Pragmatic Environmentalist of New York Summary Update November 17 - November 30, 2025

This is a summary update of posts at Pragmatic Environmentalist of New York for the last two weeks. I have been writing about the pragmatic balance of the risks and benefits of environmental initiatives in New York since 2017 with a recent emphasis on New York's Climate Leadership & Community Protection Act (Climate Act). If you do not want to be on this mailing list, then let me know. A pdf copy of the following information and previous summaries are also available. The opinions expressed in these articles do not reflect the position of any of my previous employers or any other organization I have been associated with, these comments are mine alone.

NYSERDA recently announced the completion of its Zero by 40 Technoeconomic Assessment. This report directly addresses what I think is the biggest reliability risk of the Climate Act net-zero electric system transition – the need for new Dispatchable Emissions-Free Resource (DEFR) technologies to backup wind, solar, and energy storage during prolonged periods of low renewable resource availability. Rather than one overly long post, I published three articles about the report over the last two weeks after publishing one earlier. In a post published at Watts Up With That I presented an overview of the report that includes a general background and highlights from the three articles published here.

The study was prepared by the Electric Power Research Institute (EPRI) under contract to NYSERDA. The NYSERDA Zero by 40 Technoeconomic Assessment evaluates technologies needed for New York's goal of a zero-emissions electric grid by 2040. The report describes the technologies evaluated:

> This report evaluates seven candidate DEFR technology categories that could provide clean, firm power to the NYS grid to achieve a zero-emissions power sector. The candidate resources include hydrogen, biofuels (such as renewable natural gas [RNG] and renewable diesel [RD]), advanced nuclear, carbon capture and storage on thermal power plants, next-generation geothermal, long-duration energy storage (LDES), and virtual power plants (VPPs).

My second article, Zero by 2040 Technoeconomic Assessment Resource Comparison, described the specific technologies reviewed in the report.

> This report evaluates potential resources that can provide firm energy and capacity in a zero-emissions power sector. The study examines seven technology categories that could serve as DEFRs. These technologies are grouped into three resource groups based on their expected operational characteristics. While some resources can be configured to serve different roles, these groupings reflect constraints on costs, emissions, and availability in New York State, which are discussed later in the report.
>
> Low-capacity factor resources can be deployed during periods of high demand and low renewable generation, offering reliability, fast-ramping capabilities, and no duration limitations, assuming fuel availability, but are not operated as baseload units due to plant economics. Low-capacity factor Resources include:
>
> - Hydrogen (H_2)
> - Renewable natural gas (RNG) and renewable diesel (RD)

High-capacity factor resources operate the majority of the year and can provide reliable baseload power, including power during challenging events, but are less suitable for fast ramping or frequent starts and stops. High-capacity factor resources include:

- Advanced nuclear
- Carbon capture and storage (CCS) on thermal plants
- Geothermal

Gap-rightsizing resources can help balance supply and demand to adjust the capacity gap. While they do not generate electricity directly, they enhance the utilization of other clean resources. Gap-rightsizing resources include:

- Long duration energy storage (LDES) – Note that this refers to interday storage 10-36 hours
- Virtual power plants (VPP)

My primary concern is how this information will be used. This report says more work is needed. It states that "electric system modeling will be needed to understand the least-cost mix of resources and each of their potential unique contributions, which falls outside the scope of this study." In my opinion, it is not just the least-cost mix, but also the mix that minimizes reliability risks and environmental impacts. Ideally New Yorkers need to know the impacts of this approach relative to impacts of continued use of fossil fuels, a lower-carbon approach that combines increased use of nuclear energy supplemented with fossil fuels where appropriate, and an all-in approach that uses nuclear as much as possible to reduce GHG emissions as much as possible.

I also noted the lack of urgency regarding this initiative. Responsible New York agencies all agree that the new DEFR technologies described in this report are needed to make wind and solar viable. Every day that a determination whether there is a viable DEFR approach is delayed means the costs, reliability risks, and environmental impacts associated with the potentially false solution of wind and solar dependency increase.

My third article, Zero by 2040 Technoeconomic Assessment Implications, expanded on the implications. I noted that the conclusions in the Zero by 40 Report describe actions that can facilitate the readiness of DEFR to achieve the scale needed for 2040. Those actions include:

- Pursue a diverse set of resources to minimize the risk of overreliance on individual technologies
- Start early to increase the likelihood of readiness by 2040.
- Invest in grid-enhancing technologies early to minimize the need for backstop resources.
- Invest in innovation to enhance resource viability
- Develop strategies across industries for unlocking key resources with infrastructure hurdles.
- Engage early with technology developers, end users, and other stakeholders.
- Conduct grid modeling to understand tradeoffs of relying on different resources.
- Conduct a regular reassessment of options and remain flexible as new technology options come online.

