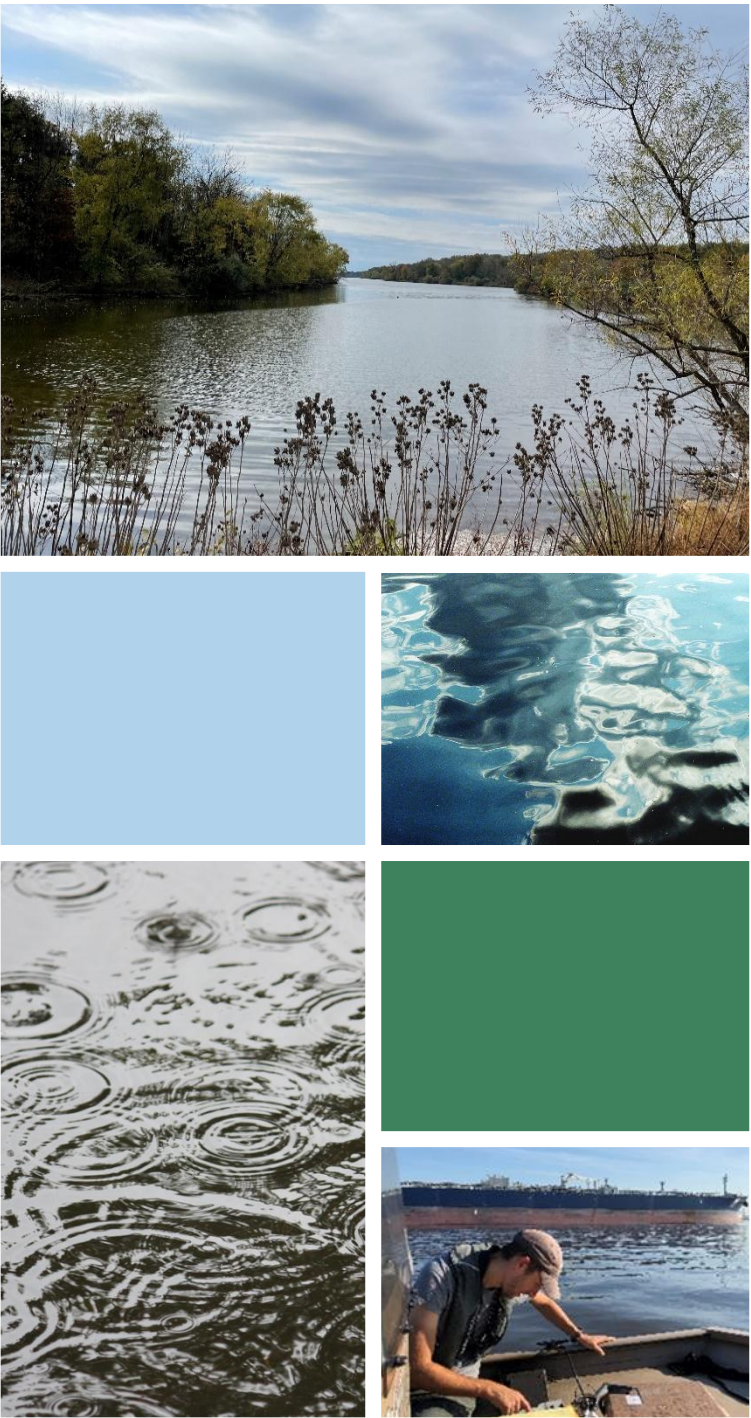




Water Use & Water Demand in the Delaware River Basin

Chad Pindar, P.E.

Manager of Water Resource Planning

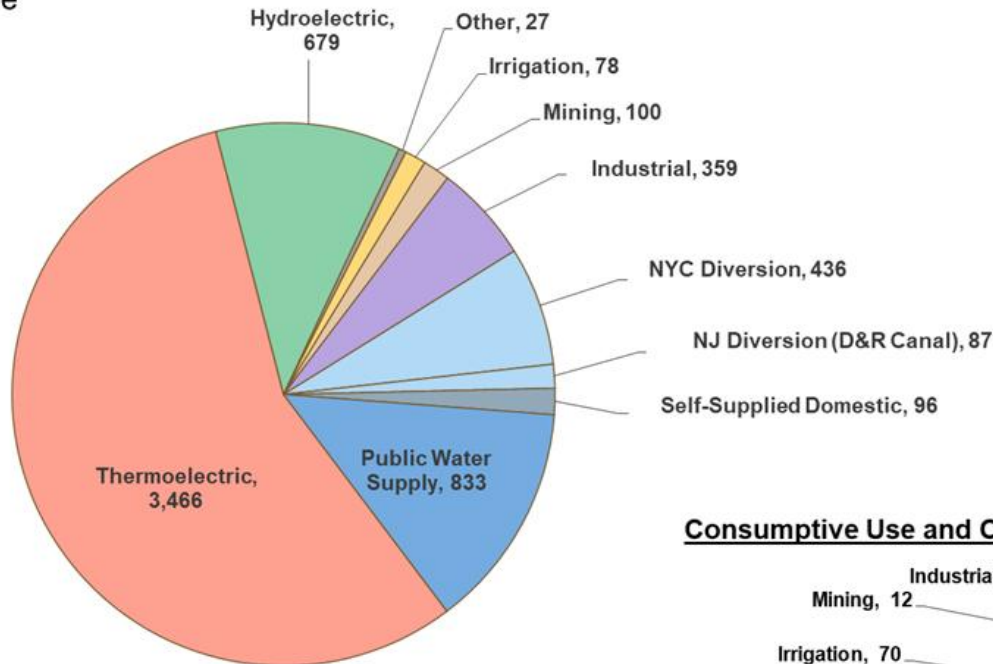
July 30, 2026

*Water & Energy in the Delaware River Basin
Event - Limerick Generating Station*



2024 DRB Water Withdrawals

Total Water Withdrawals
(ground and surface) from the
Delaware River Basin, **2024:**
6,160 MGD

