Why Customers Need Cost Resilience and Reliability in a Time of Change

NECPUC SYMPOSIUM 2021

OCTOBER 28, 2021

PowerOptions

Representing C&I Energy Customers Since 1996

- A nonprofit serving other nonprofits
  - PowerOptions began as a part of MA Health and Finance Authority (HEFA) and now a standalone 501(c)4 to represent RI and CT members
- More than 480 Members
  - The largest energy buying consortium in New England
  - All Massachusetts, Connecticut and Rhode Island nonprofits and public entities are eligible
  - Members include: Municipalities, K-12 Schools and Universities, Housing Authorities, Universities, Hospitals, Cultural Institutions, Social Service Agencies, Churches, and Senior Housing/Elder Care
- Understand Members' energy needs through procurement, education and advocacy:
  - 1 billion kwh of electricity / 200 MW demand managed
  - 9 million dekatherms of gas managed
  - 75 MWs of solar projects built or under contract
  - >100 EV charging stations in development

My Experience w/Customers

- President and CEO of PowerOptions since Jan. 2020
- 15+ years (of 22yr career) developing / offering holistic solutions to help organizations reduce costs while increasing use of sustainable clean energy
- Previous leadership roles and experience:
  - pathZero Energy - start-up to integrate supply and demand-side solutions for C&I customers
  - 2ndPath Energy – Principal of consulting firm offering strategy and project development services in clean energy
  - Patriot Energy – developed clean energy solutions at large broker, including proprietary demand response solution
  - Ameresco – led M&A and Corporate Development, developed new markets including: energy storage/microgrid and utility demand side management programs, and managed all ISO-NE assets and REC market participation

Source: XXX

The Customer Need

- Customers recognize the humanitarian, environmental, and enormous cost threats from climate change. They want to move to a cleaner grid.
- They also want the reliable power they have come to rely upon.
- Moving to that cleaner grid can provide reasonable, more stable prices.
- Moving to that cleaner grid must involve reasonable, more stable prices.

Customers have recognized the need and desire to move to a cleaner grid, but expect stability and affordability along the way

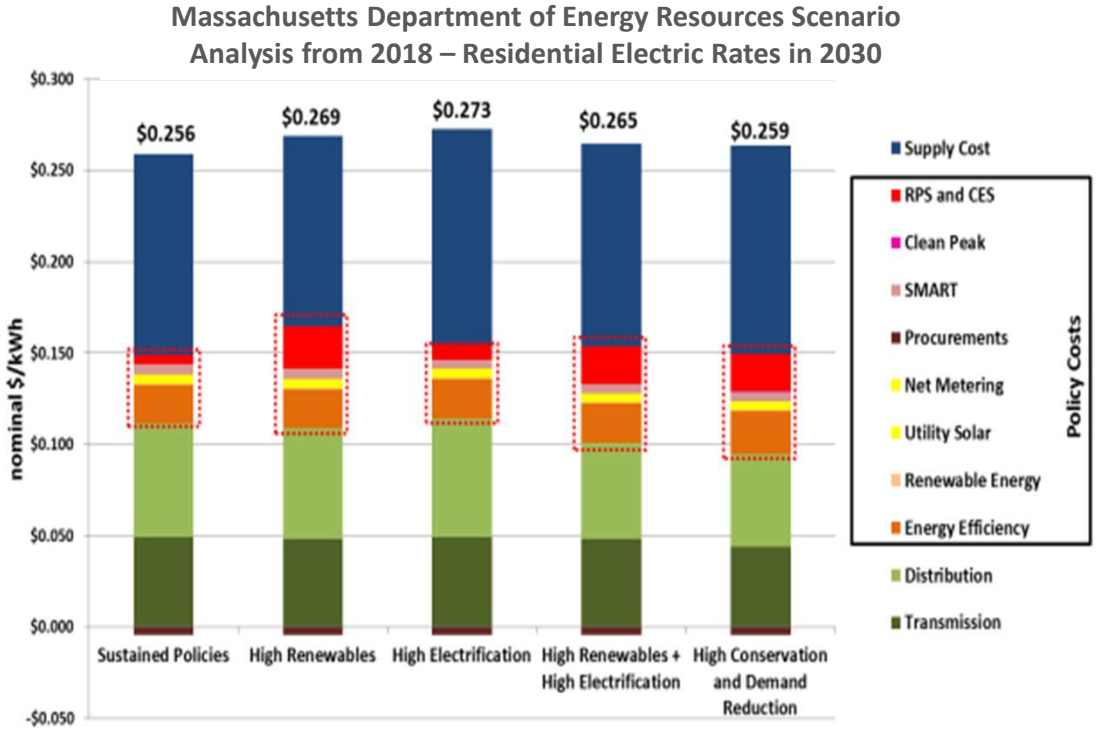
The Customer Ask

- Customers recognize that this transition will involve upfront investment of capital in new sources, and new infrastructure
- These are very safe, multi-decade investments charged to captive ratepayers
- Build-out should be paced, and based on need
- Rate of return should be commensurate with low risk. But is has not been

Coordinating on the transition to renewable energy supply and transmission investment are key to ensuring we don't overburden customers with excess investments

Energy Costs Driven More and More by Non-Supply

- Customer bills are more and more by costs outside of competitive supply
- The other side of the bill has been increasing, driven by state clean energy policies and transmission costs



Source: Massachusetts Dept of Energy Resources Comprehensive Energy Plan Dec 2018

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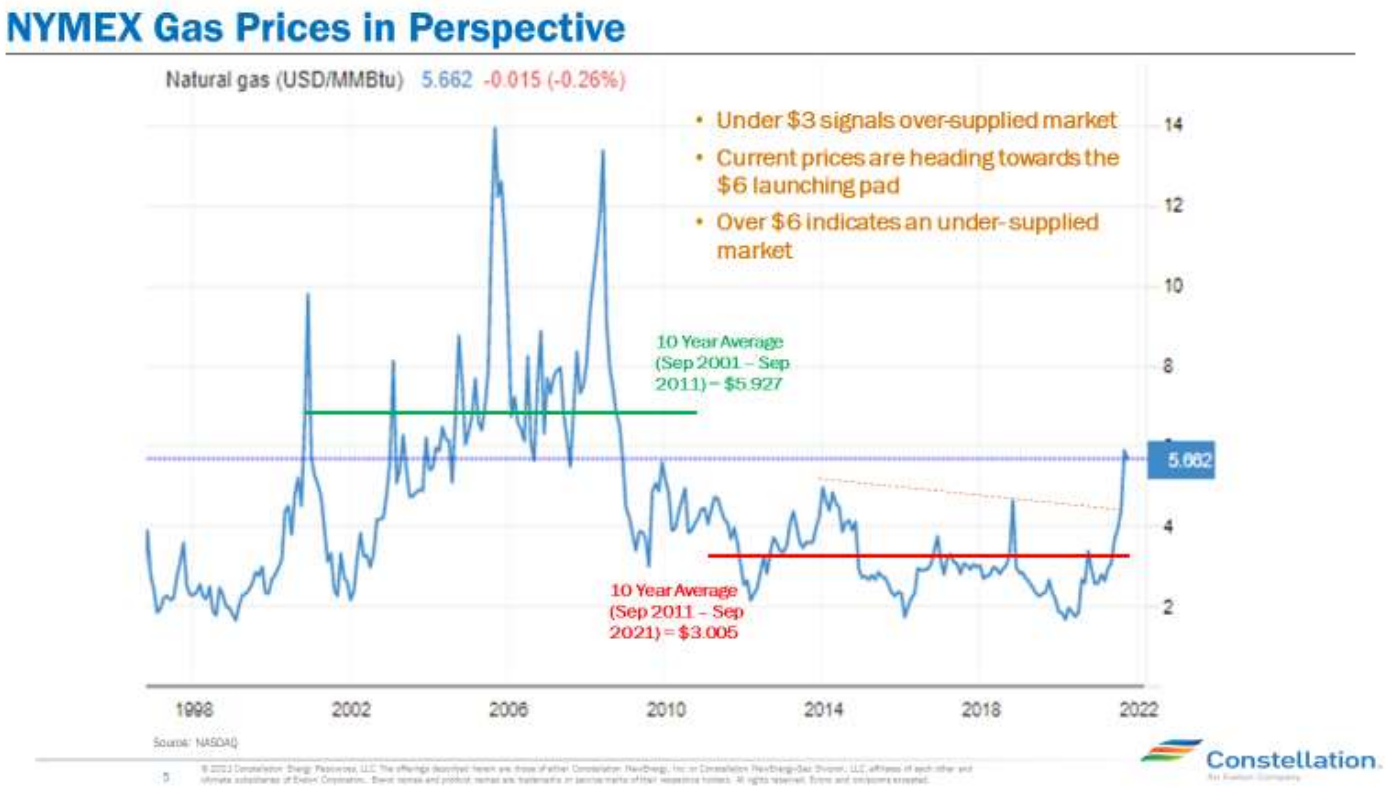
Volatility of Natural Gas Looms