In my opinion, there is very little reason to expect that the required DEFR support will be available in 2040. It is not necessary to spend a lot of time referencing quotes in the Zero by 40 Report supporting

that position because these recommended actions support that conclusion. References to early action and the need for innovation are all you need to know that the report implicitly admits the schedule is in doubt. Importantly, if there are delays in addressing these recommendations then successful DEFR deployment needed to achieve the 2040 mandate is impossible.

This report provides multiple reasons that New York State needs to pause Climate Act implementation. Future action should only proceed if reliability requirements are ensured and this report identifies issues that may make that impossible.

New York's Impossible 2030 GHG Emissions Target

David Wojick recently published an article describing why New York's Climate Act 2030 GHG emission mandate to reduce New York State 1990 GHG emissions 40% by 2030 is impossible. This article supplements his article with numbers and additional context.

Wojick concludes:

> New York State cannot cut emissions by the required 30% in just four years, so the 2030 target of the Climate Act is impossible. The legislature must change the law, and the Court has given them until February 6 to do so. After that, the Court says it will impose the Climate Law, which would be incredibly harmful.

My post evaluated the reported numbers and confirmed that his conclusion that New York State cannot make the 2030 40% GHG emission reduction target. However, if New Yorik uses the GHG emission accounting methodology that everyone but New York uses, then it is not impossible to meet the 2030 limit here because there has been a 39% reduction from 1990. There is a caveat to this observation. While this suggests that the 2030 target reduction is possible, the observed reductions are based on factors that tapped out so will not provide significant future reductions. Future reductions will require replacement with zero emissions resources.. Those strategies are much more difficult and costly which I think make substantial further reductions impossible.

Although changing the accounting methodology would be a potential political approach to achieve compliance for the Hochul Administration, this is unlikely. In the spring of 2023, her Administration floated the idea of changing the metric undoubtedly because of these numbers. Climate Act activists melted down when that was proposed and the idea was shelved. Given the current political situation, I doubt that Hochul would try this again.

In conclusion, David Wojick and I agree that the Climate Act 40% reduction by 2030 target cannot be met using the existing GHG accounting methodology.

Objections Filed Against Con Edison Request for Rate Increase

Long-time newsletter subscribers may have noticed that only four articles were published over the last two weeks compared to the usual six or seven. The reason is that my attentions were diverted elsewhere. Along with Richard Ellenbogen and Francis Menton, I intervened in the Con Edison rate case as described in this article by Francis Menton.

Menton explains our rationale:

> The concept of Messrs. Caiazza, Ellenbogen and myself has been to see if we can inject some rationality into the process to prevent entirely futile and wasteful (and even counterproductive) spending in pursuit of the infeasible "net zero" goals. None of the three of us are being compensated in any way for this work. Basically, we are doing it as a hobby, to see if we can save New Yorkers from their own folly.

Instead of working on blog posts, I was tied up filing the document, titled "Statement of Independent Intervenors Roger Caiazza, Richard Ellenbogen, and Francis Menton In Opposition to the Joint Proposal."

Menton describes the procedural history, status of the rate case, and then excerpts key points made in our submission. We concluded:

> ***THE JP IS UNJUST, UNREASONABLE, AND CONTRARY TO THE PUBLIC INTEREST***
>
> *There is nothing "just" or "reasonable" in:*
>
> • *Imposing on the ratepayers billions of dollars of costs for purposes having nothing to do with system reliability or safety, and instead supporting goals that are infeasible (as admitted by the State itself) and impossible to achieve such that the public's funds will be completely wasted.*
>
> • *Imposing huge costs on ratepayers to build new infrastructure for the delivery of new zero-emissions electricity that in fact does not exist and will not exist in this state during the time period of this rate case and for many years thereafter.*
>
> • *Hiding and concealing potentially billions of dollars of costs in a rate increase that have nothing to do with system reliability and safety and instead are going for infeasible and impossible goals.*
>
> • *Providing potentially billions of dollars of ratepayer funds to support electrification projects supposedly to reduce GHG emissions, but that will instead increase GHG emissions because of the characteristics of the system that cannot be changed in any relevant time frame.*

At some point I will follow up with an article describing my impression of the process and implications relative to the Climate Act as a whole.