Pragmatic Environmentalist of New York Summary Update June 14, 2024 to July 7, 2024

This is my fortnightly summary update of recent posts at Pragmatic Environmentalist of New York. 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). This summary describes each of my recent posts with minimal technical jargon but includes links if you want to read the entire post. If you do not want to be on this mailing list, then let me know. Previous updates and a pdf copy of the following information are also available.

Initial Impression of Clean Energy Standard Biennial Status Report

The Climate Act requires that the Public Service Commission (PSC) issue a biennial review for notice and comment that "considers progress towards meeting the Climate Act targets; distribution of systems by size and load zone; and annual funding commitments and expenditures." This post describes the recently released Clean Energy Standard Biennial Review Report.

There is a lot of information to unpack in this report so there will be additional posts while I develop comments for submittal. The key points are that the State's electric system has to expand to address the additional load created by the electrification mandates of the Climate Act; new loads from projected new facilities like the Micron chip fab plant; and the loads from crypto mining and artificial intelligence data processing. At the same time, the plan is to develop wind and solar resources. The following table describes progress and concedes the current progress will not meet the 2030 target for 70% renewable energy.

Table 8: Progress towards 70% Goal

Renewable generation (GWh)	2030 after assumed attrition/ reduction
Operational as of 2022	29,289
Imports 2022	6,158
Operational after 2022	2,245
Contracted onshore	17,417
Contracted offshore wind	7,539
NY Sun 10 GW target by 2030	10,644
Total	**73,292**
70% Goal (base load forecast, 2030)	115,437
Gap to 70% Goal (2030)	42,145

The report describes Table 8:

> With these conservative assumptions, the expected amount of renewable generation from operational and awarded/contracted sources in 2030 totals 73,292 GWh. Under the base case

> forecast for the 2030 statewide electric load, there is a renewable energy supply deficit of 42,145 GWh that would have to be addressed through future procurements in order to reach the 70% goal amount of 115,437 GWh.

Consider these numbers in context. There is an admitted gap of 42,145 GWh which is greater than the sum of total operational renewable generation in 2022, 2022 imports, and operational after 2022 resources (total - 37.692 GWh). Trying to cover that gap is an ambitious challenge.

The Biennial report proposes to double down on building renewables to cover the gap and meet the target.

> To fill the expected gap, three Tier 1 annual solicitations – those for 2024, 2025, and 2026 – are currently scheduled and will seek projects capable of deploying by 2030. However, the amounts procured in these solicitations would need to be adjusted to secure the needed quantity of 42,145 GWh. The analysis suggests NYSERDA would have to procure approximately 14,048 GWh per solicitation, assuming no project attrition, or, assuming a 30% attrition rate, an amount of 20,068 GWh per solicitation. This volume is significantly higher than the annual procurement quantity of 4,500 GWh per Tier 1 solicitation (before attrition) estimated in the 2020 CES White Paper and 2020 CES Order.

The State has never done a feasibility analysis to prove that their plan to rely on wind and solar will work. The Climate Act deadlines were set arbitrarily by politicians so achieving them is another level of wishful thinking. Reality is catching up to the Climate Act net-zero transition. This report is the first pubic admission that things are not going as planned. How will the Hochul Administration handle the obvious need to relax the deadlines?

NYISO Power Trends Report

Recently the New York Independent System Operator (NYISO) released the latest edition of Power Trends 2024. This is the NYISO's annual analysis of factors influencing New York State's power grid and wholesale electricity markets.

The NYISO power assessment information includes: Power Trends Resources is the landing page for documentation, Power Trends 2024 is the report itself, and there is a Power Trends Fact Sheet. The report notes:

> The shift from fossil fuel-based generation to clean energy resources is advancing with a quickening pace. At the same time, consumer demand for electricity is increasing as state policies decarbonize the building and transportation sectors and attract large economic development projects to New York. The successful transition of the electric grid depends on the careful balance of reliable energy supply with the forecasted increase in demand.

This article highlights the following challenges raised in the report: status of the system, electrification challenges, Climate Act schedule, the interconnection process, the technology required, and the electric market. NYISO has determined that under normal circumstances the system loads will be met but there are situations where reliability could be threatened. Everyone agrees that loads are going to increase and shift to the winter, but concerns have also been raised about potential impacts. The Power Trends report expresses concerns about the schedule and the Biennial Report described previously verifies that there are issues. NYISO is responsible for the interconnection process whereby the effect of new

resources on the electric system must be considered. It is easy for proponents to claim that the process can be expedited when they face no consequences if there are problems. In another post described below, the need for new technology to address the shortcomings of intermittent wind and solar, and the report admits changes to the existing electric markets will be necessary. They are more optimistic than I am that markets can be developed for new technologies and services without issues.

