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TANSTAAFL (There Ain't No Such Thing As A Free Lunch)

New York State Reforming the Energy Vision (NYS Rev) is the strategy to help consumers make more informed choices, develop new energy products and services, and protect the environment while boosting economic growth. The goals are to cut greenhouse gas emissions 80% by 2050 (40% by 2030), move to 50% renewable sources by 2030, and decrease energy consumption by 23% from 2012 levels. New York is one of the states leading the way in energy and environmental management. There is a wide variety of NYS initiatives in place to help achieve these goals.

I applaud these initiatives however it is not going to just happen without some effort and patience on everyone's part. Part of the challenge is a common phenomenon when transitioning from one system to another. There is a need to maintain the old system at some level while the new system is being implemented. Ironically the less we depend on the 'old grid' the more it is likely to cost. If you have had the good fortune to project manage a transition, then this will make sense to you.

The day will come when renewables will be able to support the demand. Currently renewables only provide about one-tenth of U.S. energy consumption. Increasing this penetration by investing in renewable infrastructure alone doesn't solve a major problem with wind and solar. For now, the ability of renewables to provide consistent, reliable power is not there...not yet. That means we will need to rely on an aging infrastructure to provide some level of power to supplement renewables – typically hydro, fossil fuels, and nuclear.

Effective storage, once perfected (efficient, practical, and cost effective), is certainly a consideration. We're not there...not yet. Investment in research and development, and ultimately infrastructure of some sort, will be required.

A combination of other renewables that can respond to the intermittent need is also a possibility (Geotherm, Bio-fuels, Hydro). I imagine that combination will vary greatly, depending on location of the demand. Surely what makes sense for Upstate New York will not be the same as downstate, or say, Phoenix, AZ. Again, there will be a requirement to invest in infrastructure.

Couple this with the ever-increasing demand due to economic growth. More manufacturing state side is incredible and long time in coming, but it can't help but strain an aging power grid.

Suffice it to say, regardless of how cheap the energy commodity is (which negatively impacts investment ROI in renewables) or which power combination we pursue, there is an inevitable need to invest in our current grid system. Be prepared to participate. Determining the balance between existing and new infrastructure, versus research and development will be the challenge.

For more details on REV you can visit:

<https://static1.squarespace.com/static/576aad8437c5810820465107/t/59552d90ccf210e0561cd940/1498754452289/REV-fm-fs-1-v7.pdf>

For deeper discussion on renewables, go to:

<https://www.nytimes.com/2017/06/20/business/energy-environment/renewable-energy-national-academy-matt-jacobson.html?ref=energy-environment>