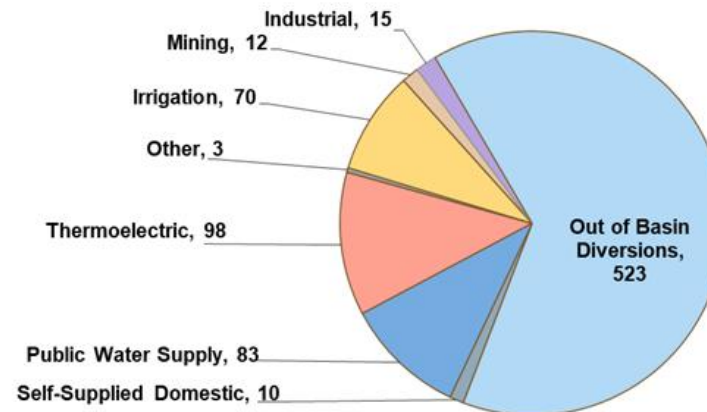


■ Thermoelectric
■ Hydroelectric
■ Other
■ Irrigation
■ Mining
■ Industrial
■ NYC Diversion
■ NJ Diversion (D&R Canal)
■ Self-Supplied Domestic
■ Public Water Supply

~ 6.1 BGD in 2024

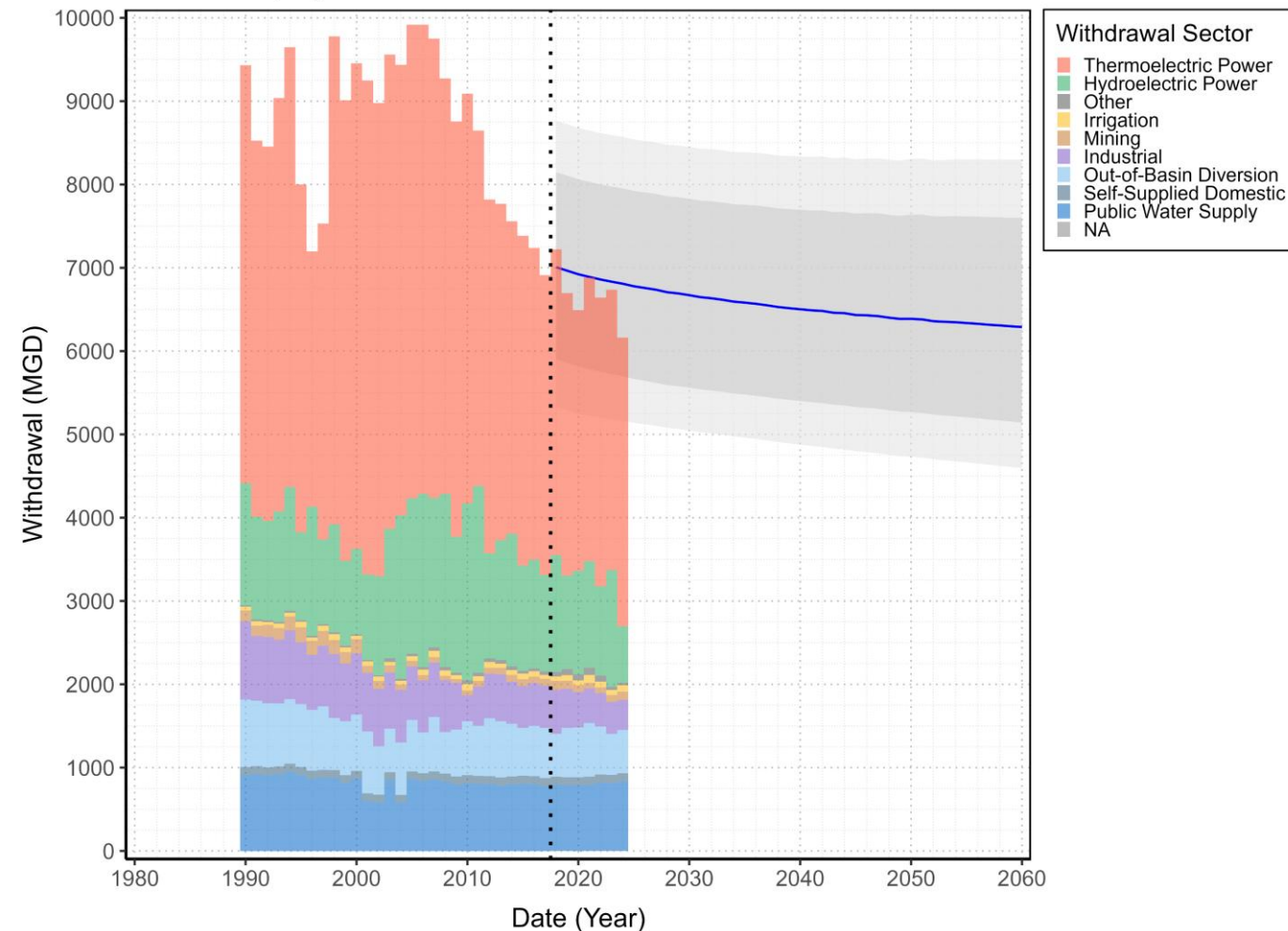
- ~3.5 BGD is thermoelectric
- 0.8 BGD is PWS

