

# Public Transmission Financing in New England

May 2026



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# Executive Summary

New public financing tools for electricity transmission can unlock billions of savings for New England ratepayers.

- New England requires significant investment in transmission to achieve decarbonization goals and replace aging infrastructure.
- Public financing could reduce the cost of new transmission by up to 43% - more than the 30% Investment Tax Credit – saving ratepayers up to \$8.4 billion dollars on projects needed to achieve decarbonization goals.
- Public financing could reduce the cost of Asset Condition Projects (ACPs) by up to 34%, saving ratepayers over \$1.1 billion on Planned and Proposed projects, and generate further savings on future projects.
- Building on successful collaboration to-date, public financing could be incorporated into the Longer-Term Transmission Planning process and Voluntary Agreement mechanism by one or more New England states without requiring participation by all states or reforms to the ISO-NE tariff, subject to implementation details.
- Utilizing public financing on projects competitively solicited from private developers will depend on establishing financing terms that are both beneficial to ratepayers and acceptable to private entities bidding in transmission solicitations.
- Public financing of transmission will expose public financing entities to project development risks including cost overruns and delays, though revenue certainty for transmission projects is high in comparison to other infrastructure supported with public financing (e.g., public transit, toll roads, etc.). Risks can be mitigated by preserving participation of private entities experienced in development and financing.
- Development of public financing mechanisms requires balancing objectives including ratepayer savings, risk minimization, community benefit funding, and market acceptance.

# Transmission Need and Cost

New England is projected to require major expenditures on transmission to achieve decarbonization goals and replace aging equipment.

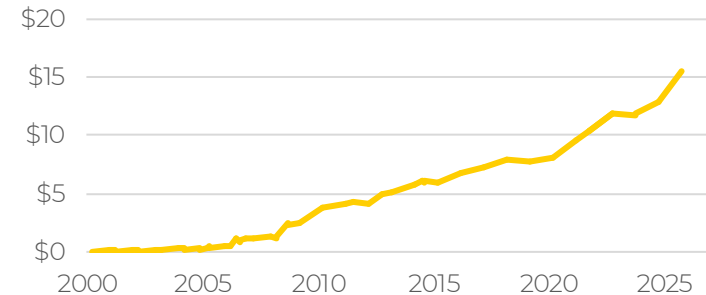
- The ISO-NE [2050 Transmission Study](#) identifies \$16-\$26 billion of investment needed over the next 25 years to achieve state climate targets.
- Utilities in the region have \$5.5 billion in Asset Condition Projects (ACPs) [under construction or planned](#) to address aging transmission infrastructure over the next 8 years alone.
- These projected costs build on [\\$5.5 billion in completed ACPs](#) and \$13 billion spent on reliability-related transmission since 2002.

At \$25/MWh in 2024, transmission rates in New England account for 30% of wholesale energy costs ([ISO-NE 2024 Annual Markets Report](#)).

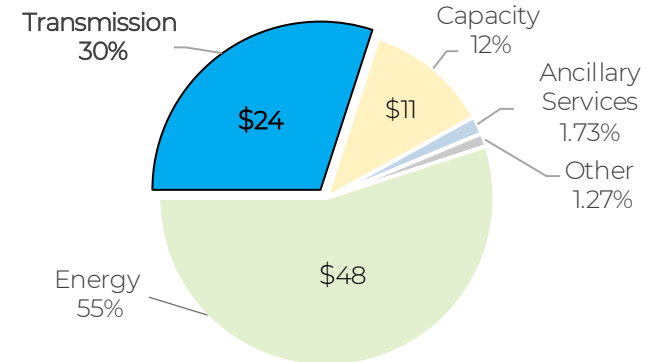
Transmission rates in ISO-NE are more than double transmission rates in NYISO, PJM, MISO and ERCOT according to the [ISO-NE External Market Monitor](#).

Mounting costs, concerns about affordability and the need for additional investment have fostered interest in evaluating alternative models to leverage public participation in transmission financing.

**ISO-NE Transmission Rates 2000-2024<sup>1</sup>**  
(\$/kW-month)



**Transmission Share of 2024 Wholesale Energy Cost<sup>2</sup> (\$/MWh)**



# Transmission Cost Components

Under the current model, the vast majority of transmission projects are designed, financed, built, owned and operated by the region's investor-owned utilities.\*

Utilities are compensated for transmission expenditures through cost-of-service transmission rates regulated by the Federal Energy Regulatory Commission (FERC).

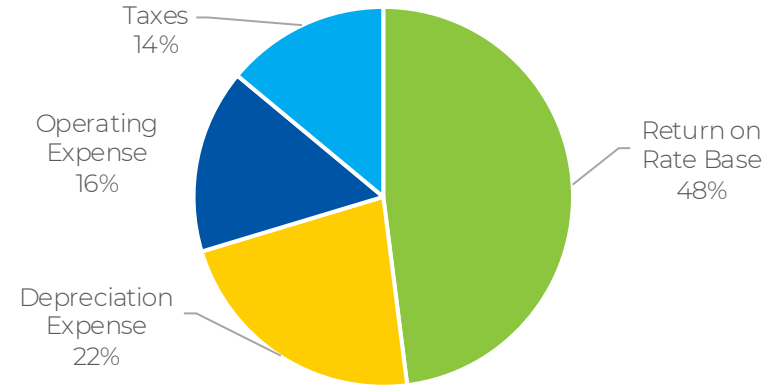
Transmission rates are based on four main components recovered through annual revenue requirements:

- 1) A return covering the cost of financing projects, composed of:
  - a. A Return on Equity (ROE) applied to the share of a project's cost funded through equity, and
  - b. The cost of debt issued to cover the share of a project's cost funded by borrowing.
- 2) Depreciation reflecting the cost of transmission over its useful life,
- 3) The cost of operating and maintaining (O&M) transmission equipment, and
- 4) Income taxes incurred by utilities and other taxes.

