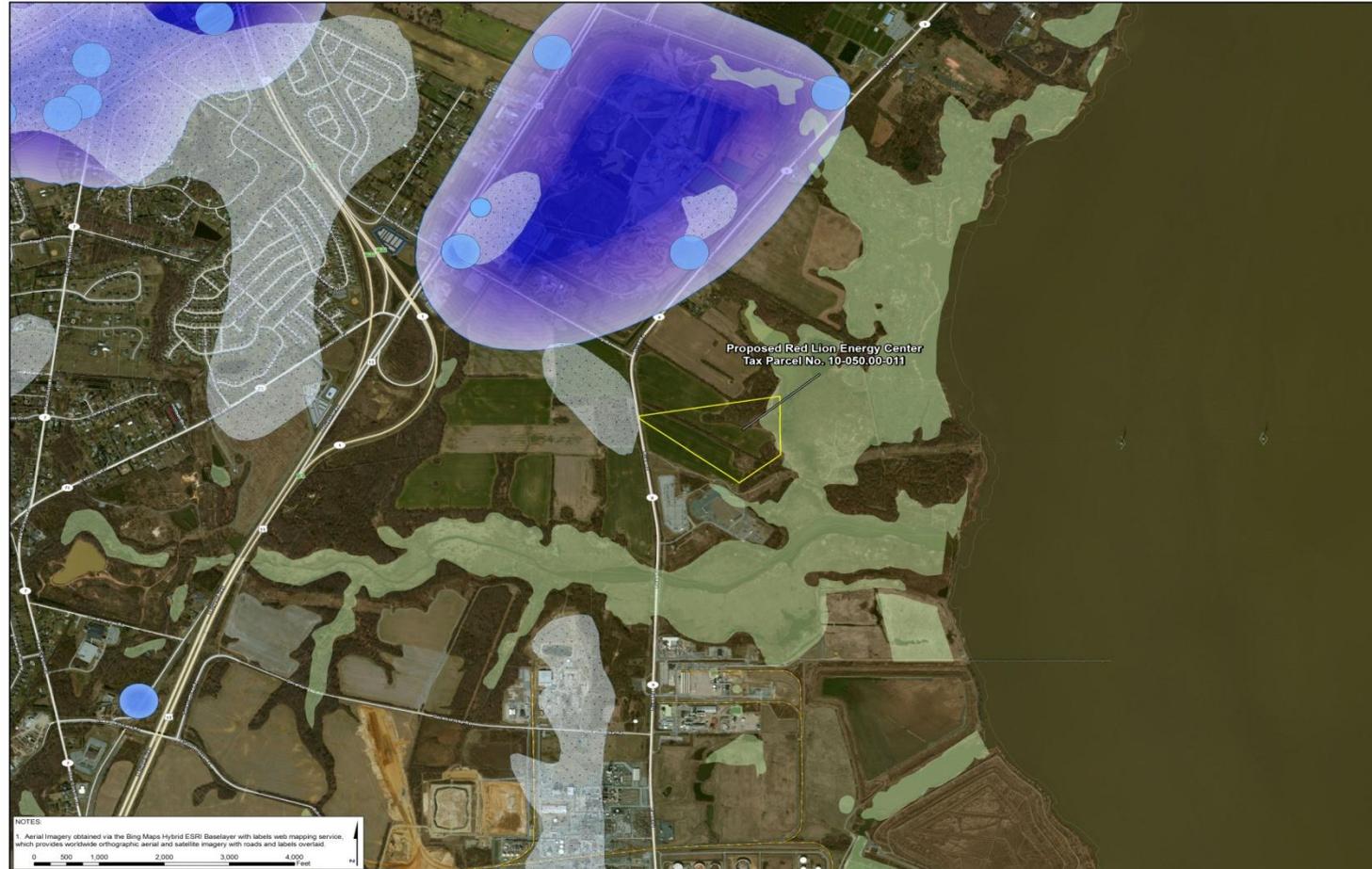


**Diamond State Generation  
Partners, LLC  
Red Lion Energy Center Project  
Coastal Zone Permit Application**

Public Hearing  
Tuesday, March 6, 2012

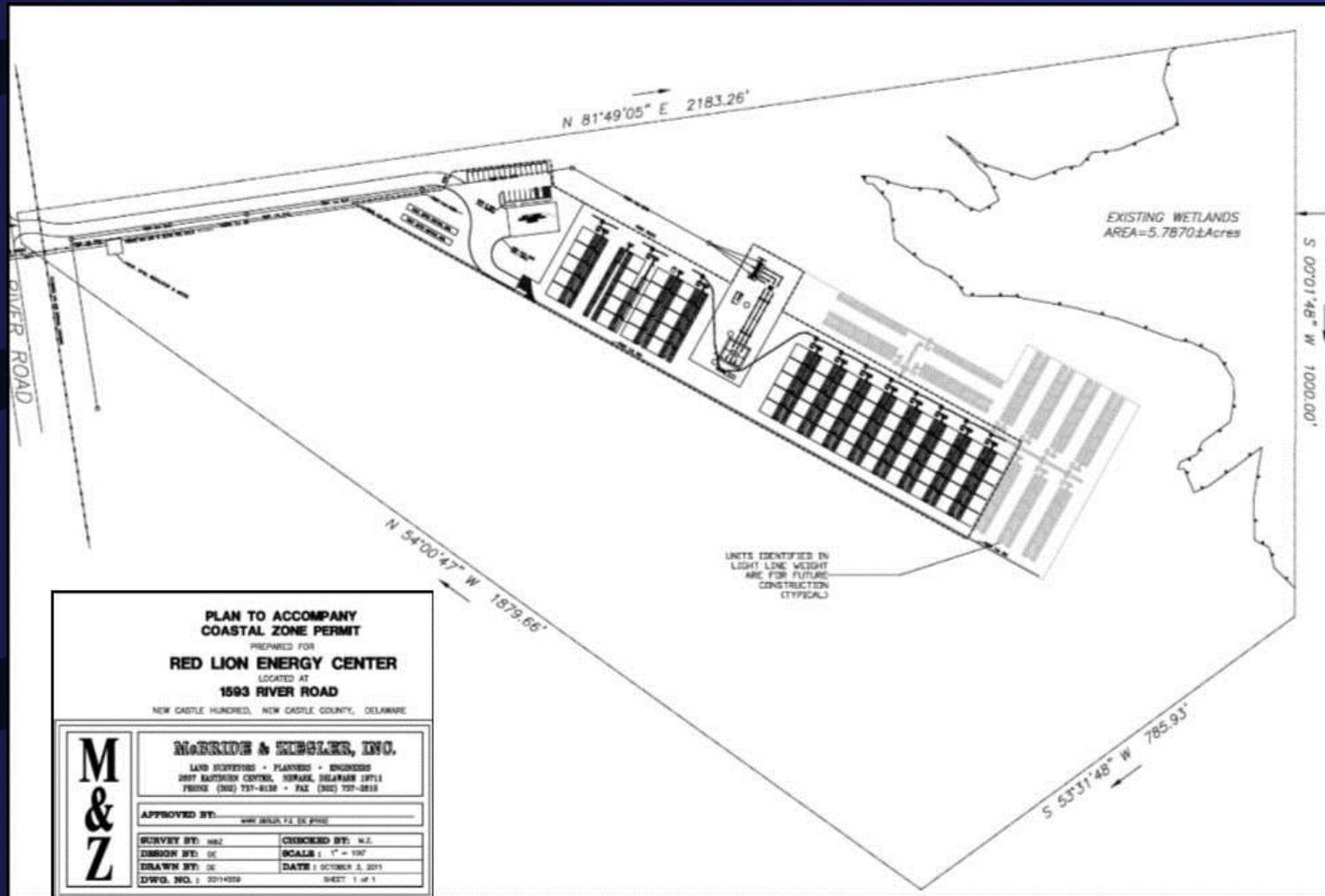
# Site Vicinity



NOTES:  
 1. Aerial Imagery obtained via the Bing Maps Hybrid ESRI Basemap with labels web mapping service, which provides worldwide orthographic aerial and satellite imagery with roads and labels overlaid.

5400 LIMESTONE ROAD WILMINGTON, DE 19808 TEL. (302) 239-6634 FAX. (302) 239-8596 <small>OFFICES IN DELAWARE, MARYLAND, PENNSYLVANIA, AND NEW JERSEY</small> <small>E-MAIL: DUFFIELD@DUFFIELD.COM</small>	
<b>Legend</b>	
	Site Location
	New Castle Co Parcels
<b>National Wetlands Institute</b>	
	Extent of Mapped Wetlands
<b>Water Resource Protection Areas</b>	
	Class A - WRPA
	Excellent Recharge Areas
	Wellhead Protection Areas
SOURCE: Bing Maps Aerial Imagery	
DRAWN BY: MPN	
CHECKED BY: MRS	
FILE: 9287CA_NatResourcesMap2.mxd	
Natural & Water Resources Protection Areas Map <b>1993 River Road</b> <b>Proposed Red Lion Energy Center</b> <b>Tax Parcel No. 10-050.00-011</b> <small>NEW CASTLE HUNDRED-NEW CASTLE COUNTY-DELAWARE</small>	