Consumptive Use and Out-of-Basin Diversions: 814 MGD



1990 – 2024 DRB Water Withdrawals

Historical and projected water withdrawals from the Delaware River Basin



Water Withdrawals 1990 - 2024

~ 10,000 MGD in 2005 (10 BGD)

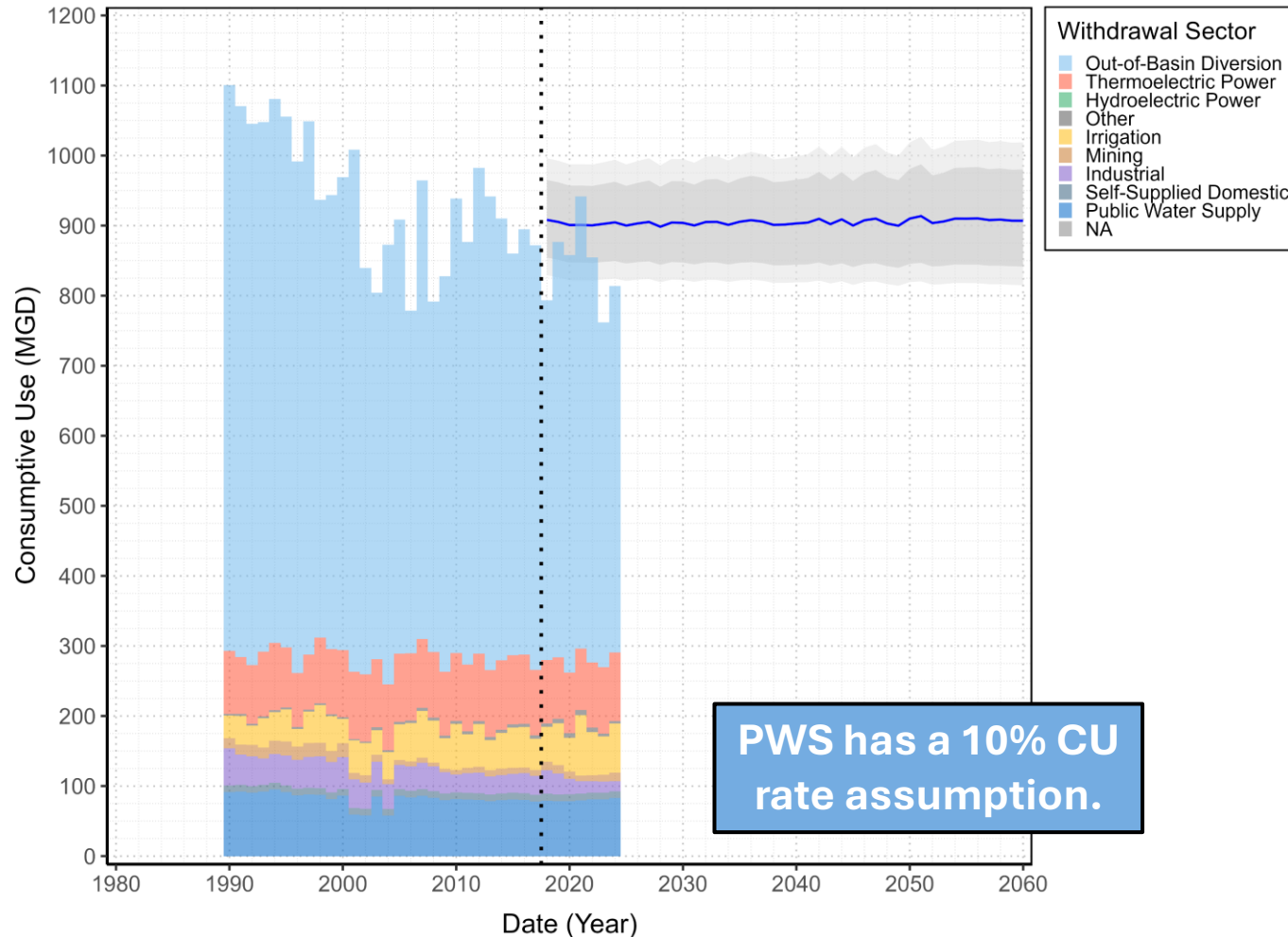
~ 6,000 MGD in 2024 (6 BGD)

~ 4,000 MGD *decrease* (4 BGD)

Decrease Projected to 2060

1990 – 2024 DRB Consumptive Water Use

Historical and projected consumptive water use in the Delaware River Basin



Consumptive Water Use

~ 1,100 MGD in 1990 (1 BGD)

~ 825 MGD in 2024 (0.825 BGD)

~ 300 MGD decrease (0.3 BGD)

