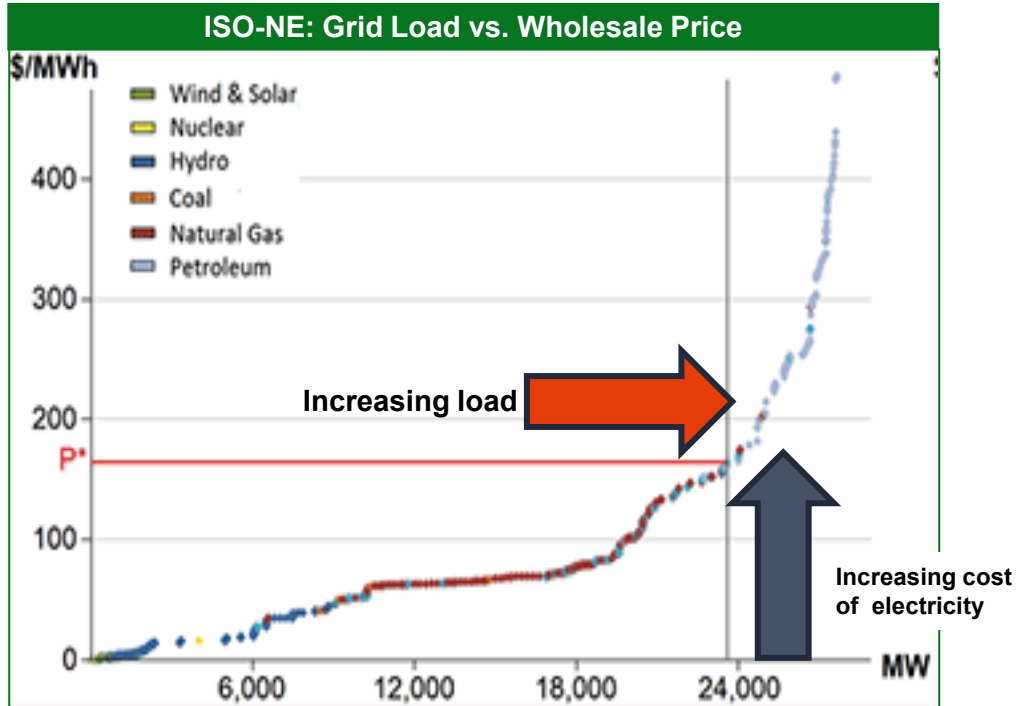


Increasing Cost of Electricity

As the grid load increases and we see the seasonal peak loads increase, the price of electricity increases exponentially



Analysis

- ✓ All generators earn same market clearing price determined by highest successful bidder
- ✓ A 48,000 Btu/hr cold-climate heat pump will add roughly 6 kW to the grid load
- ✓ 750,000 more heat pumps in New England would add 4,500 MW to the peak grid load
- ✓ Wholesale power supply cost would rise from \$100 per MWh to \$200 per MWh approximately (or 20 cents per kWh). Cost savings to heat pump customer would disappear completely if not go negative. Resulting retail electricity cost including delivery charge would go above 30 cents per kWh for all residential, commercial and industrial customers.
- ✓ Slope of price curve becomes steeper at higher grid load due to poor efficiency of generator at margin plus short duration of extreme peaks thus greater impact of fuel consumption during start-up.

Source: ISO-NE, Ray Albrecht, National Biodiesel Board