



Data Center Development: Understanding The Risks of AI in New Jersey

New Jersey Environmental Justice Alliance

Data Centers 101

Definition: A data center is a purpose-built facility that houses servers, storage arrays and networking gear—the physical “cloud” that powers every email, video stream, AI service and web app.

- Edge: small sites <5 MW placed close to users.
- Enterprise: owned/operated by a single company on its campus.
- Colocation: third-party space rented by many tenants.
- Large Load Centers: >40 MW
- Hyperscale / AI-centric (focus): $\geq 5\,000$ servers, >10 000 sq ft, ≥ 100 MW power draw



Global & U.S. Landscape

- 2024: ≈ 1136 hyperscale data centers worldwide.
- Roughly HALF of them are in the United States.
- U.S. facilities consume $>4\%$ of national electricity (2024).
- Growth trend – number of sites has doubled every ~ 4 years (2019-2024).



A decorative graphic consisting of three overlapping hexagons. The leftmost hexagon is solid blue. The middle hexagon is an outline. The rightmost hexagon is solid blue.

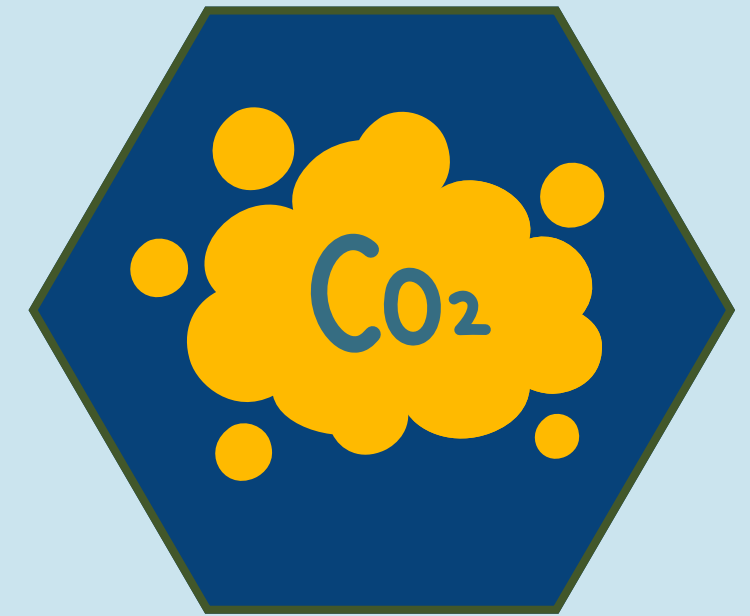
**AI model training & inference double
power demand roughly every
18 months.**

A decorative graphic consisting of three overlapping hexagons. The leftmost hexagon is an outline. The middle hexagon is an outline. The rightmost hexagon is solid blue.

Companies such as Nebius market facilities
as “AI-native,” built specifically for
high-intensity compute (Vineland is a
prime example).



Core Resource Footprint



Power

1 hyperscale system = 100
MW or more

Water

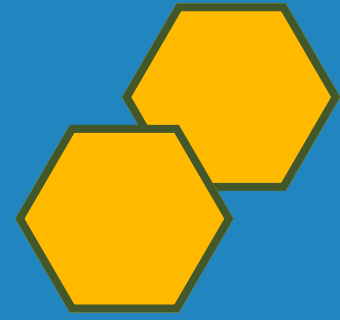
1 hyperscale center uses 3-7
million gallons per day

Noise

HVAC & diesel generators
can reach 96 dBA, above the
threshold for safety

Air Pollution

Back-up diesel generators
emit 200-600x more NOx



Key Takeaway

A data center is essentially a large, (usually) fossil-fuel-powered factory placed next to homes. Its hidden footprints, energy, water, noise, emissions, and contamination risks are real community impacts that demand scrutiny.