Projected to remain constant

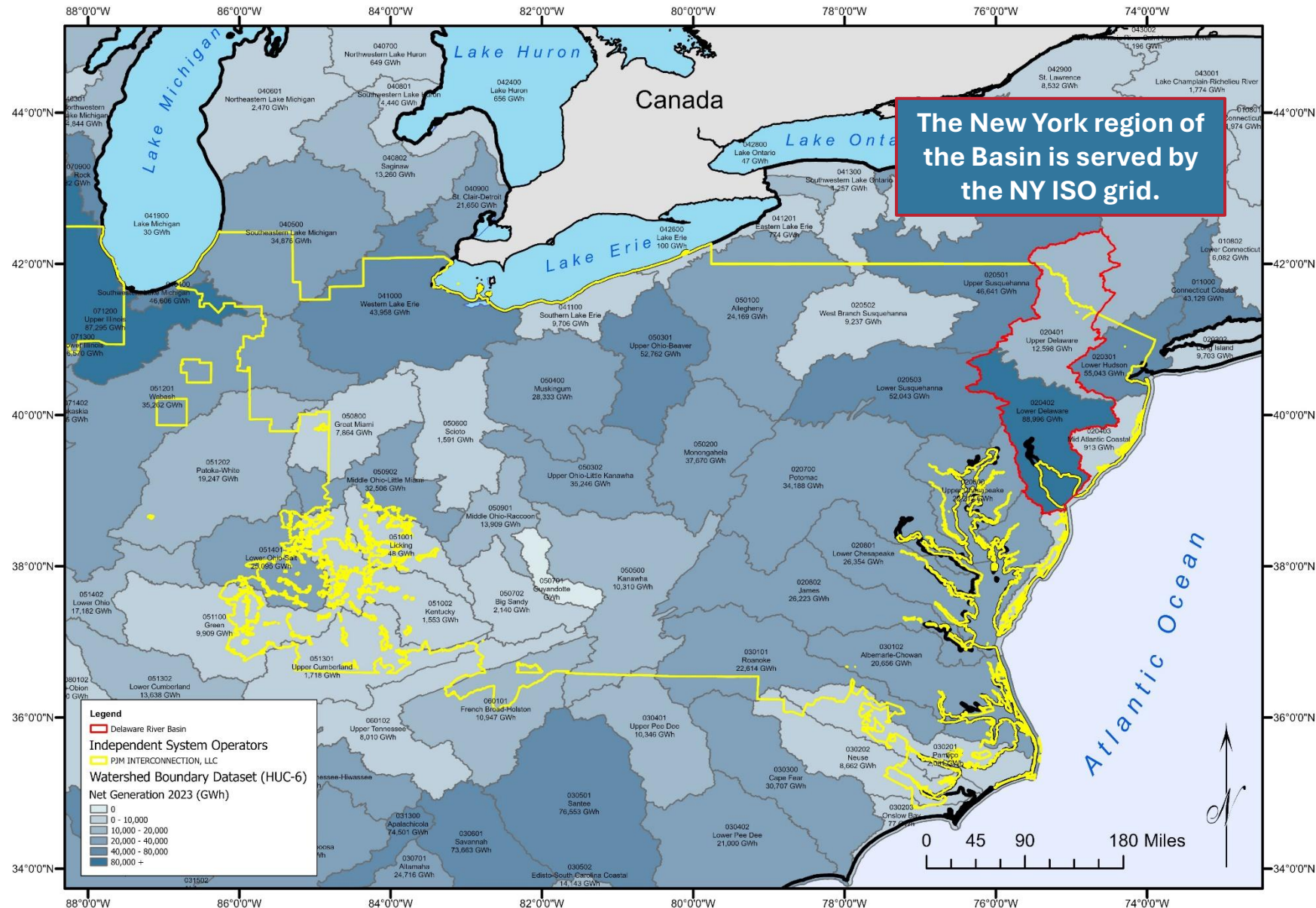
PJM Grid

- Regional Transmission Organization (RTO)
- Largest grid in U.S.
- ~65 million customers
- 13 states + D.C.
- HQ in Valley Forge, PA
- Regulated by FERC

