natural Gas Pipelines - Proposed
- Potential Retrofitted Pulverized Coal Plants
- Power Plants - Existing
- Power Plants - Not Operational/Unknown
- Power Plants - Planned
- Refined Product Pipelines - Existing
- Refined Product Pipelines - Proposed
- Transmission Lines - Planned
- West Virginia Conservation Network
- Wind Turbine Site