\* Municipal utilities own small amounts transmission within their service territories and hold minority stakes in the Phase II transmission line to Quebec.

\*\* FERC recently reduced the base ROE from 9.57% with a 0.50% adder for participation in ISO-NE; utilities Eversource and Avangrid have requested a stay in implementing the Order.

**Illustrative New England Utility  
Transmission Revenue Requirement**



Illustrative revenue requirement is based on the following:

- 42% debt, 58% equity capital structure
- 11.07% FERC-approved ROE\*\*
- 4.33% cost of debt
- 2.5% book depreciation rate
- 27.26% combined state & federal corporate tax rate
- O&M of 2% of CapEx

Detailed assumptions in appendix

# Mechanisms to Reduce Transmission Costs

Minimizing the cost of transmission investments could be achieved by reducing financing costs, and by reducing the cost of projects being financed. To evaluate the efficacy of potential cost reduction approaches, this analysis focuses on four mechanisms:

## Substituting private debt with public debt

Public entities such as states and state-backed authorities typically have higher credit ratings than private companies and can issue tax-free bonds, both of which reduce borrowing costs. Replacing private debt with public debt could thus reduce the component of the transmission returns covering interest on debt.

## Joint Public-Private Ownership

Public entities could take equity stakes in transmission projects alongside private partners. If the public entity requires a lower ROE than the private partner, the combined ROE would be reduced, bringing down the project return. Additionally, public entities pay lower or no taxes on earnings,\*\* further reducing costs.

## Increasing project leverage

The capital structure of transmission projects could be modified to increase debt and reduce equity. Replacing high-cost equity with lower cost debt would reduce overall project returns.

## Competitive project procurement

Competitive solicitation of transmission projects can drive creativity in project design that reduces CapEx (e.g., utilizing alternative routing and/or technologies) and provides competitive discipline on cost estimates and cost controls.

Diverse institutional models including various forms of public-private partnerships (PPP)\* were considered at the outset of analysis, with options narrowed and defined based on engagement with key informants (discussed on following slides). Costs can be reduced further by measures beyond the scope of this analysis including streamlining project approval processes, reducing development timelines, securing external funding (e.g., from the federal government), and related efforts.

\* See [Public Sector Financing of Electricity Transmission Lines in California](#) for descriptions and analysis of PPP models and application to transmission.

\*\* Public entities may offer Payments in Lieu of Taxes to affected communities, but these payments are typically lower than corporate taxes.

# External Engagement and Learnings

To inform analysis and address key considerations related to transmission costs, interviews were conducted with policymakers, lenders, public transmission financing entities in other jurisdictions, transmission developers and other relevant stakeholders. Learnings from these interviews include:

- Policymakers emphasized that integrating public transmission financing into **established multi-state transmission development mechanisms** would facilitate implementation. These recently established mechanisms include the Longer-Term Transmission Planning (LTP) process run by ISO-NE with direction and project approval from the New England States Committee on Electricity (NESCOE), and the Voluntary Agreement approach utilized to support the [Power Up New England](#) project portfolio and the transmission component of the [Northern Maine Renewable Energy Development Program](#).
- **Flexibility** to accommodate financing from a subset of New England states is desirable, and provision of public financing by one or more states should not require approval of all states.
- Public financing mechanisms expose the public financing entity to **risks** related to project delivery (delays, cost-overruns) and performance (transmission outages, liability). However, under the status quo ratepayers are exposed to cost increases and delays, which are recovered through utility formula rates.
- Project revenue bonds backed by FERC-regulated tariff revenue minimize but do not eliminate risks to **taxpayers** and a public financing entity's borrowing capability.
- **Municipal utilities** in New England have existing authority and mechanisms to provide debt and equity at rates that are typically lower than Investor-Owned Utilities (IOUs) and transmission developers.
- Public participation in transmission development could create **inefficiencies and delays in project development** activities (e.g., challenges of a public entity signing off on site control agreements, negotiations with equipment suppliers, etc.). However, state entities could also facilitate project approvals and increase public support.

# Financing Scenarios Evaluated

Based on external engagement, the following scenarios were identified to evaluate integrating public financing and competitive project solicitation into transmission development processes. Public debt and equity financing would be provided from the proceeds of bonds backed by transmission project revenue. The scenarios are ordered from least to most risk assumed by the public.

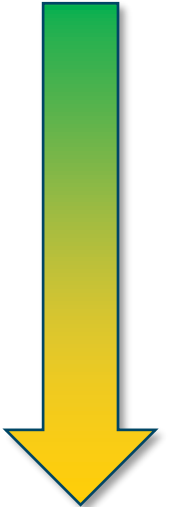
**Public Debt at Commercial Operation and Delivery (COD)** – Projects are competitively procured from private entities, who secure property and necessary approvals and manage construction. When projects reach COD the public entity provides debt covering long-term takeout financing.\* The private entity bears risk to equity returns during development, construction, and operation; public bears risk to debt only after equity returns are eliminated.

