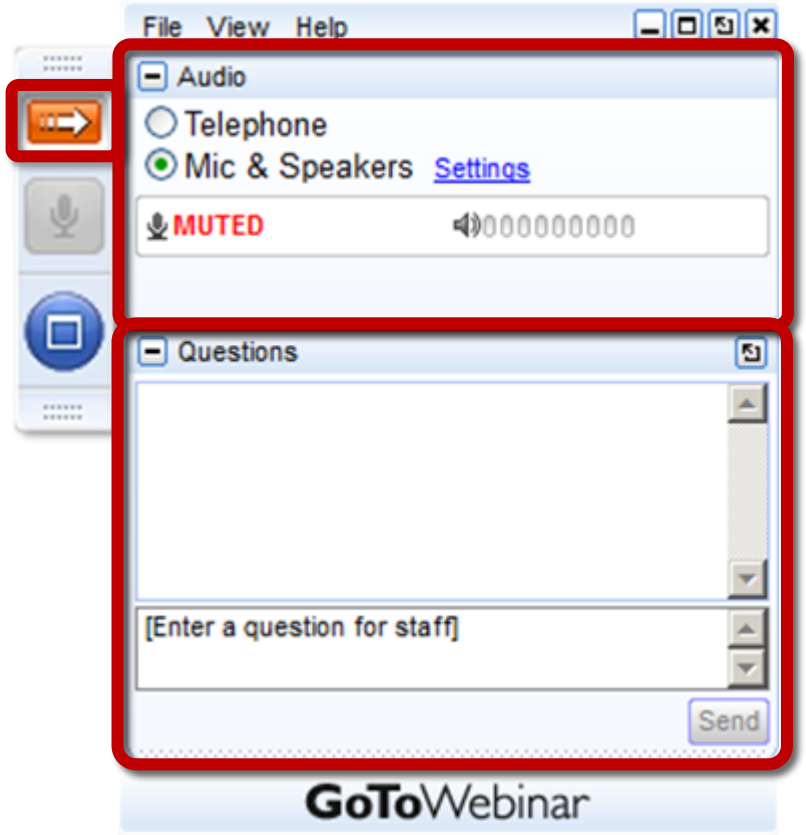
Exploring Peaker Power Plant Inequities with Clean Energy Group's New Mapping Tool

June 23, 2022

WEBINAR LOGISTICS



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WEBINAR SPEAKERS

Seth Mullendore
President, Clean Energy Group

Summer Sandoval
Energy Democracy Coordinator, UPROSE

Rosemary Wessel
Program Director, No Fracked Gas in Mass, Berkshire Environmental Action Team (BEAT)

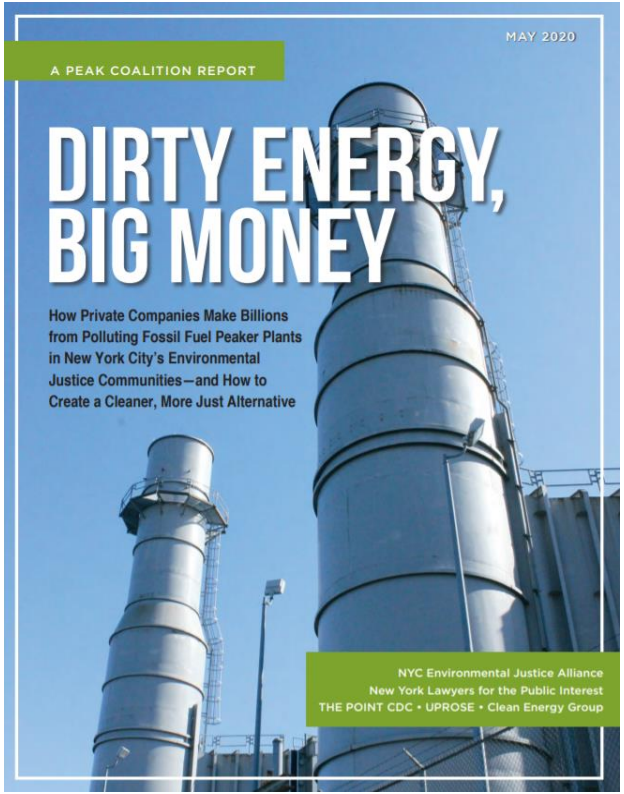
Jane Winn
Founding Executive Director, Berkshire Environmental Action Team (BEAT)

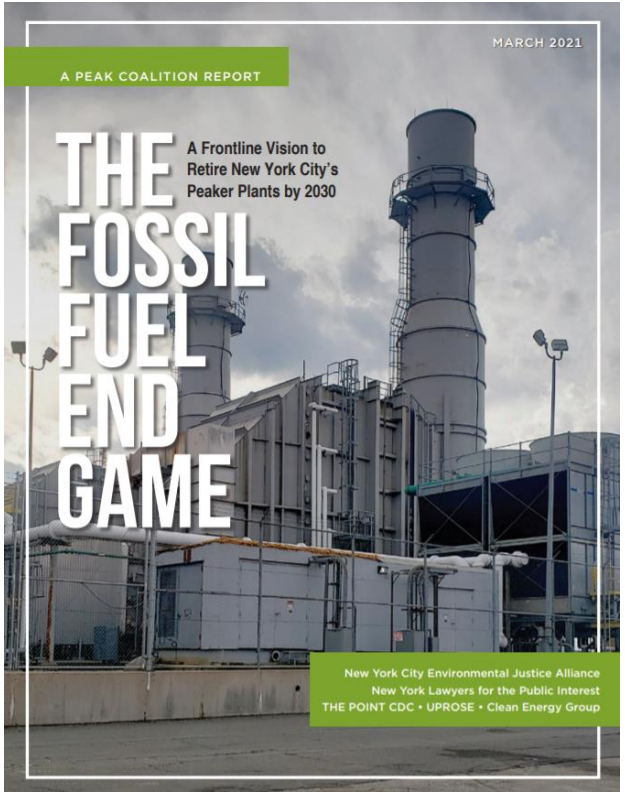
Shelley Robbins
Project Director, Clean Energy Group

PEAK Coalition:
Operationalizing Frontline Community-Led Just Energy Transition

Summer Sandoval | UPROSE | Energy Democracy Coordinator | June 23rd, 2022

PEAK Coalition: *Stop the Bad; Build the Good*





What is a Peaker Power Plant?

Old

The oldest operating peaker in New York City was built in **1954**. The average age of peaker plants in New York City is **39**.

Inefficient

Peaker plants generally burn **fracked gas** and **fuel oil**. Many gas turbines efficiency can be as low as **30 to 35%.**

Costly

Because peakers only operate during times of high energy demand, they have an **exceptionally high** $/kWh

Dirty

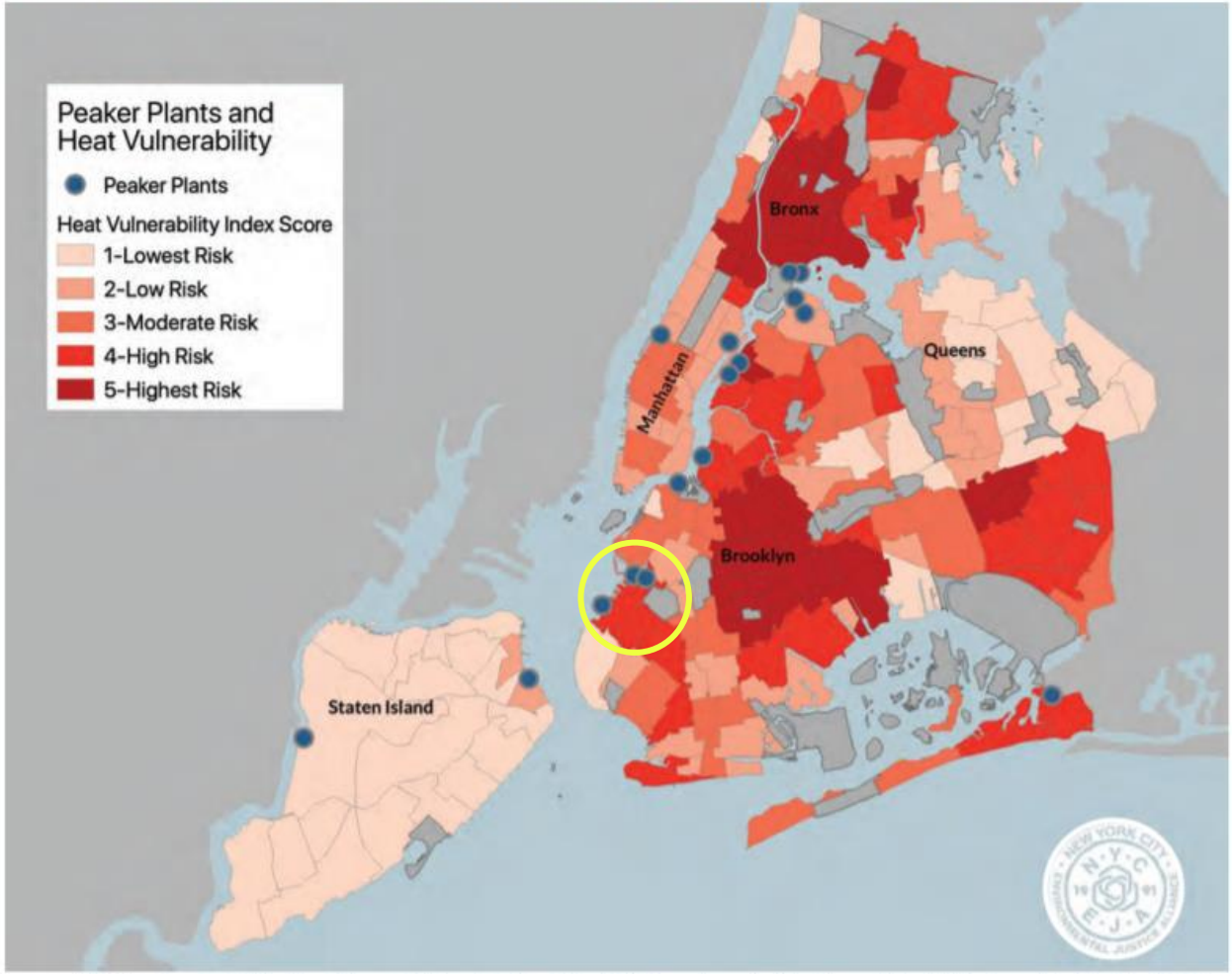
Peakers emit a **high** level of pollutants relative to the electricity generation. When New York's gas-fired peaker plants are operating, "they can account for **over 33%** of New York's daily power plant NOx emissions."

