

**Montgomery
County, MD**

Regional Wind Power Purchase

**Ann Elsen
Energy Planner**

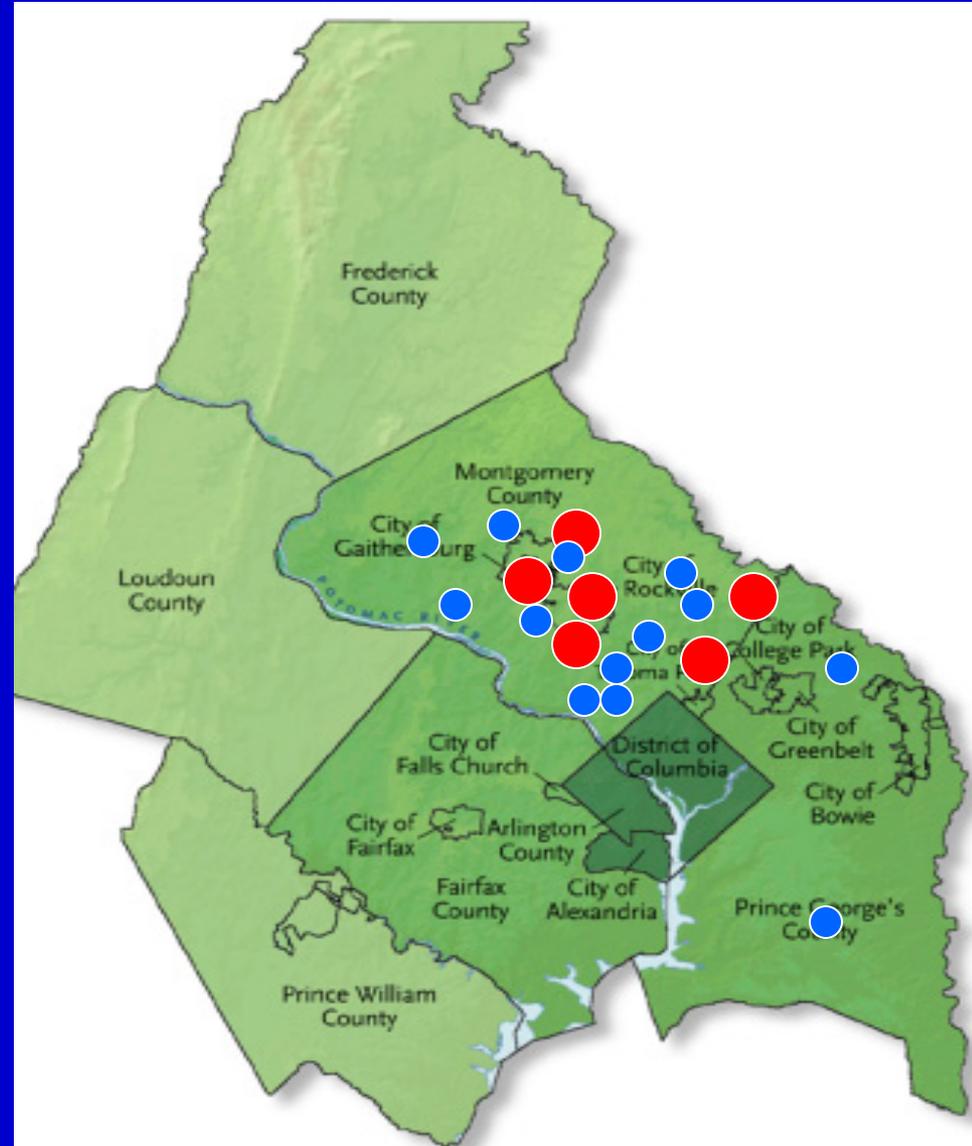


Key Points

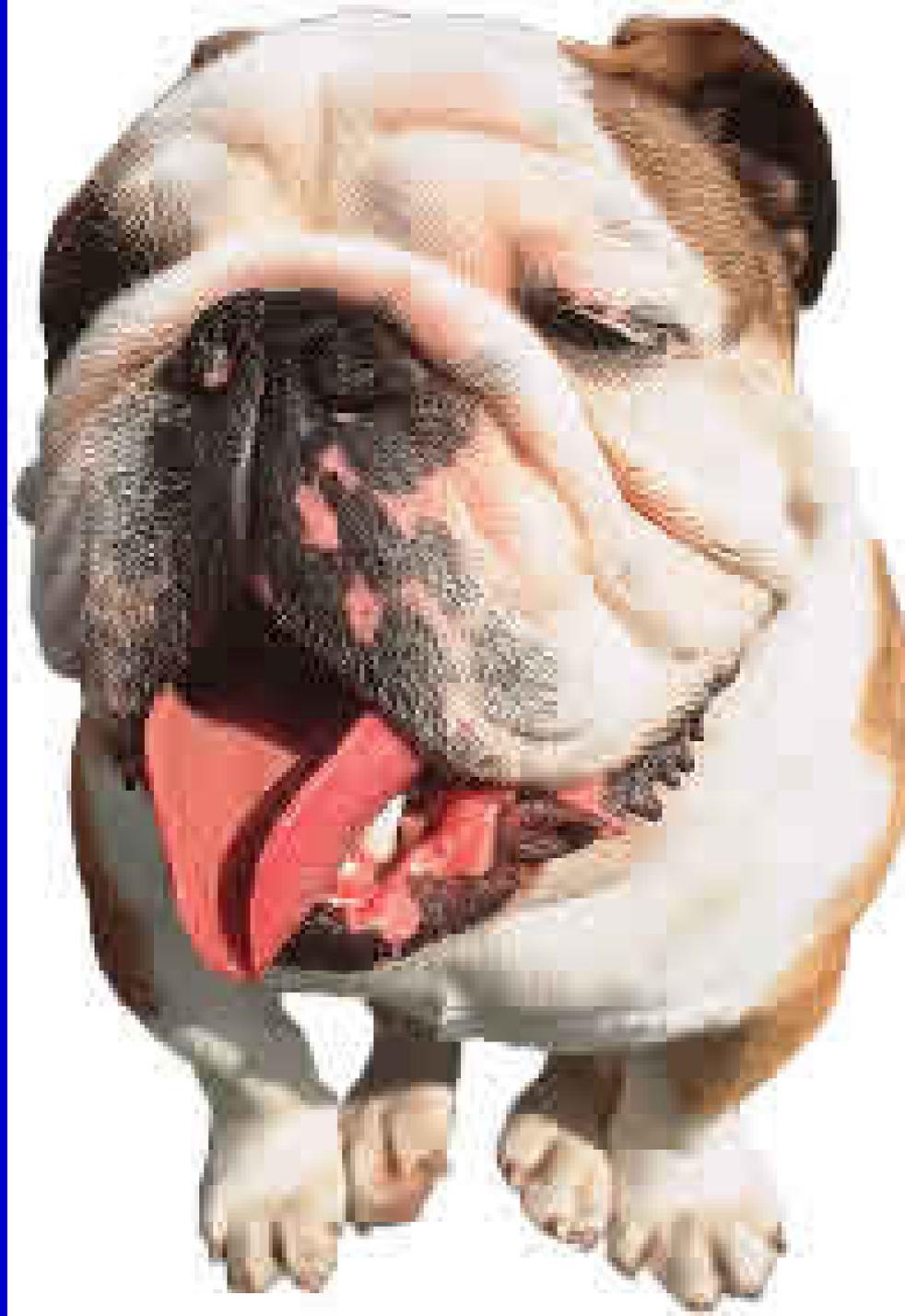
- Largest local government purchase of wind in the US.
- First use of renewable energy in a SIP (State Implementation Plan for compliance with Clean Air Act).
- SIP can be a market driver.

Electricity Buying Group

- “Big Six” Montgomery County Agencies:
656 million kWh/year
- Plus thirteen other jurisdictions:
112 million kWh/year
- Total purchase of
768 million kWh/year electric power



Big
dogs
eat
first.



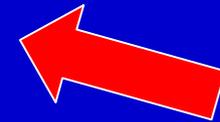
It's not easy being green



5% requirement for new, “Green-e” zero-emissions, renewable energy established in a joint resolution.

Electricity Procurement

Green Power



**Everything
Else**

We'll pay more for power when...



Wind is Cost-Effective, because...

