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Demand Response at The New School: Interview with Ashley Kossakowski

Ravenswood Generator, image from Astoria Post

Blog Post by Tian-Tian He

As you may have seen from emails and posters around campus, The New School (TNS) has recently started a Demand Response program to save energy over the summer. Ashley Kossakowski, Director of Energy and Sustainability at TNS, spoke with us to clarify how DR works, why it's important, and how it will impact members of the TNS community.

A transcript of the interview is below.

What is your name and position at The New School?

Ashley Kossakowski, Director of Energy and Sustainability in the Facilities Department.

What do you do here at The New School?

My responsibilities are wide-ranging but largely surround improving the efficiency of our buildings on campus. Over 70% of New York's greenhouse gas emissions come from buildings, so it's an important focus of climate change efforts. Some of my responsibilities include: identifying energy efficiency projects and applying for grant and incentive funding, climate action planning, compiling energy data, collaborating with Mike Harrington at the Tishman [Environment and Design] Center to engage the TNS community in sustainability and coordinating programs like demand response.

What is Demand Response (DR)?

Our electric grid, as with almost everything in the economy, is a question of supply and demand.

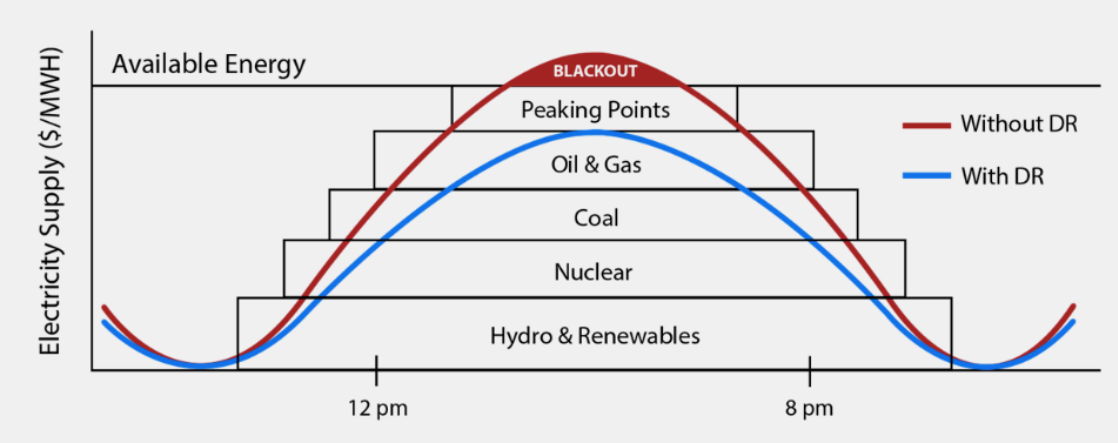
We have a relatively fixed amount of fuel to supply the electric grid, which I'll get into later.

Demand is variable, depending on the season. During periods of extreme temperatures, demand can soar. In New York, we typically see peak demand days happen on the hottest days in July and August

when everyone is using their air conditioning at the same time.

Demand response is a voluntary incentive program that makes an effort to curb demand to prevent blackouts and brownouts in the city. Grid operators and utilities will pay large energy users such as The New School to curtail our energy usage.

Why are we doing DR? What are its benefits for the environment?
The effects of demand response are wide-ranging, including resiliency, emissions, environmental justice, and public health. But before I go into more detail about that, it is important to give some background on peaker plants.