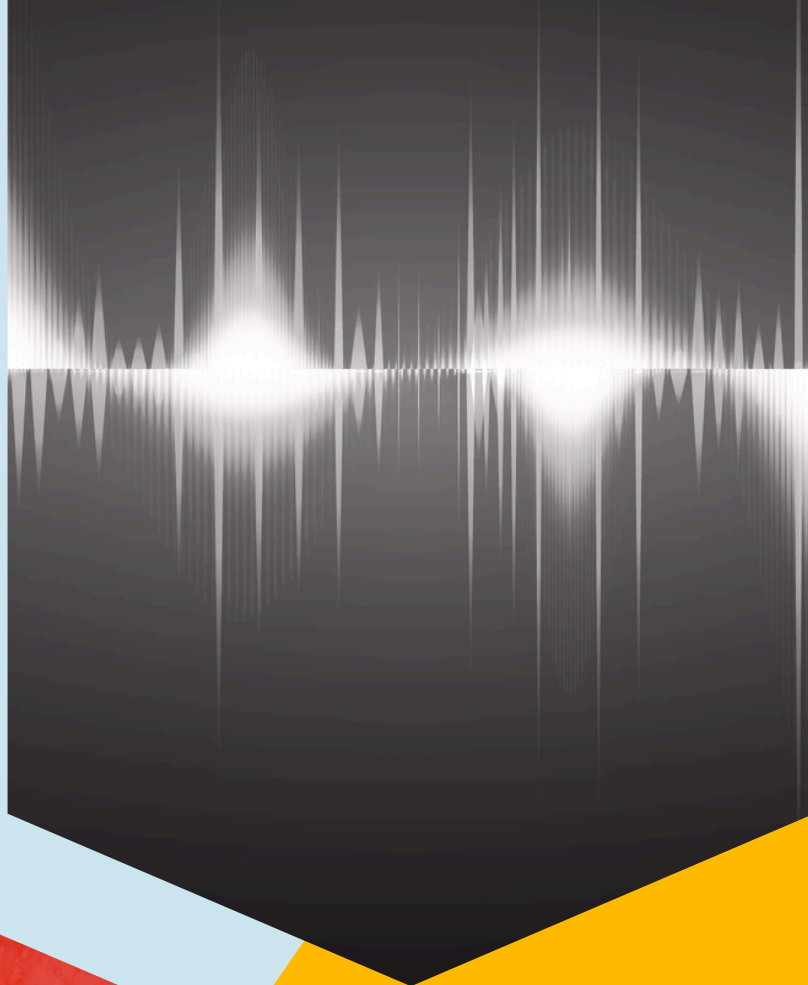
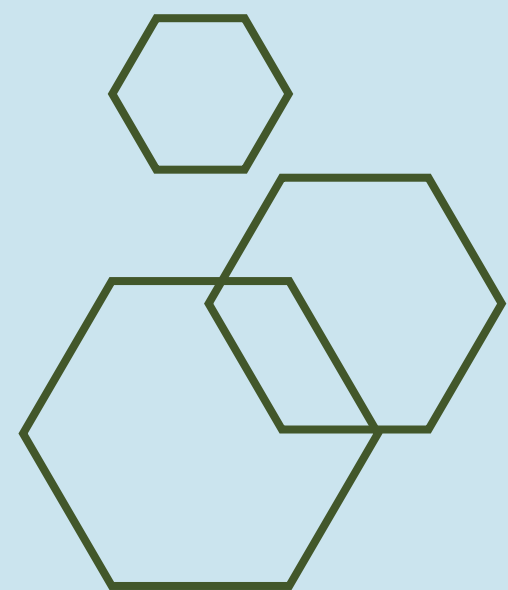
Air, Water, & Stormwater Risks

AIR: NO_x, CO, VOCs, PM_{2.5} from on-site generators show link to asthma, heart disease, premature death.

WATER: A 100 MW site could pull hundreds of millions of gallons per year, threatening local conservation goals.

STORMWATER & WETLANDS: Stormwater running through data centers can often carry oil, grease and heavy metals straight into nearby streams and water supplies.





