Pragmatic Environmentalist of New York Summary Update January 9, 2023 to January 22, 2023

This is the latest summary update of my recent posts at Pragmatic Environmentalist of New York. As always, 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 New York Cap and Invest Program January 17, 2023
On January 10, 2023 New York Governor Kathy Hochul announced a plan to use a market-based program to raise funds for Climate Act implementation. I believe that this will be a future textbook example of how perverting the previously successful concept of a market-based pollution control program to fit the ideological purposes of a political agenda inevitably leads to failure. I base this on my extensive experience with the nuts and bolts activities necessary to make this kind of program function, research I have done on market-based programs, and the observations of emissions after these programs were implemented.

The most important point is that the emission reduction trajectory necessary to meet the Climate Act 2030 mandate for emissions to be reduced 40% from the 1990 baseline requires annual reductions that are unlikely based on observed reductions. The theory of market incentives is that raising the cost of carbon will let the market innovate to produce the least cost approach to provide carbon reductions. That takes time and that makes the schedule problematic. It is unlikely for the innovation necessary to replace a system that took decades to build to coincide with the 27-year arbitrary schedule of the Climate Act net-zero by 2050 target.

New York Energy Storage Roadmap – Cost Projections Part 2 January 13, 2023
On December 28, 2022, the New York State Energy Research & Development Authority (NYSERDA) and the New York State Department of Public Service (DPS) filed New York's 6 GW Energy Storage Roadmap (Roadmap) to the Public Service Commission (PSC) for consideration. I previously gave an overview of the Roadmap and looked at the way the costs were projected. In this post I give my estimate of the costs.

In my previous post I pointed out that the press release for the Roadmap claimed that "the roadmap will support a buildout of storage deployments estimated to reduce projected future statewide electric system costs by nearly $2 billion". The state's modeling predicts that it will cost $0.46 per month per electricity bill and the trade press has jumped on that cost as less than the cost of a slice of pizza. However, Roadmap costs are misleadingly presented relative to incremental revenues: "For the proposed bulk storage procurement program, program costs are calculated as the incremental revenue, on top of revenue that storage assets can realize through commercial operation in the existing energy markets, that would allow such assets to reach their cost of capital."

This analysis compares future statewide electric system costs for energy storage. The simplest approach estimates that energy storage necessary to provide electricity when wind and solar resources are unavailable could be as much as $1.7 trillion. NYISO and NYSERDA used more sophisticated analyses to

refine how much backup was needed. The overnight capital costs for the batteries, and only the batteries, for five different scenarios ranges from $13 to $15 billion. There are a host of other factors that could raise those estimates. The approach used by NYSERDA and NYISO relies on DEFR technologies that increase the cost to provide backup when wind and solar resources are unavailable totals between $187 and $349 billion but provide massive savings relative to any approach that does not include that kind of resource.

The Roadmap has been presented to the Citizens of New York as a sales spiel. The public heard that the costs of energy storage were only $2 billion and that the cost to ratepayers would be less than the cost of a slice of pizza. The costs that ratepayers will ultimately pay is much, much higher. The shell game manipulation of costs demonstrates that the Hochul Administration goal is hide the expenditure of hundreds of billions of dollars under so many different programs and subsidies to make it intentionally impossible to capture the total costs to consumers. The true "Total Cost" of the Climate Act will be hidden forever from the public by design.

New York Annual Climate Act Investment Requirements January 19, 2023
This post complements the Initial Impression of the Cap and Invest Program post. I believe New York State should provide two cost estimates: the total costs estimated to make the emissions reductions and the costs to consumers broken down into direct costs and indirect costs from State and Federal subsidies. That information has not been provided to date. In this post I estimated the total costs needed for the reductions.

I calculated annual expenditures based on my own work and present estimates from others. Using the emissions reduction trajectory necessary to meet the 2030 GHG emissions target and the cost per ton reduced history of New York's Regional Greenhouse Gas Initiative I estimate $9 billion per year is necessary. I extracted estimates from the Scoping Plan that I believe are biased low ,that range from $10 to $11 billion. Three estimates from environmental NGOs range from $10 billion to $15 billion in 2030 but note that one rises to $45 billion in 2050. Two independent estimates suggest costs will range between $44 and $54 billion. The problem with the low cost estimates is that they don't properly consider the costs of the more complicated resources needed for net-zero transition like energy storage. When the costs of energy-storage described in the previous post in this summary are included the costs will be more in line with the higher costs.

The New York Senate held a public hearing to examine legislative and budgetary actions necessary to implement the Climate Act Scoping Plan on January 19, 2023. One of the primary concerns of the legislative and budgetary actions must be how much money is required. I modified the draft of this post to submit as a comment. The main point I made is that it is very important that the Legislature understand that the numbers presented in the Scoping Plan are inappropriate for any future legislative actions because the numbers presented are relative to a Reference Case and not the total cost to meet net-zero by 2050. Beyond that I offered no substantive recommendation for revenues needed because of the inadequate documentation in the Scoping Plan.

Solar Development Prime Farmland Scorecard January 21, 2023
I have written enough articles on solar siting issues that I have setup a page that summarizes them all. This post announced that the page will include a scorecard that lists the amount of prime farmland lost to farming communities across the state.

The solar development scorecard lists seven applications that have been approved for a total of 1,339 MW. The total project areas cover 17,430 acres and the project footprints total 7,912 acres. Despite the best efforts of NY Department of Agriculture and Markets staff to require solar project permits meet a goal to limit the conversion of agricultural areas within the Project Areas to no more than 10% of soils classified as Prime Farmland soils, these approved projects covered 4,216 acres or 24% of the combined prime farmland in project areas with solar infrastructure.

Frankly, I was beginning to think that no projects would meet this criterion but the latest round of permit approvals did include a project that will be built on marginal farmland and affects very little prime farmland. Obviously, utility-scale solar developments can be done on marginal farmland but it appears that it is easier for out-of-state developers to build on prime farmland. Until such time that the Hochul Administration simply requires utility-scale solar projects to meet the existing responsible solar siting guidelines in the policy option roadmap for distributed solar development, there will be significant and irreplaceable loss of Prime Farmland and damage to farming communities across the state.

Green Car Journal Perspective: What Happened to Bridge Technology? January 11, 2023
Late last year the editor of the Green Car Journal contacted me about doing a perspective article about the transition to zero-emissions vehicles on GreenCarJournal.com. This post documents my perspective article.

In the transportation sector, there are two choices: technology that gets significant emission reductions with the associated benefits, at a lower cost, has fewer implementation downsides, and has proven results or technology that has limitations in every respect but has “zero-emissions” if it can be deployed someday. From a pragmatic standpoint the rational approach is use what makes an immediate improvement, continue research and development for “zero-emissions” technology, and deploy that only when we know it will work as advertised. Unfortunately, that option has been pulled off the table.

A friend describes the situation well: these morons are apparently fully at ease with the equivalent of jumping out of a perfectly good airplane without an upgraded parachute assuming that an even better parachute will be developed, proven technically and economically feasible and delivered to the imbecile that jumped out of the airplane in time to provide a soft landing.

Syracuse Post Standard All-Electric Homes Opinions January 20, 2023

I recently described an article in the Syracuse Post Standard entitled New York state's move to all-electric homes: How expensive is it? Will it work? by Tim Knauss. This post addresses another letter to the editor that claims that the point that I made that electrification as a substitution for gas heat would intensify dangers was wrong.

The critical letter argued that because so much time was spent by so many people, that means the Scoping Plan outline to electrify homes had to be correct and must have addressed my concerns. Inherent in that presumption is the idea that the Scoping Plan must include feasibility analyses that show that the transition can be done while maintaining current standards of reliability, preventing significant risks to affordability, and causing significant adverse environmental impacts. That is not the case but trying to convince people otherwise is a challenge.

I despair that so many people have such entrenched opinions about the problem of climate change and the alleged simple and inexpensive solution that they have closed their minds to reality. Anyone who claims to have an open mind should consider the following. Steven Koonin's book What Climate Science Tells Us, What It Doesn't, and Why It Matters does an excellent job critiquing the science behind the concerns about climate change but it is pretty technical so this video is a good overview. Frankly I am more concerned that New York is going down a path that requires dependency upon renewable energy because I am convinced that current renewable technology won't work.