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Financing the Transition Webinar

June 22, 2026

Overview & Welcome

- **Agenda**
  - Overview of the Office of Energy Transformation
  - Mission & Goals of the Financing the Transition Focus Area Working Group (FTT FAWG)
  - Financial Primer
  - Menu of Alternative Financing Mechanisms
  - Analysis of Financing Alternatives
  - Core Strategic Findings of the Working Group

- **Questions**
  - We will have time at the end to answer questions. Please add your questions to the Zoom Q&A feature. We'll address them at the end of the presentation in the order they are received. Thank you.

Office of Energy Transformation Mission and Structure

Energy Transformation Advisory Board (Advisory Board or ETAB)

Provides guidance and recommendations on strategic direction to the OET and focus area work groups (FAWGs) to execute the energy transition, including gas-to-electric transition, electric grid readiness, and a just and equitable transition for workers, business, and communities.

Transitioning Away from Everett Marine Terminal (EMT)

To develop a coordinated strategy to reduce or ultimately eliminate the local gas distribution companies' reliance on the EMT Liquefied Natural Gas (LNG) facility aligned with DPU Order 20-80 and the state's climate and clean energy mandates, including as established in the *Global Warming Solutions Act*.

Decarbonizing the Peak (DTP)

To demonstrate pathways to reduce reliance on and expeditiously eliminate fossil fuels from peaking power plants and combined heat and power (CHP) facilities and deploy alternative demand and supply side options to meet peak load needs in Massachusetts, aligned with the electric sector sublimit and clean energy goals in the *2050 Clean Energy and Climate Plan*.

Financing the Transition (FTT)

To identify alternative mechanisms for financing/ funding electricity distribution system infrastructure upgrades needed to achieve Massachusetts's clean energy and climate mandates that minimize impacts on consumers' electricity bills, while providing an affordable, sustainable, and timely source of revenue for investments.

Enabling Sustainable Economic Development (ESED)

To advance clean energy-ready economic development zones that enable key business sectors to grow in Massachusetts, in alignment with the state's interconnection, land use planning, environmental justice and equity, housing, and economic development initiatives.

Financing the Transition Issue Overview and Mission

- Investments in the electric distribution system to meet growing demand and enable electrification and clean energy deployment are expected to increase over the next two decades.
- Currently, the primary financing mechanism for these investments is collecting revenue via electricity rates.
- Energy efficiency and other programs have helped mitigate bill impacts from prior grid investments, even as such investments have increased.
- The pace of needed investment growth over the coming decades has the potential to outpace previous growth rates, with the potential to put upward pressure on electricity bills.

Mission

To identify alternative mechanisms to finance/fund distribution system infrastructure upgrades necessary to achieve the Commonwealth's clean energy and climate mandates that mitigate the cost impacts of the energy transition on consumers' electricity bills, and provide affordable, sustainable, and timely sources of revenue to support needed investment.

Financing the Transition Working Group Members*

A Better City	Eversource	Massachusetts Business Roundtable	Peregrine Energy Group, Inc.
Acadia Center	Foundation for Fair Contracting	Massachusetts Coalition for Sustainable Energy	Planning Office for Urban Affairs
Alternatives for Community and Environment	Global Partners	Massachusetts Municipal Association	Resonant Energy
Advanced Energy United	Green Energy Consumers Alliance	Massachusetts Municipal Wholesale Electric Company	RSM US LLP
Associated Industries of Massachusetts	Gridwealth Holdings, Inc.	MassCEC	Schneider Electric
Boston ABCD	International Brotherhood of Electrical Workers	Metropolitan Area Planning Council	Service Employees International Union 509
Boston Pipefitters Local 537	IUPAT DC 35	NAIOP Commercial Real Estate Development	Sense
Business Manager of Plumbers Local 12	JERA Americas	National Electrical Contractors Association	Sheet Metal Workers Local 17
City of Boston	Joint Committee on Telecommunications, Utilities and Energy	National Grid	Town of Stow Mass
Climate Jobs MA	Local 7 Ironworkers	NCLC	TSK Associates LLC
Community Labor United	MA Department of Energy Resources	New England Power Generators Association	Tufts University
Conservation Law Foundation	MA Office of Climate Innovation and Resilience	Northeast Energy Efficiency and Electrification Council	United Steelworkers
Elders Climate Action Mass	MA Office of the Attorney General	Northeast Gas Association	Unitil
Environmental League of Massachusetts	Mass Competitive Partnership	Pacific Gas & Electric Co, Retired	Utility Workers Union of America

*The findings and recommendations being presented were developed by this working group and reviewed and affirmed by the Energy Transformation Advisory Board.