- We can save enough electricity, via behavioral changes alone, to completely offset the cost.
- Protection of federal transportation dollars
- Cost very reasonable when viewed as an air quality measure

Cost-Effective NOx Reduction Measure

(not to be confused with the cost of a NOx Allowance)

Control Measure

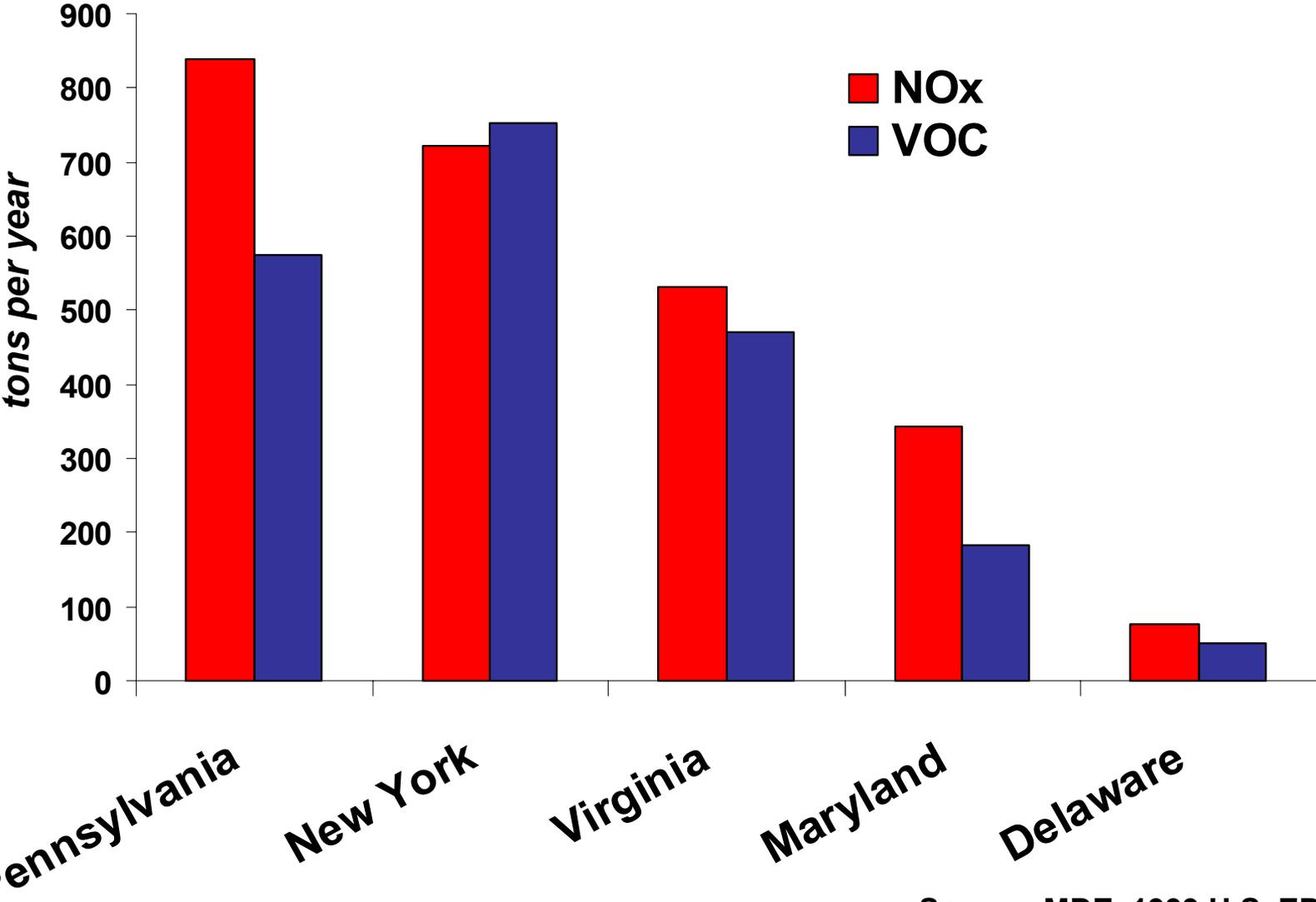
Cost (ton/year)