Website: peakcoalition.org

NYC CAPACITY PAYMENTS

Parent Company	Plant Owner/Operator	Plant Name	Location	Capacity Revenue by Plant (2010–2019)	Total Capacity Revenue by Parent Company (2010–2019)
ArcLight Capital Holdings LLC	Astoria Generating Company L.P.	Astoria	Queens	$500,700,000	$1,415,400,000
		Gowanus	Brooklyn	$603,500,000	
		Narrows	Brooklyn	$311,200,000	
Consolidated Edison Inc.	Consolidated Edison Inc.	59 Street	Manhattan	$17,100,000	$271,800,000
		74 Street	Manhattan	$38,500,000	
		East River	Manhattan	$183,000,000	
		Hudson Ave.	Brooklyn	$33,100,000	
LS Power Group	Helix Ravenswood LLC	Ravenswood	Queens	$1,189,900,000	$1,189,900,000
New York Power Authority	New York Power Authority	Harlem River	Bronx	$79,400,000	$329,600,000
		Hell Gate	Bronx	$79,400,000	
		Kent	Brooklyn	$45,800,000	
		Pouch Terminal	Staten Island	$45,400,000	
		Vernon Blvd.	Queens	$79,400,000	
NRG Energy Inc.	NRG Power Marketing LLC	Arthur Kill	Staten Island	$865,300,000	$1,318,900,000
		Astoria GT	Queens	$453,600,000	
Total Capacity Revenue for All NYC Peaker Plants					**$4,525,500,000**

FIGURE 2: **Map of New York City Peaker Plants and Neighborhoods Prone to Heat Vulnerability**

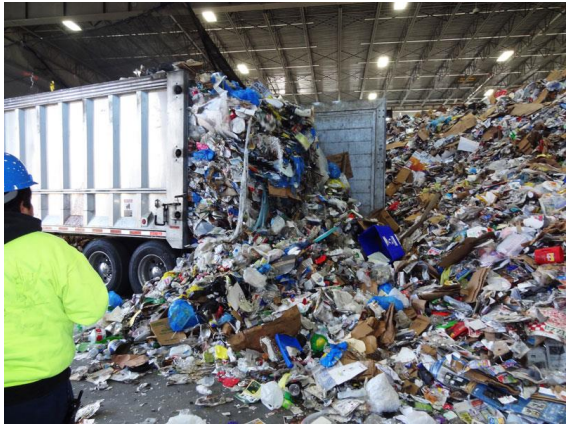


Source: NYC Environmental Justice Alliance (Using data from the NYC Department of Health and Mental Hygiene, the New York State Department of Environmental Conservation, and the New York Independent Systems Operator)

Environmental Injustices in Sunset Park

Gowanus Expressway

200,000 cars + 25,000 trucks everyday



Waste Facilities

2 solid waste transfer stations

Fossil Fuel Energy

3 Peaker power plants

Gowanus
Narrows
Joseph Seymour

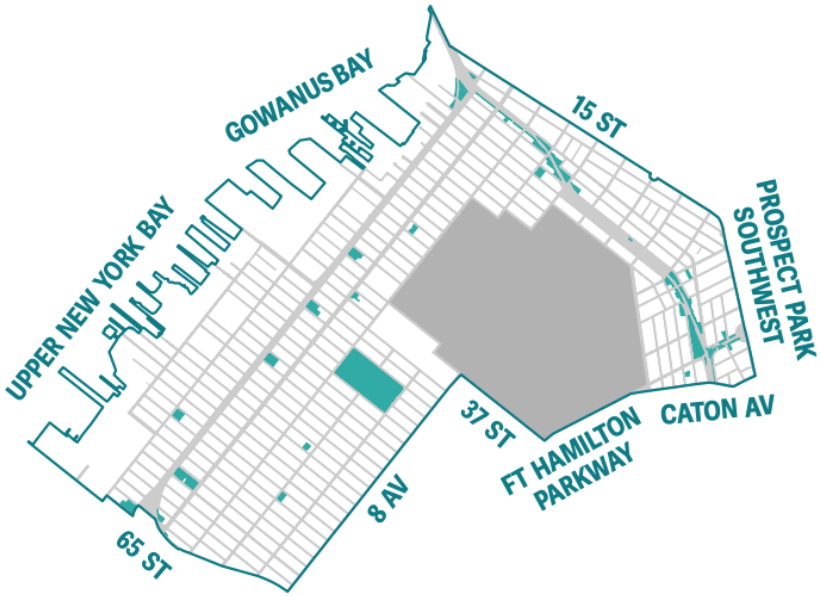
People of color breath 66% more air pollution than white people. Latinos- 75%, Asians- 73%, African American- 61% exposed to more air pollution than white residents.

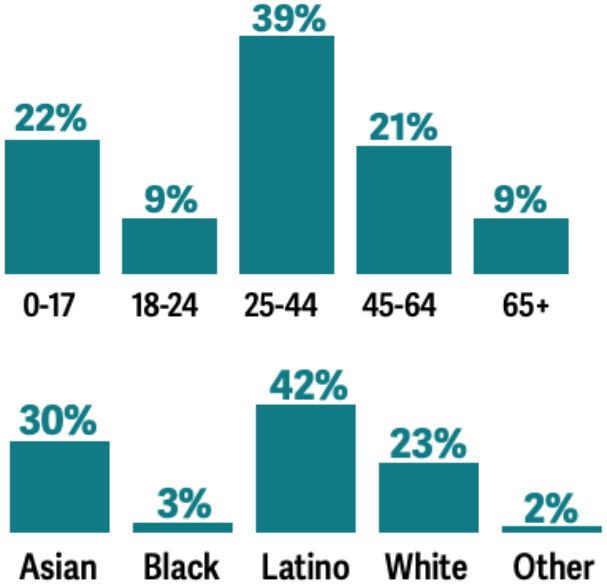
(EPA 2011 data, 2010 US Census)

UPROSE

Sunset Park Community Profile:

Demographics:





132,721

Sources: Population, Race and Ethnicity: U.S. Census Bureau Population Estimates, 2016

UPROSE

UPROSE's Climate & Community Health Vulnerability Assessment

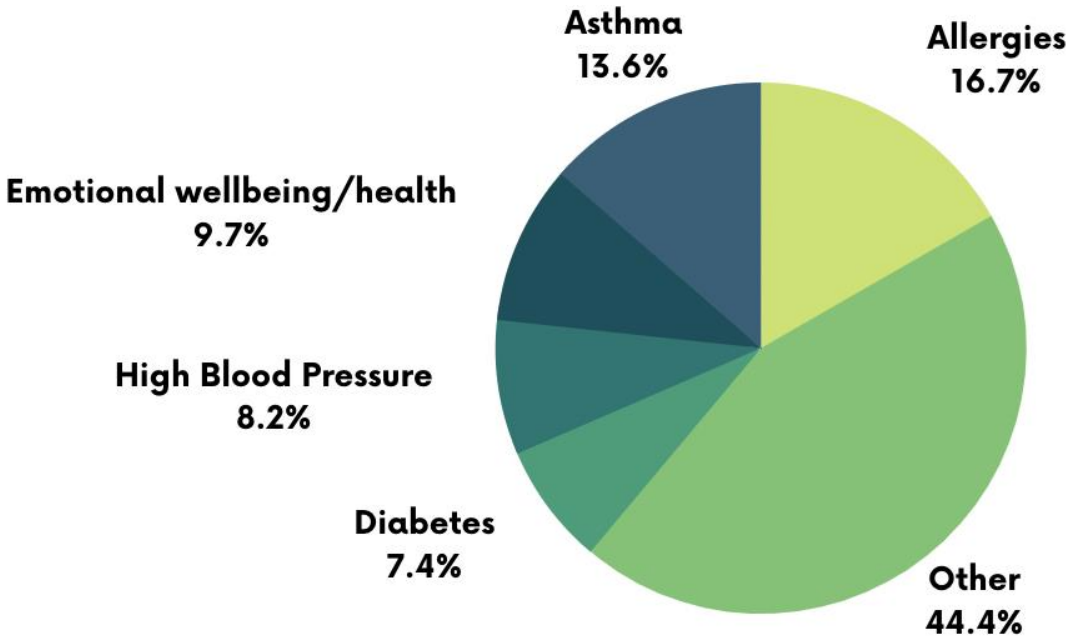
Preliminary findings:

Sunset Park residents self-reported diagnosed chronic health problems

Top 5 chronic health problems:

1. Allergies
2. Asthma
3. Emotional wellbeing
4. High Blood Pressure
5. Diabetes

*Other (i.e. cardiovascular disease, cancer, arthritis, autoimmune disorders, etc.