CY2023 net power generation
Lower Delaware HUC

2nd in the country
1st in the PJM

88,690 GWh in 2023

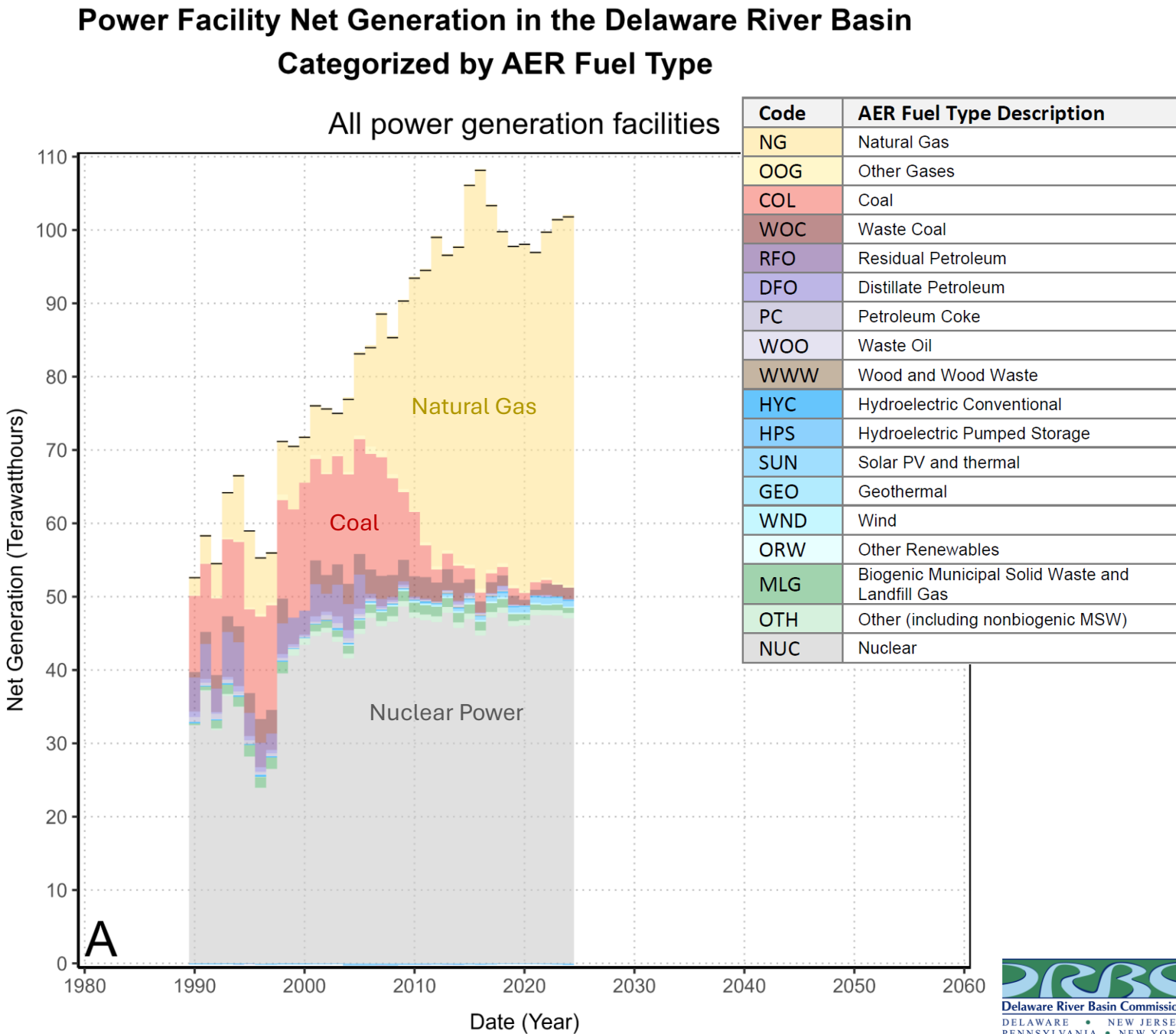


Total net power generation (from all sources) as reported through EIA Form-923 (CY2023), aggregated to a HUC-6 scale for the entire country. Labels within each watershed indicate the watershed name, as well as the net generation in gigawatt-hours (GWh).

Sources:

United States Energy Information Administration (EIA) Form 923, Form 860 and "PowerPlants" shapefile.
USGS Watershed Boundary Dataset (HUC-6 boundaries)