Financing the Transition Workplan

Phase 3

Phase 2

Phase 1

Quantification and Categorization of Electric Distribution System Investments and Associated Bill Impacts

- Based on ESMP review and other relevant proceedings

Inventory and Assessment of Existing CapEx Cost Recovery Models

- In Massachusetts
- Outside of Massachusetts

Inventory Review of Other Infrastructure Financing Models

- Utility and Non-Utility
- Structures
- Considerations
- Applicability to Distribution Infrastructure

Assessment of Costs and Impacts of Alternative Financing Structures

- Capital
  - Access to Capital
  - Cost of Capital
- Revenue
  - Sources
  - Mechanisms
- Customer Impacts
- Other Considerations

Recommendations and Policy and Regulatory Requirements to Support Alternatives

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Financial Primer: How Grid Upgrades Are Paid For Today

Understanding Your Electric Bill

Electric Supply

Cost of electricity from power generation suppliers; based on competitive wholesale market prices and procurement; market overseen by ISO-NE

Electric Transmission

Cost to maintain high voltage towers and lines; costs are regulated by the Federal Energy Regulatory Commission (FERC) with governance oversight by ISO-NE

Electric Distribution (Local Delivery)

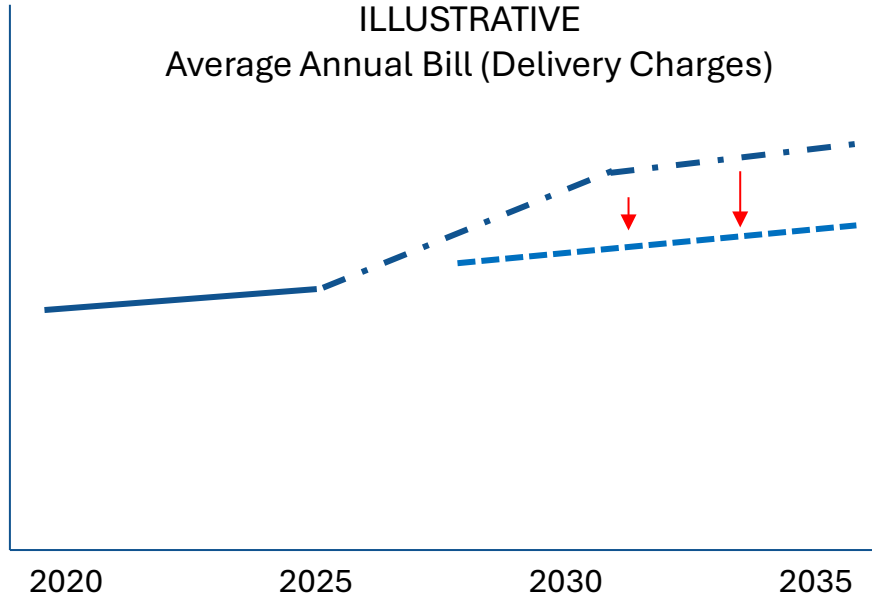
Cost of local utility to build, maintain, and repair the poles, lines, and meters needed to power delivery; costs are regulated by the Massachusetts Department of Public Utilities

Traditional Utility Ratemaking: How Utility Financing Works Today

- **Utilities invest upfront** in long-lived infrastructure (wires, poles, substations, and system upgrades), typically using **a mix of debt and shareholder equity**.
  - *Debt:* money borrowed from lenders and repaid with interest over time.
  - *Shareholder equity:* money raised from investors who expect an opportunity to earn a return over time.
- **Massachusetts uses a "cost-of-service" model,** whereby the Department of Public Utilities (DPU) reviews utility costs and investments and sets rates designed to recover costs associated with building, operating, and maintaining the distribution system.
  - *Operating costs*, such as labor, energy supply, equipment maintenance, and taxes, do not earn a mark-up for profit.
  - *Capital costs*, such as the cost to construct power lines and substations, on which utilities have an opportunity to earn a rate of return. The sum of these investments is known as the utility *rate base*.
- Added together, operating costs, capital costs, and **the DPU-approved rate of return on invested capital** make up the utility's **Revenue Requirement** that determines what can be recovered from ratepayers via bills.
  - The scale of this revenue requirement is tied to the *depreciation schedule* for capital investments.
  - Rates account for the utility's *weighted average cost of capital (WACC)* for raising both debt and equity.