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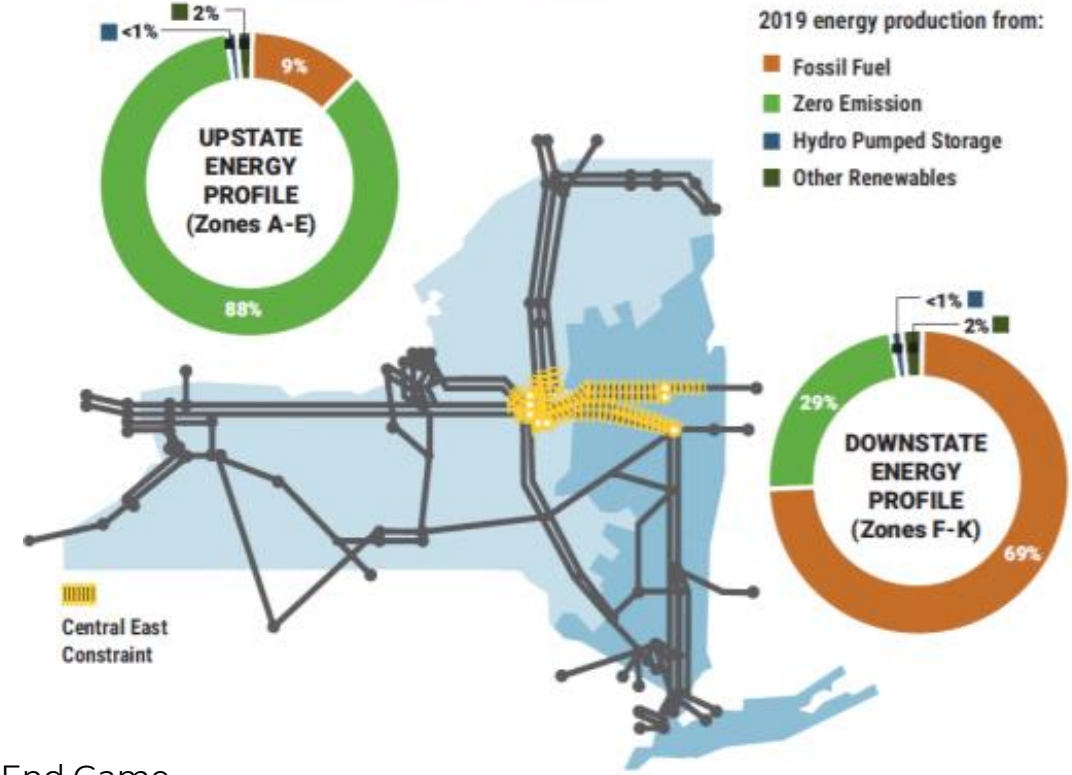
Systemic Challenges: NYC Environmental Justice Communities Most Harmed by Fossil Fuel Pollution

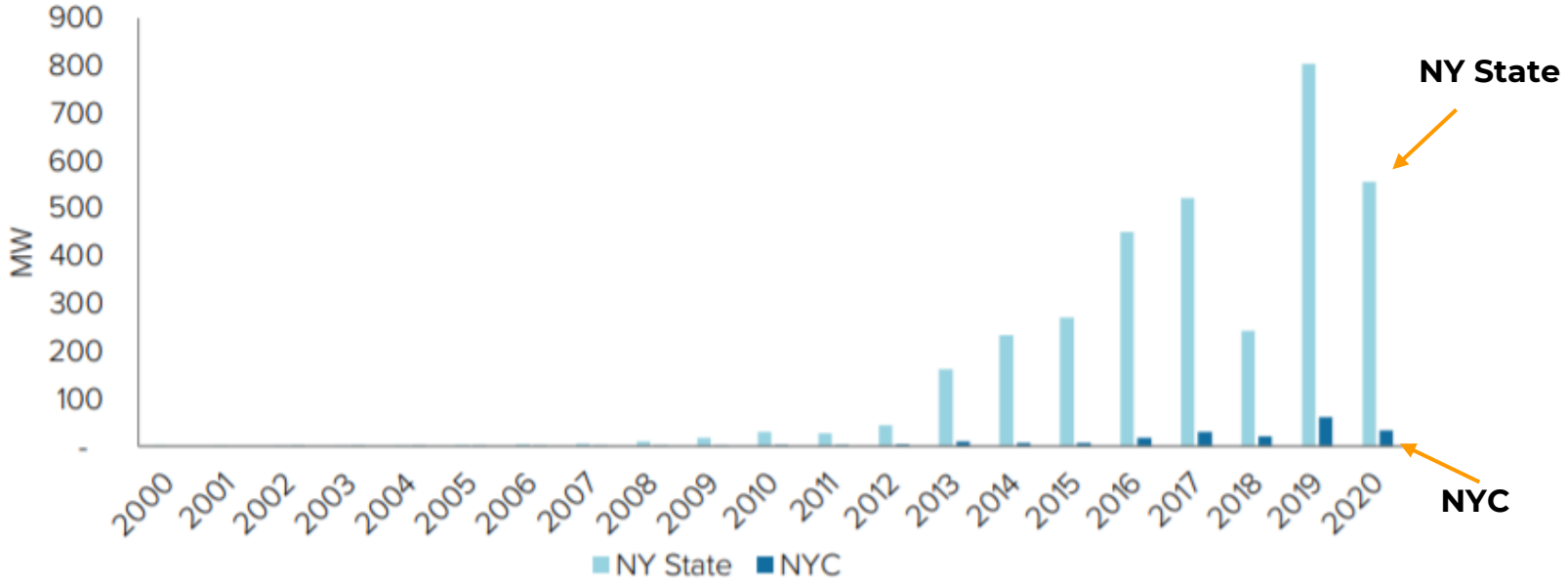
Figure 2: Upstate and Downstate Energy Supply Profile



Source: NYISO, "The Vision for a Greener Grid"

Distributed solar in the city, supported by the NY Incentive program, accounts for only 6% of the total capacity installed in the State

Figure 8. Growth of Distributed Solar in New York



Source: Strategen based on data from NYSERDA[42]

Gowanus Re-Powering: Fighting Local Fossil Fuel Investment

- **Astoria Generating Company (AGC)** is a private owner of the 2 largest and oldest peaker power plants in Sunset Park, Brooklyn
    - **Gowanus: 640 Megawatts**
    - **Narrows: 352 Megawatts**
- AGC submitted a proposal to re-power the fuel oil and fracked gas plants with a new **fracked gas (fossil fuel) peaker power plant**
- UPROSE led opposition through **Article X Process as an Intervenor.**
- Working with the support of PEAK to promote renewable energy alternatives that are aligned with:
    - **New York State Climate Leadership and Community Protection Act compliance**
        - 85% economy-wide emission reductions & carbon neutral by 2050
- In December 2021, the company announced the **discontinuance of their repowering proceeding**
    - On the heels of New York State Department of Conservation's (DEC) rejection of two permits to repower fossil fuel plants: Queens & Danskammer