**Public Debt at Final Investment Decision\*\* (FID)** – Projects are competitively procured from private entities, who then secure property and necessary approvals. When projects reach FID the public entity provides debt covering construction and takeout financing. The private entity bears development risk. Construction and operating risk are first borne by the private entity through reduced equity returns, and then borne by the public on debt.

**Public Debt and Equity Backed (D+E)** – Projects are competitively procured from private entities, and following selection the public entity takes a minority equity stake in the winning project. The public entity provides debt and equity covering construction and takeout financing. The public and private entities share development, construction and operating risk to equity returns, and the public bears risk to debt.

**Wholly Public** – The public entity develops, finances, constructs, owns, and operates projects and bears all risk. This scenario maximizes utilization of public financing but would not include competitive project solicitation.\*\*\*

Less  
public risk



More  
public risk

\* Takeout financing pays off construction loans with longer-term, lower-cost debt

\*\* When all approvals are secured and lenders provide construction financing

\*\*\* Competitive procurement could be used for equipment & services but would not benefit from procurement of project concepts and cost controls.

# Financing Scenario Variants

Based on external engagement and analysis of successful community benefits approaches,\* three variants to core financing scenarios were identified.

Variant	Purpose	Benefits	Structure
Public Power Participation	<ol style="list-style-type: none"> <li>Utilize existing public financing capability of municipal utilities and co-ops to provide low-cost debt and equity.</li> <li>Enable public power to participate in transmission buildout</li> </ol>	<ol style="list-style-type: none"> <li>Reduce transmission revenue requirement &amp; ratepayer costs.</li> <li>Leverage public power experience with project development.</li> </ol>	In the Public Debt and Equity Backed scenario municipal utilities and co-ops could provide equity up to funding limits equivalent to their regional load share (~15%).
Community Benefits Funding	Raise funds to benefit communities affected by transmission projects.	Increase public acceptance and reduce permitting risk.	In the Public Debt and Equity Backed scenario, earnings on public equity are used to fund public benefits.
Private Lender Discipline	Provide role for private lenders to utilize transmission project finance experience in project governance.	Reduce risks of cost overruns and delays during project construction.	In the Public Debt at FID and Public Debt and Equity Backed scenarios private lenders could provide a minority share (e.g., 10%) of construction financing.

# Implementation Pathway

Subject to state-level authorization that is the subject of parallel legal and policy analysis, alternative transmission financing mechanisms could be integrated with both the LTTTP\* and VA\*\* mechanisms that states are utilizing to advance transmission development in New England.

- 1) In a future LTTTP procurement implemented by ISO-NE or a state led procurement utilizing a VA to pay for transmission, one or more states would offer all bidders the opportunity to utilize public financing.
- 2) At or before solicitation issuance, the state(s) offering public financing would provide key terms.
  - a. If the state(s) offers debt, the amount of public debt, interest rate, and associated terms would be provided.
  - b. If the state(s) offers debt and equity, additional terms related the public equity share, return on public equity, and governance rights would be provided.
  - c. A stipulated capital structure establishing the debt-equity ratio would be provided.
- 3) At their election, bidders could propose an ROE that they would require to accept public financing.
- 4) If state(s) accepts the bidder ROE, the state(s) and bidder agree to commercial terms and bidder includes public financing in bid.
- 5) If a bidder proposing to utilize the stipulated public financing wins the solicitation, commercial terms associated with the public financing take effect.

\* The LTTTP is [presently being utilized](#) to procure transmission to enable integration of at least 1,200 MW of onshore wind to Pittsfield, ME.

\*\* Maine is proposing to utilize a VA to [pay for transmission](#) to deliver onshore wind and other renewables from Northern Maine to Pittsfield.

# Implementation Pathway, continued

Providing optional public financing mechanisms has a number of practical benefits:

- The offer of optional public financing would remain separate from the conduct of procurements and thus would not require modification of the LTTP mechanism codified in the ISO-NE tariff. The impact of public financing would be accounted for in cost-benefit analysis specific to bidders that choose to integrate public financing with their bids.
- The VA mechanism is not governed by the ISO-NE tariff and has sufficient flexibility to accommodate alternative financing mechanisms.
- Agreements related to public financing solely bind the bidder adopting the financing mechanism and the state(s) providing financing; other states are unaffected (beyond benefitting from resulting savings).

Providing optional financing mechanisms has economic benefits:

- The state(s) offering the financing mechanism establish terms that will produce savings.
- If bidders propose returns that do not produce savings the state(s) can decline to offer financing.
- Competitive pressure will encourage bidders to propose reasonable returns, as bidders declining public financing would forego cost reductions and compare unfavorably against competitors in benefit-cost analysis.
- The relationship between terms of alternative financing mechanisms, bidder returns, and savings is explored in the following slides.

# Analytical Approach: Model Setup

Pro forma financial models corresponding to each scenario were utilized to compare transmission revenue requirements associated with alternative financing scenarios and the status quo. The following slides describe the analytical approach, with detailed assumptions provided in the appendix.

