Pragmatic Environmentalist of New York Summary Update August 15 through August 21, 2022

This update of my posts at Pragmatic Environmentalist of New York is a week early and may be the last one for a while because we are going on vacation. Tomorrow, we head out with our RV until October for a family vacation in Myrtle Beach followed by a Fantasy RV Tour in Kentucky and Tennessee. I have no idea if I will have time to develop any articles over that time. As always, if you do not want to be on this mailing list then let me know. Previous updates are also available.

Climate Act Avoided Cost of Gas Working Group August 20, 2022
There is an immense amount of work that needs to be done to implement the Climate Act net-zero transition. It is very difficult to grasp all the different ways that this transition is going to affect all New Yorkers. Despite the lack of a reliability and affordability feasibility analysis an army of government bureaucrats are developing transition plans to change our energy choices assuming that everything will work out. There are some important findings in the post but it is long and unfortunately dense. It explains the implications of the implementation work on just one of the components of the transition.

The New York Department of Public Service (DPS) and gas utilities in the state are grappling with a tradeoff between providing safe and reliable natural gas to existing and new customers at the same time the Climate Act net-zero transition calls for the natural gas system to be shut down or transitioned to use something other than natural gas. I describe the process and a newly formed work group to describe the difficulties. A presentation at a recent meeting of the Avoided Cost of Gas Working Group offers some insight into the practical considerations that Albany bureaucrats are starting to deal with that are completely unknown to most natural gas consumers despite their stake in this topic.

In order to do the transition, the DPS, New York State Energy Research & Development Authority (NYSERDA) and consultants have developed a framework for benefit cost analysis. At a recent meeting Energy + Environmental Economics (E3) described the natural gas transition work done to date in the Integration Analysis and Draft Scoping Plan. They gave an overview of the Avoided Cost of Gas (ACG) framework developed by E3 for NYSERDA and DPS in 2020, provided insights into other "Future of Gas" projects E3 has contributed to since 2020 in other jurisdictions, and presented key similarities and differences.

There were some important findings. The issues raised illustrate that the lack of a feasibility analysis in the Scoping Plan is going to be a future issue. The DPS documents acknowledge that the public should be informed about these processes but does not provide any suggestions how to provide that information. The DPS is trying to force fit the gas transition into the same approach used for the electric system transition. E3 argued that there is another valid approach and suggested that combination of the two would probably be needed to adequately plan for the transition.

With regards to the natural gas transition, the Draft Scoping Plan insinuated that the transition would occur as the appliances aged out. However, it appears that this DPS proceeding is considering options to transition certain segments of the network before the appliances need to be replaced and is grappling

with how to deal with the practical issues associated with that approach. A recent presentation described issues that were not included in the Draft Scoping Plan.

I am troubled by the overt manipulation of the analytical techniques to make them consistent with the Climate Act narrative. The framework analysis depends on a model that is large, includes many value judgements, and has so many variables that it can provide any answer that the Climate Action Council wants. For example, I believe that the modeling approach ignores the benefits of natural gas options and does not include the costs to replace it with other less reliable and affordable options. That makes the projected transition conversion appear to be more beneficial than it actually will be.

There is one particularly egregious example of the bias evident in the application of the benefit cost analysis methodology. The presentation gives an example where the non-pipelines alternative calculation did not project that the benefits would out-weigh the costs. Nonetheless the utility went ahead and chose that option anyway for the following reasons. They claim that natural gas alternatives will increase local reliability but that does not consider the fact that the natural gas system is much more reliable than the electric system. Another reason is that it is consistent with Climate Act goals but shouldn't the results of the analytical process stand on their own. The third rationale is that it "Supports Joint Proposal goal of no net increase in gas utilization". I believe the Joint Proposal goal is a specific component in the utility's rate case settlement. If true, it is incontrovertible proof that New York utilities are forced to meet specific Administration goals to get rate case approval. The final rationale is that it "supports local environmental advocacy". This is blatant acknowledgement that political appeasement of a preferred political constituency is a consideration in development considerations. There is no sign that the methodology that is supposed to be guide decisions is unbiased. As a result what is the point they might as well just go do whatever they want to do consistent with the Climate Act because that is all that matters..

Ithaca Public Housing Climate Act Investment August 15, 2022

New York's Climate Leadership and Community Protection Act (Climate Act) includes a requirement to address environmental justice goals. According to the Climate Justice Working Group (CJWG) webpage:

> The Climate Act requires the state to invest or direct resources in a manner designed to ensure that disadvantaged communities to receive at least 35 percent, with the goal of 40 percent, of overall benefits of spending on: clean energy and energy efficiency programs and projects or investments in the areas of housing, workforce development, pollution reduction, low-income energy assistance, energy, transportation, and economic development

While the target is clear, the definition of what investments or resources qualify and exactly where they qualify to meet this requirement is anything but clear. One of the obvious places the money would qualify is to upgrade low and middle-income public housing. I looked at the numbers associated with a $75 million project to upgrade and preserve two outdated Ithaca Housing Authority properties with a total of 36 apartments and to replace another obsolete Authority property with 82 new affordable apartments.