352-Megawatt Narrows Peaker Plant in Sunset Park

State Collaborations: Sunset Park Energy Study

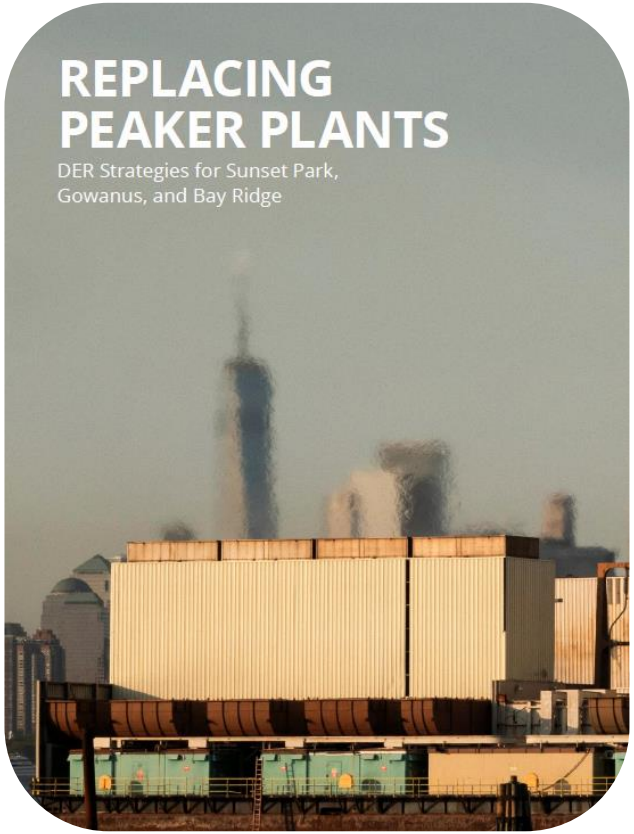
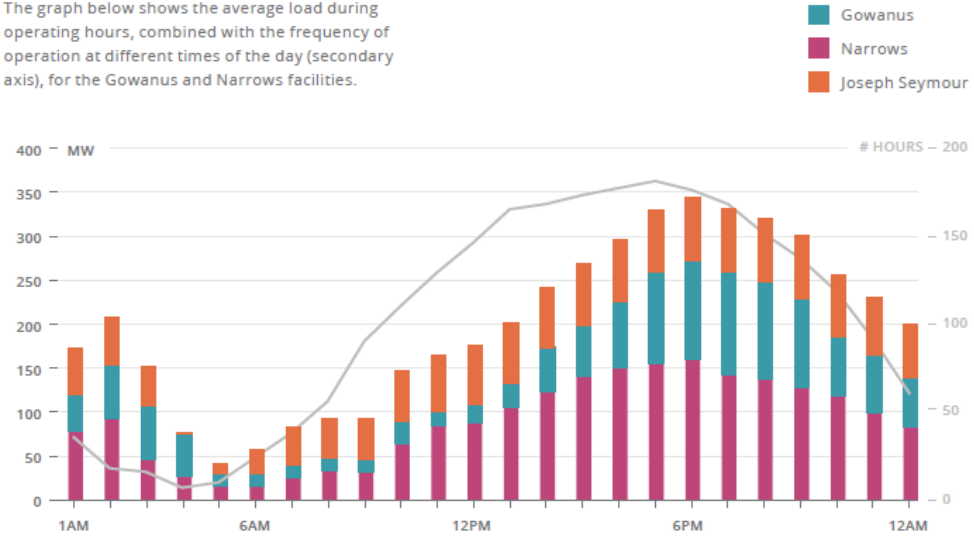


FIGURE 7

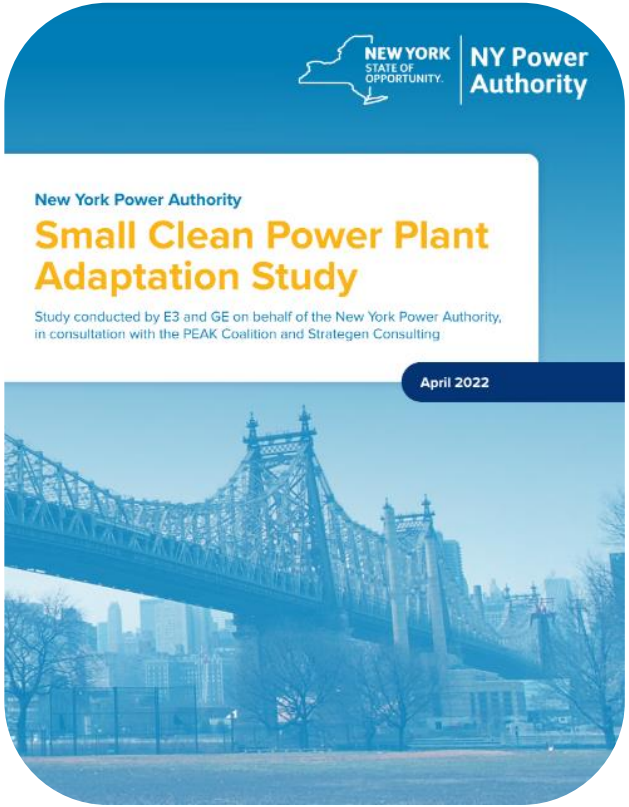
Peaker Plant Average Load

The graph below shows the average load during operating hours, combined with the frequency of operation at different times of the day (secondary axis), for the Gowanus and Narrows facilities.



- ❑ Community-Led Model for climate solutions
- ❑ Identified DER strategies to replace peaker plant usage
- ❑ Redress historic legacy of pollution & disparity
- ❑ Supporting a Just Transition
- ❑ Not just about WHAT or WHERE you fund, but ***WHO*** you fund to build long term community wealth

PEAK Coalition & New York Power Authority (NYPA) Partnership



New York Power Authority Issues Solicitation for Battery Storage Proposals to Use Its Small Clean Power Plant Sites and Electrical Infrastructure

For Immediate Release: 4/21/22
Contact: Susan Craig | Susan.Craig@nypa.gov

NYPA Small Clean Power Plant Adaptation Study Says Battery Storage Could Play Significant Role in Transitioning Its Small Clean Power Plants to Cleaner Energy Technologies

Study and Solicitation to Help Inform State's Plan to Repurpose Existing Downstate Fossil-Based Electric Generation and Infrastructure

Read all PEAK Coalition Reports at: peakcoalition.org

Fighting Peaker Plant Pollution in Sunset Park

Joseph Seymour Plant

Fracked Gas
94 Megawatts
Owner: NYPA
Age: 20 years

Narrows Plant

Fuel Oil & Fracked Gas
352 Megawatts
Owner: ArcLight Capital Holdings LLC/AGC
Age: 50 years

Gowanus Plant

Fuel Oil & Fracked Gas
640 Megawatts
Owner: ArcLight Capital Holdings LLC/AGC
Age: 51 years

UPROSE

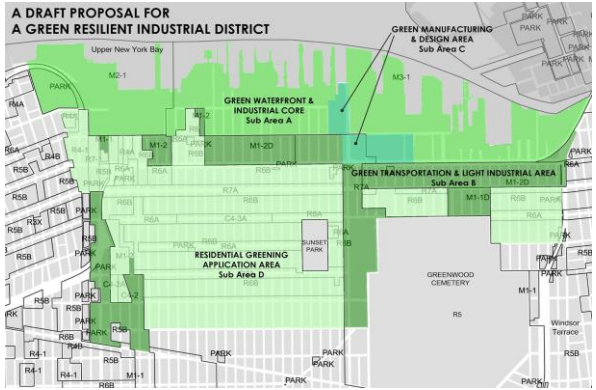
Climate Justice: What we are fighting for

Sunset Park Solar

Local clean energy
Community-owned solar
150-200 households & small businesses
15% monthly discount
Community wealth building

Offshore Wind

Thousands of green jobs
Local workforce opportunities
Regional clean energy hub
Model for OSW development
Green Re-Industrialization of NYC's largest industrial waterfront



Green Resilient Industrial District

Community-led
Comprehensive plan
Strengthen social cohesion
Operationalize climate policies
Climate adaptation, mitigation, and resilience!

Building Frontline Community-Led Models for a Just Transition

UPROSE

Thank You!

Follow PEAK Coalition

Twitter: @peakcoalition
Website: peakcoalition.org
Members: NYC Environmental Justice Alliance, The Point CDC, UPROSE, New York Lawyers For the Public Interest, Clean Energy Group

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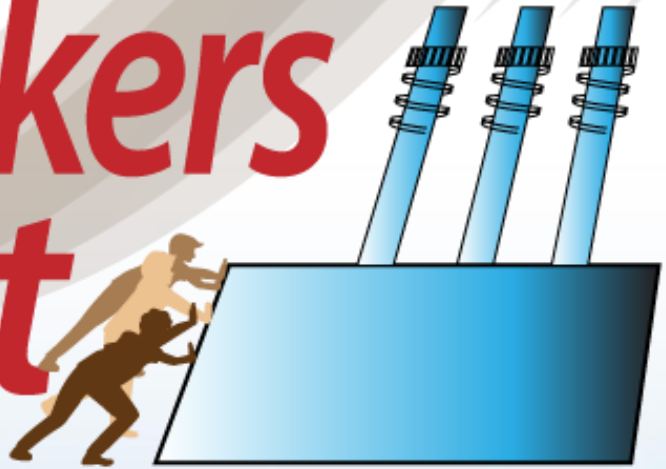
Put Peakers in the Past