- The representative status quo model is based on financial parameters for utility-owned transmission in New England.
- Alternative models are based on financial parameters for comparable project types and informed estimates.
- Alternative transmission financing models were applied separately to new transmission and ACPs, as follows:

Assumption	New Transmission	Asset Condition Projects
CapEx	\$15.6 billion (\$2023). Based on ISO-NE 2050 Transmission Study, 51 GW load in 2050 and minimization of new lines, <a href="#">see ISO-NE</a> .	\$2.8 billion (\$2025). Based on Planned and Proposed projects in ISO-NE <a href="#">Final Asset Condition List – October 2025 Update</a> .
Competition	15% reduction in CapEx due to alternative project design and cost controls, discounted from Brattle Group findings*	Utilities assumed to build, own and operate; no competition applied
Debt-equity ratio and returns	Illustrative ranges based on risk profile (see following slides) and mix of greenfield transmission and rebuilds	Illustrative ranges of debt-equity ratio match ranges for new transmission; returns reduced by 1% to reflect lower risk profile of rebuilds in comparison to greenfield transmission.

\* [Cost Savings Offered by Competition in Electric Transmission: Experience to Date and the Potential for Additional Customer Value](#). Note that Brattle identifies 20% to 30% savings, which this analysis discounts to 15%.

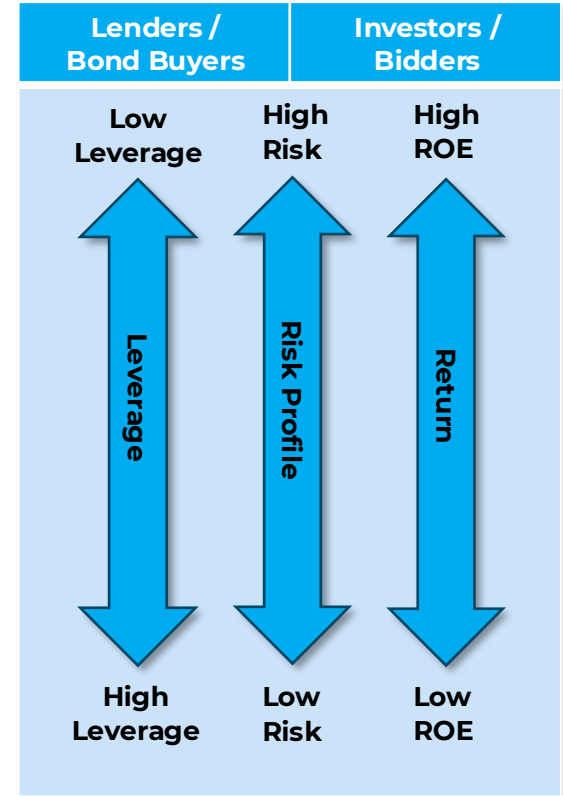
# Analytical Approach: Impact of Public Participation

Under VA (as utilized to-date) and the LTTP, states are not involved in the transmission project lifecycle beyond project selection.\* Provision of the public financing mechanisms described in this analysis would represent involvement in project development and could positively or negatively impact the project's risk profile and development timeline.

- The public entity's ability to facilitate necessary approvals and enhance public support could reduce project risk and expedite project development, whereas
- Political exposure and impaired flexibility associated with a public entity's participation could increase risk and slow project development.

The perceived risk profile of a project utilizing public financing would affect risk-related commercial terms accepted by lenders (i.e., bond buyers) and investors (i.e., bidders for transmission projects).

- Lower risk would enable more debt and less equity, and higher risk would require a more equity and less debt.
- A bidder assuming reduced risk due to public financing would require a lower ROE and a bidder perceiving higher risk due to public financing would require a higher ROE.



# Analytical Approach: Risk Profile Ranges

To evaluate the impact of different perceptions of risk associated with public financing, an illustrative range of leverage ratios and bidder ROEs was utilized.

Leverage ratios and ROEs were combined to determine the weighted average cost of capital (WACC) resulting from a best-case and worst-case perception of the impact of public financing on risk.

The table below includes high and low assumptions for leverage and ROE, which are combined to determine a high and low WACC for each scenario. For example, in the Public Debt @COD scenario, high leverage (75% debt, 25% equity) and a low private ROE (10%) produce a low WACC of 4.88% (green cells). In contrast, low leverage (60% debt, 40% equity) and a high private ROE (13%) produce a high WACC of 7.11% (yellow cells).

	Capital Structure				Return on Equity				WACC	
	High Leverage		Low Leverage		Private		Public*		Low	High
	Debt	Equity	Debt	Equity	Low	High	Low	High		
Public Debt @ COD	75%	25%	60%	40%	10%	13%	n/a	n/a	4.88%	7.11%
Public Debt @ FID	80%	20%	70%	30%	12%	15%	n/a	n/a	4.94%	6.72%
Public Debt+Equity	90%	10%	75%	25%	12%	18%	4.37%	5.37%	4.08%	6.34%

Evaluating the range of potential market responses and commercial outcomes from alternative transmission financing mechanisms can enable states to determine the terms of public financing mechanisms to offer bidders. Terms offered and associated returns required by bidders should result in a WACC that is lower than the status quo (7.53%).\*\*

\* The low return on public equity is set at the cost of public financing, and the high return is set 1% higher to raise funds for community benefits.