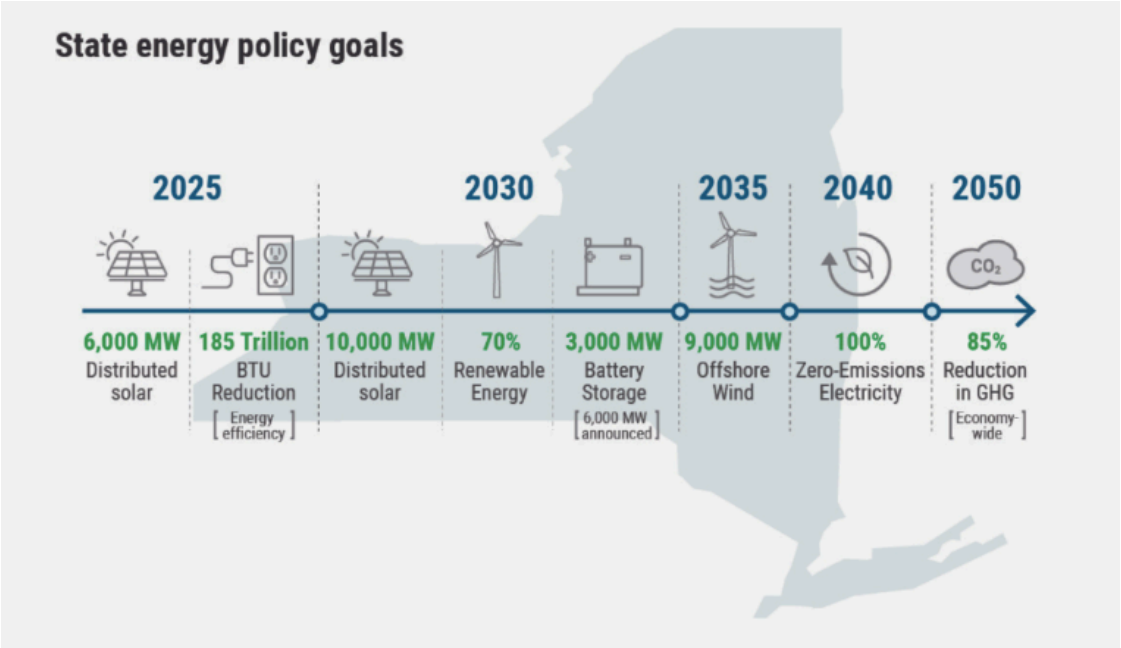
This graph is a representation of the fuel mix that supplies our electric grid. *Please note that this is an older graph, and although it says coal, the last coal plant in NY State was decommissioned in 2020.*

There are two scenarios in the graph - with and without demand

response. You can see that our last line of defense against a blackout on peak demand days is peaker plants, which are extremely inefficient.

Because peaking power plants are designed to fire up quickly in response to spikes in energy demand, they are incredibly inefficient:

- Responsible for 5% of total New York City carbon dioxide emissions despite only operating for a few hours a year.
- Emit a suite of pollutants including carbon dioxide, nitrogen oxides, sulfur dioxide, and particulate matter, all of which are detrimental to public health and the environment.
- Responsible for 94% of New York State's nitrous oxide emissions, which is 30x higher than other turbines.
- 1300% more expensive to operate, which gets passed along to consumers.