The Affordability Challenge

- Build-out of the local grid is needed to support Massachusetts' decarbonization and the energy transition.
- Even with energy efficiency and flexible demand, it is likely that new, near-term investment to enhance the local electric grid will be needed, at scale, to ready it to interconnect and operate new load, distributed energy resources (DERs), and be more resilient.
- The goal of investigating and considering ways to innovate on financing and cost recovery for investment is to mitigate the magnitude and "lumpiness" of bill impacts – e.g.,
  - by de-risking investment (and lowering the cost of capital)
  - by smoothing in potential increases
  - by assigning costs to beneficiaries in more direct and tailored ways
  - identifying additional (non-ratepayer) sources of revenue
- When we talk about "financing the transition," we're talking about how to address the cost of projects as well as the cost to finance them.



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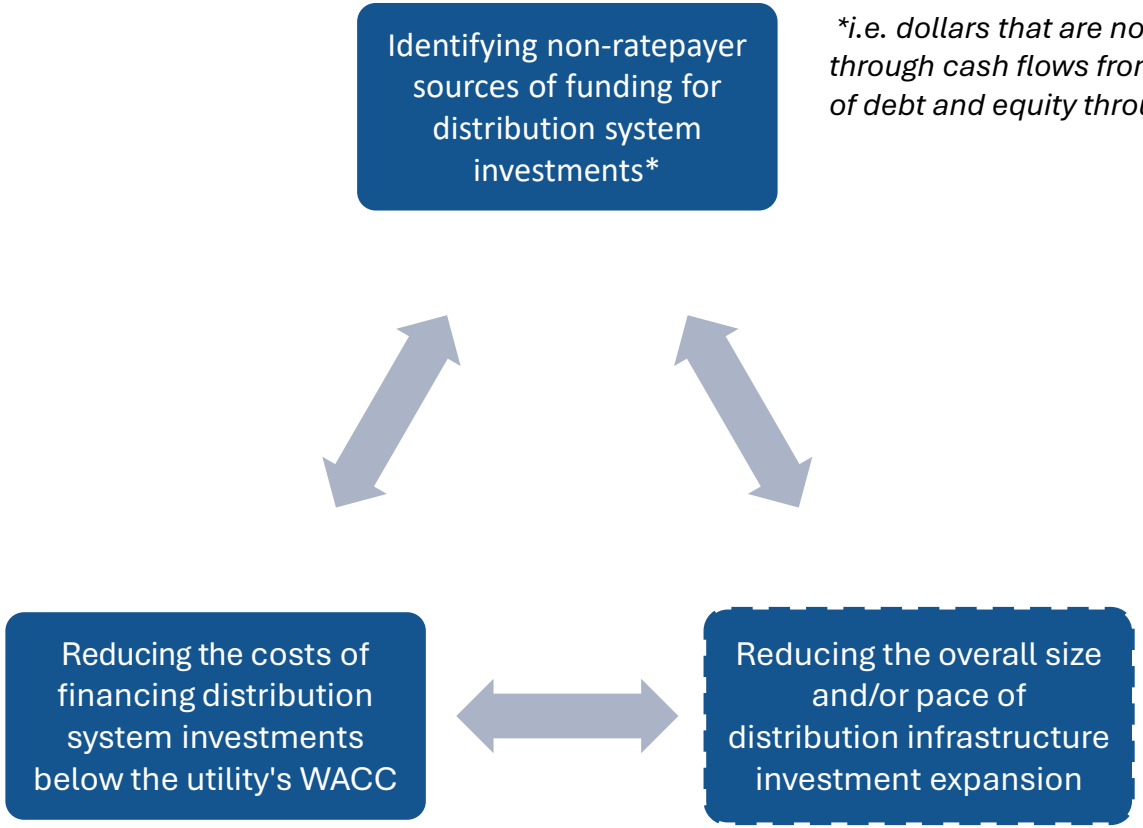
Menu of Alternative Financing Strategies

Shared Goals

- Explore a range of options to reduce the size and uneven timing of future revenue requirements.
  - Strategies may include lowering financing costs, reducing profit-bearing investments, spreading costs over time, and identifying additional funding sources.
- Be intentional in designing these approaches so that benefits reach low- and moderate-income households and environmental justice communities.
- Avoid unintended consequences, such as increased burdens on taxpayers, negative effects on utility credit ratings, or reduced ability for utilities to raise affordable capital for other necessary investments.
- Identify approaches that work well together to address different investment needs, and provide clear, transparent information about short-term and long-term benefits, costs, and impacts on customer bills.
- Advance measures that are implementable in the next one-to-three years, while simultaneously pursuing longer-term reforms that could include more substantial public involvement and ability to reduce/avoid overall utility spending on distribution system infrastructure

