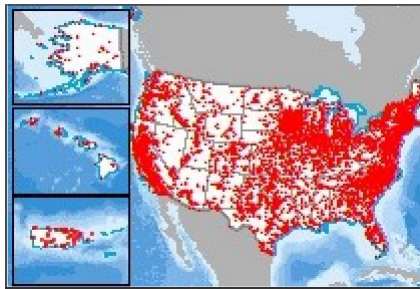# Power Plants

Tags

energy, infrastructure, electricity, power plants, biomass, coal, geothermal, hydroelectric, natural gas, nuclear, petroleum, pumped storage, solar, wind, USA, EIA, shapefile, United States

Summary

This data was created for the purpose of identifying and providing detailed information on operable electric generating plants in the United States.

Description

This is a point dataset representing operable electric generating plants in the United States by energy source. This includes plants that are operating, on standby, or short- or long-term out of service. The surveys collect data on all plants with a combined nameplate capacity of 1 MW or more. Source: EIA-860, Annual Electric Generator Report, EIA-860M, Monthly Update to the Annual Electric Generator Report, and EIA-923, Power Plant Operations Report. Data period: August 2021.

Credits

U.S. Energy Information Administration

Use limitations

None (public use). Users are advised to thoroughly review the metadata to understand the appropriate use and limitations of the data. These data and related graphics, if available, are not legal documents and are not intended to be used as such.The information contained in these data is dynamic and may change over time. The U.S. Energy Information Administration gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data.

Extent

West -171.712439 **East** -65.279560
North 71.292000 **South** 17.947115

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

Topics and Keywords

THEMES OR CATEGORIES OF THE RESOURCE   location
* CONTENT TYPE   Downloadable Data
    EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION   No
PLACE KEYWORDS   United States
PLACE KEYWORDS   United States, USA
THEME KEYWORDS   energy, infrastructure, electricity, power plants, biomass, coal, geothermal, hydroelectric, natural gas, nuclear, petroleum, pumped storage, solar, wind, USA, EIA, shapefile, geospatial

Citation

* TITLE   plant_power_eia_v8
PUBLICATION DATE   2020-07-10
PRESENTATION FORMATS   * digital map

Resource Details

DATASET LANGUAGES   * English (UNITED STATES)
DATASET CHARACTER SET   utf8 - 8 bit UCS Transfer Format
SPATIAL REPRESENTATION TYPE   * vector
* PROCESSING ENVIRONMENT   Version 6.2 (Build 9200) ; Esri ArcGIS 10.8.0.12790
CREDITS
    U.S. Energy Information Administration

ARCGIS ITEM PROPERTIES
    * NAME   plant_power_eia_v8

Extents

EXTENT
    GEOGRAPHIC EXTENT
        BOUNDING RECTANGLE
            EXTENT TYPE   Extent used for searching
            * WEST LONGITUDE   -171.712439

            * EAST LONGITUDE   -65.279560
            * NORTH LATITUDE   71.292000
            * SOUTH LATITUDE   17.947115
            * EXTENT CONTAINS THE RESOURCE   Yes
    EXTENT IN THE ITEM'S COORDINATE SYSTEM
        * WEST LONGITUDE   -19114941.272351
        * EAST LONGITUDE   -7266887.378409
        * SOUTH LATITUDE   2031359.375771
        * NORTH LATITUDE   11502860.587292
        * EXTENT CONTAINS THE RESOURCE   Yes

Resource Points of Contact

POINT OF CONTACT
    INDIVIDUAL'S NAME   EIA mapping feedback: mapping@eia.gov
    CONTACT'S ROLE   originator

Resource Maintenance

RESOURCE MAINTENANCE
    UPDATE FREQUENCY   quarterly

Resource Constraints

Spatial Reference

ARCGIS COORDINATE SYSTEM
* TYPE   Projected
* GEOGRAPHIC COORDINATE REFERENCE   GCS_WGS_1984
* PROJECTION   WGS_1984_Web_Mercator_Auxiliary_Sphere
* COORDINATE REFERENCE DETAILS
  PROJECTED COORDINATE SYSTEM
    WELL-KNOWN IDENTIFIER   102100
    X ORIGIN   -22041257.952553775
    Y ORIGIN   -30241100
    XY SCALE   144148035.48642668
    Z ORIGIN   -100000

    Z SCALE   10000
    M ORIGIN   -100000
    M SCALE   10000
    XY TOLERANCE   0.001
    Z TOLERANCE   0.001
    M TOLERANCE   0.001
    HIGH PRECISION   true
    LATEST WELL-KNOWN IDENTIFIER   3857
    WELL-KNOWN TEXT   PROJCS["WGS_1984_Web_Mercator_Auxiliary_Sphere",GEOGCS["GCS_WGS_1984",DATUM["D_WGS_1984",SPHEROID["WGS_1984",6378137.0,298.257223563]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Mercator_Auxiliary_Sphere"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",0.0],PARAMETER["Standard_Parallel_1",0.0],PARAMETER["Auxiliary_Sphere_Type",0.0],UNIT["Meter",1.0],AUTHORITY["EPSG",3857]]
REFERENCE SYSTEM IDENTIFIER
* VALUE   3857
* CODESPACE   EPSG
* VERSION   8.8(9.3.1.2)