DATE: OCTOBER 2011	
SCALE: AS SHOWN	
PROJECT NO: 9287.CA	
SHEET: 1 OF 1	

# Site Plan



**PLAN TO ACCOMPANY  
COASTAL ZONE PERMIT**

PREPARED FOR  
**RED LION ENERGY CENTER**  
LOCATED AT  
**1593 RIVER ROAD**  
NEW CASTLE HUNDRED, NEW CASTLE COUNTY, DELAWARE

**MORRIS & NEUBAUER, INC.**  
LAND SURVEYORS • PLANNERS • ENGINEERS  
207 EASTBOURNE CENTRAL, WILMINGTON, DELAWARE 19711  
PHONE (302) 737-8138 • FAX (302) 737-8819

APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

SURVEY BY: H&Z      CHECKED BY: M.Z.  
DRAWN BY: DE      SCALE: 1" = 100'  
DATE: OCTOBER 2, 2011  
DWG. NO.: 2011-0359      SHEET 1 OF 1

# *Bloom Energy Server*

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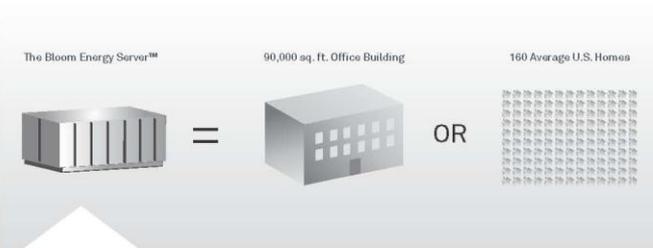


# Bloom Technology

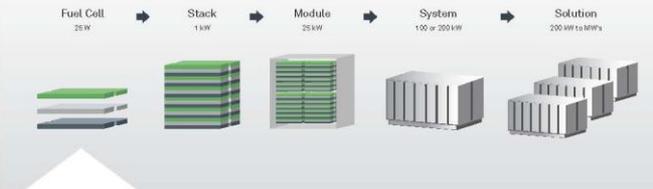
**Bloomenergy**

## How Bloom Energy Servers Create Electricity

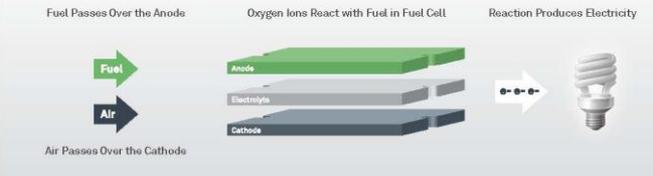
Each Bloom Energy Server, with a footprint of a parking space, provides 200kW of power to customers.



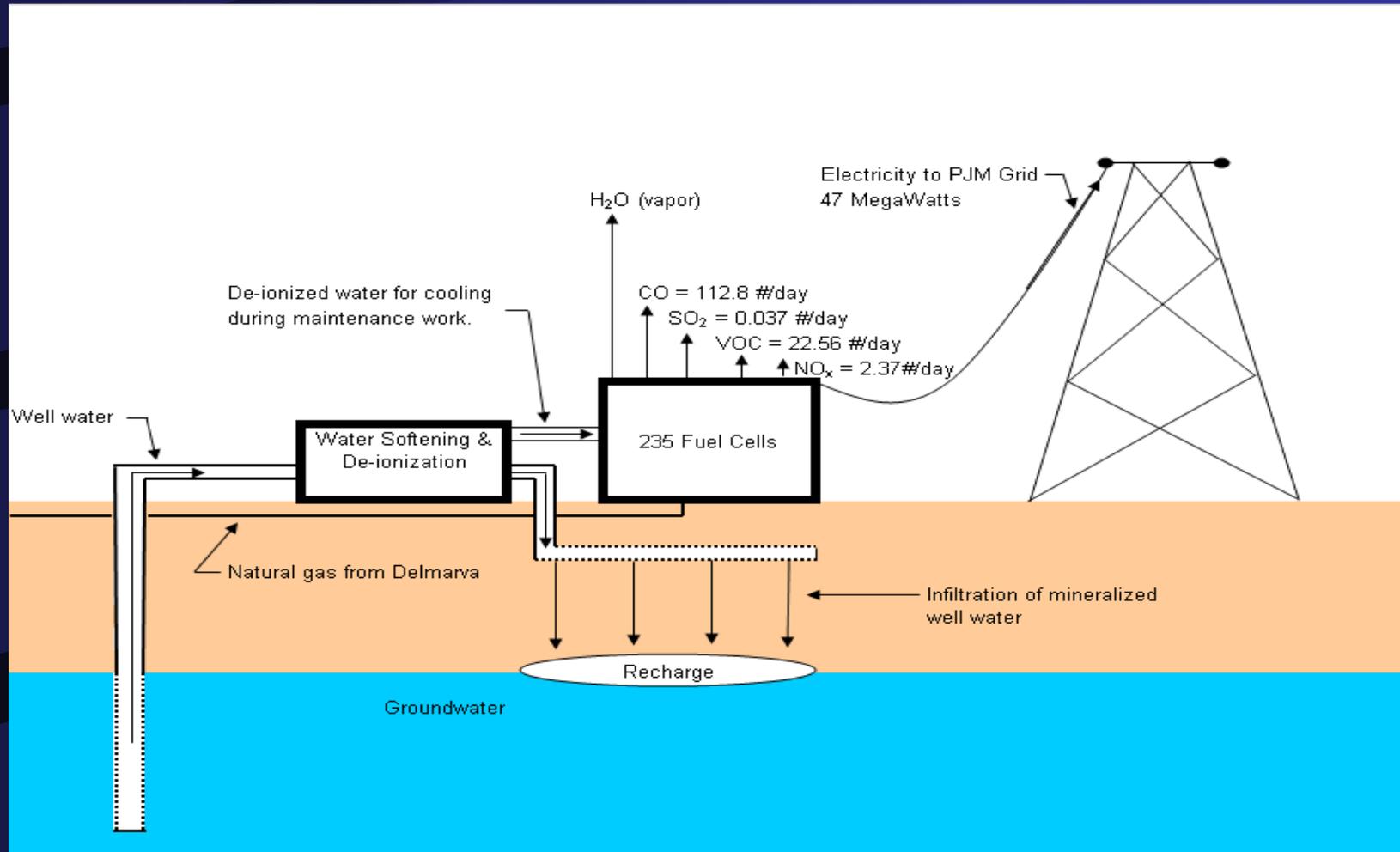
### What's in the Bloom Energy Server?



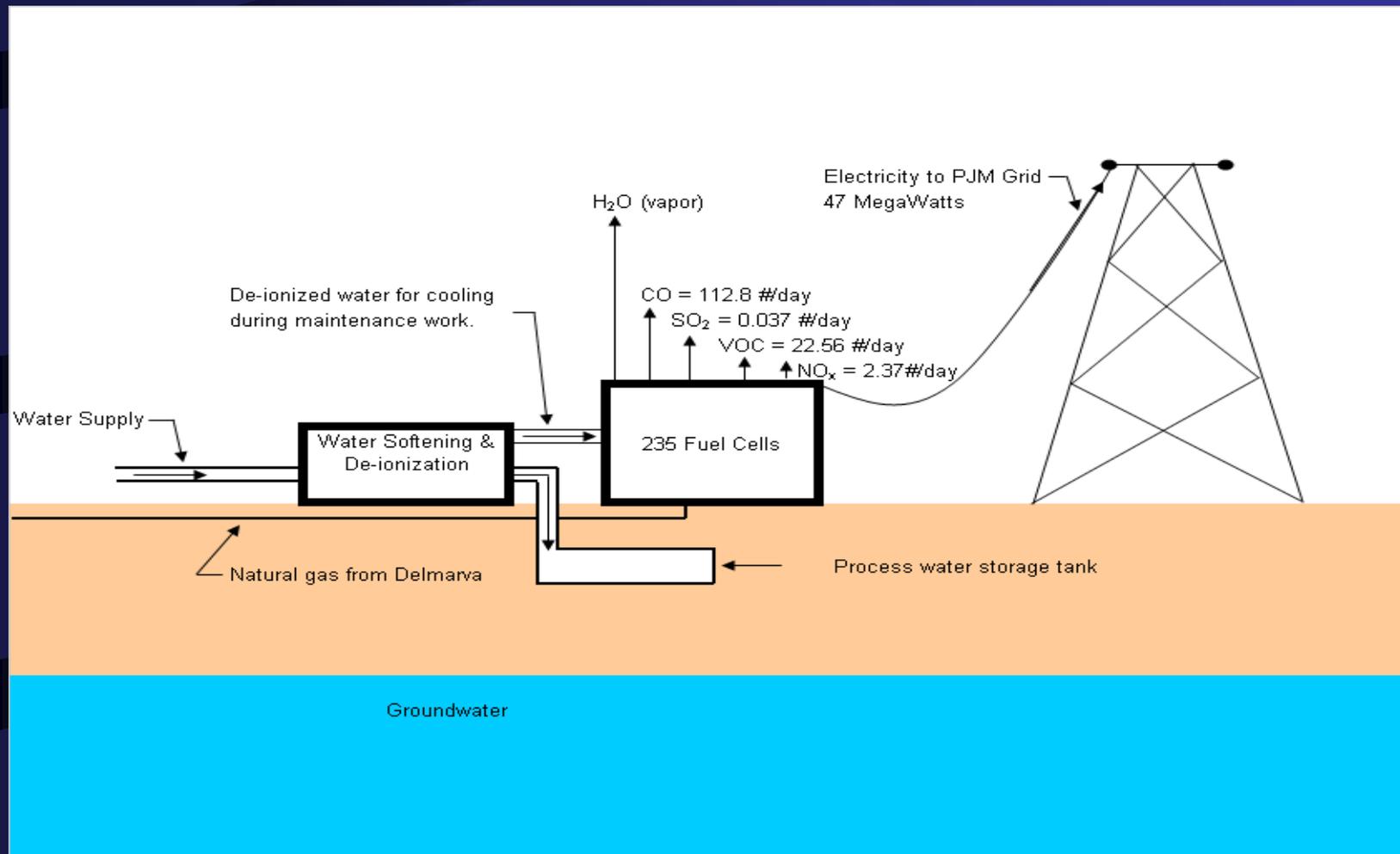
### How Does the Bloom Energy Server Fuel Cell Work?