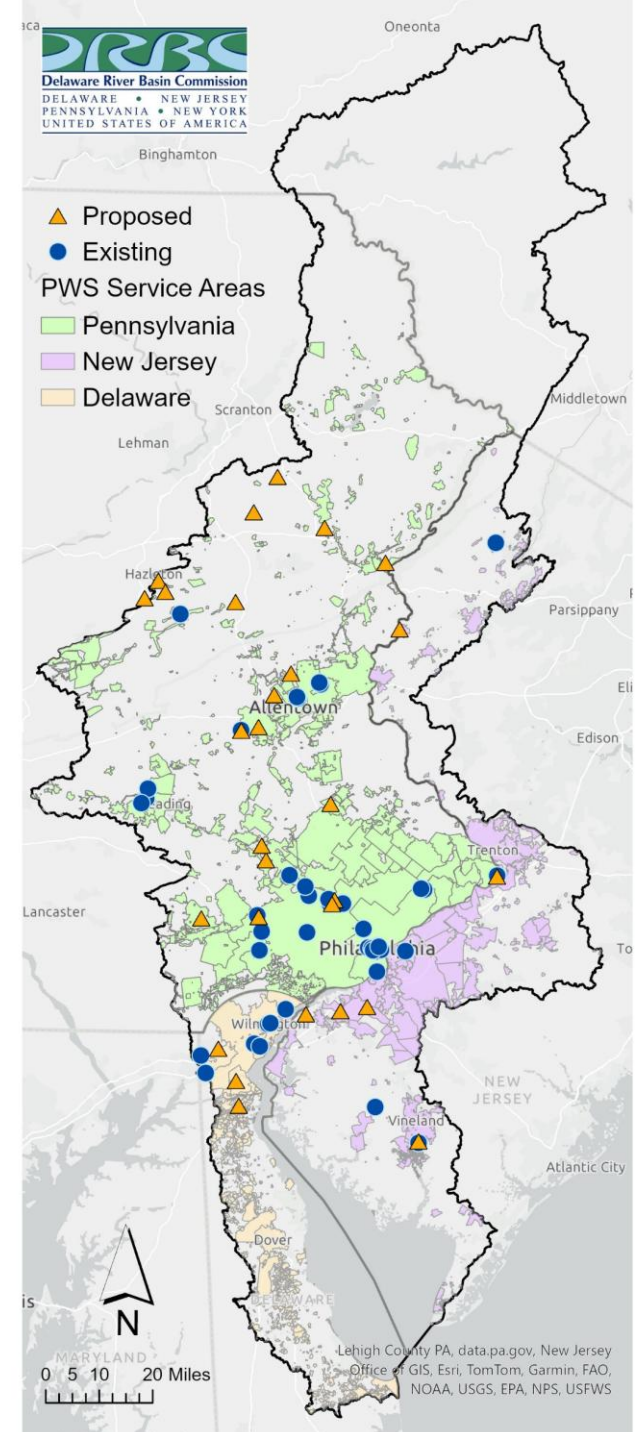
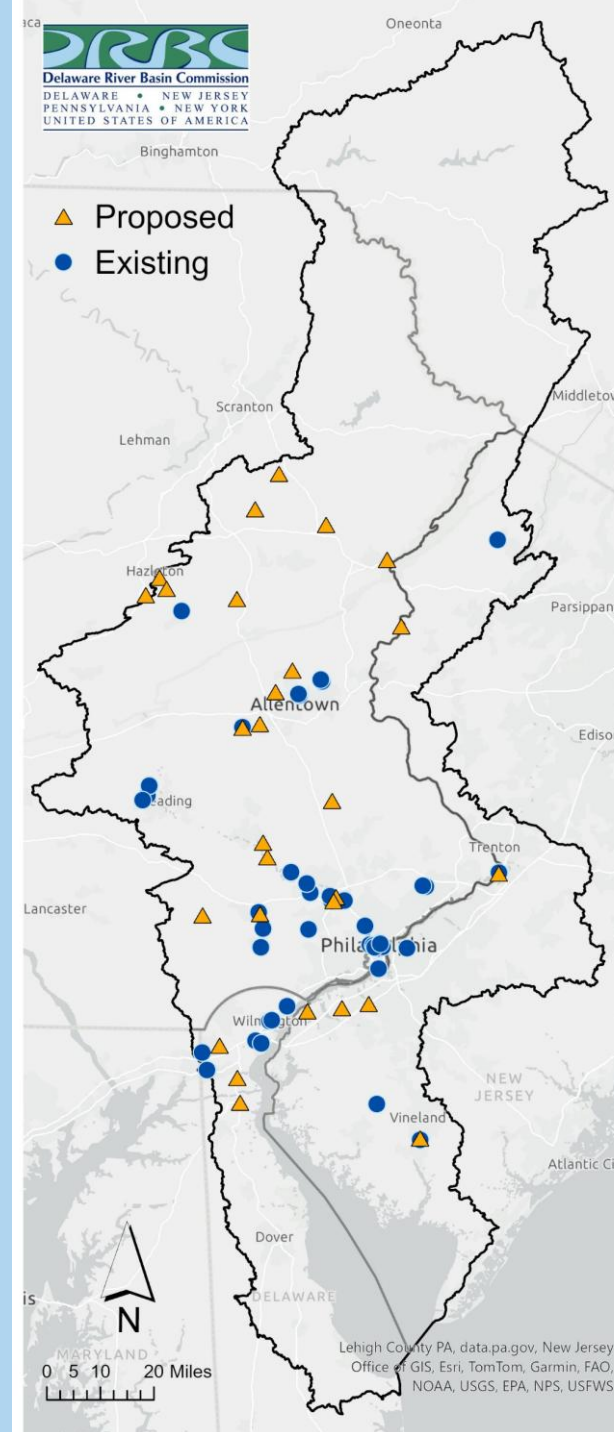
Historical context
for essential
power generation
in the DRB



*Total net power generation includes facilities in the Upper Delaware (020401) and the Lower Delaware (020402).