Spatial Data Properties

VECTOR
* LEVEL OF TOPOLOGY FOR THIS DATASET   geometry only
GEOMETRIC OBJECTS
  FEATURE CLASS NAME   plant_power_eia_v8
  * OBJECT TYPE   point
  * OBJECT COUNT   10847

ARCGIS FEATURE CLASS PROPERTIES
  FEATURE CLASS NAME   plant_power_eia_v8
  * FEATURE TYPE   Simple
  * GEOMETRY TYPE   Point
  * HAS TOPOLOGY   FALSE
  * FEATURE COUNT   10847
  * SPATIAL INDEX   TRUE
  * LINEAR REFERENCING   FALSE

Lineage ►

Distribution

DISTRIBUTION FORMAT
* NAME   File Geodatabase Feature Class

Fields

DETAILS FOR OBJECT plant_power_eia_v8
* TYPE   Feature Class
* ROW COUNT   10847
DEFINITION SOURCE
EIA

FIELD OBJECTID
* ALIAS   OBJECTID
* DATA TYPE   OID
* WIDTH   4

* PRECISION   0
* SCALE   0
* FIELD DESCRIPTION
Internal feature number.

* DESCRIPTION SOURCE
Esri

* DESCRIPTION OF VALUES
Sequential unique whole numbers that are automatically generated.

FIELD Plant_Code
* ALIAS   Plant Code
* DATA TYPE   Integer
* WIDTH   4
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
EIA-assigned plant identification number.

DESCRIPTION SOURCE
EIA

FIELD Plant_Name
* ALIAS   Plant Name
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
Name of power plant.

DESCRIPTION SOURCE
EIA

FIELD Utility_ID
* ALIAS   Utility ID
* DATA TYPE   Integer
* WIDTH   4
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
   EIA-assigned identification number for the company that is responsible for the day-to-day operations of the generator.
DESCRIPTION SOURCE
   EIA

FIELD Utility_Na
* ALIAS   Utility Name
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0

FIELD City
* ALIAS   City
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
   City location of power plant.
DESCRIPTION SOURCE
   EIA

FIELD sector_nam
* ALIAS   Sector Name
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0

FIELD County
* ALIAS   County
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
   County location of power plant.
DESCRIPTION SOURCE
   EIA

FIELD StateName
* ALIAS   State Name
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
   State location of power plant.
DESCRIPTION SOURCE
   EIA

FIELD Zip
  * ALIAS   Zip Code
  * DATA TYPE   Integer
  * WIDTH   4
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    Zip code of power plant.
  DESCRIPTION SOURCE
    EIA

FIELD PrimSource
  * ALIAS   Primary Energy Source
  * DATA TYPE   String
  * WIDTH   254
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    The most predominant type of energy that fuels the generator. The primary energy
    source is determined by net summer capacity.
  DESCRIPTION SOURCE
    EIA

FIELD Street_Add
  * ALIAS   Street
  * DATA TYPE   String
  * WIDTH   254
  * PRECISION   0
  * SCALE   0

FIELD Install_MW
  * ALIAS   Nameplace (Installed) Capacity (MW)
  * DATA TYPE   Double
  * WIDTH   8
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    The total combined generator nameplate capacity (installed). Installed capacity is
    determined by the highest value on the generator nameplate in megawatts rounded to

    the nearest tenth. The maximum rated output of a generator, prime mover, or other
    electric power production equipment under specific conditions designated by the
    manufacturer and expressed in megawatts (MW).
  DESCRIPTION SOURCE
    EIA

FIELD Total_MW
  * ALIAS   Maximum Summer Output (MW)
  * DATA TYPE   Double
  * WIDTH   8
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    The maximum output, as measured in alternating current (AC), commonly expressed in
    megawatts (MW), that generating equipment can supply to system load, as
    demonstrated by a multi-hour test, at the time of summer peak demand (period of
    June 1 through September 30.) This output reflects a reduction in capacity due to
    electricity use for station service or auxiliaries.

FIELD **Coal_MW**
  * ALIAS   Net Summer Capacity from Coal (MW)
  * DATA TYPE   Double
  * WIDTH   8
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    Net summer capacity of coal-fired electric generators in megawatts (MW).
  DESCRIPTION SOURCE
    EIA

FIELD **NG_MW**
  * ALIAS   Net Summer Capacity from Natural Gas(MW)
  * DATA TYPE   Double
  * WIDTH   8
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    Net summer capacity of natural gas fired electric generators in megawatts (MW).
  DESCRIPTION SOURCE
    EIA

FIELD **Crude_MW**
  * ALIAS   Net Summer Capacity from Crude Oil (MW)
  * DATA TYPE   Double

  * WIDTH   8
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    Net summer capacity of petroleum-fired electric generators in megawatts (MW).
  DESCRIPTION SOURCE
    EIA

FIELD **Bio_MW**
  * ALIAS   Net Summer Capacity from Biomass (MW)
  * DATA TYPE   Double
  * WIDTH   8
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    Net summer capacity of biomass electric generators in megawatts (MW).
  DESCRIPTION SOURCE
    EIA

FIELD **Hydro_MW**
  * ALIAS   Net Summer Capacity from Hydro (MW)
  * DATA TYPE   Double
  * WIDTH   8
  * PRECISION   0
  * SCALE   0
  FIELD DESCRIPTION
    Net summer capacity of hydroelectric generators in megawatts (MW).
  DESCRIPTION SOURCE
    EIA

FIELD HydroPS_MW
* ALIAS   Net Summer Capacity from Pumped Storage (MW)
* DATA TYPE   Double
* WIDTH   8
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
   Net summer capacity of pumped-storage hydroelectric generators in megawatts (MW).