# Generation Process



# Generation Process (Alternative)



# *PJM Region*

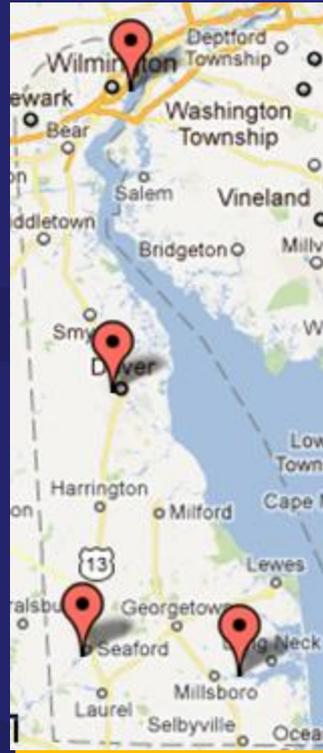
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# PJM Coal Power Plant Locations



Pennsylvania



Delaware



Maryland



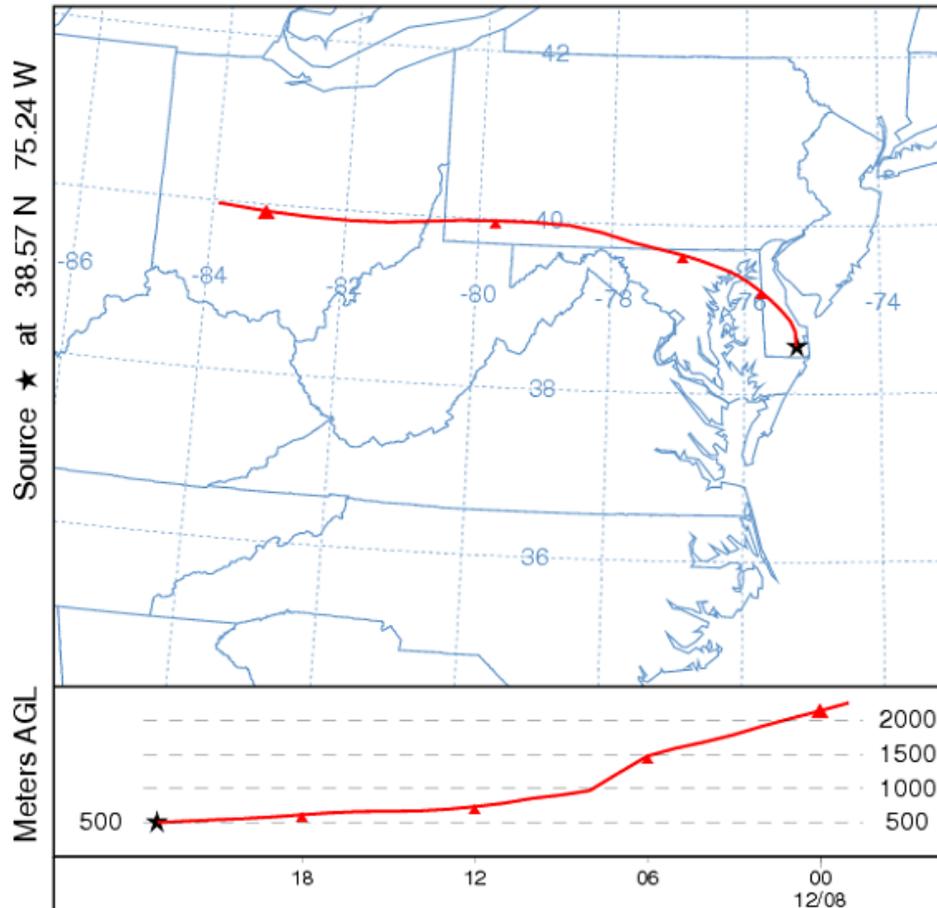
West Virginia



Ohio

# Particulate Transport

Backward trajectory ending at 23 UTC 08 Dec 07  
EDAS Meteorological Data



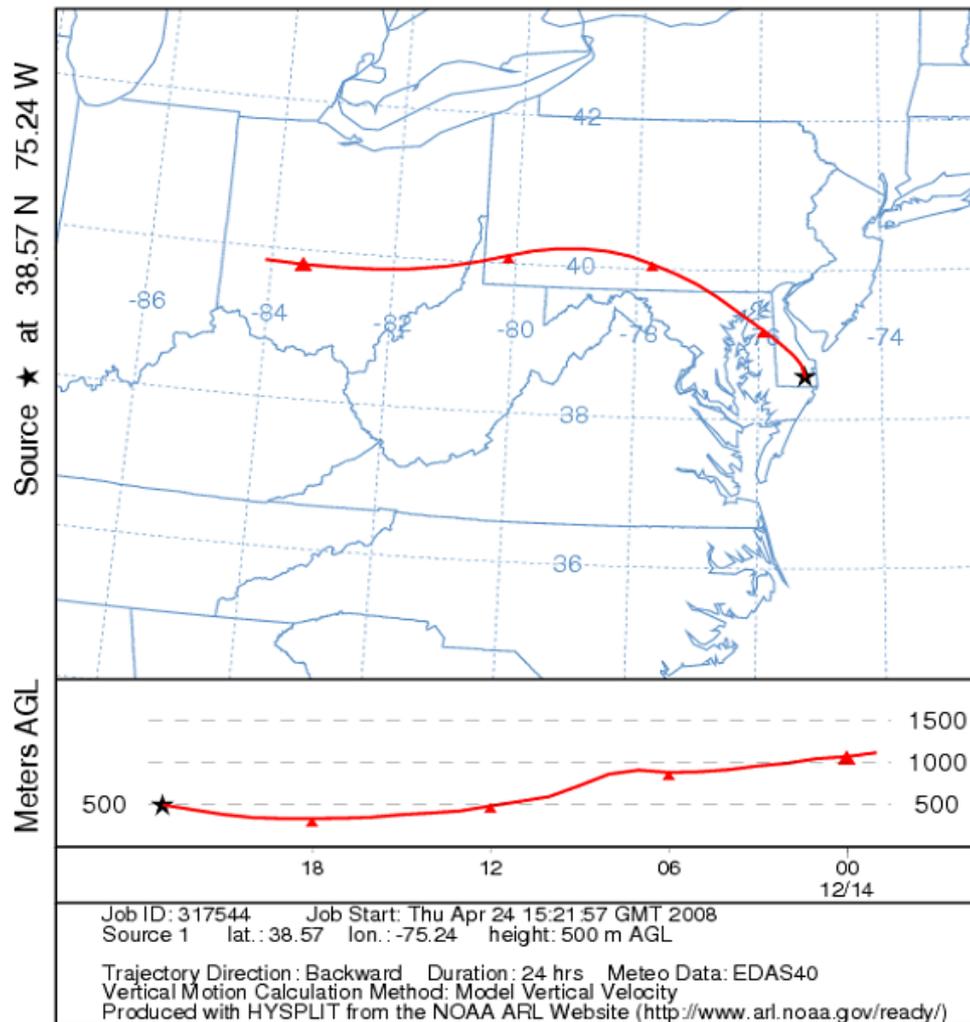
Job ID: 317510 Job Start: Thu Apr 24 15:20:17 GMT 2008  
Source 1 lat.: 38.57 lon.: -75.24 height: 500 m AGL

Trajectory Direction: Backward Duration: 24 hrs Meteo Data: EDAS40  
Vertical Motion Calculation Method: Model Vertical Velocity  
Produced with HYSPLIT from the NOAA ARL Website (<http://www.arl.noaa.gov/ready/>)

From DNREC Air Quality  
Management Section  
Final Report "PM<sub>2.5</sub>  
Indian River MiniVol  
Study," May 28, 2008