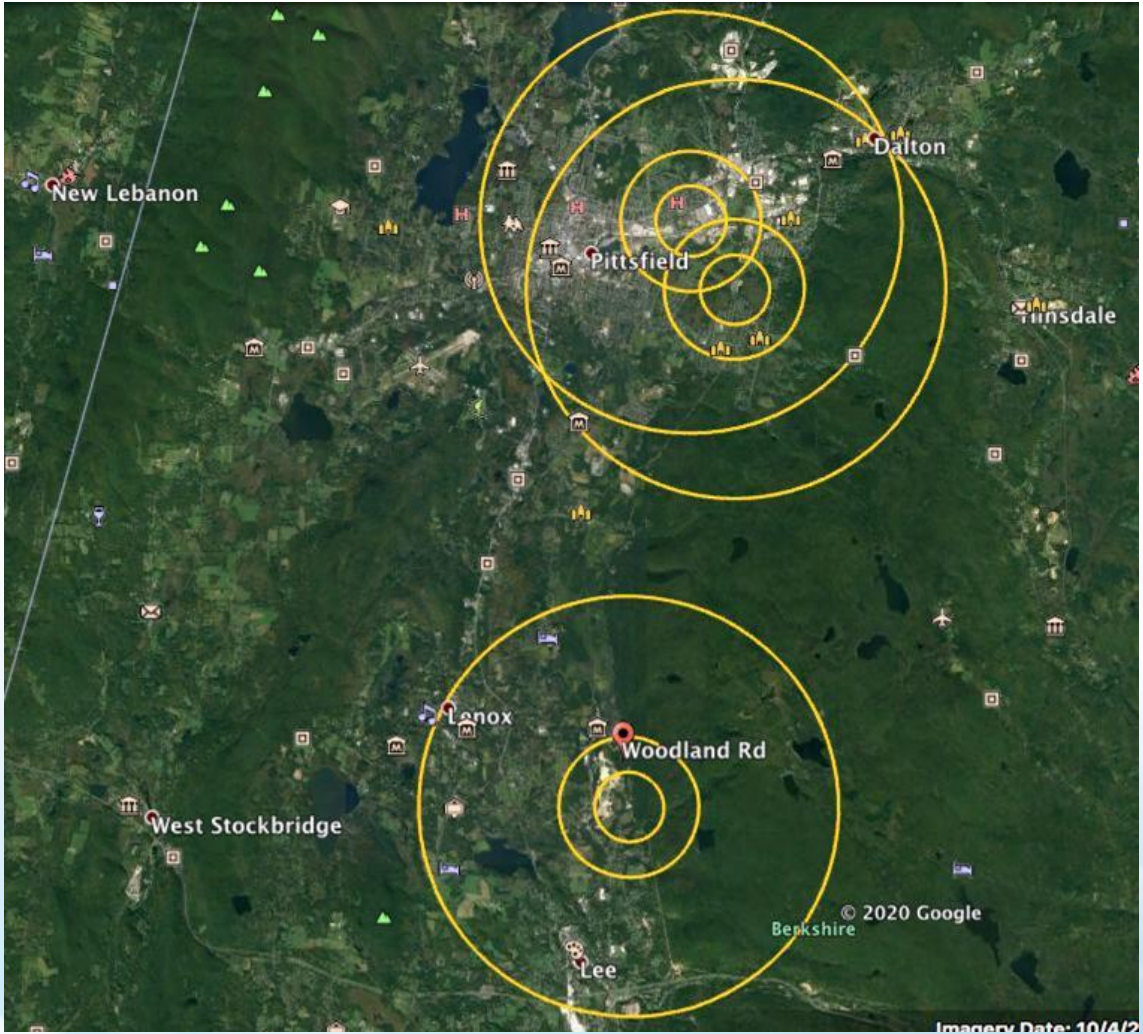
Cleaning the Grid in Berkshire County
By Shutting Down Fossil Fuel Peaker Plants

1. Research

Peaker plants in Berkshire County

- Three fossil fueled peaking power plants in Berkshire County:

  Woodland in Lee, Doreen and Pittsfield Generating in Pittsfield



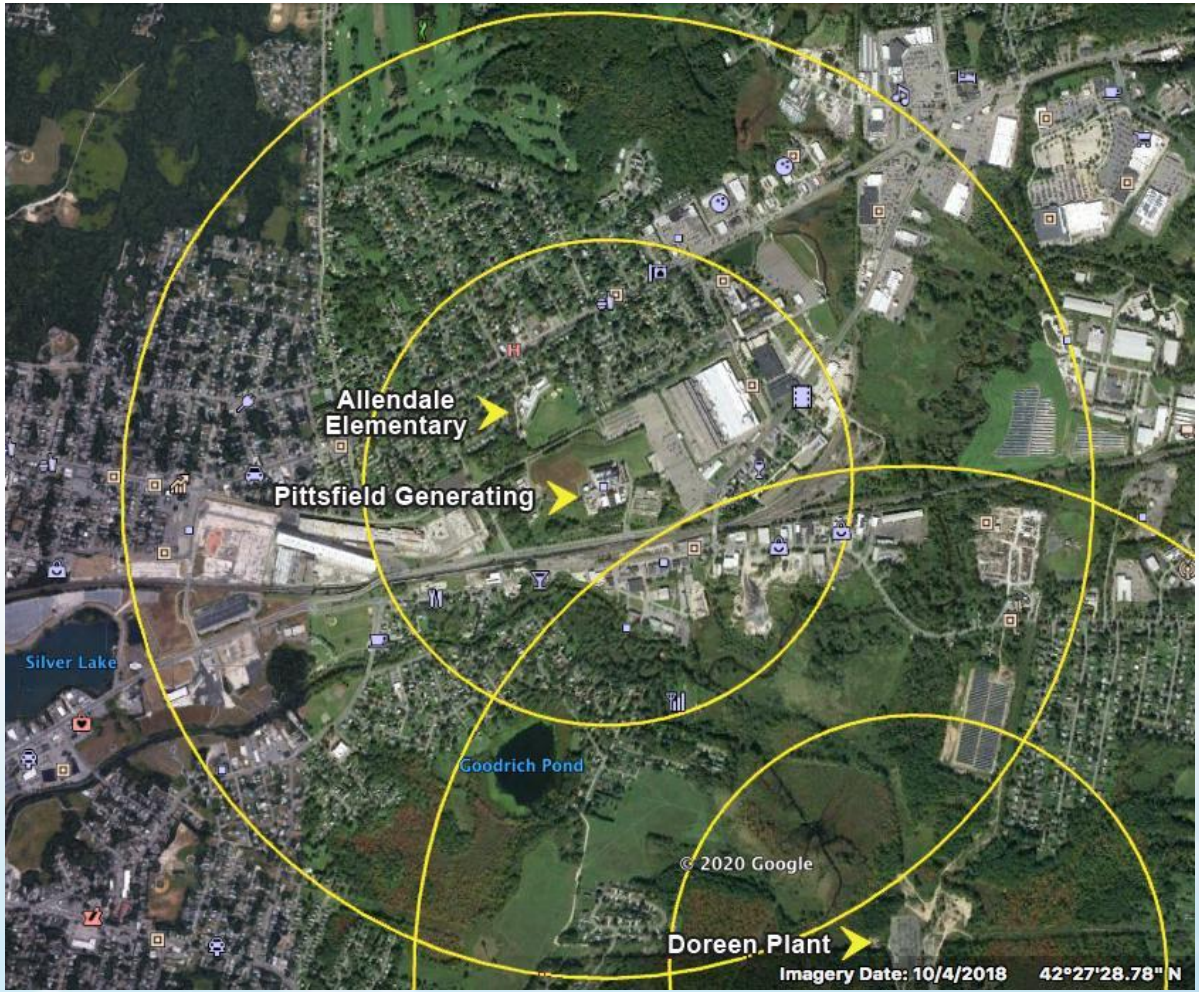
Pittsfield Generating

- **Age**: 30 years
- **Operating Capacity**: 160 MW
- **Fuel**: fracked gas, occasionally #2 fuel oil *(stored on site)*
- **GHG emissions**: 15% of the city of Pittsfield's entire stationary energy emissions in 2018 despite only operating about 5% of the time
  60,010 $MTCO_2$ *(metric tons, 2018)*
- **Other emissions**:
  10.48 tons of NOx in 2018
- Water for steam is drawn from same level as GE waste
- **Permitting:**
  Was up for Air Quality Permit renewal in 2021

Pittsfield Generating

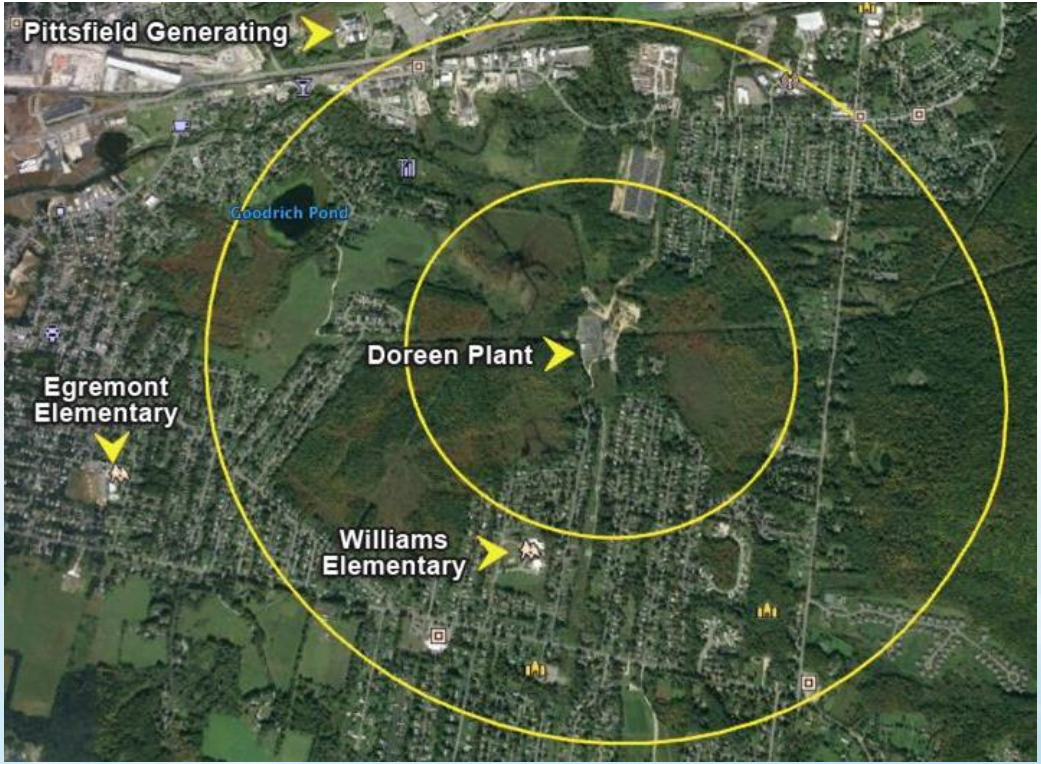
Neighborhood:

- Directly adjacent to Environmental Justice neighborhood
- Across the street from Allendale Elementary School
- Morningside School and neighborhood within 3 mi.
- Just over 1 mi. from Doreen Plant



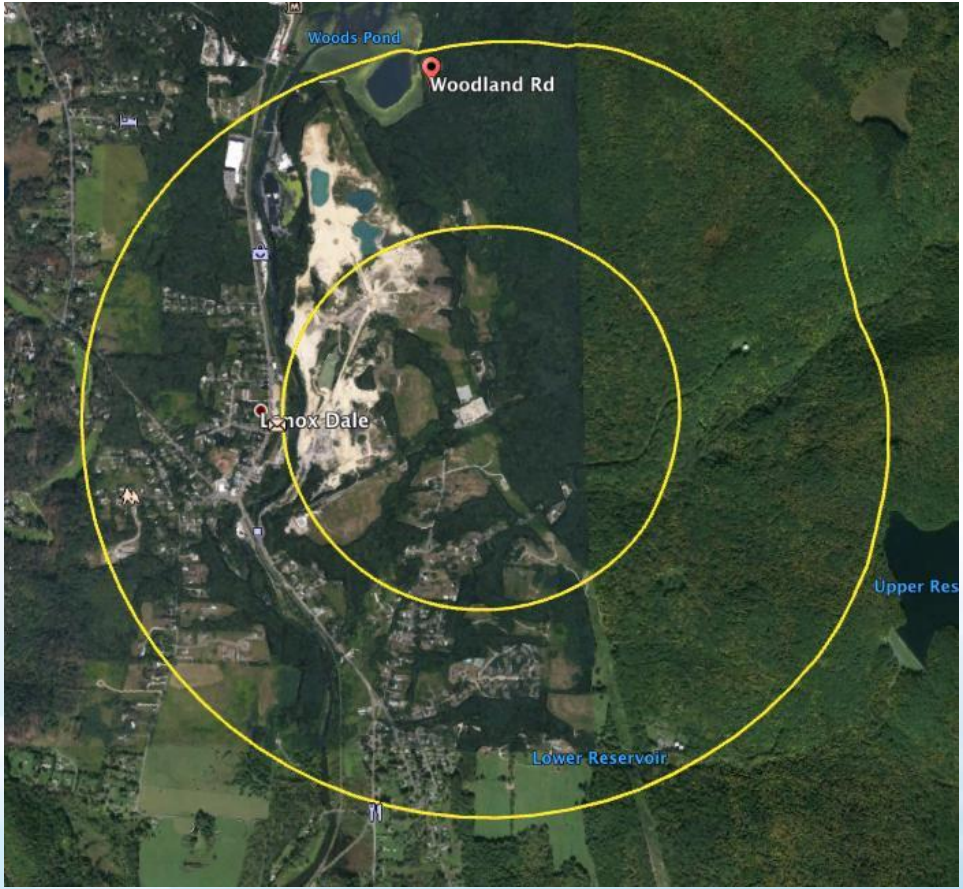
Doreen

- **Age**: 51 years • **Size**: 21.1 MW • **Fuel**: Kerosene *(jet fuel)*
- **GHG emissions**: 513.6 $MTCO_2$ *(metric tons, 2018)*
- **Other emissions**:
  Over 6,377 lbs of NOx in 2018
- **Neighborhood** *(3-mile radius)*:
  POC 15%
  Low-income 37%
  Williams Elementary ½ mi.
  Egremont Elementary 1 ¼ mi.
- **Permitting: NO PERMITS**
  This plant is old enough,
  the Clean Air Act
  does not apply



Woodland

- **Age**: 61 years
- **Size**: 20.4 MW
- **Fuel**: Kerosene *(jet fuel)*
- **GHG emissions**: 470.4 $MTCO_2$ *(metric tons, 2018)*
- **Other emissions**:
  Over 9,180.5 lbs of NOx in 2018
- **Neighborhood:**
  POC 6% *(3-mile radius)*
  Low-income 20% *(3-mile radius)*
  Across the street from October Mtn.
- **Permitting: NO PERMITS**
  This plant is old enough,
  the Clean Air Act
  does not apply



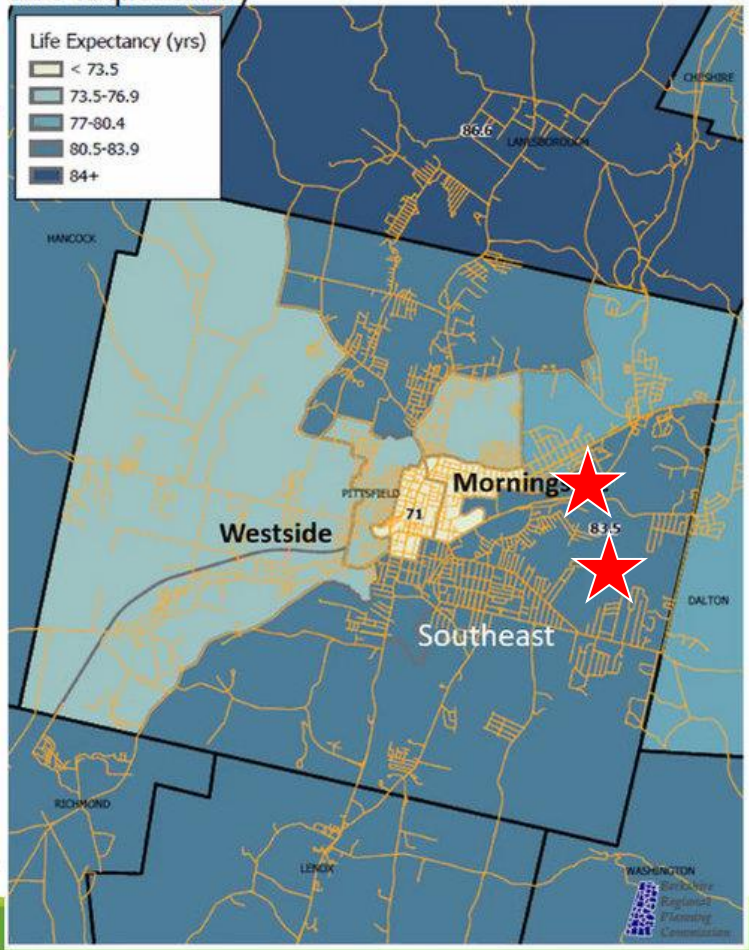
Life Expectancy in Pittsfield

A recent BRPC analysis showed stark differences in life expectancy across Pittsfield based on neighborhood of residence.

Those living in the Morningside/Westside neighborhoods live, on average, 10-12 fewer years than those in the more income-secure Southeast neighborhood:

- Morningside: 71
- Westside: 73.9
- Pittsfield average: 79.5
- Southeast: 83.5 years

Life Expectancy



Source: Berkshire Benchmarks

2. Raise public awareness

— Media outreach
- Webinars
  - newsletter
  - social media
- Articles in local pap
- Local radio program
- Petition

— Door to door info flyers

— Road sign campaign

— Weekly standouts

It's ok to get silly!

Costumes currently being used to fight the new peaker plant in Peabody, MA

3. Build a Coalition Opposing Peakers

<u>Coalition Members</u> *(so far)*:

350MA – Berkshire Node
350 Central Mass
Anni Maliki Designs
Becket Democratic Town Committee
Berkshire Environmental Action Team
Berkshire Women's Action Group Environment Committee
Berkshire Democratic Socialists of America
Canton Residents for a Sustainable & Equitable Future
Climate Action Now – Pioneer Valley
Community Action Works
Divest Smith College
The Enviro Show
Friends of Mohawk Trail State Forest
Green Sanctuary Climate Justice Group of the Unitarian Universalist Church
Indivisible Pittsfield
Lee Greener Gateway Committee
MASSPIRG Students Berkshires Chapters
MCLA MassPIRG
Musante Farm
NAACP - Berkshire County Branch
No Fracked Gas in Mass
The Old Stone Mill Center
Town of Sheffield Democratic Committee
Take Back the Grid
UUMSB Social Justice Committee
The Whitehead Foundation
XR Berkshires

4. Get support among local officials

— State legislators

— Local Mayor / Select Board members

— Local officials:

– Boards of Health

– Sustainability / Energy board membersçç

Areas of concern:

- fear of blackouts / "Texas panic"
- concern over loss of jobs
- fear of loss of local tax revenue

5. Start a dialog

— Pull in experts - *Clean Energy Group*

— Approach owners with question

– What are your plans, given decarbonization mandate?