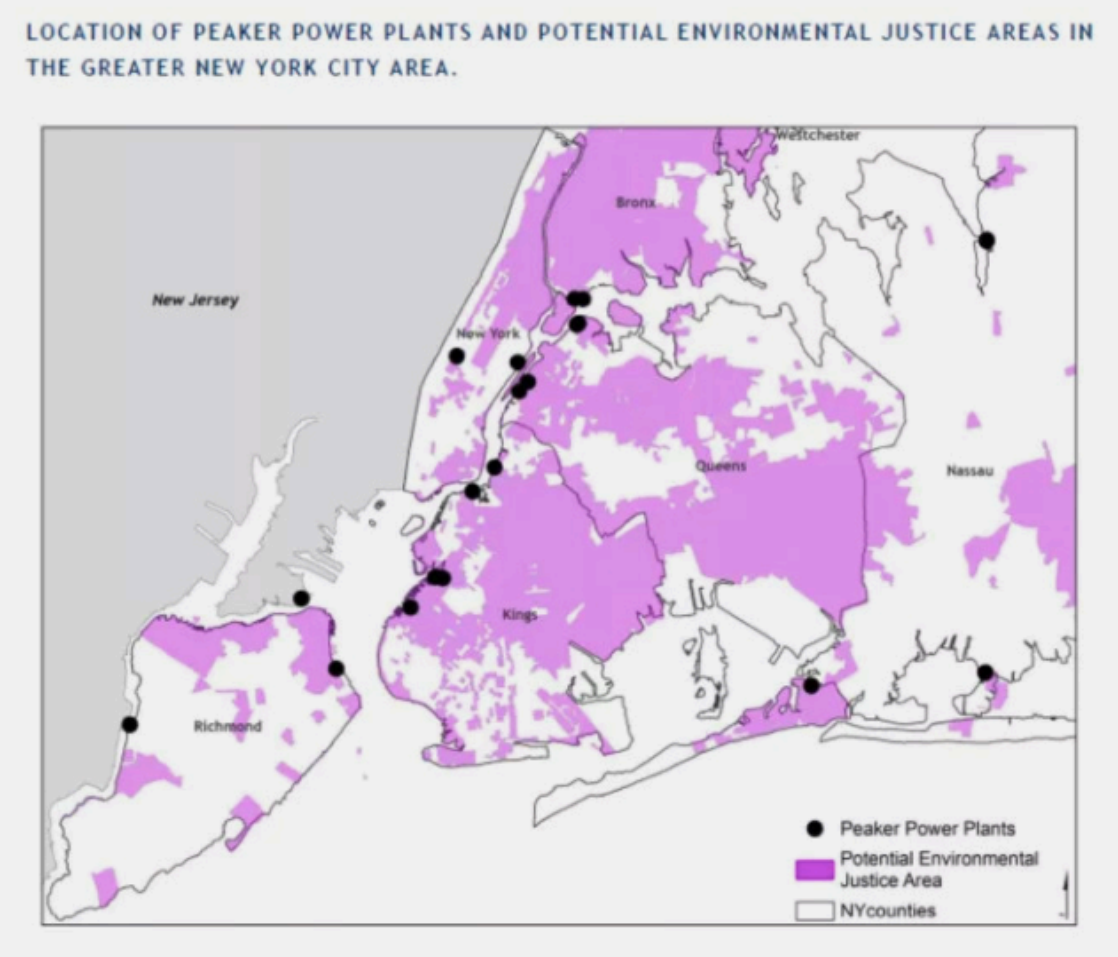
As you can see from this timeline, NY State has ambitious goals to increase the supply of renewable energy. It has also declared the phasing out of peaker plants via the Peaker Rule of 2019.

To ease the transition to a greener grid, we need both a demand-side and a supply-side approach. As customers, we can't do much to impact the supply-side. But what we can do is control our demand. Ambitious climate goals cannot be met without demand response.

Are there any connections between DR and environmental justice?

Yes, absolutely. The use of peaker plants presents an environmental justice and public health issue. In NYC, there are 750,000 people living within one mile of a peaker plant, and 78% of those residents

are low-income people or people of color.



As you can see from the map, most peaker plants are located in EJ areas.

Asthma and other respiratory conditions are exacerbated by pollution. For example, Mott Haven in the South Bronx has two peaker plants. It is nicknamed "Asthma Alley" because asthma hospitalizations are 5 times the national average and 21 times higher than other NYC neighborhoods.

Minimizing the need for and eventually closing peaker plants would directly benefit the

communities that live near them by improving the air quality and decreasing the likelihood of respiratory illnesses.