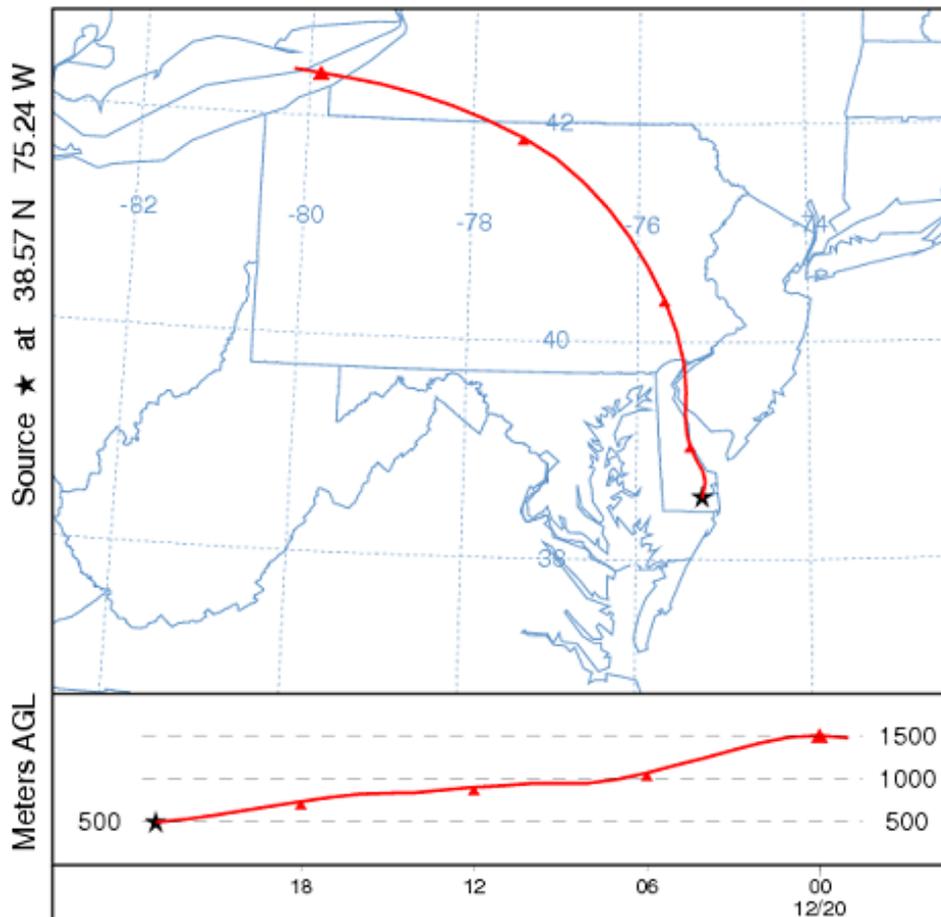
# Particulate Transport

Backward trajectory ending at 23 UTC 14 Dec 07  
EDAS Meteorological Data



# Particulate Transport

Backward trajectory ending at 23 UTC 20 Dec 07  
EDAS Meteorological Data

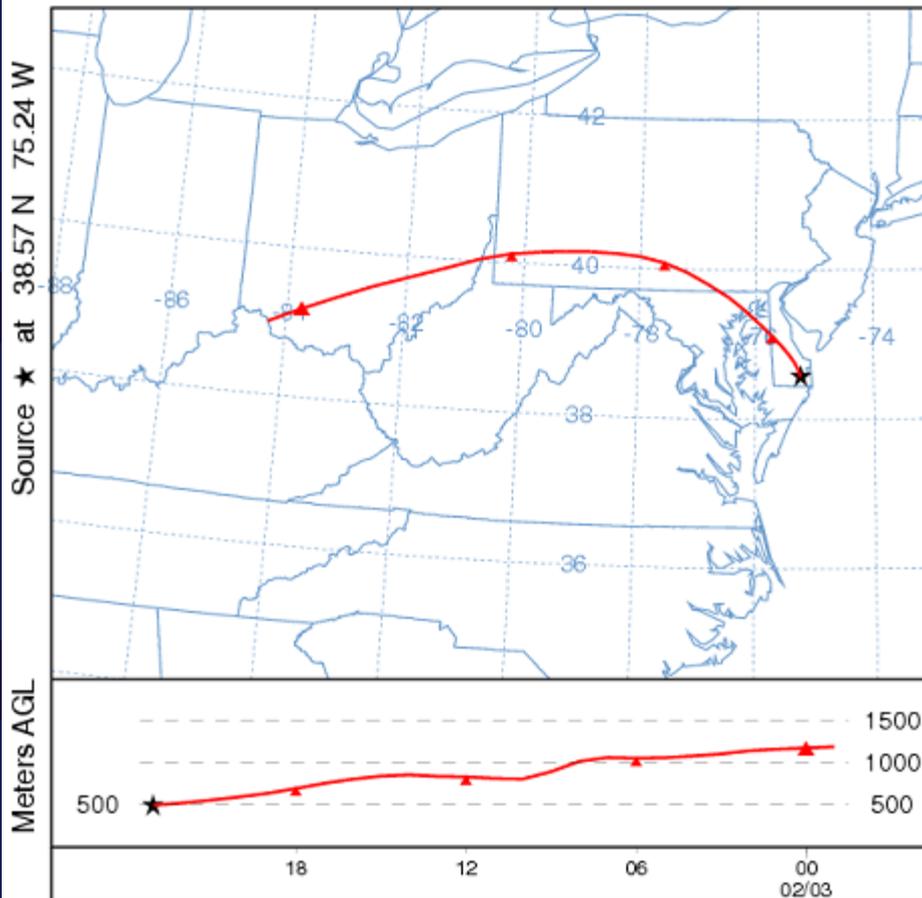


Job ID: 317592 Job Start: Thu Apr 24 15:24:28 GMT 2008  
Source 1 lat.: 38.57 lon.: -75.24 height: 500 m AGL

Trajectory Direction: Backward Duration: 24 hrs Meteo Data: EDAS40  
Vertical Motion Calculation Method: Model Vertical Velocity  
Produced with HYSPLIT from the NOAA ARL Website (<http://www.arl.noaa.gov/ready/>)