The numbers illustrate my concern that advocates for these policies are innumerate. The $75 million project will renovate or rebuild a total of 118 housing units. That works out to $635,593 per unit. The median cost of homes in Ithaca is $357,450. I did a simple projection of the cost per ton of CO2 reduced and came up with $63,500 per ton. Adding to the problem is the fact that only one of the developments is in a draft Disadvantaged Community so it is possible that only a fraction of this money will count towards the Climate Act goal. The bottom line is that if these numbers are any indication, New York will run out of money to reduce emissions long before the net-zero targets are met.

Follow Up to RFF Inflation Reduction Act Retail Electric Rate Cost Analysis August 19, 2022
This is a follow up to my article published at Watts Up With That Resources for the Future: Retail Electricity Rates Under the Inflation Reduction Act of 2022 and re-published here. The article addressed the Resources for the Future (RFF) Issues Brief titled Retail Electricity Rates Under the Inflation Reduction Act of 2022 claim that the legislation, will "save typical American households up to $220 per year over the next decade and substantially reduce electricity price volatility."

Dr. Michael Giberson, associate professor of practice in the Area of Energy, Economics, and Law with the Rawls College of Business at Texas Tech University pointed out a couple of flaws to my arguments:

> When I follow your directions for your chart using the EIA data you describe, I get a very different picture. Avg residential power prices in Texas peak in mid-2008, then fall for several years before coming up more recently. Your chart is showing something other than what you describe.
>
> Further, inflation adjusted power prices have been falling over the 2001-2022 period. Using CPI data with January 2022 = 100, average real price in early 2001 was about 12.5 cents then jumped up to 18.5 cents in mid-2008 before falling back to about 12.5 cents in 2022.

I confirmed that I had made a mistake with the Texas data and presented the corrections in this post. My only defense is that the original source of data is a confusing file. Done correctly, the Texas data do not illustrate any relationship between the percentage of monthly renewable energy generated per month and the monthly residential electric price. On the other hand, it does show is that the observed variability of the monthly prices is large in Texas and getting larger.

I looked at a couple of other data sets to see if a different jurisdiction would show higher prices with increased renewables. Residential costs go up as renewable penetration goes up in California but I did not adjust for inflation to test that result. Data for the United States does not show the relationship unless you limit the data and squint real hard.

Despite the problems with my analysis of costs and renewable penetrataion, I remain convinced that the RFF projection is unlikely. In the comments on my original post, Rud Istvan explained why wind renewables cannot reduce electricity prices. He showed that EIA LCOE estimates do not accurately project future costs for renewable energy development because they don't include the costs to make the energy generated available when and where it is needed. Francis Menton recently made a

persuasive argument that all projections for future electric systems overbuild the wind and solar resources resulting in higher costs. Worse, you still need a backup dispatchable resource and someone also has to provide ancillary services to maintain the grid's ability to move power around. I believe that the modeling done by RFF and others does not adequately take those factors into account and if it did it would not show reduced costs.

There is another part of the story though. RFF claimed that increased renewables would "substantially reduce electricity price volatility". All the data sets show that as renewable penetration increased the monthly prices became more volatile. I think that reflects the fact that renewable generation naturally varies seasonally. While there is no apparent impact in retail costs due to this observed volatility in these data, I suspect that will change in the future. Clearly there is enormous variability in renewable resource output and I cannot imagine any scenario where correcting for that would not cost a lot.

Time Magazine Climate Anarchy 8/18/22

This article first appeared at Watts Up With That. I could not help but critique the Time Magazine opinion piece, "What Comes After the Coming Climate Anarchy? It is over the top for climate fear With just a little bit of research it turns out that the author likely has no background in science but has written books and offers consulting services to help guide investments for the upcoming climate crisis he describes.

I made three points in my critique. The predictions of climate disaster he cites as the basis for his concerns are all based on an unrealistic projection of future emissions that is highly unlikely. He trots out a list of potential climate problems that can be easily debunked by a little literature review even if the popular press repeats them endlessly. Finally, his argument that climate is a major driver for sustainable development is contradicted by his dependence on the Sustainable Development Index, a "ranking of countries that meet their people's needs with low per capita resource consumption". He states that the best performers are "Costa Rica, Albania, Georgia, and other less populated countries around middle-income status". The fact that Costa Rica is in a tropical region and thus much warmer than mid-latitude Albania and Georgia suggests that warm climates are not a driving factor for sustainable development.