The Power Trends 2024 report provides an excellent overview of New York State's power grid and wholesale electricity markets. I concluded that the ultimate problem is that New York has no comprehensive energy plan. The Scoping Plan is just a list of technologies that describes an electric system that has zero-emissions. However, there is no feasibility study that shows how it will work nor has the Hochul Administration reconciled the differences between the Integration Analysis and NYISO resource outlooks. As it stands now the apparent Administration plan is to build as many wind and solar facilities as possible and hope someone works out how they are supposed to be integrated into the electric system. When that does not work, I predict the NYISO will be blamed.

Filling the Gap in New York's Decarbonization Plan: A New View of the Electric Grid

Nuclear New York, Inc. submitted the report "Filling the Gap in the State's Decarbonization Plan" to the New York Department of Public Service (DPS) Proceeding 15-E-0302 related to DEFR. This article documents this analysis.

The report clearly describes the issue. At the same time load is expected to increase significantly, New York is proposing to rely on wind and solar that needs a firm dispatchable resource aka DEFR:

> New York State has seriously underestimated the need for a large firm dispatchable source (A firm dispatchable source is always available and able to supply whatever additional electric output is needed) in its future decarbonized grid. The growth in demand from the expected electrification of automobiles and the heating of buildings requires that such a resource operate for more than a third of the year to provide a grid that is reliable and avoids rolling blackouts.

There are two important takeaways from the analysis. This is another analysis that contradicts the argument by a few members of the Climate Action Council that New York can rapidly move away from fossil fuels and instead be fueled completely by the power of the wind, the sun, and hydro using technologies available at this time. The second point is that the estimated DEFR capacity and use during the year in this analysis is higher than other projection. If nothing else this analysis clearly shows that experts do not fully understand the ramifications of this necessary resource.

The report also proposes nuclear energy as a DEFR candidate and a resource that reduces the need for DEFR. The following table from the report summarizes their findings and provides total per-unit generation costs for in-state resources under two DEFR capital cost scenarios: current-cost at ~$6,000/kW and low-cost at ~$3,000/kW. They conclude that a nuclear option would be cheaper for a resource that is more likely to work than anything proposed by the State to date.

2040 Scenarios	DEFR Requirement (GW)	DEFR Capacity Utilization	Total In-State Generation Cost ($/MWh)	
			Current Cost DEFR (~$6,000/kW)	Low-Cost DEFR (~$3,000kW)
RFPlan	29	14.4%	$238	$211
Brighter Future 1	26	20.3%	$176	$143
Brighter Future 2	30	29.6%	$150	$111

June 2024 Update on the New York Cap-and-Invest Plan

Sometime before the end of the year the Hochul Administration must release the rules for the New York Cap-and-Invest (NYCI) Program. There hasn't been anything from the Department of Environmental Conservation since the last comment submission deadline at the start of March.

I got a letter to the editor on this document published at the Syracuse Post Standard:

> On June 7, 2024, Gov. Kathy Hochul explained why she reversed the decision to proceed with the New York City congestion pricing plan, stating: "Now my job is not to make it harder or more expensive for New Yorkers to live in our state — working hard, make ends meet, raise their families." The ultimate question is whether this concern also should be raised relative to the Climate Leadership & Community Protection Act (Climate Act).

With the word limit it was impossible to provide much detail on the NYCI plan.

> This summer, her administration will be rolling out an economy-wide cap-and-invest plan to fund Climate Act decarbonization projects. The New York Cap-and-Invest (NYCI) Program is simply a tax on carbon. It will require large-scale distributors of heating and transportation fuels to purchase permits to pay for carbon emissions in the fuels they sell. Those costs will be passed on to consumers.

At the Energy Access and Equity Research webinar sponsored by the NYU Institute for Policy Integrity on May 13, 2024 Jonathan Binder stated that the New York Cap and Invest Program would generate proceeds of "between $6 and $12 billion per year" by 2030.