So, knowing all that background I'd just like to circle back to your question about the benefits of demand response. Here are some benefits of committing to minimize our demand during peak times:

- **Resiliency**: Increase the reliability and resiliency of the electric grid to prevent blackouts and brownouts
- **Greening of the grid**: Curb peak energy use during the hottest and coldest periods of the year, reducing the need for 'peaker' plants that have higher emissions, thus encouraging the transition to cleaner energy sources such as renewables
- **Environmental justice**: Peaker plants are located largely in low-income communities of color, who bear an inequitable burden of pollution from fossil fuel power plants
- **Public health**: Improve air quality and decrease respiratory illnesses, especially for those who live near peaker plants
- **Emissions**: Reduce reliance on an energy source that produces a disproportionate amount of carbon dioxide,

nitrous oxide, and particulate matter

- **Revenue**: The utility incentivizes curtailment and we can earn revenue dependent on our performance.

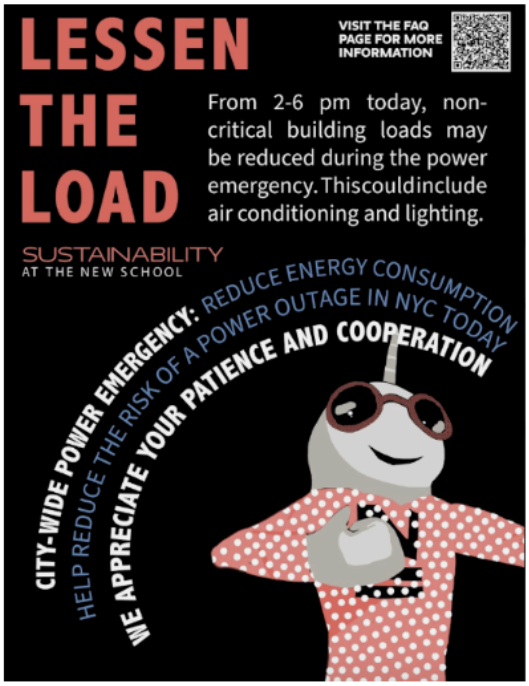
How will this affect accessibility within the school, eg the operation of elevators?

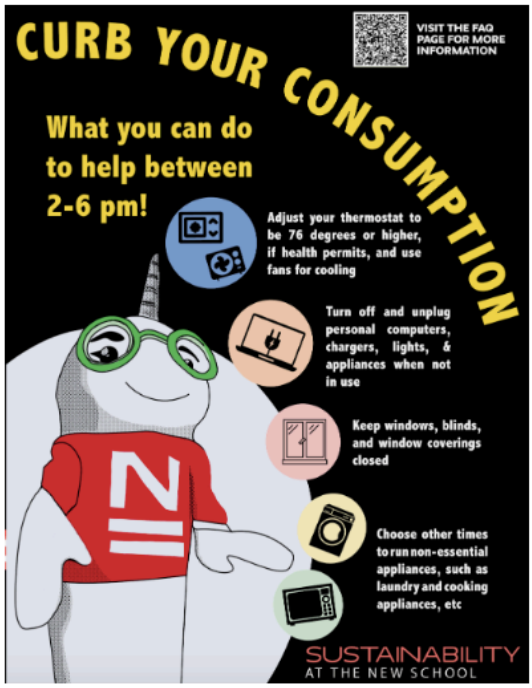
Demand response will not impact accessibility. Accessibility is a top priority and we would not want to do anything to compromise that. There will be at least one elevator in operation at all times.

Will there be advance notice of DR events?

We cannot guarantee a lot of notice because we don't get a lot of notice ourselves. The program notification times range from 1 hour to 24 hours of notice before an event. When we are notified, we will place signage in the buildings affected on the day of the event.

We don't want to overburden the entire TNS community with notification emails every time there's an event, but we are exploring the option of an opt-in email notification system.





Poster for Building Lobbies (left); Poster for Kerrey Hall Dorms (right)

When do DR events typically happen?

In New York, we typically see DR events happen on the hottest days in July and August when everyone is using their air conditioning.

What was the process of starting the Demand Response Program like?