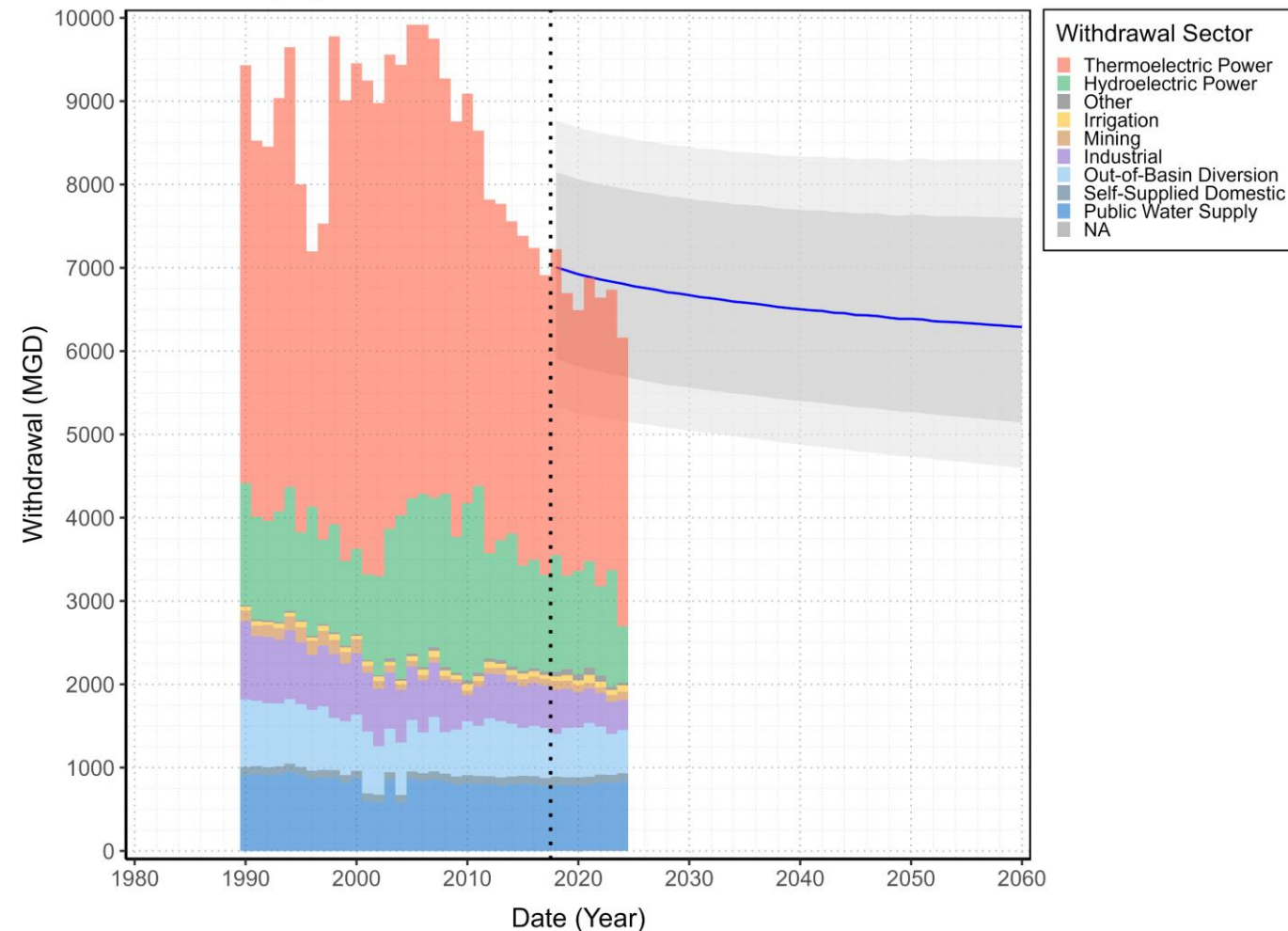
Data centers across the DRB

Basin State	Existing	Proposed
Pennsylvania	51	21
New Jersey	6	4
Delaware	9	3
New York	0	0
	66	29



1990 – 2024 DRB Water Withdrawals

Historical and projected water withdrawals from the Delaware River Basin



Water Withdrawals 1990 - 2024

~ 10,000 MGD in 2005 (10 BGD)

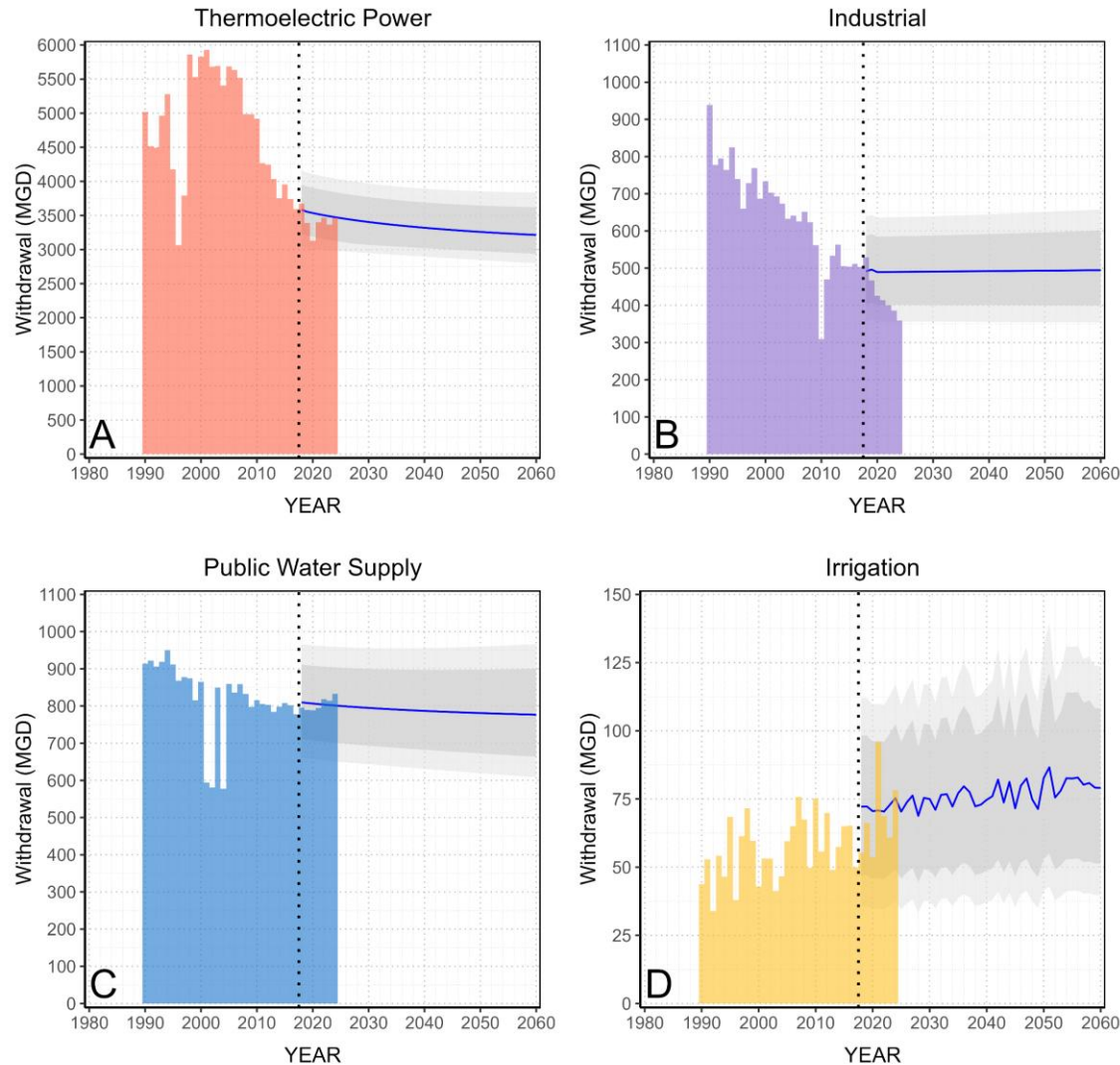
~ 6,000 MGD in 2024 (6 BGD)