Provides them an opportunity to be "Climate Heroes"

— Let them know we will work against permit renewal

Difficulties:

- finding the corporate decision-makers

- bumping into limitations of our state's regulations

Permit renewal was not the obstacle we hoped for

Results: Success!

— Cogentrix

Converting its 3 MA peakers to storage & renewables
Operational by end of 2023
Looking into doing the same at other plants in other states

— Pittsfield Generating

Originally position was “solving intermittency”
We talked them into looking at storage & renewables
Still not ready to take that step, but still talking with us

Learned a lot from both about market and regulatory obstacles.

What we've learned

— Energy market at ISO-New England is tricky

- Loss of "injection rights" is a big stumbling block

- MOPR is in place, disincentivizing renewables

— MA has strong environmental mandates in legislation, but:

- regulations are not in place to enforce them

- regulatory agencies are slow, even when sued

- Alternative Compliance Payments are dropping. ACPs and RECs should remain the same, if not increase

- Clean Peak Standard is beneficial, BUT doesn't allow RECs when you charge from your own assets. Also no RECs for injecting stored energy into the grid.

For more information

Visit ***nofrackedgasinmass.com***

Look for the Putting Peakers in the Past header on the home page

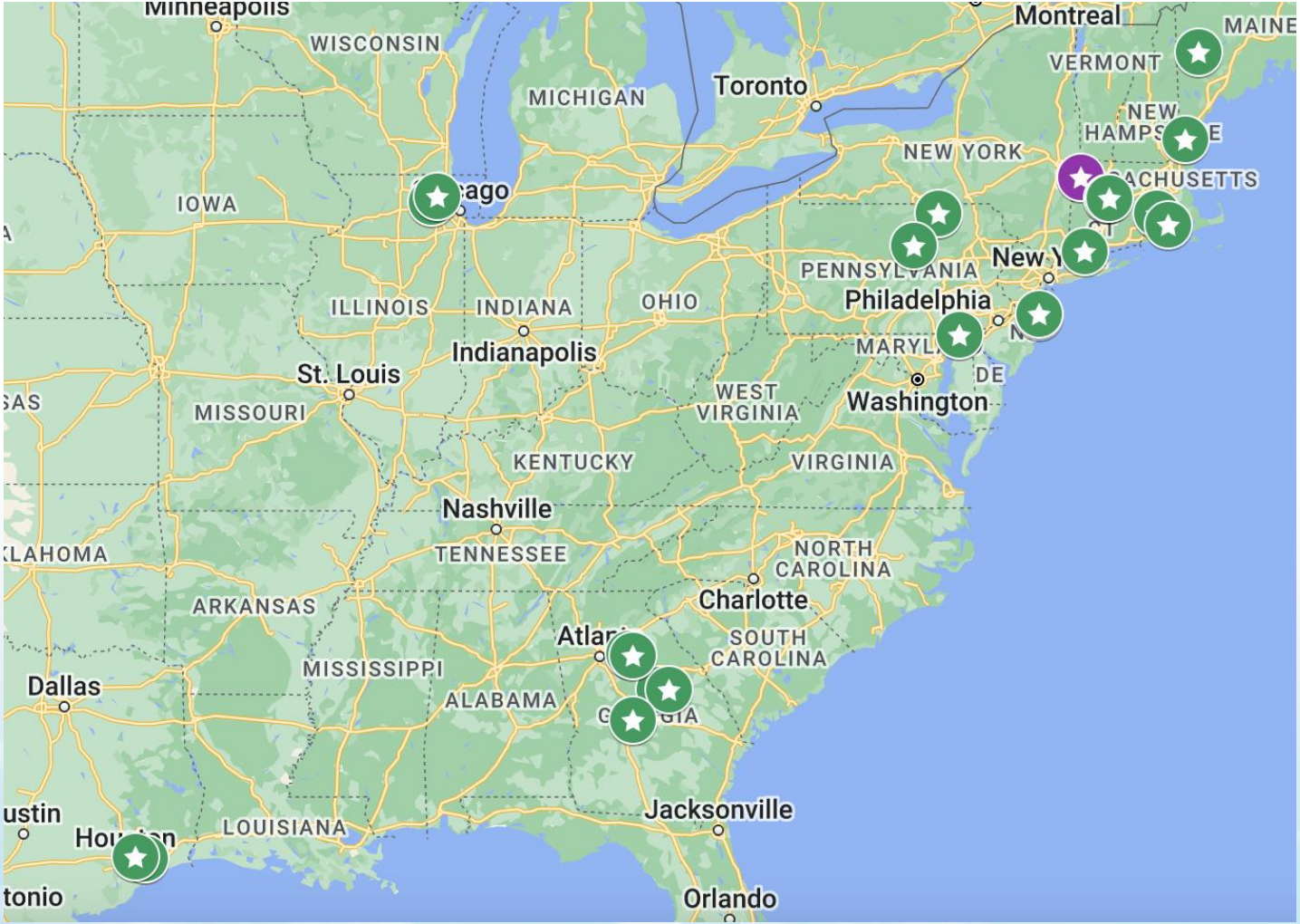
Put Peakers in the Past

or use this tiny url to get directly there

tinyurl.com/PutPeakersInThePast

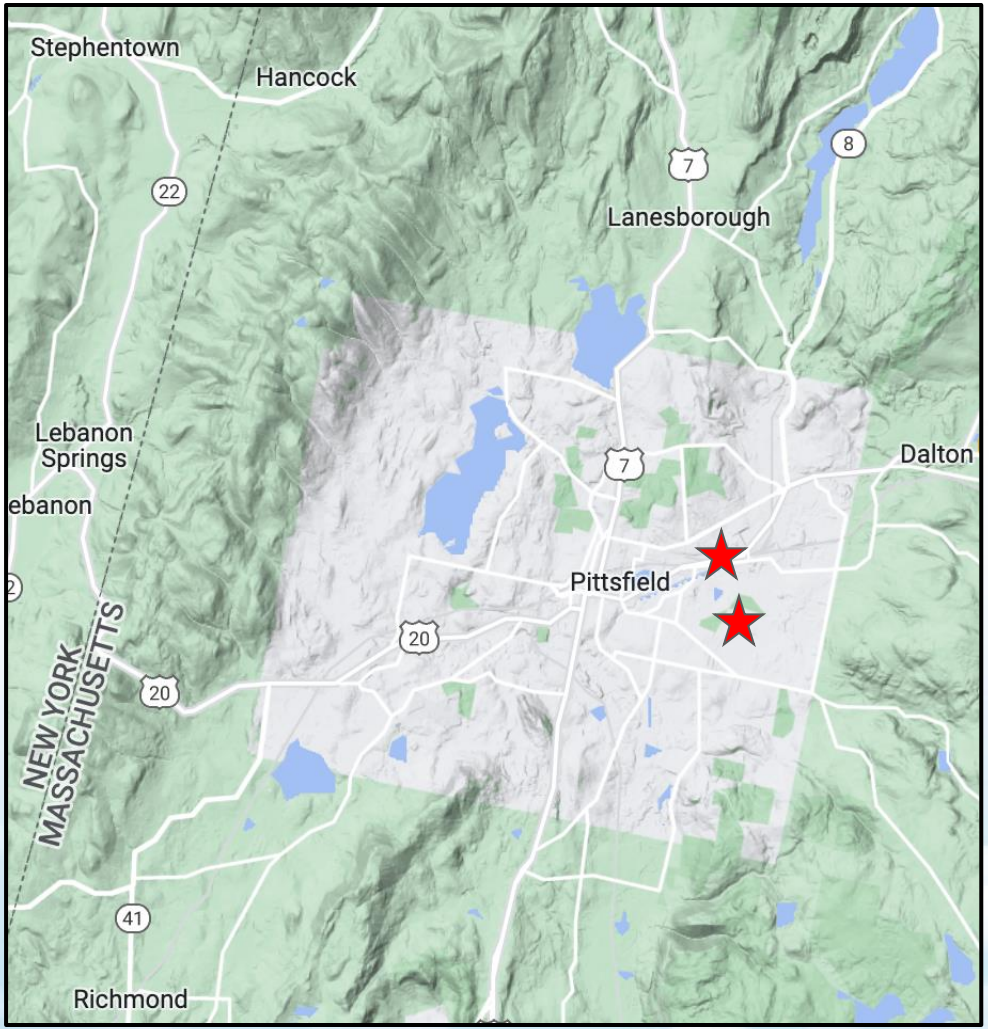
Questions?