- Customers will likely continue to face higher prices and higher volatility again with dependence on natural gas and global market pressures as we transition to clean economy
- Renewable energy can act as a hedge against risk of higher fuel prices if done in smart, coordinated manner

Source: Constellation New Energy

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Renewable Energy Can Help Stabilize

- From IEA World Outlook 2021:
  - "In the ***Net Zero Emissions (NZE) by 2050 scenario***, the additional cost to households in advanced economies ***is nearly 40% less than in the Stated Policies*** (STEPS) scenario, and in emerging economies it is 20% less. The impact of higher commodity price is dampened by more rapid efficiency gains, by reduced direct use of oil and gas, and by electricity having a higher share in total household energy expenditure (electricity is less affected … because of the rising role of renewables)."
- "Tim Gould at the ***IEA*** says the ***current energy price spikes*** the world is facing, which are driven primarily by soaring gas prices, ***aren't caused by a transition to cleaner energy***. In fact, the group's analysis suggests that ***renewables, energy efficiency and electric cars*** may hold the answer to protecting against a repeat of today's crisis.
- The IEA modelled ***a price shock in 2030, where coal, gas and oil prices reached the highest levels*** they hit in each region between 2010 and 2020. The group found it would be ***30% less costly*** for households in a scenario where the world is ***on a trajectory to net zero by 2050*** than a scenario similar to the path we are currently on"

Renewable energy should be driving down supply costs.
We need to make it easy for customers to contribute with DERs.

Source: World Energy Outlook 2021. International Energy Agency. p.66 https://iea.blob.core.windows.net/assets/88dec0c7-3a11-4d3b-99dc-8323ebfb388b/WorldEnergyOutlook2021.pdf
"Energy watchdog says net zero can protect against future price shocks." New Scientist. 13 October 2021.

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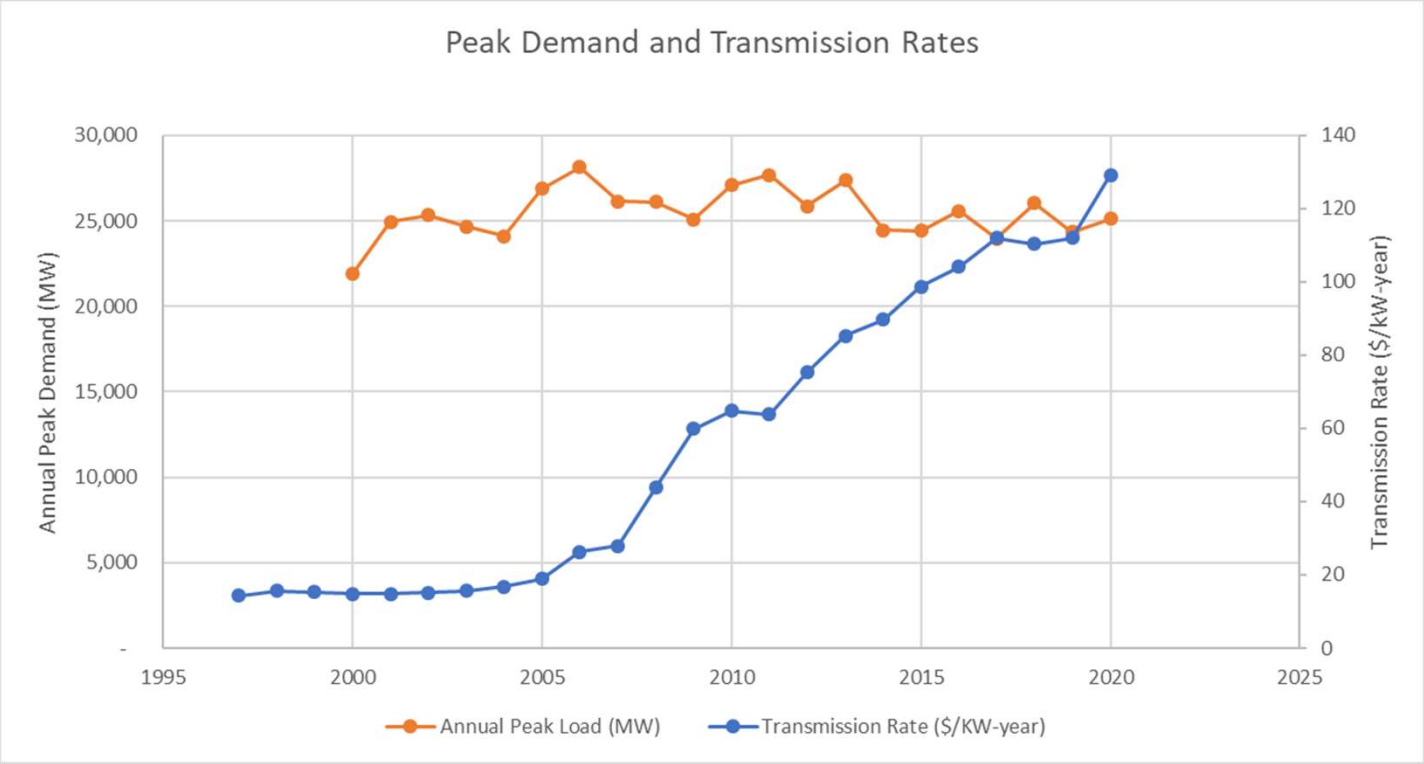
Cost of Transmission Has Already Significantly Increased

- System peak demand has dropped 11% from 2006 (all-time peak)
- Transmission costs have risen 869% since 2000



Source: Data compiled by Synapse Energy Economics from data provided by ISO New England. 2021

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Coordinate & Manage Investments

- Risk of investment in transmission infrastructure is very low and does not warrant the historically high level of return:
  - Rate of 30-year U.S. Treasury Bond Jan 2020: 2.58%
  - Average authorized ROE for electric utility rate cases in the U.S. in 2019: 9.65%
- Fuel supply security must be compared to risks/costs of distribution system capacity increases and resiliency
  - ➢ How do we assess comparable tail risks?
- Whilst we contemplate investments on energy infrastructure for resiliency, customers are also having to withstand additional costs of mitigation in parallel
  - ➢ How will we manage energy inequity and burden?

As we assess needs for a resilient grid, we must manage costs to ratepayers by prioritizing investments in a coordinated approach across the generation, transmission and distribution system

Source: *"10 Things Consumer Advocates Should Know About Rate of Return. Ellis, Mark. Presented to NASUCA. 15 Sept 2021.; Regulatory Research Associates, a group within S&P Global Market Intelligence. Data compiled Jan. 28, 2020.*

Thank you.

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