\*\* The status quo WACC of 7.53% is post-tax. The cost of pre-tax WACC assuming a blended average of New England state and federal corporate tax rates is 10.12%, increasing the comparative value of public capital.

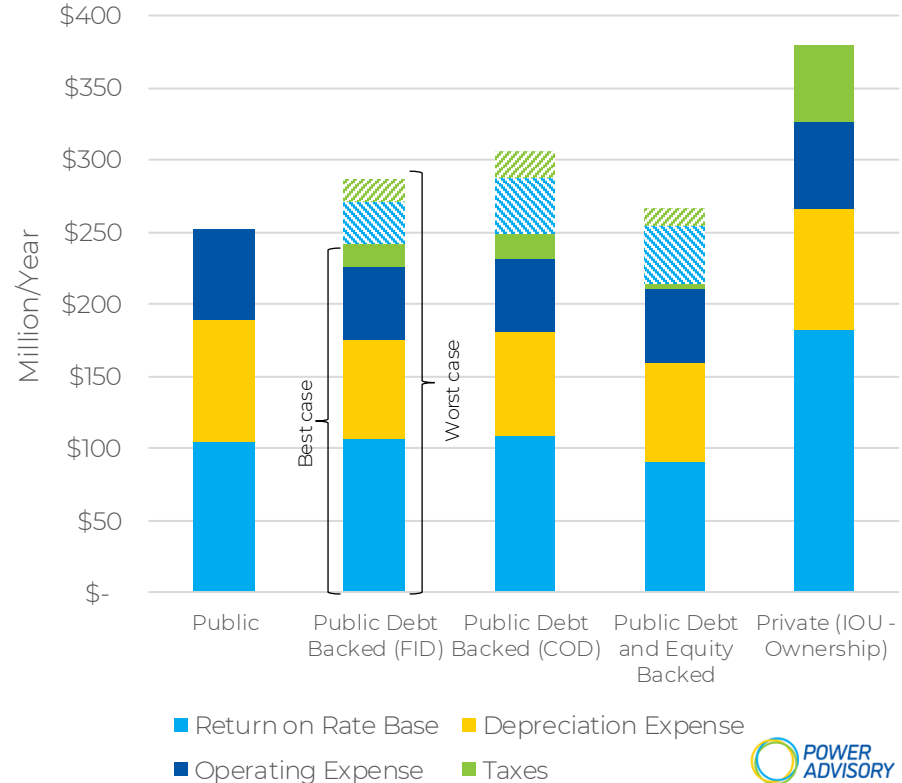
# Financial Modeling Results

# Revenue Requirement: New Transmission

The chart at right shows annual revenue requirements for each scenario, applied to new transmission needs in New England per ISO-NE's 2050 Transmission Study.

- For the Public Debt Backed (FID), Public Debt Backed (COD) and Public Debt and Equity Backed scenarios the solid bars reflect the best-case combination of high leverage and low ROE, resulting in the Low WACC on slide 15.
- The diagonal patterned bars atop the Public Debt Backed (FID), Public Debt Backed (COD) and Public Debt and Equity Backed scenarios reflect the worst-case combination of low leverage and high ROE, resulting in the High WACC on slide 15.
- The range of low to high revenue requirements for the Public Debt Backed (FID), Public Debt Backed (COD) and Public Debt and Equity Backed scenarios evidence the impact of financing terms on the Return on Rate Base and Taxes.

**Annual Average Revenue Requirement (\$2025M)**



# Total Revenue Requirement: New Transmission

The table below shows the cumulative revenue requirement over the lifetime of new transmission for each scenario.

- The alternative financing scenarios provide a range of \$3.7 billion to \$8.4 billion (19% to 43%) in total savings vs. the status quo, depending on the structure and terms associated with the public financing mechanism.
- Savings are heavily dependent on financing terms, which affect the efficacy of different mechanisms in reducing revenue requirements.

## Total Revenue Requirement (\$2025M)

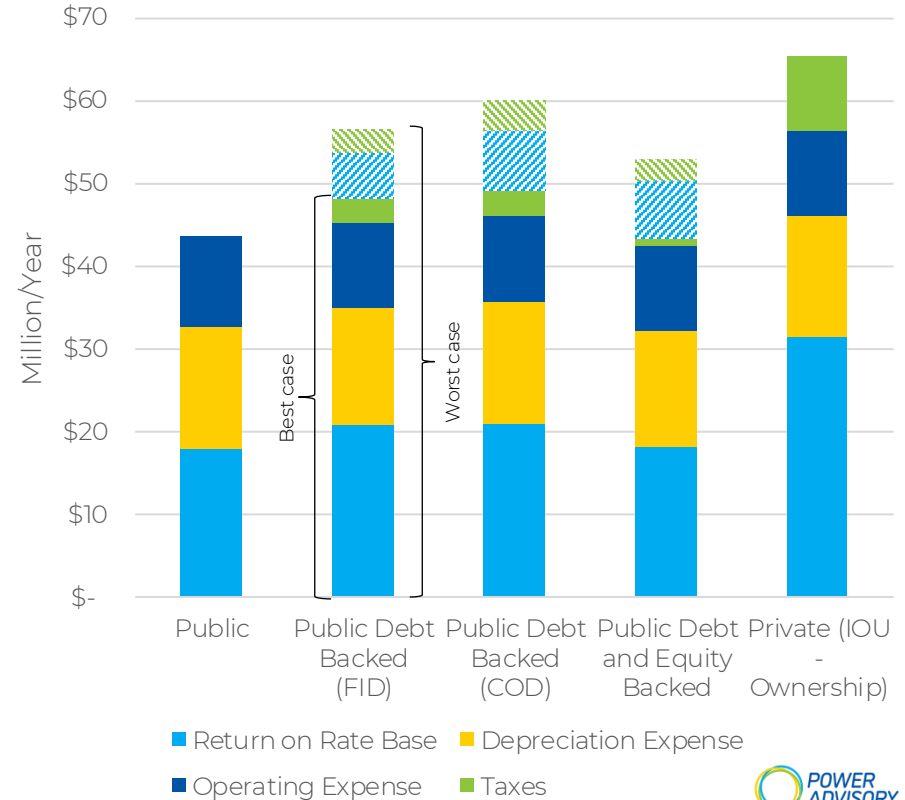
	Public	Public Debt Backed (FID)		Public Debt Backed (COD)		Public Debt and Equity Backed		Private (IOU Ownership)
		Low WACC	High WACC	Low WACC	High WACC	Low WACC	High WACC	
		<b>Total Revenue Requirement</b>	\$12,832	\$12,346	\$14,599	\$12,686	\$15,618	
<b>Average Annual Revenue Requirement</b>	\$252	\$242	\$286	\$249	\$306	\$215	\$267	\$379
<b>Total Savings vs. Status Quo*</b>	\$6,499	\$6,985	\$4,731	\$6,645	<b>\$3,713</b>	<b>\$8,373</b>	\$5,727	N/A
<b>Annual Savings vs. Private (IOU Ownership)*</b>	34%	36%	24%	34%	19%	43%	30%	N/A

# Revenue Requirement: ACPs

The chart at right shows annual revenue requirements for each scenario by component, applied to Proposed and Planned ACPs. Public financing could produce similar scale savings on future projects, such as the proposed multi-billion-dollar [replacement of underground cables in Eastern Massachusetts](#).

- For the Public Debt Backed (FID), Public Debt Backed (COD) and Public Debt and Equity Backed scenarios the solid bars reflect the best-case combination of leverage and returns, resulting in the Low WACC on slide 15.
- The diagonal patterned bars atop the Public Debt Backed (FID), Public Debt Backed (COD) and Public Debt and Equity Backed scenarios reflect the worst-case combination of leverage and returns, resulting in the High WACC on slide 15.
- Revenue requirement reductions are less significant than for new transmission due to the lack of competition.

**Annual Average Revenue Requirement (\$2025M)**



\* [ISO-NE Final Asset Condition List – October 2025 Update](#)

# Cumulative Revenue Requirements: ACPs

The table below shows the cumulative revenue requirement over the lifetime of ACPs for each scenario.

- The alternative financing scenarios provide a range of \$272 million to \$1,133 million (8% to 34%) in total savings vs. the status quo, depending on the structure and terms associated with the public financing mechanism.
- As with new transmission, savings are heavily dependent on financing terms, which affect the efficacy of different mechanisms in reducing revenue requirements.

## Total Revenue Requirement (\$2025M)

	Public	Public Debt Backed (FID)		Public Debt Backed (COD)		Public Debt and Equity Backed		Private (IOU - Ownership)
		Low WACC	High WACC	Low WACC	High WACC	Low WACC	High WACC	
<b>Total Revenue Requirement</b>	\$2,214	\$2,455	\$2,886	\$2,508	\$3,063	\$2,202	\$2,697	\$3,335
<b>Average Annual Revenue Requirement</b>	\$43	\$48	\$57	\$49	\$60	\$43	\$53	\$65
<b>Total Savings vs. Status Quo</b>	\$1,121	\$881	\$449	\$827	<b>\$272</b>	<b>\$1,133</b>	\$638	N/A
<b>Annual Savings vs. Private (IOU Ownership)</b>	34%	26%	13%	25%	<b>8%</b>	<b>34%</b>	19%	N/A

# Discussion

- The alternative transmission financing scenarios evaluated in this analysis offer the potential to provide significant reductions in transmission revenue requirements. If the recent 1% reduction in base ROE takes effect, total savings of alternative financing scenarios over the status quo will decline by \$896 million (e.g., from \$8.4 billion to \$7.5 billion for the Public Debt and Equity Backed scenario with Low WACC).
  - The magnitude of revenue requirement reductions is heavily dependent on financing terms.
  - To continue utilizing competitive project solicitation, public financing mechanisms will have to be incorporated into proposals submitted by private sector bidders.
  - Public financing terms will thus have to be accepted by private sector bidders,\* who will adjust financial terms remaining under their control (i.e., private ROE) to reflect risk or benefit of public financing and any reduction in earnings resulting from accepting public financing mechanisms.
  - States could design financing terms to promote savings, but the realization of savings will ultimately depend on how bidders and lenders view risks and financial impacts associated with public financing, and on whether bidders incorporate public financing into bids.
- Public financing mechanisms could be incorporated into the existing LTP and VA transmission development mechanisms. Though the first LTP procurement has yielded a diverse pool of project proposals, process reforms to including consideration of partial solutions and enabling 3<sup>rd</sup> parties to build in utility rights of way would enhance competition.\*\*
- Public financing could be offered by one or more New England states without requiring participation from all states.
- Reducing transmission project costs could accelerate the pace of development and increase opportunities for developers.
- Applying public financing to ACPs may require legislative authorization.

\* Alternatively, a wholly public entity could compete with private developers or partner with a single private developer. In either case leveraging public financing would depend on selection of the project utilizing public financing, and savings would depend on the terms of public financing.

\*\* See ISO-NE [summary of project proposals](#).

# Discussion, continued

- Public financing could be structured to raise funding for communities impacted by transmission projects, to provide rebates to ratepayers of the state providing public financing, or for other purposes.
  - Funding raised would be generated by returns on public equity or interest charged on public loans in excess of debt service requirements, for example:
    - If the ROE is raised by 100 basis points (+1%) on the Public Debt and Equity Backed scenario, funding for could range between \$119 - \$296 million (2025\$) over the project's lifetime, averaging \$2 - \$6 million (2025\$) per year.
    - If a public financing entity lent to private developers at a rate 0.25% above the public financing entity's borrowing costs in the Public Debt at FID scenario, funding could range between \$249 - \$256 million (2025\$) over the project's lifetime, averaging \$4.9 - \$5.0 million (2025\$) per year.
  - Funding will vary based on the debt-to-equity ratio of the project.
  - Raising public funding would increase project costs and costs to ratepayer. These costs may be justified on the basis of mitigating project impacts (and reducing permitting risk), or to compensating ratepayers of one or more states that provide public financing and thus reduce costs for ratepayers of all New England states.
- Public financing of transmission will expose the public financing entity to risk of cost overruns, delays, and liability.
- Under the status quo, ratepayers are exposed to cost overruns passed on through Transmission Owners' Formula Rates, and ratepayers are exposed to the impacts of delays (unavailability of transmission capacity and increased costs).
- Transmission development risks exist regardless of the financing model, and the allocation and management of risk must be considered when evaluating different transmission financing models.

# Appendix: Assumptions

# Financial Assumptions by Scenario

Scenario	Status Quo	Wholly Public	Public Debt Backed*		Public Debt & Equity Backed
Public entry	n/a	Pre-development	At FID	At COD	At FID
Description	Utility designed, built, owned, operated	Public designed, built, owned, operated	Public debt provided at Final Investment Decision, is used to finance construction	Public debt provided for takeout financing	Public provides equity and debt at FID, finances construction
Total equity	58%	n/a	20-30%	25-40%	10-25%
Total debt	42%	100%	70-80%	60-75%	75-90%
Private equity	58%	n/a	20-30%	25-40%	6.7-16.7%
Return on private equity	11.07%*	n/a	12-15%	10-13%	12-18%
Public equity	n/a	n/a	n/a	n/a	3.3-8.3%
Return on public equity	n/a	n/a	n/a	n/a	4.4-5.4%
Public debt entry	n/a	Pre-development	FID	COD	FID
Construction debt - public share	n/a	100%	100%	n/a	100%
Cost of public debt - construction	n/a	4.37%	4.37%	n/a	4.37%
Term of public debt - construction (years)	n/a	4	3	n/a	3
Construction debt - private share	100%	n/a	0%	100%	0%
Cost of private debt - construction	5.84%	n/a	n/a	5.92%	n/a
Term of private debt - construction (years)	3	n/a	3	3	3
Takeout financing - public share	n/a	100%	100%	100%	100%
Cost of public debt - takeout	n/a	4.37%	4.37%	4.37%	4.37%
Takeout financing - private share	100%	n/a	0%	0%	0%
Cost of private debt - takeout	4.33%	n/a	n/a	n/a	n/a
Competitive project solicitation	no	no	yes	yes	yes
CapEx reduction due to competition	n/a	n/a	15%	15%	15%

\* FERC recently reduced the base ROE from 9.57% with a 0.50% adder for participation in ISO-NE; New England utilities Eversource and Avangrid have requested a stay in implementing the Order.

# Universal Assumptions

The following assumptions were applied universally across scenarios

Assumption	Value	Notes
State corporate tax rate	7.92%	New England state average
Federal corporate tax rate	21.00%	--
Annual operations & maintenance as % of CapEx*	2.00% (private) 2.10% (public)	Power Advisory assumption
Months of working capital	1.5 months	Power Advisory assumption
Transmission asset life	40 years	Power Advisory assumption
Modified Accelerated Cost Recovery System (MACRS) rates	20 years	--
Book depreciation	2.50%	100%/Transmission Asset Life
Inflation	2.30%	Power Advisory assumption

\* Operations and maintenance costs are assumed to be lower when subject to private sector efficiency.

# Taxes

## Corporate Taxes

Jurisdiction	Rate	Comments
MA	8.00%	--
RI	7.00%	--
CT	7.50%	10% excise tax added for businesses with gross receipts over \$100 million
VT	8.50%	--
ME	8.93%	Graduated by gross taxable income
NH	7.50%	--
New England State Average	7.92%	--
U.S. Federal	21.00%	--

## Property Tax

Due to the variability of local taxes, property taxes are not included in modeling. It is noted that public entities may make Payments in Lieu of Taxes to communities hosting transmission infrastructure, and the cost of these payments would be recovered through rates, just as property taxes are recovered through rates by private transmission owners.

# Notes on Assumptions: Status Quo

The status quo scenario illustrates the potential revenue requirement associated with development and ownership of transmission in the absence of competition and public financing. The scenario is based on ISO-NE formula rates and recent bond issuances by the largest transmission-owning utilities in New England. These utilities collectively own 99.83% of the Pool Transmission Facilities (PTF) for which formula rates are collected. The comparison of utilities' 30-year bond issuances to 30-year Treasury bonds is used to determine a volume-weighted credit spread of 1.21% between utility debt and treasuries. This spread is added to the November 2025 interest rate of 4.625% for 30-year Treasuries\* to determine the 5.835% assumed private cost of construction debt.

Utility	Share of PTF	Bond Issuance	Interest Rate	Source	Treasuries	Bond-to-Treasury Spread
Avangrid (Central Maine Power)	11.72%	12/15/2022	4.76%	<a href="#">Green First Mortgage Bonds</a>	3.48%	1.28%
Enmax (Versant Power)	1.71%	1/1/2022	3.15%	<a href="#">2022 Interim Financial Report</a>	2.01%	1.14%
Eversource (NSTAR East)	27.29%	5/17/2022	4.55%	<a href="#">2022 Debenture due 2052</a>	3.17%	1.38%
Eversource (CT Light & Power)	30.80%	1/3/2023	5.25%	<a href="#">Series 2023 A</a>	3.88%	1.37%
Eversource (Public Service of New Hampshire)	3.67%	8/12/2020	2.4%	<a href="#">Series U First Mortgage Bonds</a>	2.93%	-0.53%**
National Grid (Mass Electric Company)	7.85%	2/26/2024	5.87%	<a href="#">MASS.ELECTR 24/54 REGS</a>	4.40%	1.47%
PPL (Rhode Island Energy)*	8.30%	3/1/2010	5.64%	<a href="#">2011 Financial Statements</a>	4.56%	1.08%
VT Transco	8.48%	5/1/2012	3.85%	<a href="#">2012 Issuance</a>	3.16%	0.69%
Total/Average	99.83%	--	--			<b>1.21%</b>

# Notes on Assumptions: Status Quo, continued

## Takeout Financing

The analysis utilizes a conservative assumed cost of takeout financing in the status quo scenario. Specifically, a 4.33% cost of private takeout financing is assumed, based on the cost of debt in [2025/2026 formula rates](#) for the largest transmission-owning utilities, weighted by share of PTF rate base. Utilities can finance transmission on their balance sheets utilizing a combination of short-term and long-term debt. This produces a cost of debt that is lower than the cost of debt matching transmission asset lifetimes. Thus, the 4.33% cost of debt in New England Transmission Owners' formula rates is below recent rates for 30-year Treasuries.

The debt rates used in this analysis thus may understate the fundamental cost-effectiveness of public financing over the long term, when the greater creditworthiness of public entities produces lower borrowing costs than for private entities.

## Debt-Equity Ratio

The volume-weighted average ratio of 57.73% equity and 42.27% debt is derived from ISO-NE formula rates.\*

## Return on Equity

The return on private equity is based on the 11.07% FERC-approved ROE for transmission in ISO-NE.

## Construction Term

The term of construction for the status quo scenario and other scenarios in which private entities manage construction (i.e., the Public Debt at FID, Public Debt at COD and Public Debt & Equity Backed scenarios) is assumed to be 3 years.

# Notes on Assumptions: Public Financing Scenarios

In addition to the range of leverage and ROE assumptions described on slide 13, additional assumptions utilized in the public financing scenarios are provided below.

- In the Wholly Public scenario a 4-year term is assumed for the term of construction due to lack of private sector expertise.
- Bonds are assumed to be issued to cover construction and operations and maintenance (i.e., separate construction financing and takeout financing are not assumed).
- The cost of public debt is assumed to be 4.365%, reflecting the average rates for 30-year AA rated municipal bonds as of 12/17/25 from [Emsbonds, Inc.](#) (4.40%), and [Municipal Bond Information Services](#) (4.33%).

# Glossary

# Glossary of Key Terms

Term	Definition
<b>Annual Revenue Requirement</b>	The yearly amount a transmission owner needs to collect from ratepayers to cover its cost of service, including the Return on Equity, interest on debt, operating expenses, maintenance, and taxes.
<b>Asset Condition Project (ACP)</b>	Replacement of an existing transmission asset based on deterioration in its condition.
<b>Formula Rate</b>	A FERC-approved standardized calculation method used by Transmission Owners to determine annual revenue earned on transmission assets, based on formulas factoring in ROE, operations and maintenance, and taxes.
<b>Return on Equity (ROE)</b>	A ratio showing how much profit a company makes for every dollar of shareholder equity invested.
<b>Revenue bond</b>	Municipal debt financing used for income-producing public projects.
<b>Takeout financing</b>	A long-term loan used to pay off a shorter-term construction or bridge loan after a project is complete and stabilized.
<b>Weighted Average Cost of Capital (WACC)</b>	Blended average cost of capital including debt and equity.



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