Land-Use & Zoning

- Existing code permits “**behind-the-meter**” fossil-fuel **generation** without EJ review
- Continuous **HVAC/generator noise up to 96 dBA** can cause sleep disruption, anxiety, hearing loss.
- Many New Jersey residents already live in a “moderate-risk” air-quality zone; added **24/7 high-decibel operation** compounds health burdens.

Cumulative Environmental Justice Impacts & Regulatory Shortfalls



- No mandatory Energy Impact Statement (EIS).
- No required Cumulative Impact Assessment (CIA) or Health Impact Assessment (HIA) for loads >50 MW.
- No real-time fenceline air monitors.





**Impacts are real and unequal: low-income
& minority neighborhoods bear the brunt.**

The Full Cost

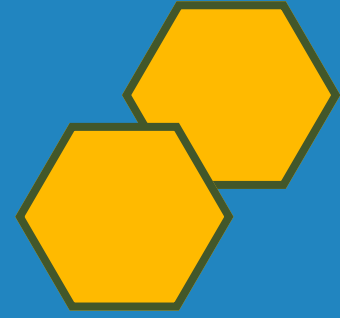
Severe, Long-Term Community Impacts

- Health: increases in asthma, cardiovascular disease, premature death.
 - Water: groundwater depletion, polluted water sources, Legionella risk from cooling-tower mist, PFAS contamination
 - Noise: hearing loss, chronic stress, sleep disturbance.
 - Financial: higher utility bills; potential municipal liability for wetland violations.
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Impact Category	Specific Harm	Metric / Example
Health	Increase in asthma attacks, cardiovascular disease, premature death; hearing loss from up to 96 dBA noise levels	EPA modeling predicts up to 600,000 additional asthma cases nationally from data-center emissions.
Water	Groundwater depletion, Legionella risk from cooling-tower mist, contaminant leaching from bio-retention basins	Hyperscale draw = 3–7 M gal/day, comparable to a small town’s annual supply.
Noise	Chronic sleep disruption, anxiety, permanent hearing loss (≥90 dBA >8 hrs)	96 dBA HVAC/generator levels exceed OSHA 85 dBA hearing-damage threshold.
Financial	+\$20/mo electric bill per household in some service territories; higher water rates; municipal exposure to fines/penalties.	PJM capacity-auction spikes passed through to ratepayers.
Ecological	Wetland loss, habitat fragmentation, increased storm-runoff sedimentation	Waivers reduced setbacks; eliminated side slopes and access drives for bio-retention basins.

Vineland: Case Study

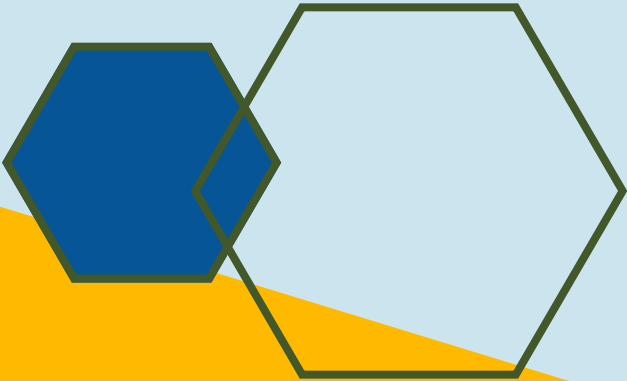
- Summer of '24: What began as a public use golf course development rapidly transitioned into the DataOne hyper-scalar AI datacenter project in Vineland
- The project was approved and construction began with little to no disclosure to residents.
- Major site plan changes iteratively increase scale of project.
- Sustain SJ formed in the early Fall of '25 as a group of citizens seeking details on the tech and approval process.
- Since then the group has grow to over 100 active members with an extended network of over 5,000.
- Technical details and the approval process to light through OPRA requests



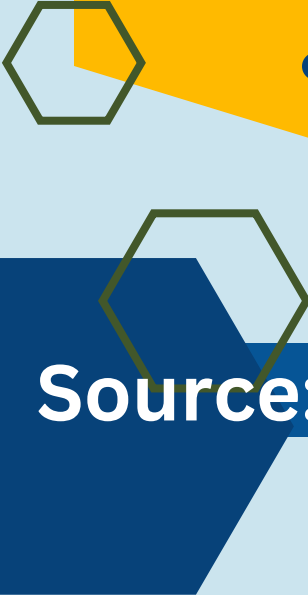
New Jersey Actions

- Over 90 municipalities have enacted a moratorium or outright ban
 - Hyperscale centers are still being pushed
- State actions have been taken, but not sufficient
 - Focus on affordability, rates, and reporting not environmental justice and public health.
- Growing push for statewide moratorium

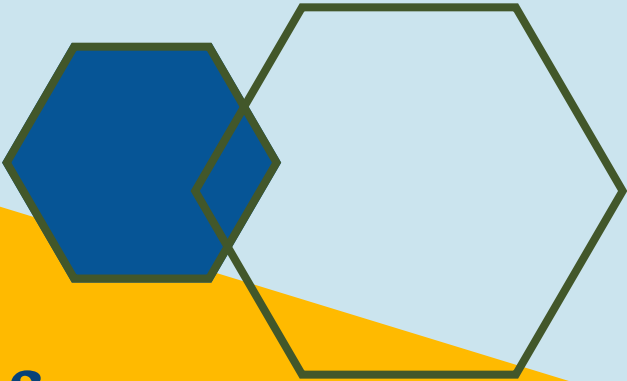




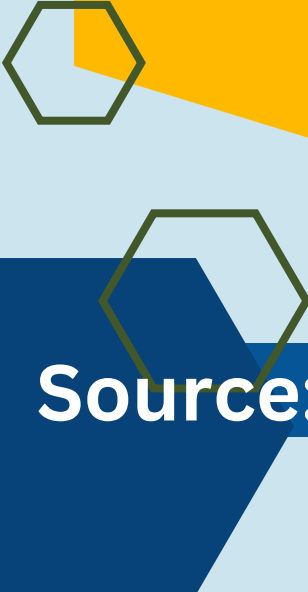
Local Policy Interventions

- Prohibit or Restrict Data Center Development
 - Enact a Temporary Pause on New Data Center Development (Moratoriums)
 - Reject Data Centers That Do Not Fit Within Locality's Goals
 - Establish Conditional Use Permitting for Data Centers
 - Pass Zoning Ordinances and Municipal Code Amendments
 - Noise Mitigation Measures
 - Protect Water Resources
 - Regulate and Limit Energy Use
 - Repeal or Limit Tax Incentives and Subsidies
 - Implement Air Pollution and Community Health Measures
 - Establish Local Fair Labor Requirements
 - Considerations for Community Benefits Agreements
 - Protect Constituents from AI Harms
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Source: AI Now Institute's North Star Data Center Policy Toolkit: Policy Interventions

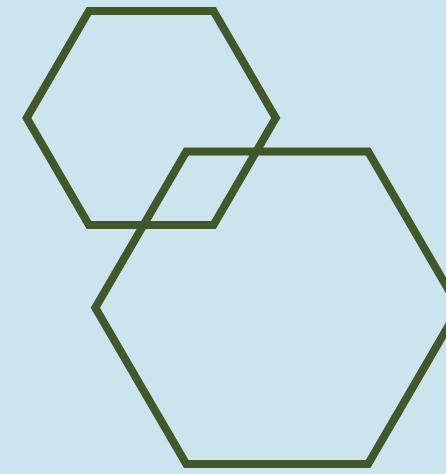


State and Regional Policy Interventions

- Enact a Statewide or Regional Moratorium on Data Center Development
 - Establish Statewide Oversight and Transparency Mechanisms
 - Repeal or Limit Tax Incentives and Subsidies
 - Oppose State “Special Economic Zones”
 - Establish Strong Ratepayer Protections
 - Promote Grid Stability and Accelerate Renewable Energy Infrastructure
 - Limit Corporate Influence over Processes and Institutions Involved in Data Center Development
 - Establish State Fair Labor Requirements
 - Protect Constituents from AI Harms
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Source: AI Now Institute’s North Star Data Center Policy Toolkit: Policy Interventions

What Your Community Can Do



- (1) Gather concrete site data;
- (2) Translate that data into an impact fact sheet;
- (3) Identify the municipal and county bodies with authority over zoning, permits, and environmental review;
- (4) Use NJ statutes to draft ordinances/resolutions that require independent studies, zero-emission power, & robust water conservation plans;
- (5) Present those drafts at public hearings, working with environmental/sustainability commissions and state representatives as additional allies;
- (6) Work with partners and stakeholders to pass ordinances; and
- (7) Push for statewide action to address community concerns.



NEW JERSEY ENVIRONMENTAL
JUSTICE ALLIANCE

CLEAN AIR, NOT AI

COMMUNITY TOOLKIT

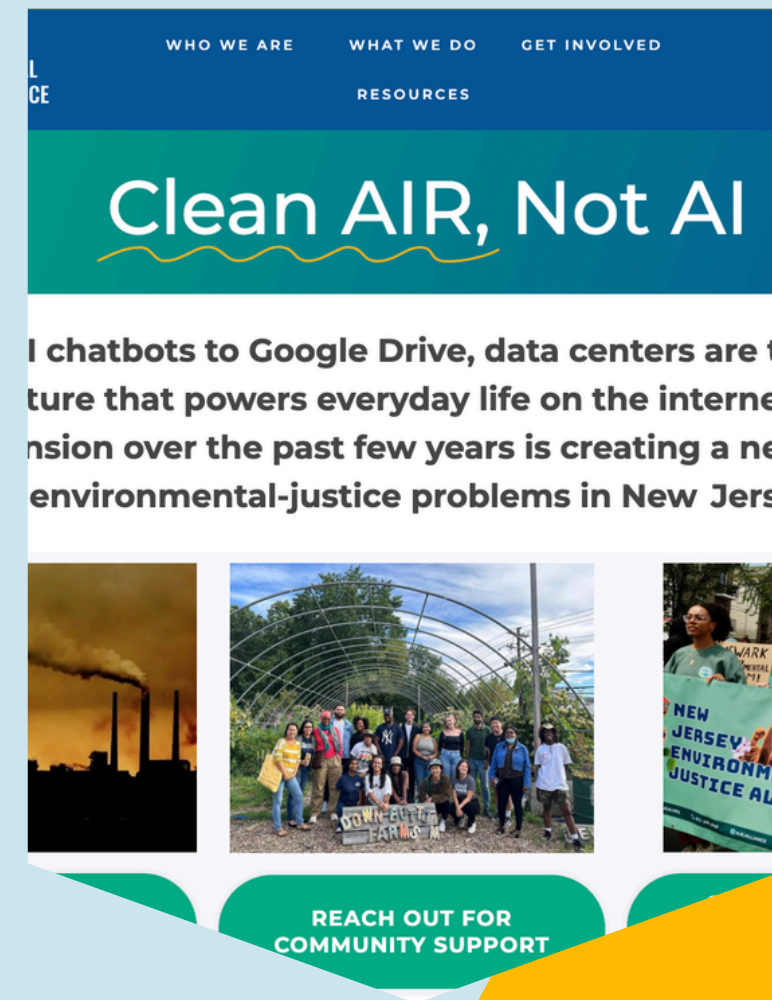


Resources

njeja.org/clean-air-not-ai/



What Your
Community Can Do:
Toolkit



Visit our website for:

- Draft Moratoriums
- More resources and data
- Vineland Case Study
- More coming soon!

STAY CONNECTED WITH NJEJA



Check out our webinar exclusively
on AI related issues at:
njeja.org/clean-air-not-ai/

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For questions, comment, reach out to:
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