Categorizing the Alternative Finance Toolkit

The FAWG identified three broad approaches for reducing the ratepayer bill impact of electric distribution investments:



i.e. dollars that are not provided by the utility through cash flows from operations or the raising of debt and equity through traditional means

Tools Identified by the Working Group to Reduce Asset Financing Costs

Tool	Description
Securitization	Enables a lower cost of capital through debt financing that levelizes customer payback over an extended period. Debt raised through a legislatively-backed special purpose entity, which can be within the utility, and used to pay for particular infrastructure investments. Utility maintains asset ownership and operational control, but the investment does not contribute to the utility rate base (on which the utility has an opportunity to earn a rate of return).
Energy Transition Bonds	Bonds issued by a public authority that provides low-cost financing of infrastructure projects, repaid by users of the projects. Examples include the DC Water Agency Green Infrastructure performance bonds and Private Activity bonds (tax-exempt and issued by local governments). Utility maintains asset ownership and operational control, but the investment does not contribute to the utility rate base.
State-Revolving Fund (SRF)	Provides low-cost loans for infrastructure projects, with repayment of principal plus interest recycled to fund additional projects. MA currently participates in an SRF for water projects through the Department of Environmental Protection, which was originally seeded by federal grants. Utility maintains asset ownership and operational control, but the investment does not contribute to the utility rate base.

Tools Identified by the Working Group to Deploy New Revenue Sources

Tool	Description
Distribution Entitlement Lease	A third party leases a portion of utility project capacity, providing lease payment to the utility as an upfront lump sum that financed by the third party itself; ratepayers then pay a charge for using the leaseholder's capacity entitlement. The leaseholder would be required to return a portion of its recovered costs to ratepayers via bill credits, energy efficiency program investments, etc. (i.e. profit limitations) Utility maintains asset ownership and operational control, but the investment does not contribute to the utility rate base.
Clean Energy Tariff	Utilities create targeted tariffs/surcharges for customers to pay for specific requested grid upgrades, while maintaining equipment ownership and operational control. Could pair with other mechanisms to secure initial investment dollars needed from a third party interested in catalyzing clean energy proliferation. Utility maintains asset ownership and operational control, but the investment does not contribute to the utility rate base.
Public-Private Partnership	Involves collaboration between public entities and utilities to fund infrastructure projects aligned with policy objectives. For example, the DC Power Line Undergrounding (DC PLUG) initiative combined a) ratepayer-funded utility investments, b) low-cost public bonds repaid through customer fees, and c) DC transportation department contributions. Utility maintains asset ownership and operational control, but publicly-funded portion of the investment does not contribute to the utility rate base.
Climate Superfund	Following model adopted in Vermont and New York, would collect fees from entities based on historical GHG emissions to fund climate-related investments. These retroactive fees could fund infrastructure upgrades via grants, mitigating the need for repayment. Utility maintains asset ownership and operational control, but the investment does not contribute to the utility rate base.
Carbon Fee	Places a nominal fee on fossil fuels consumed in MA (e.g. $15 per metric ton of carbon) that would increase iteratively over time to match climate mandate timelines. Like a climate superfund, could mitigate repayment costs by funding upgrades via grants, but fees would be tied to present rather than historical GHG emissions. Could cover "upstream" sectors such as buildings, industry, and transportation, but not electric supply that is covered by the Regional Greenhouse Gas Initiative (RGGI). Utility maintains asset ownership and operational control, but the investment does not contribute to the utility rate base.

Tools Identified by the Working Group to Avoid Capital Investment (Non-Wires Alternatives)

- **DER Aggregation** refers to the process of combining small-scale decentralized energy technologies into a unified portfolio to be dispatched as a single, large-scale resource, also known as a "Virtual Power Plant."
  - The DER aggregator would raise financing to fund demand reduction portfolio in a geographic area instead of a grid upgrade, mitigating a demonstrated need to expand grid capacity by reducing circuit load.
  - Devices such as rooftop solar and home batteries would be installed at individual household level and coordinated regionally.

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Analysis of Financing Alternatives

Assessing Each Alternative

Qualitative Assessment

During the second phase of the FTT FAWG process, each alternative was evaluated against three primary criteria and a series of supporting sub-criteria.

FAWG members then assessed each alternative using a traffic light voting system.

1. Investment/cost recovery (dollar benefits)
2. Implementation pathways (challenges)
3. Other intangibles

Quantitative Assessment

Analysis Group analyzed the total cost of a $1 billion investment made through traditional utility financing versus each of the financing alternatives to understand directional costs savings. Savings ranged from $215M to $725M the 40-year depreciation timeline.

For more information on the analysis, reference the Financing the Transition Focus Area Work Group report and appendix.

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Core Strategic Findings of the Working Group

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1. **A Portfolio Approach is Needed:** Policymakers should match financing strategies to specific goals and timelines, distinguishing between near-term bill relief and long-term structural changes that reduce lifetime system costs and future investment growth rate.
2. **Non-Traditional Financing Alternatives Can Mitigate Bill Impacts, But the Impact of Financing Techniques Alone is Limited:** Alternative financing approaches can reduce customer costs by replacing higher-cost utility equity with lower-cost debt. Savings are likely to be incremental and depend on market conditions, investment scale, and careful implementation.
3. **New Revenue Sources Have Larger Bill Impacts, But Face Hurdles to Implementation:** Measures that deploy new sources of capital to directly fund distribution infrastructure investments, like public-private partnerships, a carbon or fossil fuel fee, or climate superfund, could reduce customer bills more than financing mechanisms alone.
4. **Measures to Support Demand Reduction (Non-Wires Alternatives) Can Avoid Traditional Utility Distribution Investment, and Need Additional Analysis:** Demand-side investments and distributed energy resources could lower ratepayer costs by leveraging private capital to reduce energy demand and defer or avoid infrastructure upgrades and associated investments. Analyses suggest these approaches can deliver near- and mid-term economic value while advancing equity, if designed effectively.

Core Strategic Findings of the Working Group (cont.)

5. **Policymakers Must Understand and Prevent Unintended Consequences of Alternative Financing Mechanisms on Utility Business Practices, Where Demonstrated:** FAWG members are not aligned on the ability of securitization to reduce overall costs for customers for distribution system investments. Some see it as a scalable way to lower financing costs and smooth rate increases, while others caution it could increase financing costs for a utility's remaining distribution system investment needs, potentially negating initial savings.
6. **Social Equity Must Be Engineered In:** Alternative financing measures could provide meaningful bill relief for ratepayers, especially low- and moderate-income households and environmental justice communities. The FAWG recommends designing equity into financing approaches from the outset rather than relying on after-the-fact adjustments.

High-Level Recommendations of the Working Group

	Rate smoothing	Reduces asset financing costs	Leverages public financing	New private sources of capital	Assigns costs to beneficiaries	Dedicated equity component	Reduces overall system costs
Clean Energy Distribution Tariffs	○	○	○	◑	●	○	○
Securitization	●	●	○	○	○	○	○
Non-Utility Distribution Entitlement Lease	○	○	○	●	○	●	○
Public-Private Partnerships	◑	◑	◑	○	○	○	○
Environmental/ Energy Transition Bonds	●	●	●	○	○	○	○
State Revolving Fund	●	●	●	○	○	○	○
Climate Superfund	○	○	○	●	○	○	○
Carbon or Fossil Fuel Fee	○	○	○	●	○	○	○
DER Aggregation	○	○	○	●	◑	◑	●

Working Group Identified Considerations

- **In deciding a portfolio of potential measures, policymakers should consider for example:**
  - A state revolving fund (SRF) could serve as a low-cost source of capital for other proposals, such as public-private partnerships, DER aggregation, or energy/environmental transition bonds.
  - Revenue generated from a carbon/fossil fuel fee or climate superfund could be used as seed capital for an SRF, thus solving the capitalization problem without taxpayer funding.
  - DER aggregation could be combined with energy/environmental transition bonds to provide low-cost financing to participating building owners in a program.
- **Sequencing is also important; the viability of alternative measures depends on timing:**
  - *Near term (less than one year):* Clean energy distribution tariffs can provide a relatively fast pathway to support infrastructure deployment.
  - *Mid-term (two to five years):* Securitization, distribution entitlement leases, energy/environmental transition bonds, and SRF may require legislation, administrative review, and/or program development.
  - *Long term (greater than five years):* Climate superfund, carbon fee, and public-private partnerships would require new legislation and a favorable policy environment for program development and implementation.

Next Step in Financing the Transition

- A common finding and recommendation from each OET working group is that reducing both peak electric and gas demand will drive affordability, enable emission reductions, avoid future infrastructure investment, and result in greater utilization of the existing energy system.
- OET is launching a new Focus Area Working Group (FAWG) on **peak energy demand reduction**, focused on coordinated strategies to reduce both electric and gas peak demand that:
  - Avoid future infrastructure and supply costs (gas and electric),
  - Reduce customer bills,
  - Enable emissions reductions aligned with the CECP, and
  - Support Executive Order 654's 3.5 GW of demand reduction by 2035 target and EMT directive.

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Questions?

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Thank You!