# Particulate Transport

Backward trajectory ending at 23 UTC 03 Feb 08  
EDAS Meteorological Data

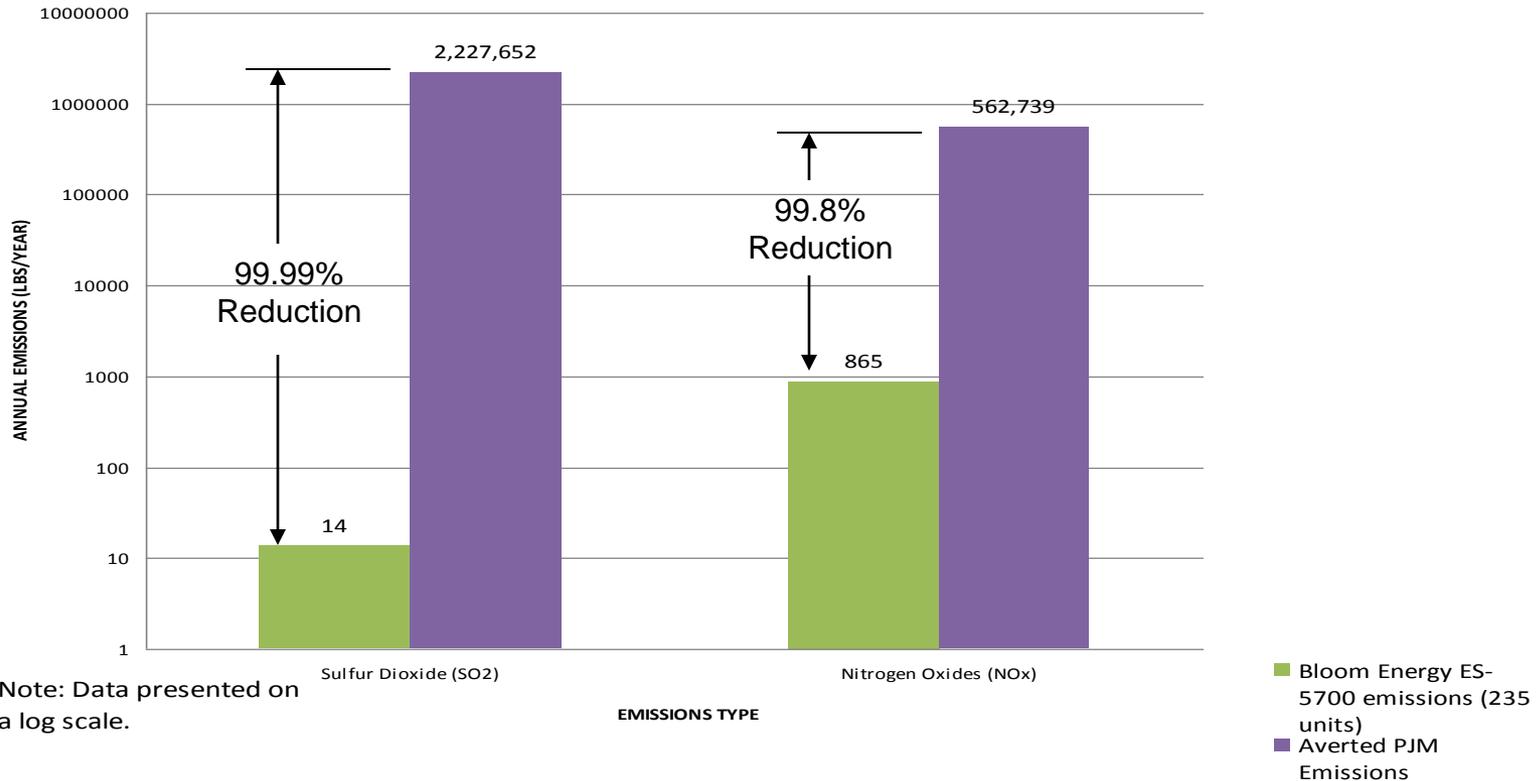


Job ID: 317662 Job Start: Thu Apr 24 15:28:44 GMT 2008  
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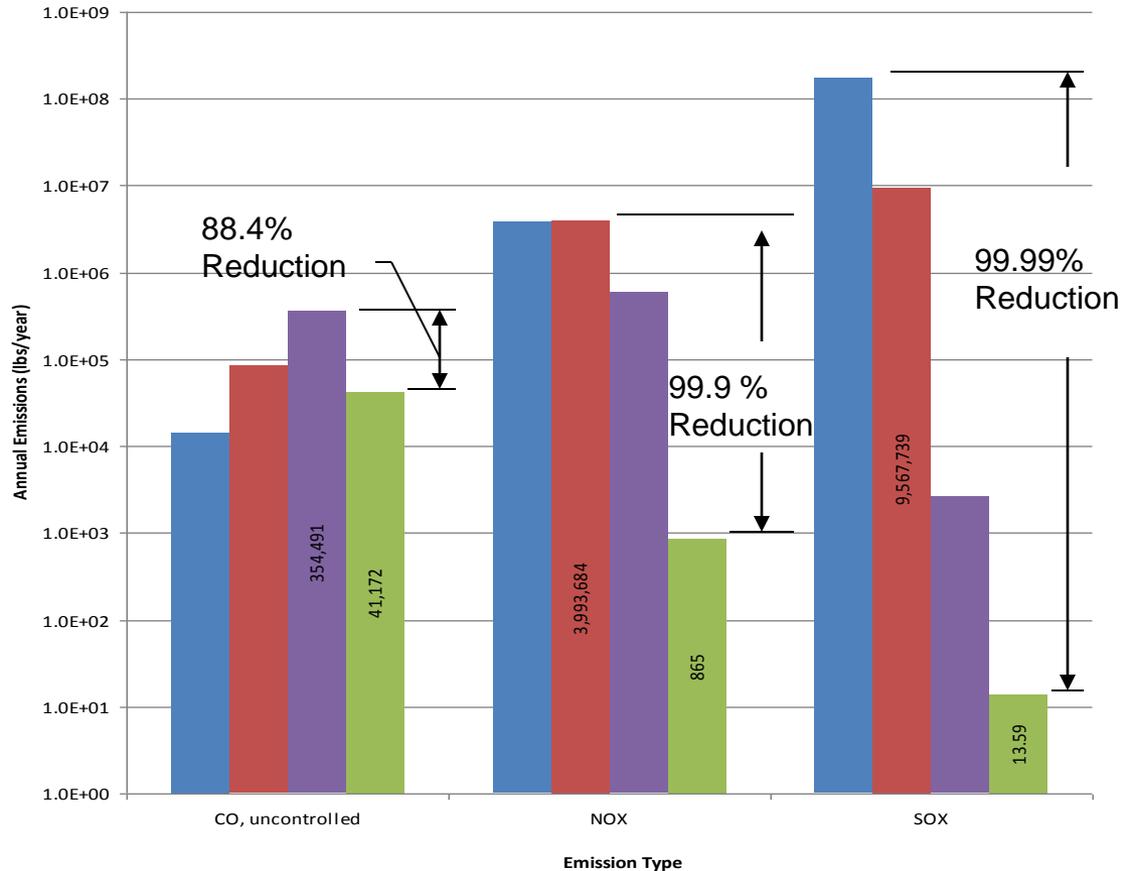
Trajectory Direction: Backward Duration: 24 hrs Meteo Data: EDAS40  
Vertical Motion Calculation Method: Model Vertical Velocity  
Produced with HYSPLIT from the NOAA ARL Website (<http://www.arl.noaa.gov/ready/>)

# Emissions Offset By Project

## FUEL CELLS AND AVERAGE PJM GRID EMISSIONS FOR 47 MW OF POWER



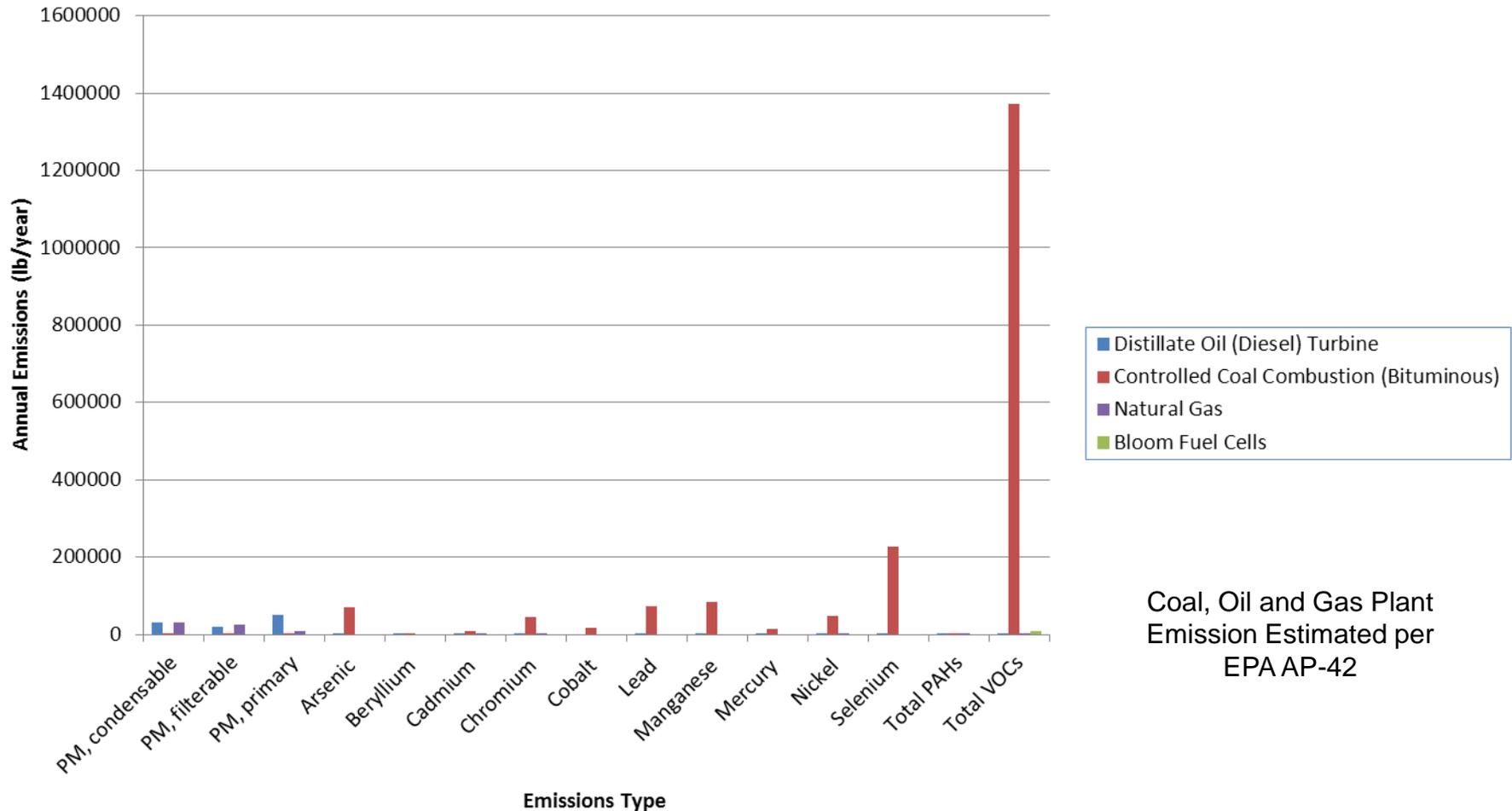
# Emissions Offset By Project



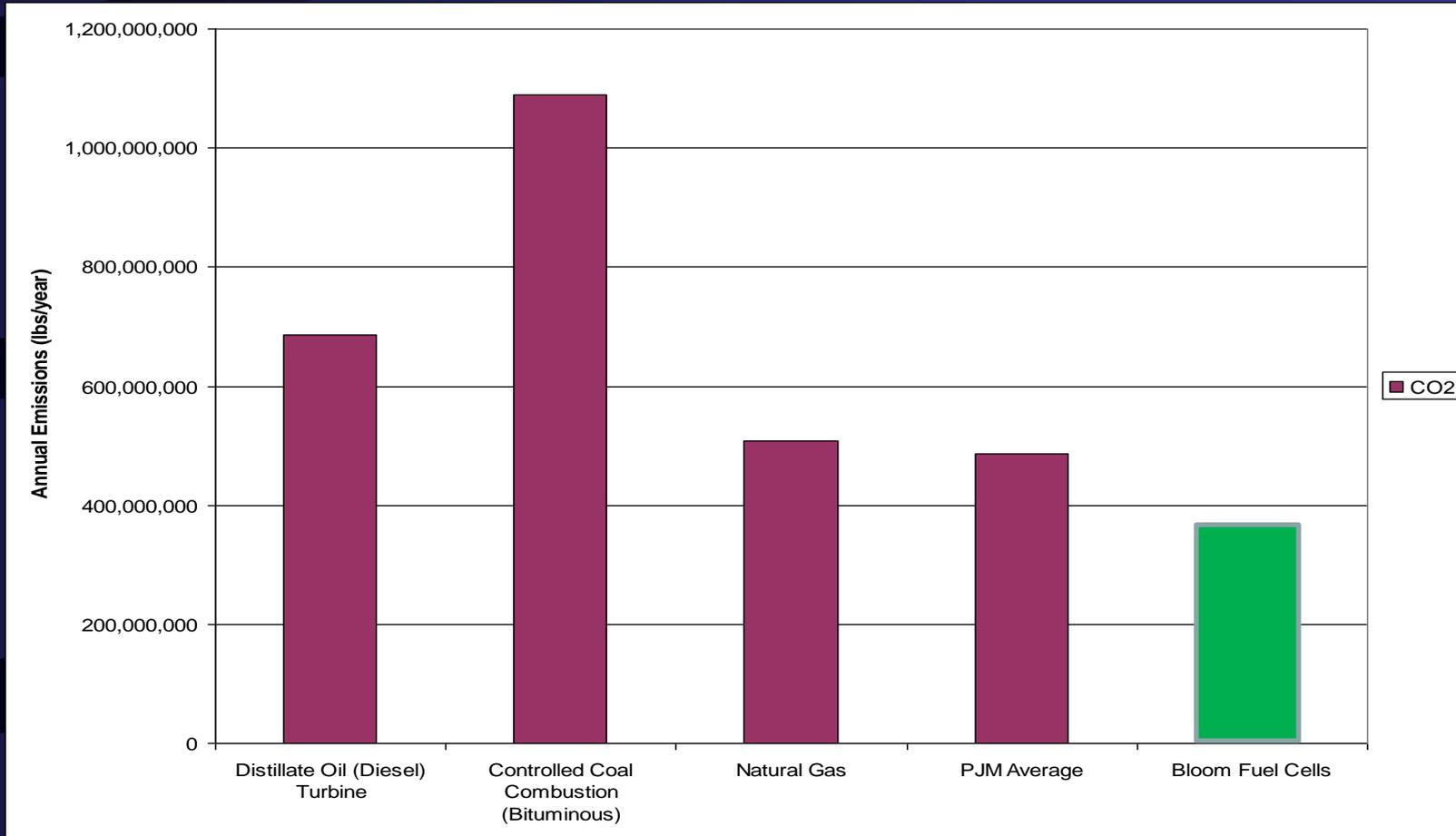
Coal, Oil and Gas  
Plant Emission  
Estimated per  
EPA AP-42

Note: Data Presented on  
a log scale

# Emissions Offset By Project



# CO<sub>2</sub> Emissions



# *Bloom Energy Servers*

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