Acadia Center

The Hidden Costs of Energy: Overpaying for an Outdated System

Concern that electricity prices in New England are too high is constant. Yet, a key cause of increasing prices is usually ignored: the high cost of moving—or transmitting—electricity from power plants to consumers. Transmission charges have skyrocketed and continue to climb. Since 2002 consumers have footed the bill for $12 billion in transmission projects in New England, where transmission spending is higher relative to the rest of the country and steadily growing.[1] Transmission costs are passed directly on to ratepayers, causing significant increases in electric prices and higher consumer bills. Outdated policies are driving these expenditures and are inconsistent with advances in local energy technologies like rooftop solar and energy efficiency that do not rely on long distance transmission.

Ensuring that the lights stay on is critical, but this goal should not translate into a blank check for utilities. The way electricity transmission is planned and financed does not work in the best interest of consumers, but does motivate utilities to maximize spending on transmission. The system is broken: New England consumers are paying rich rewards to transmission companies for billions of dollars of infrastructure while lower cost solutions are not being utilized.

As discussed in this memo, building a reliable, modern energy system that fairly evaluates all viable options to meet our energy needs and advances clean energy and new energy technologies requires corrections to four basic problems.

The Burden of High Transmission Costs on Consumers

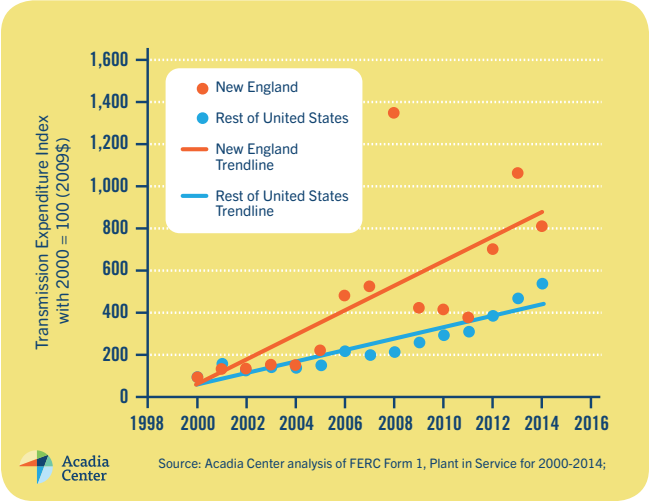


CHART 1 Transmission expenditures in New England have risen faster than the rest of the United States

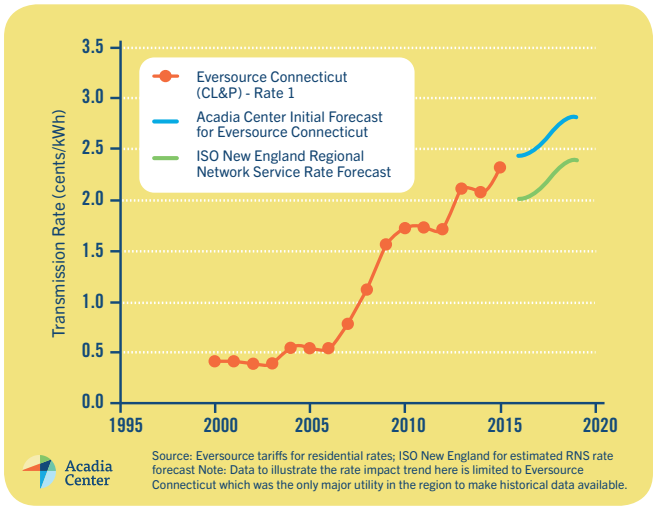


CHART 2 Transmission rates are increasing dramatically

Four Problems in Need of Reform

PROBLEM 1: Transmission owners receive disproportionately large returns

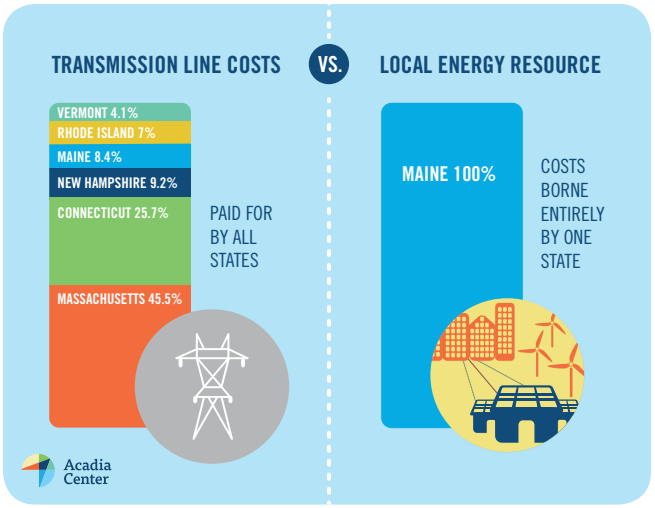
Under federal rules, utilities earn lucrative rewards for constructing transmission—far richer than investing in local energy solutions. In New England, utilities receive as much as 11.74% on transmission investments[2] —far higher than on other investments, such as running the local distribution utility (7–8%), or achieving energy efficiency goals (4–5% performance reward). This hard-to-beat investment drives utility management to seek higher income from transmission projects.

PROBLEM 2: Outdated rules give states an economic incentive to approve expensive transmission projects over lower cost alternatives

The costs for transmission projects in New England are shared by all six states but when a set of local energy resources—such as energy efficiency or distributed generation—address the same grid reliability need, the host state *alone* pays the full amount. Therefore, each state has an incentive to choose the more expensive transmission proposal instead of lower cost options that save money for the whole region.