Wind Energy	\$32,000
CNG Refueling Stations	\$54,701
55 CNG Busses	\$103,063
1967 Bike Lockers	\$247,111

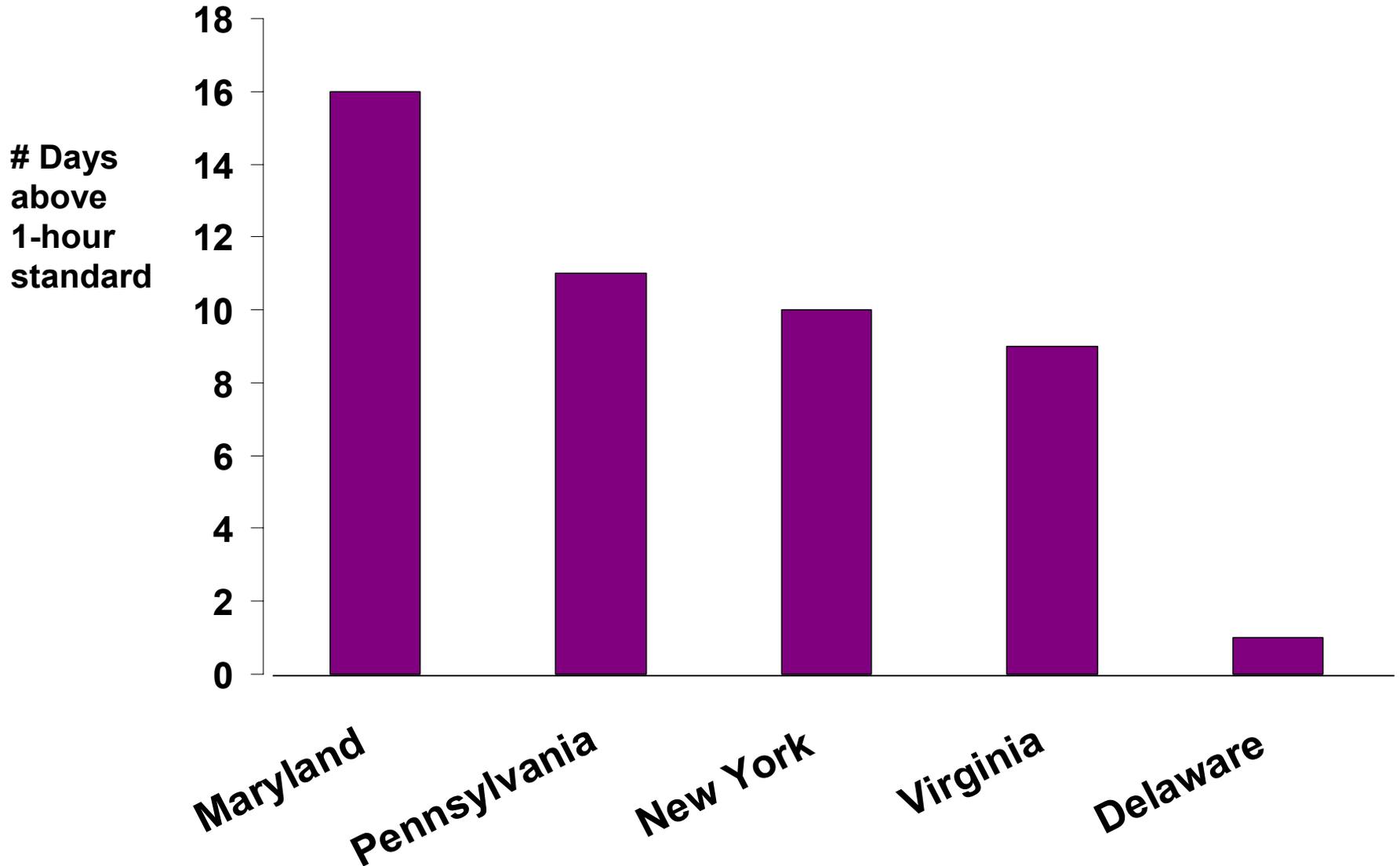
So, this improves our air quality?