> Administration officials estimate that NYCI auctions will generate "between $6 [billion] and $12 billion per year" by 2030. The New York City congestion pricing program was projected to raise $1 billion per year.

I used the example of gasoline costs for consumer impacts.

> Consider gasoline costs. The current NYCI proposal outline analyzed allowance prices starting at $23 per ton of CO2 in 2025 with 5% escalation for 2026, and an increase to a higher ceiling in 2027, escalating by 6% annually thereafter. According to the U.S. Energy Information Administration, 17.86 pounds of CO2 are emitted per gallon of finished motor gasoline; 112 gallons burned equals 1 ton of CO2. A price of $23 per ton of CO2 translates to an increase in gasoline prices of 21 cents per gallon in 2025, 48 cents per gallon in 2027 and 57 cents per gallon in 2030.

Faced with the word limit, I concluded that New Yorkers want to know how much this will cost.

Raising the cost of fuel makes it harder to make ends meet. It is time to demand a transparent accounting of all Climate Act costs.

Stay tuned because this will be sure to be an issue later this year.

Madison County Wind Farm – Theory vs. Results June 24, 2024

I recently stumbled upon an old New York State Energy Research and Development Authority (NYSERDA) report describing the first New York industrial wind facility. According to the Madison Wind Farm page it was constructed in 1999-2000 and consists of seven Vestas V66-1.65 MW wind turbines totaling 11.55 MW. The NYSERDA sponsored report predicted that the net annual plant energy production would be 23,621 MWh, which would produce a capacity factor of 23.3%. Reality is much different.

Madison Wind Farm Performance Based on NYISO "Gold Book" Load & Capacity Data Report Table III-1 Including AWS 2003 Projections

Year	Net Energy (GWh)	Capacity Factor
Projected	23.6	23.3%
2006	20.2	19.9%
2007	21.3	20.9%
2008	19.1	18.8%
2009	19.7	19.4%
2010	18.0	17.7%
2011	21.7	21.4%
2012	19.0	18.7%
2013	20.5	20.2%
2014	21.0	20.7%
2015	19.7	19.4%
2016	20.0	19.7%
2017	20.8	20.5%
2018	18.7	18.4%
2019	18.8	18.5%
2020	17.1	16.8%
2021	10.3	10.1%
2022	13.8	13.6%
2023	12.4	12.2%
Total	332.0	18.2%

I concluded that the performance of the first wind farm in New York is considerably less than projected. This is consistent with my comparison of the observed and projected Integration Analysis 2020 statewide wind generation. These results should be used to refine the Scoping Plan but there is no indication that NYSERDA is considering such an effort.

This is just one more example of the flaws hidden behind a veneer of political slogans that claim all is well with the Climate Act. Eventually it will become obvious that the Hochul Administration electric

system “plan” is incompatible with reality. Unfortunately failing to address these issues promptly will increase costs and reliability risks.

Pew Research: How Americans View National, Local and Personal Energy Choices

A version of this article was published at Watts Up With That. According to Pew Research, Americans still want renewable energy, but support is waning.

The Pew Research Center released the results of its survey on June 27, 2024 and noted the following findings:

> **There’s been a decline in the breadth of support for wind and solar power.** The shares who favor expanding solar and wind power farms are down 12 percentage points and 11 points, respectively, since 2020, driven by sharp drops in support among Republicans.
>
> **Interest in buying an electric vehicle (EV) is lower than a year ago.** Today, 29% of Americans say they would consider an EV for their next purchase, down from 38% in 2023.
>
> **Still, a majority of Americans (63%) support the goal of the U.S. taking steps to become carbon neutral by 2050.** When asked which is the greater priority, far more Americans continue to say the country should focus on developing renewable energy than fossil fuel sources (65% vs. 34%).
>
> The survey, conducted May 13-19 among 8,638 U.S. adults, finds **a fairly modest share of U.S. adults (25%) say it’s extremely or very important to them personally to limit their own “carbon footprint.”** Far more give this middling or low priority.

Details are available in the post. I did not think there were any surprising results but noted that there is one important aspect of energy choice that was not included in the survey. What about the costs? The follow up questions for wind and solar development included a question asking whether respondents thought that those developments would reduce electricity prices. There were also questions about electric vehicle cost to purchase and refuel them. Nothing about overall costs was included. I have yet to see a poll that indicates that people are willing to pay much for the energy transition being forced down our throats so this is a major omission.