Contact Rose at ***rose@thebeatnews.org***

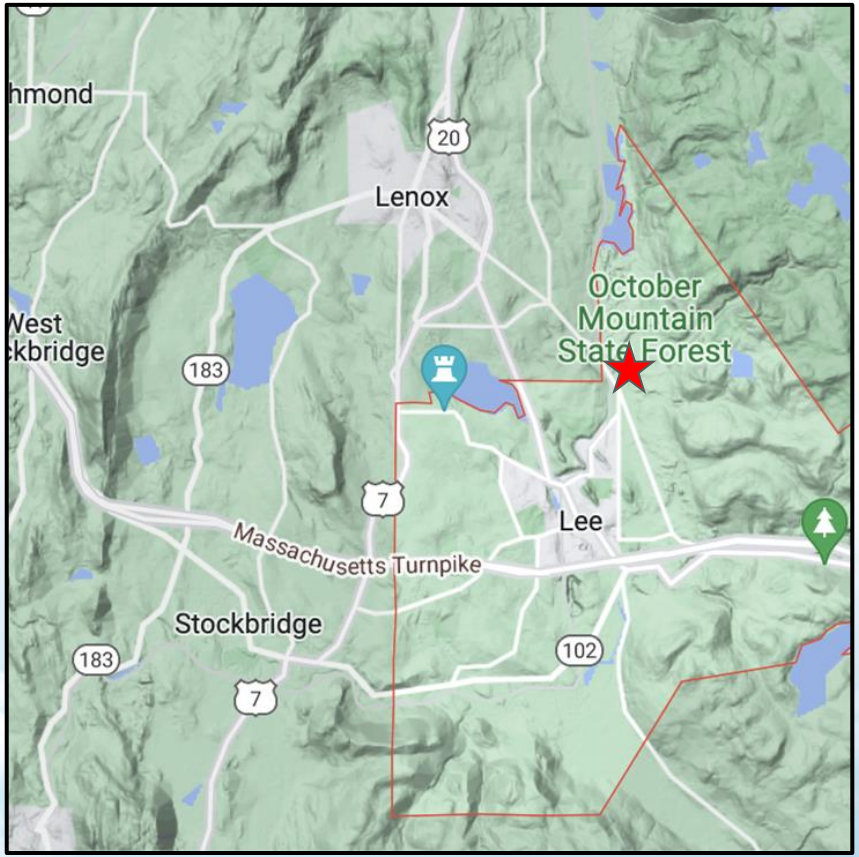


Cogentrix owns 20+ plants

Plans to add storage and renewables to all.



Both towns are in low areas surrounded by hills, trapping air in certain weather conditions.

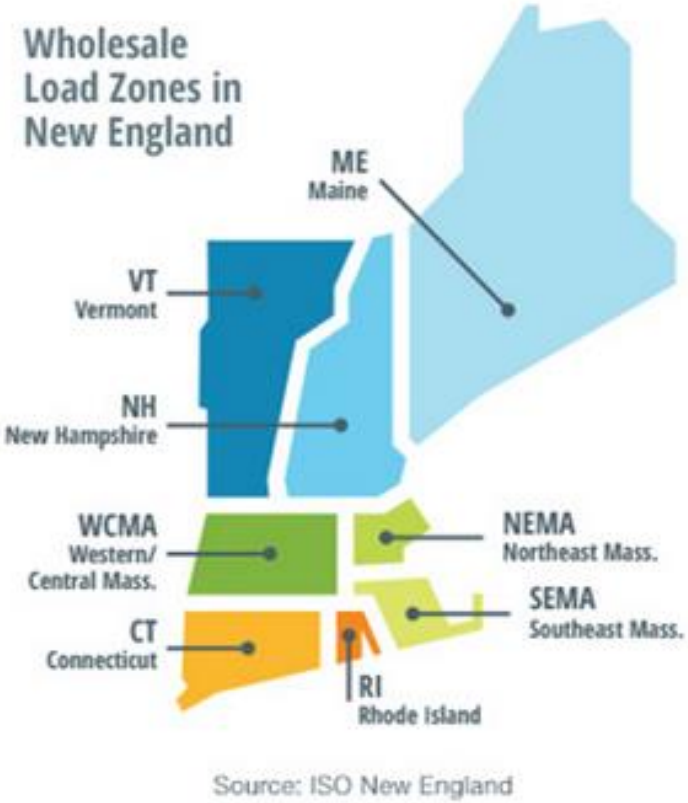


Load Zones

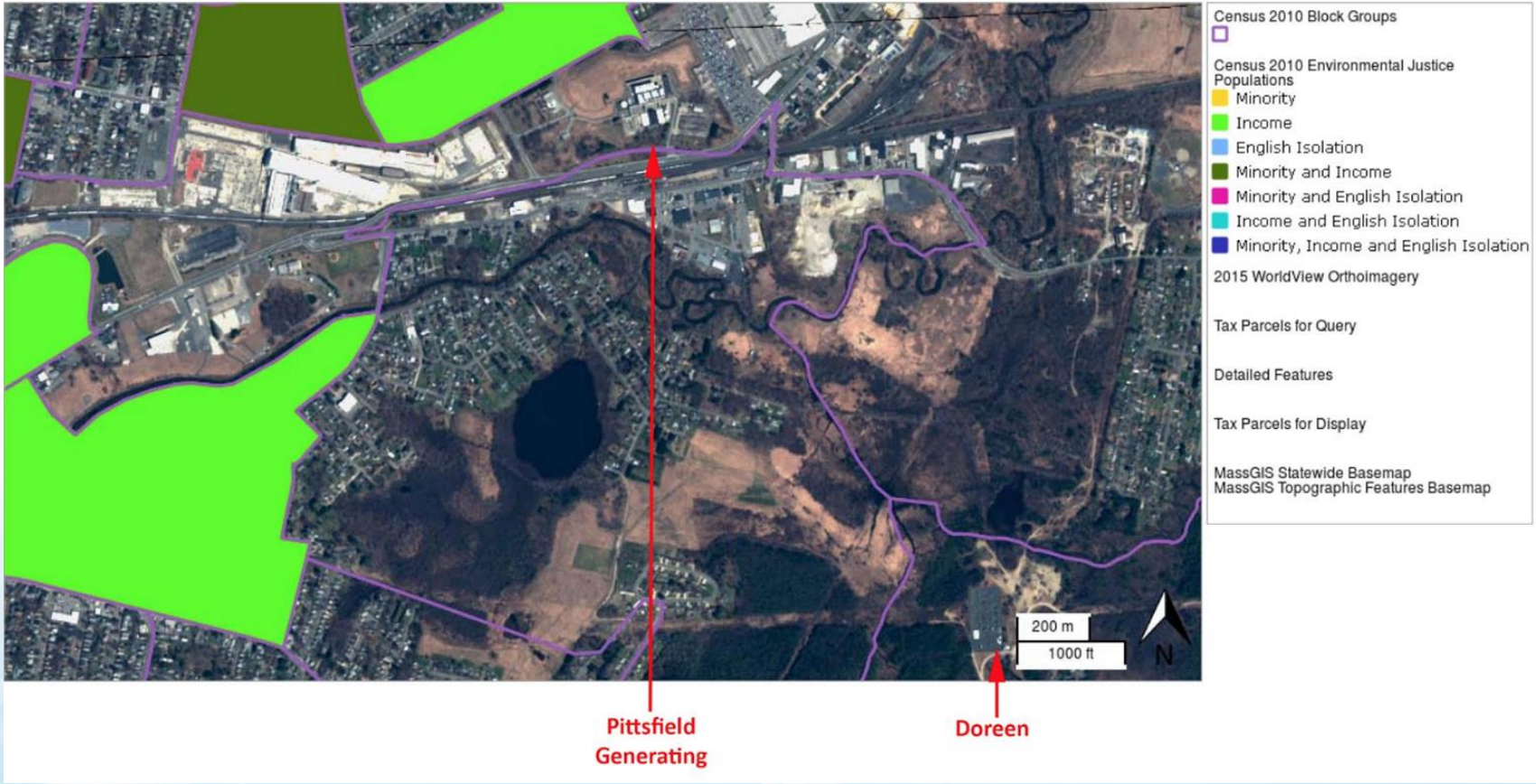
Pricing in the wholesale electricity marketplace is calculated at individual generating units, about 900 load nodes (specific points on the transmission system), eight load zones (aggregations of load nodes), and the Hub (a collection of locations in central New England where little congestion is evident). This map depicts the eight load zones.

Who Pays?

The capacity payments to keep these plants idle and waiting are paid by ratepayers in the capacity zone where the plants are located. For Berkshire County, that means ratepayers in the WCMA zone pays this cost.



Environmental Justice



Health Impact

Burning fossil fuels has local health impacts

- Effects are:
  reduced lung function, asthma,
  cardiovascular disease,
  preterm birth, and premature death.
  Children and elderly most vulnerable.

- Ground-level ozone *(from NOx, methane, volatile organic compounds)* is associated with many adverse health effects including premature death, respiratory hospital admissions, cases of aggravated asthma, lost days of school, and reduced productivity among outdoor workers.*

** "Health Effects of Burning Fossil Fuels", State Energy & Environmental Impacts Center, NYU*

Thank you for attending our webinar

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Upcoming Webinars

Feasibility and Implications of Two Dozen States Achieving 100% Renewable Energy Goals Equitably

Thursday, June 30, 2-3pm ET

Scaling Up Solar – The Montgomery County Green Bank and Sunnova's Low-and Moderate-Income Solar Pilot Program

Thursday, July 7, 3-4pm ET

Read more and register at www.cleanegroup.org/webinars