DESCRIPTION SOURCE
   EIA

FIELD Nuclear_MW
* ALIAS   Net Summer Capacity from Nuclear (MW)

* DATA TYPE   Double
* WIDTH   8
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
   Net summer capacity of nuclear power electric generators in megawatts (MW).

DESCRIPTION SOURCE
   EIA

FIELD Solar_MW
* ALIAS   Net Summer Capacity from Solar (MW)
* DATA TYPE   Double
* WIDTH   8
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
   Net summer capacity of solar powered electric generators in megawatts (MW).

DESCRIPTION SOURCE
   EIA

FIELD Wind_MW
* ALIAS   Net Summer Capacity from Wind (MW)
* DATA TYPE   Double
* WIDTH   8
* PRECISION   0
* SCALE   0
FIELD DESCRIPTION
   Net summer capacity of wind turbine electric generators in megawatts (MW).

DESCRIPTION SOURCE
   EIA

FIELD source_des
* ALIAS   Source Description
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0

FIELD Geo_MW
* ALIAS   Net Summer Capacity from Geothermal (MW)
* DATA TYPE   Double
* WIDTH   8
* PRECISION   0
* SCALE   0

FIELD DESCRIPTION
Net summer capacity of geothermal powered electric generators in megawatts (MW).

DESCRIPTION SOURCE
EIA

FIELD Bat_MW
* ALIAS   Net Summer Capacity from Batteries (MW)
* DATA TYPE   Double
* WIDTH   8
* PRECISION   0
* SCALE   0

FIELD DESCRIPTION
Net summer capacity of battery powered electric generators in megawatts (MW).

DESCRIPTION SOURCE
EIA

FIELD Other_MW
* ALIAS   Net Summer Capacity from Other (MW)
* DATA TYPE   Double
* WIDTH   8
* PRECISION   0
* SCALE   0

FIELD DESCRIPTION
Net summer capacity of electric generators powered by other energy sources not specified in the other categories in megawatts (MW). These include energy storage technologies (e.g., compressed air, batteries, and fly wheels), purchased steam, waste heat not directly attributed to a fuel source, and tire-derived fuels.

DESCRIPTION SOURCE
EIA

FIELD tech_desc
* ALIAS   Technology Description
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0

FIELD DESCRIPTION
The type(s) of technology (prime mover). The engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly (e.g., photovoltaic solar and fuel cells).

DESCRIPTION SOURCE
EIA

FIELD Source
* ALIAS   Data Source
* DATA TYPE   String
* WIDTH   254
* PRECISION   0
* SCALE   0

FIELD DESCRIPTION
The EIA source surveys for the power plants map data.

DESCRIPTION SOURCE
EIA

Field **Period**
- * Alias   Data Time Period (YYYYMM)
- * Data type   Integer
- * Width   4
- * Precision   0
- * Scale   0
- Field description
   The reporting period (currency) of the data (yyyymm).

- Description source
   EIA

Field **Latitude**
- * Alias   Latitude
- * Data type   Double
- * Width   8
- * Precision   0
- * Scale   0
- Field description
   The latitude of the power plant in decimal degrees calculated in ArcMap using GCS:
   WGS 84 (EPSG:4326)

- Description source
   EIA

Field **Longitude**
- * Alias   Longitude
- * Data type   Double
- * Width   8
- * Precision   0
- * Scale   0
- Field description
   The longitude of the power plant in decimal degrees calculated in ArcMap using GCS:
   WGS 84 (EPSG:4326)

Field **Shape**
- * Alias   Shape
- * Data type   Geometry
- * Width   0
- * Precision   0
- * Scale   0
- * Field description
   Feature geometry.

- * Description source
   Esri

- * Description of values
   Coordinates defining the features.

Metadata Details

- * Metadata language   English (UNITED STATES)
- Metadata character set   utf8 - 8 bit UCS Transfer Format
- Scope of the data described by the metadata   * dataset
- Scope name   * dataset
- * Last update   2022-08-23
- ArcGIS metadata properties
  - Metadata format   ArcGIS 1.0
  - Metadata style   FGDC CSDGM Metadata
  - Standard or profile used to edit metadata   FGDC
  - Created in ArcGIS for the item   2022-08-09
  - Last modified in ArcGIS for the item   2022-08-23
  - Automatic updates
    - Have been performed   Yes
    - Last update   2022-08-23