Emissions



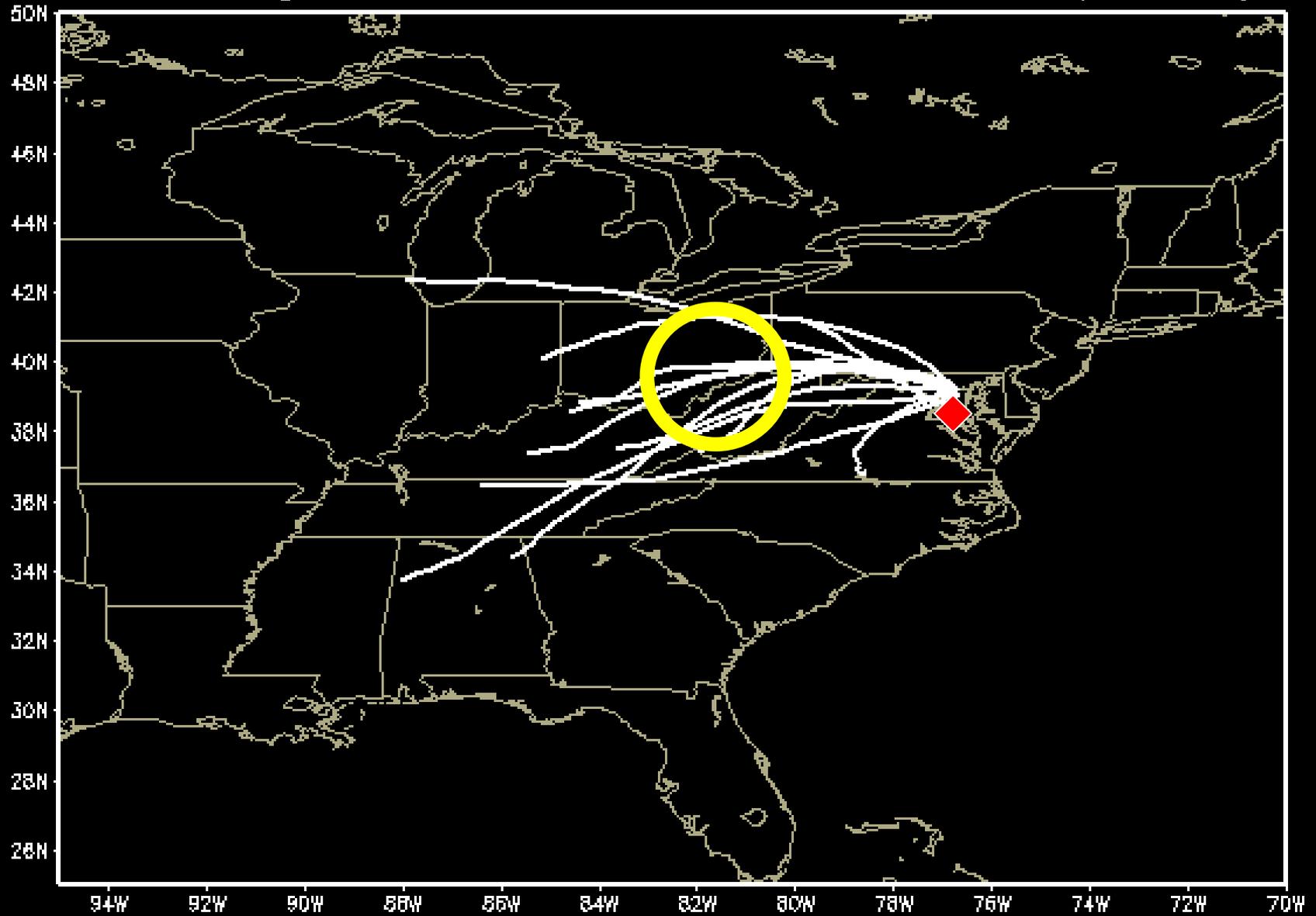
Ground-Level Ozone



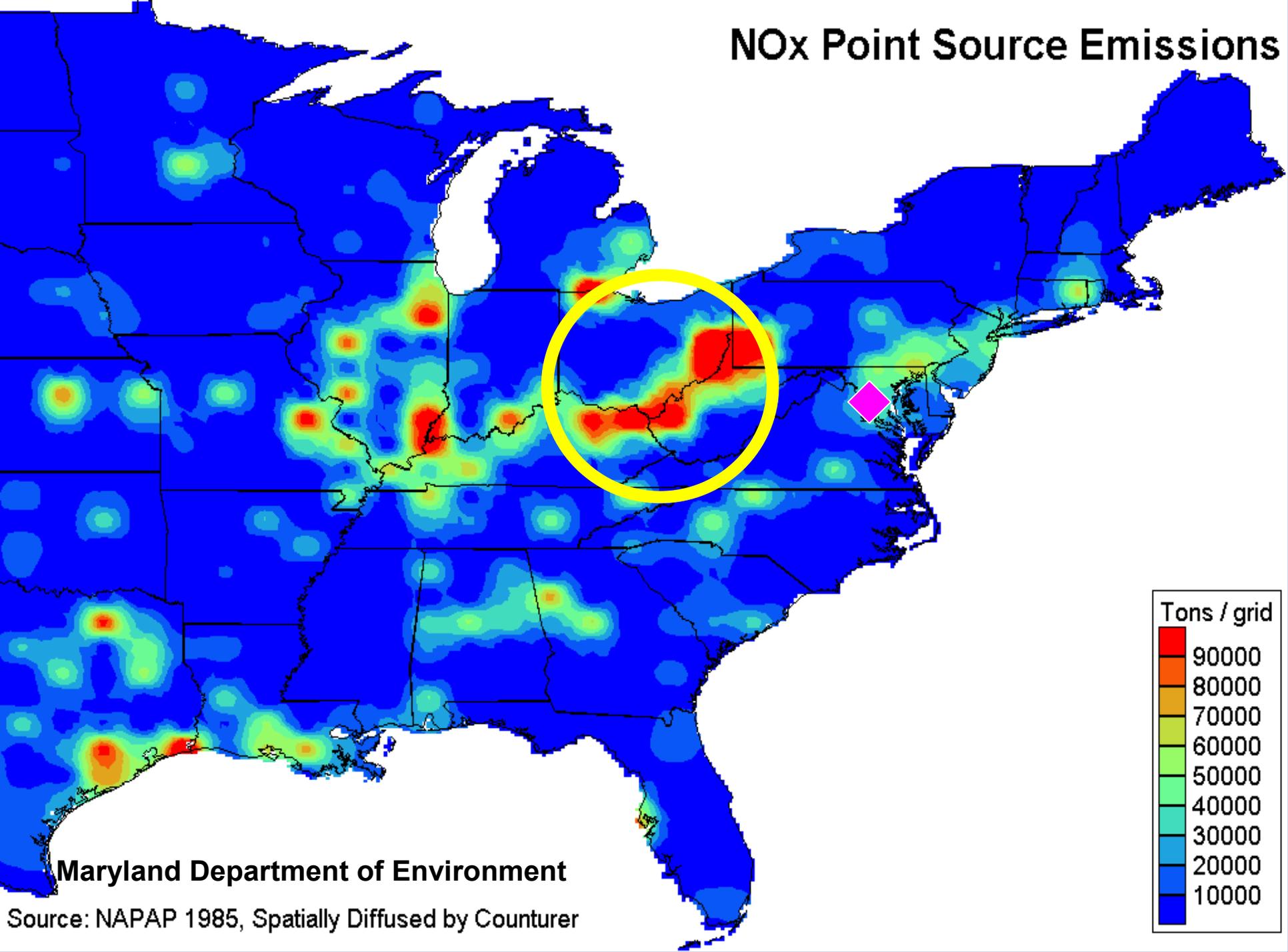
So, where does the
ozone come from?

“Ozone Transport”

Back Trajectories 90th Percentile BWI 2000 (500 m)



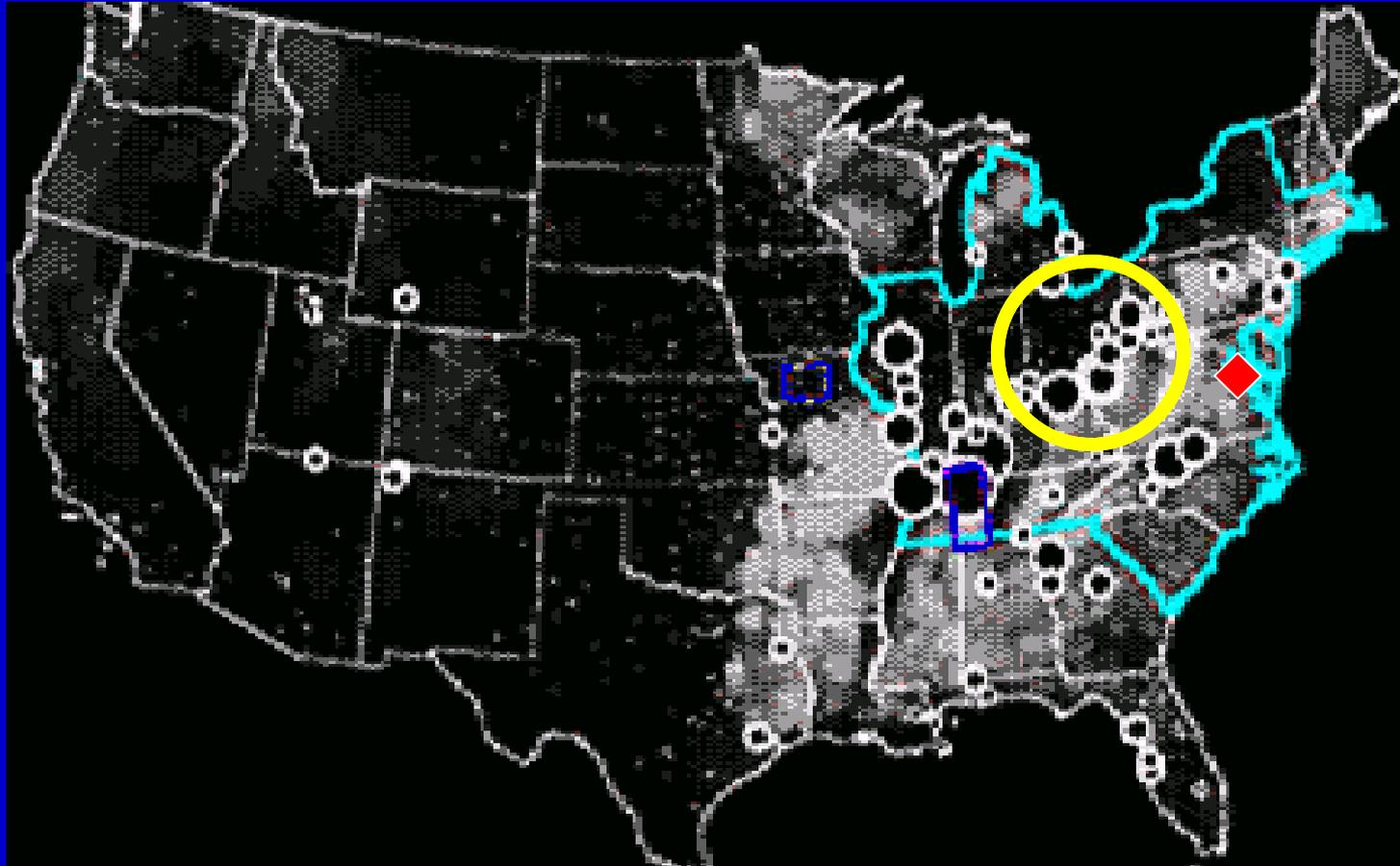
NOx Point Source Emissions



Maryland Department of Environment

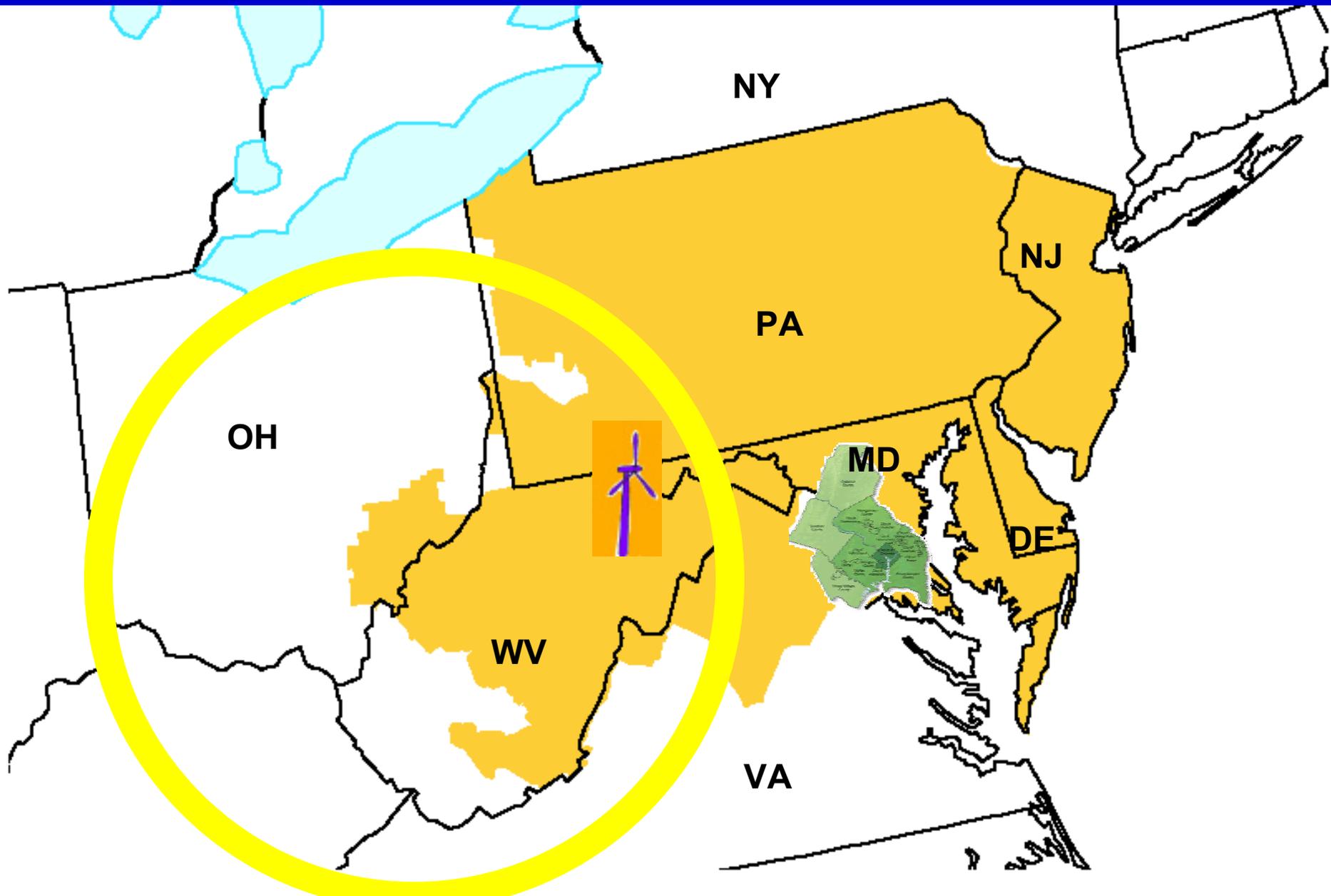
Source: NAPAP 1985, Spatially Diffused by Counturer

Locations of 50 Largest Power Plants in US



Source: NOAA

PJM Control Area



The “Ideal” Solution



A Closer Look at REC's



REC Defined by Contract

- Includes all environmental attributes, and transfer of rights, certificates, values and/or credits (even if not yet developed)
- Generation must occur within term of contract.
- Generation must occur within a defined geographic area.
- Annual reporting of kWh delivered into PJM
- Annual reporting of kWh generated during “ozone season”

New EPA Guidance for SIPs

- Encourages the use of renewable energy as a “voluntary control measure.”
- Sites the Montgomery County wind energy purchase as an example.
- Provides a sample methodology for calculating emissions reductions.
- Is easier to apply in states with NOx “set-aside,” but can be applied in any location where power plant emissions are a significant contributor to air quality problems.

Wind Purchase Stats

- Two year contract began July 1, 2004
- 38.4 million kWh/year = 5%
- Price premium of \$0.01498 per kWh
- Total aggregate cost of \$575,408/yr
- “Energy Wise Office” program implemented to offset cost

The End