PROBLEM 3: Controls to prevent transmission project cost overruns are lacking

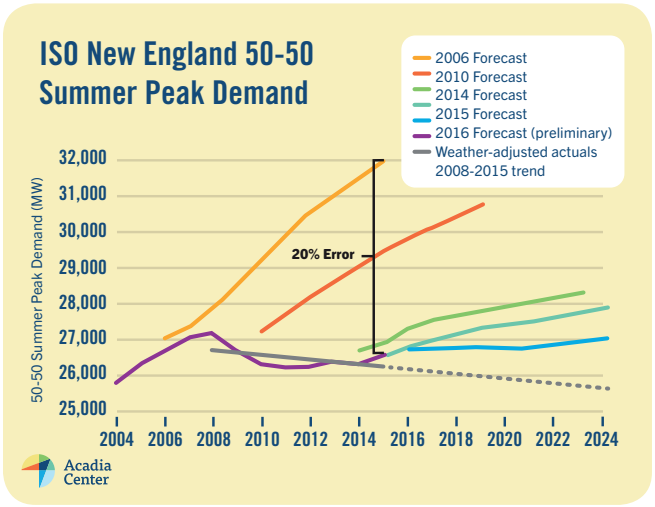
Bids for New England transmission projects are based on estimated costs, but utilities are paid even when they incur cost overruns. Lack of cost control is a problem that was highlighted in 2014 and 2015 when ISO-New England (ISO-NE) weighed two competing bids to build a new high-voltage transmission project to serve Boston and southern New Hampshire. Eversource and National Grid bid their joint plan at an estimated cost of $510 million, while NextEra proposed a guaranteed $770 million plan with no charges to ratepayers for cost overruns. NextEra alleged that Eversource and National Grid historically underbid to win transmission contracts, referring to 11 projects from 2004-2012 that averaged 79% more than originally bid[3]. ISO-NE selected the Eversource/National Grid proposal[4], and is debating how to evaluate fixed price versus cost/plus bids. Without strong incentives to maintain costs, transmission projects are likely to continue to substantially exceed their bid prices, further driving up electric costs.



PROBLEM 4: Imprecise energy forecasts can produce unnecessary transmission projects

ISO-NE conducts a 10 year forecast of electricity demand to plan for investments and monitor system needs. That forecast is a critical tool yet is often inaccurate. In 2012 ISO-NE included energy efficiency for the first time and the growth in forecasted peak demand slowed to the extent that ISO-NE deferred 10 projects prior forecasts had deemed necessary, saving ratepayers $416 million.

Yet ISO-NE's forecasting methodology continues to consistently over-predict energy demand. One inaccuracy: ISO-NE heavily discounts the benefits of energy efficiency and distributed generation. Synapse Energy Economics examined the impact of these inaccuracies and concluded that New England consumers seriously risk footing the bill for transmission infrastructure they will not need.[5] The forecast has gradually improved in the last few years, but is still predicting peak demand and energy growth on trajectories substantially higher than recent trends.



Recommendations

Claims that more and more transmission lines are needed to keep the lights on are keeping consumers and cleaner alternatives in the dark. Current planning processes and financial incentives will continue to produce a high-priced transmission solution for every forecasted problem, even ones that never materialize. The process needs to modernize. Market reforms and regulatory reforms are needed to stop propping up old approaches and clear the way for lower-cost, consumer-friendly alternatives. Acadia Center recommends the following reforms:

- ISO-NE must give equal consideration to local energy solutions when planning for grid reliability, and allow them to be eligible for cost recovery under ISO-NE tariffs. States should work together on cost-sharing for local energy solutions that benefit the region.
- States should adopt regulatory and market reforms to provide opportunities and financial incentives for local energy resources to optimize grid expenditures.
- ISO-NE should require that transmission bids be in guaranteed costs. Improving the accuracy of transmission cost estimates will allow ISO-NE and the states to meaningfully compare and choose projects that are in consumers' best interests. Incentives paid on cost overruns should be removed.
- ISO-NE should improve its energy forecasts so consumers do not pay for projects that are not needed.

1 Independent System Operator-New England, 2015 Regional System Plan. November 5, 2015. p.21.
Available from: http://www.iso-ne.com/system-planning/system-plans-studies/rsp
2 https://www.ferc.gov/media/news-releases/2014/2014-4/10-16-14-E-2.asp#.VrFh9fkrLIU
3 New Hampshire Transmission. Greater Boston Cost Comparison. January 2015.
Available from: http://www.iso-ne.com/static-assets/documents/2015/02/a2_nht_greater_boston_cost_analysis_public.pdf
4 https://www.nationalgridus.com/aboutus/a3-1_news2.asp?document=9233
5 Synapse Energy Economics. Challenges for Electric System Planning: Reasonable Alternatives to ISO-NE's Discounts for Uncertainty. Prepared for E4 Group. July 24, 2015.
Available from: http://www.synapse-energy.com/sites/default/files/Challenges-for-Electric-System-Planning_0.pdf

Acadia Center is a non-profit, research and advocacy organization committed to advancing the clean energy future. Acadia Center is at the forefront of efforts to build clean, low-carbon and consumer-friendly economies. Acadia Center's approach is characterized by reliable information, comprehensive advocacy and problem-solving through innovation and collaboration. "The Hidden Costs of Energy: Overpaying for an Outdated System" was produced by Acadia Center staff. Thanks to Public Displays of Affection for visualizations and design.

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