

Rise of Renewable (Oral Presentation by Greg Gorman)

The adaptation of solar, wind, and Electric Vehicle technologies are rapidly disrupting energy markets. Competitive energy auction in Indiana resulted in replacing coal plants with renewable and energy storage over new natural gas plants. Rhode Island issued a final order denying a new gas-fired power plant. They cited the lengthy delays in the proceeding have allowed market changes and the growth of renewable energy to overtake any need for the project.

There are other factors that propel clean energy expansion.

1. **Grid managers are getting smarter:** PJM, in response to the Polar Vortex of 2014 when 22% of its generation was unexpectedly unavailable, has expanded its altered bidding rules to allow energy storage and Distributed Energy Resources to compete. The grid scale energy storage will benefit wind energy deployment. Behind the meter energy storage coupled with solar provides opportunities for Commercial & Industrial customers. . “Time of use” charges, demand response participation, and “value stacking” allow formation of business models to treat energy as a revenue instead of a cost.

2. **Climate crisis drives favorable renewable policy:** NJ Energy Master Plan places a priority on Energy Efficiency and electrification of the transportation system. New Mexico and Minnesota follows NJ example and have adopted California’s vehicle emission rules. Piscataway passed a referendum to establish “Community Aggregation” program that will provide 100% renewable power by 2035. Sussex Solar Gardens, New Jersey’s first community solar project became operational to provide solar energy to 35 families. Communities are banning single use plastic bags (Chemicals for plastic is a major source of income from oil.). NJ Transit is looking at electrifying its rail with solar and energy storage.

3. Emerging Supply Chain Models Favor Renewables : Mahwah based Dressbarn is expected to close all stores by end of the year, yet, the future of the business remains bright as on-line sales continue to expand. Closing of stores cuts demand for heating oil and natural gas. On-line sales trend takes “shopper” vehicles off the road and provides opportunity to consolidate delivery services. Amazon, FedEx, UPS, and other delivery operations are making major commitments for electric vehicles to support both ware housing and delivery. Drones are being used to deliver small packages.

4. These trends are worldwide: The European Investment will stop funding fossil fuel projects at the end of 2021, a landmark decision that potentially deals a blow to billions of dollars of gas projects in the pipeline .In its World Oil Outlook two-thirds of the world population is living in countries where either solar or wind is now the cheapest choice for electricity generation in terms of all-in costs.

The time for the State Investment Council to establish a “Fossil Free Energy” Portfolio is now.