First, we had to select a demand response provider, a company that would help facilitate enrolling our accounts in the demand response program with the utility.

Next, we had to determine which buildings to include in the program. We settled on the UC, 55 W 13th Street, 66 W 12th Street / 65 W 11th Street, and 2 W 13ths Street / 66 5th Ave because they have more

advanced building systems and controls that make it easier to curtail energy consumption.

Then, we had to install meters so that we can track our progress during each of the events. One of our goals is to produce reports at the end of this season that will show the New School community how much emissions we avoided.

Finally, we had to outline the plan for demand response days, which we call the curtailment plan. I worked closely with our building supers and our demand response provider to develop each of these plans.

I really want to give a shout out to our buildings staff, especially Phil Mattos, Fil Granitto, Mario Emadzadeh, and Ernesto Golfo, as well as their teams for helping me create and execute this program.

Has TNS participated in DR before? What have been some obstacles to participating in the past?

The [University Center] participated in demand response a few years ago but has not participated in a number of years.

It requires a lot of work to run the program, and the reception in past years was not ideal. We received a lot of complaints about the buildings being too hot, elevators out of service, etc. I think this was

because people did not understand why these things were happening and that this is actually for the greater good. That is why we are putting such a concerted effort into alerting the community of DR events and the benefits this time around.

What advice would you have for other universities/institutions who want to start DR programs?

I would encourage you to find a demand response provider to work with that fits your needs and has the capacity to work with you to carry out these programs.

Develop comprehensive curtailment plans and make sure building staff are on board and know what their role is, because they ultimately are responsible for the success of the curtailment.

Track your progress so you know how much you curtailed, and track what worked or didn't work in terms of communication and curtailment plans.

How can individuals in The New School community help reduce energy use during a DR event?

First, spread the word! Demand response is a really great way to make a large impact on the sustainability of the city. The more we can get the word out about what the program is and why we

are participating, I believe we will get fewer complaints and more engagement.

Next, if you find yourself in one of these buildings during a demand response event, please be mindful of your energy usage.

Demand response events in our area request for us to reduce electric usage typically between 2:00 pm - 6:00 pm.

You can use the following tips to reduce energy usage:

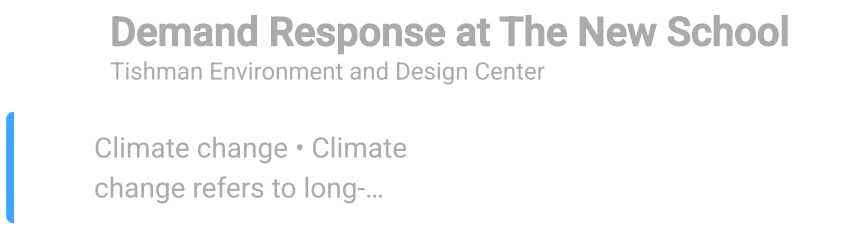
Before an Event Begins:

- If you have control over your thermostat, pre-cool your space before the start of the event by setting the thermostat to as low as 68 degrees before the event begins at 2 pm. If you do not have control of the thermostat, our lovely supers will do this step for you for the building as a whole.
- Charge devices. The idea generally is to avoid using non-critical appliances during the event and to plan to use them before or after.
- For residents of Kerrey Hall dorm, use major appliances (dishwasher, laundry, etc.) before or after the event, but not during.

During the Event (usually 2:00 pm-6:00 pm):

- Adjust your thermostat to 76 degrees or higher if health permits.
- Use fans for cooling.
- Keep windows, blinds, and curtains closed.
- Turn off all unnecessary lights and appliances.
- Unplug unused appliances.
- When possible, take the stairs instead of the elevator.

You can watch the entire interview below:



Many thanks to Ashley Kossakowski for chatting with us about DR! If you have any questions about the program, you can reach out to her at kossakoa@newschool.edu or Mike Harrington at mikeharrington@newschool.edu.

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