~ 4,000 MGD *decrease* (4 BGD)

Decrease Projected to 2060

Key Sector Trends

Withdrawals in the Delaware River Basin



- A. Thermoelectric **at** projection
- B. Industrial **below** projection
- C. PWS shows **increase**
- D. Irrigation shows **increase**

Potential Impacts

- Power demands for PJM **grid**
- Industrial if they self-supply
- Customers of PWS

What have we learned about data centers?



There are over 60 operating in the DRB

- All served by public water supply
- Not hyperscale



Water supply utilities likely have Non-Disclosure Agreements (NDA) with data center developers



Facility level data is difficult to obtain



Meetings with other regulatory agencies are helpful

Summary of water use and power generation in the DRB

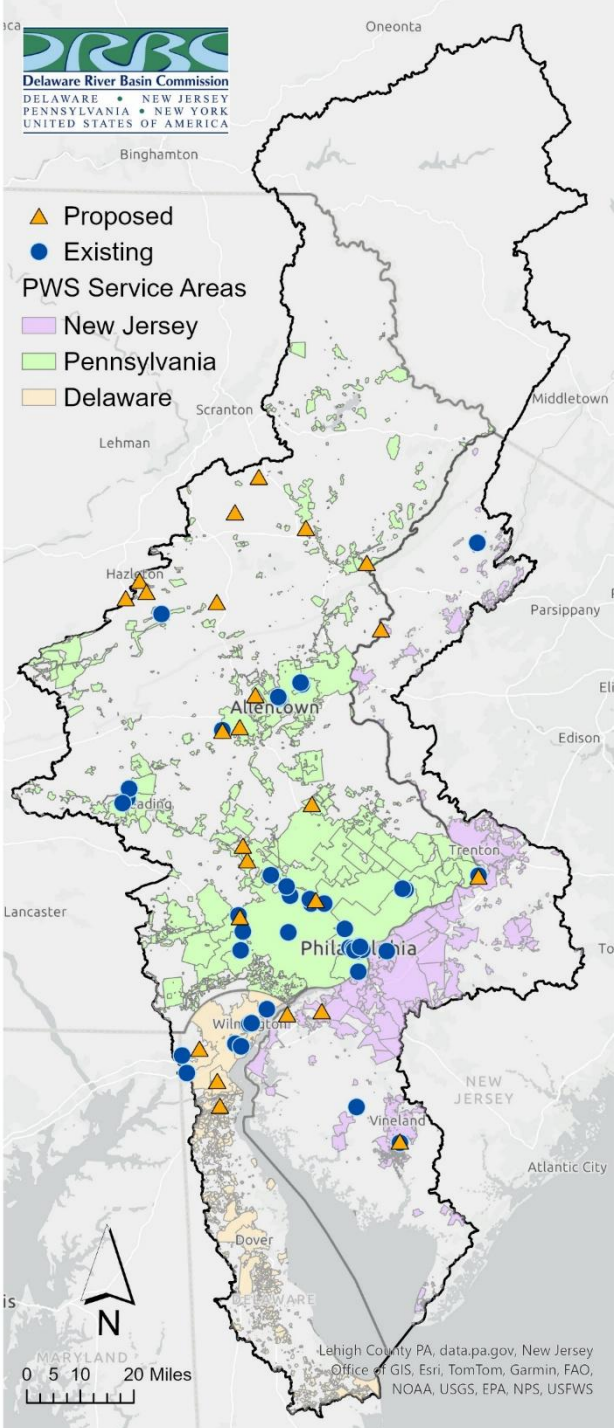
Total Water Use – DRB has seen a ~ 40% (4 BGD) decrease of water use since it's peak (10 BGD) in ~2005. Forecasted to remain relatively stable.

Consumptive Water Use – DRB has seen a ~ 25% (0.3 BGD) decrease since it's peak in (1.1 BGD) in ~1990. Forecasted to remain stable.

Thermoelectric Water Use – elimination of coal fired generating units has essentially occurred – eliminating large volumes of once through cooling water.

Thermoelectric Water Use – power produced from coal replaced largely by natural gas generating units most of which utilize evaporative cooling (consumptive water use).

DRBC cannot predict where new power generating units will be located and their “water footprint”. Power generating units in the DRB serve the whole 13-state PJM grid.



Water Resource Considerations

Water Source

- Large customer of PWS system?
- Develop their own water source?

Cooling Technology

- Evaporative cooling = larger water demand, lower power demand
- Closed loop cooling = less water
- Air cooling = higher power demand, less water

Consumptive Use

- Depends on cooling technology
- Does DC consumptive use change PWS 10% CU assumption?

Power

- Increase power generation = consumptive use?

Emergency Response Planning

- How do Regulatory Agencies / Public Water Supply Systems factor in DCs in emergencies and drought?

Thank you!



DRBC website

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