The description of the survey claims that “large shares of Americans back more renewable energy that would decrease overall carbon emissions.” It also admits that “this general orientation does not necessarily translate into strong commitment to reducing personal carbon emissions or interest in buying an EV”. If the willingness to pay aspect had been incorporated into the poll, I have no doubts that support for wind and solar would drop significantly. I am confident that as more people become aware of the hidden costs of renewable energy the inevitable result will be much less support.

Commentary on Recent Articles 7 July 2024

This is an update of articles that I have read that I want to describe a bit but do not require a detailed post. After years of courts rejecting issues raised by industry because Agencies said so I applaud the Supreme Court to end the Chevron Defense. The innumerate New York Legislature passed the Climate Super Fund. The NY solar trade group proposed to raise the New York distributed solar target before

the Hochul Administration has to admit the Climate Act is too expensive to continue to support. I compared the 2021 India and China emissions to New York. The following table raises the question why NY continues to pursue net-zero because we cannot make a difference.

	Greenhouse Gas (MMT) per GEP 100 UNFCCC						GHG	NYS %	World GHG	GHG	NYS %	China GHG	GHG	NYS %	India GHG
Year	CO2	N2O	Biogenic CO2	CH4	SF6	Total	World	of World	Delta	China	of China	Delta	India	of India	Delta
2011	232.13	0.01	9.96	1.65	0.00001	233.79	50,941	0.44%	2.98%	11,579	2.02%	1,038	2,925	7.99%	93
2012	223.15	0.01	9.59	1.64	0.00001	224.80	51,705	0.42%	1.48%	11,767	1.91%	187	3,102	7.25%	177
2013	224.41	0.01	10.35	1.67	0.00001	226.09	51,460	0.42%	-0.48%	11,943	1.89%	177	3,163	7.15%	61
2014	228.76	0.01	10.41	1.63	0.00001	230.41	52,164	0.42%	1.35%	12,169	1.89%	226	3,279	7.03%	115
2015	224.89	0.01	12.04	1.58	0.00001	226.48	52,559	0.41%	0.75%	12,043	1.88%	-126	3,390	6.68%	112
2016	212.57	0.01	11.22	1.53	0.00001	214.12	51,550	0.39%	-1.96%	11,788	1.82%	-255	3,523	6.08%	133
2017	203.28	0.01	11.05	1.44	0.00001	204.74	52,249	0.37%	1.34%	12,146	1.69%	358	3,590	5.70%	67
2018	215.10	0.01	11.65	1.46	0.00001	216.56	52,820	0.39%	1.08%	12,648	1.71%	502	3,777	5.73%	187
2019	210.09	0.01	11.79	1.41	0.00001	211.52	53,455	0.37%	1.19%	13,012	1.63%	364	3,797	5.57%	20
2020	183.63	3.70	10.82	42.06	0.20	229.39	51,458	0.42%	-3.88%	13,276	1.73%	264	3,615	6.35%	-183
2021	199.60	3.75	11.40	43.76	0.20	247.11	53,447	0.44%	3.72%	13,774	1.79%	498	3,879	6.37%	265

I also included links to videos and a few other articles.

Videos

- Tony Heller provides an example of the integrity- and veracity-free world of the press and climate academics.
- Nearly half of EV owners want to return gas cars.
- 10 Questions Climate Doomers Can't or Won't Answer- The Climate Realism Show

Articles

- New York City sea-level rise alarmism is misplaced.
- Reason for 2023 Record Warming Javier Vinós makes the case that the primary reason for the spike in temperatures was natural. In particular a very rare underwater volcano that injected water vapor into the stratosphere.
- Chuck Schumer's 'Dear Friend' Invested in Solar as Schumer Secretly Negotiated Climate Bill. You will never be able to convince me that it is not all about the money. "More and more, it appears the 'green' in much of the green agenda has a lot less to do with the environment than it does with transferring taxpayer funds to preferred special interest bank accounts," said Michael Chamberlain, the director of government watchdog group Protect the Public's Trust.
- Adults take charge: “Chaotic and only occasional wind and solar generation is what you get when infants run the show. Now in a ‘wait til your father gets home’ moment, governments of an adult bent are taking a firm grip on energy policy. Ditching the suicidal renewable energy targets and plumping for nuclear power, principally because it works.”

California in one License Plate

The Free Press TGIF edition published this cartoon by David Mamet: