MASSACHUSETTS
DEPARTMENT OF ENERGY RESOURCES

Implementations and Protections

Targeted Conversation | July 30, 2025

This presentation will be used to guide the Massachusetts Electric Rate Task Force's targeted conversation, designed to facilitate an open, inclusive dialogue and frame critical questions and opportunities.

Note: The contents of this presentation do not necessarily reflect the views or positions of the Massachusetts Department of Energy Resources.

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Ground rules & engagement

This work is complex – and your insight matters; let's focus on learning, listening, and shaping together!

Participation, Engagement, & Respect

- Everyone's perspective is valuable – this space works best when all voices are heard
- Respect differences in background, experience, and priorities
- Bring curiosity – ask questions and offer potential answers
- Focus on understanding others' goals and values, not just their positions
- It's okay not to have a solution – help us shape the right questions

Collaboration, Not Consensus

- This body is deliberative, it is not a decision-making space
- We don't need to agree on everything, but we should work toward shared understanding
- Where we disagree, help clarify what the tension is and why it matters

Transparency & Trust

- We'll be clear about how input is used
- Share what you can; identify when you're speaking on behalf of your organization or personally
- Materials, summaries, and key findings will be shared openly to support accountability

Focus & Productivity

- Stay on topic and honor the scope of the Task Force
- Raise related concerns, but help us stay anchored in the rate design and regulatory issues at hand
- Use the structures provided (i.e., expert sessions, targeted conversations, office hours) to deepen discussion
- Avoid discussion about open and ongoing proceedings at the DPU

Implementation and Protections

I. Dr. Nock's IRWG Recommendations

Peoples Energy Analytics & Carnegie Mellon University, Dr. Destenie Nock

Present on the Dr. Nock's recommendation to the IRWG on the Near- and Long-Term Reports

II. Lessons and Strategies for Implementing Time-Varying Rates (TVR)

Synapse Energy Economics, Melissa Whited

Present on customer acceptance, cautionary tales, and other recommendations for implementing default time-varying rates.

III. Reflections on California's TOU Transition

California Public Utilities Commission, Paul S. Phillips

Present on current and future pricing strategies for electrification, decarbonization, and affordability in California

IV. Advanced Metering Infrastructure (AMI) and TVR Implementation

Massachusetts Electric Distribution Companies

Present on the timeline and status of AMI deployment and future capabilities to offer TVR

Build technical knowledge

Provide an opportunity for **knowledge-building** by and amongst stakeholders, including those who have not traditionally been involved

Develop shared understanding

Converge towards **shared understandings** of the challenges and priorities

Targeted Conversations

The Rate Task Force brings together diverse stakeholders to reimagine how electric rates and the regulatory framework can drive an affordable, equitable, and decarbonized energy future.

- Targeted conversations are intended to facilitate open, inclusive dialogue and frame critical questions and opportunities
- The Rate Task Force will use the Massachusetts Interagency Rates Working Group's Long-Term Ratemaking Study and Recommendations as a starting point for discussion and knowledge building on rate designs, ratemaking, and regulatory mechanisms.

Facilitate open, inclusive dialogue

Engage in **open, inclusive dialogue** about complex ratemaking and regulatory issues outside of a regulatory proceeding

Frame critical questions and opportunities

Empower stakeholders to identify **critical questions and opportunities** for the advancement of rate design and ratemaking reform

Agenda

i. Introduction (10 minutes)

ii. Implementation (35 minutes)

iii. Default/Opt-Out (30 minutes)

iv. Break (5 minutes)

v. Protections (35 minutes)

vi. Closing (5 minutes)

Implementation (35 minutes)

Time-varying rates are key to an affordable, cleaner grid

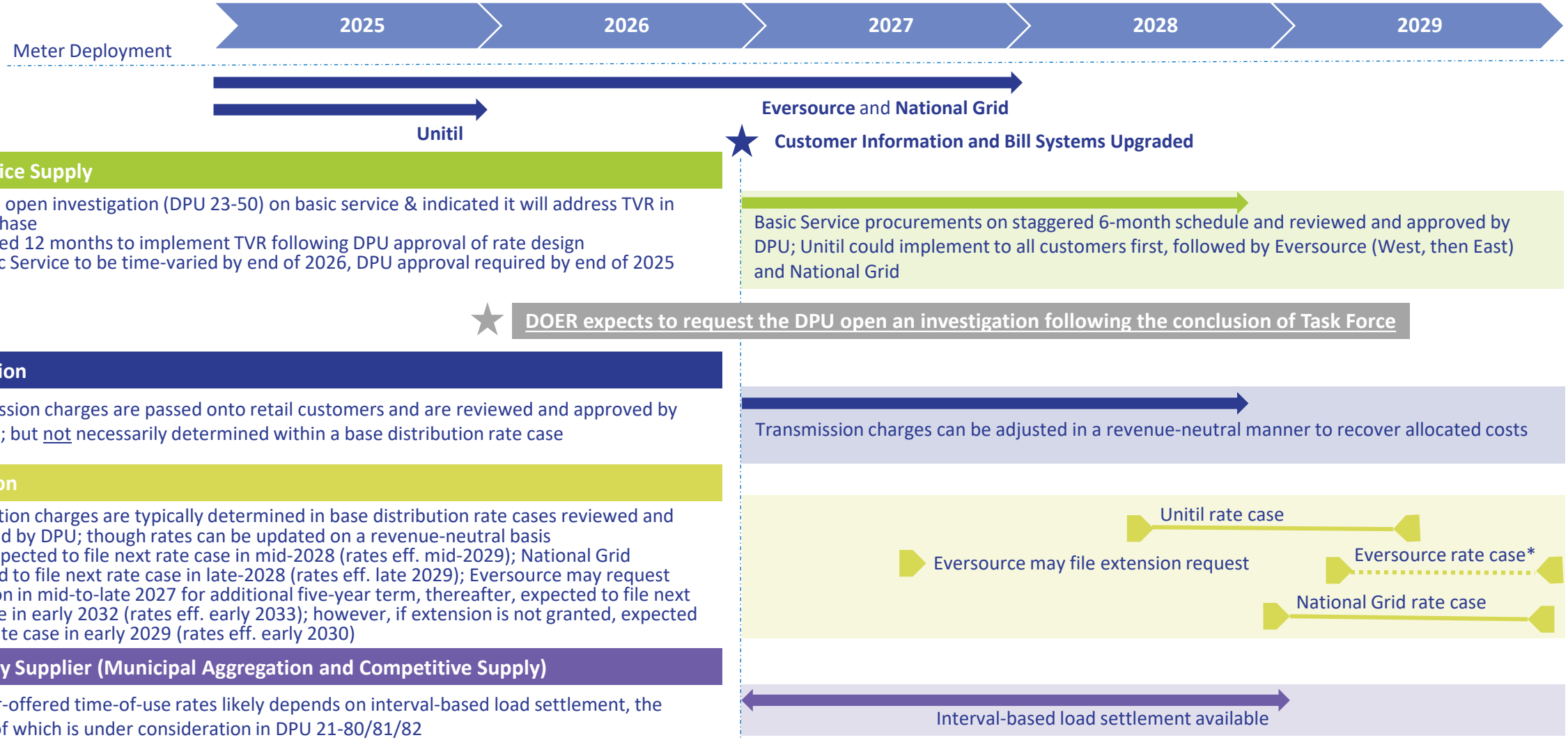
Expert Presentation Key Findings

- Massachusetts electric distribution companies (EDCs) can accommodate default time-of-use rates for supply, transmission, and distribution
- EDCs need guidance and approval on rate design to understand the requirements necessary for customer information system (CIS) design, development, and testing (~12 months required from rate approval)
- Additional complexity in rate design will require longer implementation timelines
- Robust customer education and tools (e.g., Rate Comparison Tool) are critical resources (to be discussed further in next topic); avoid rate shock and allow customers to acclimate

Key Takeaways

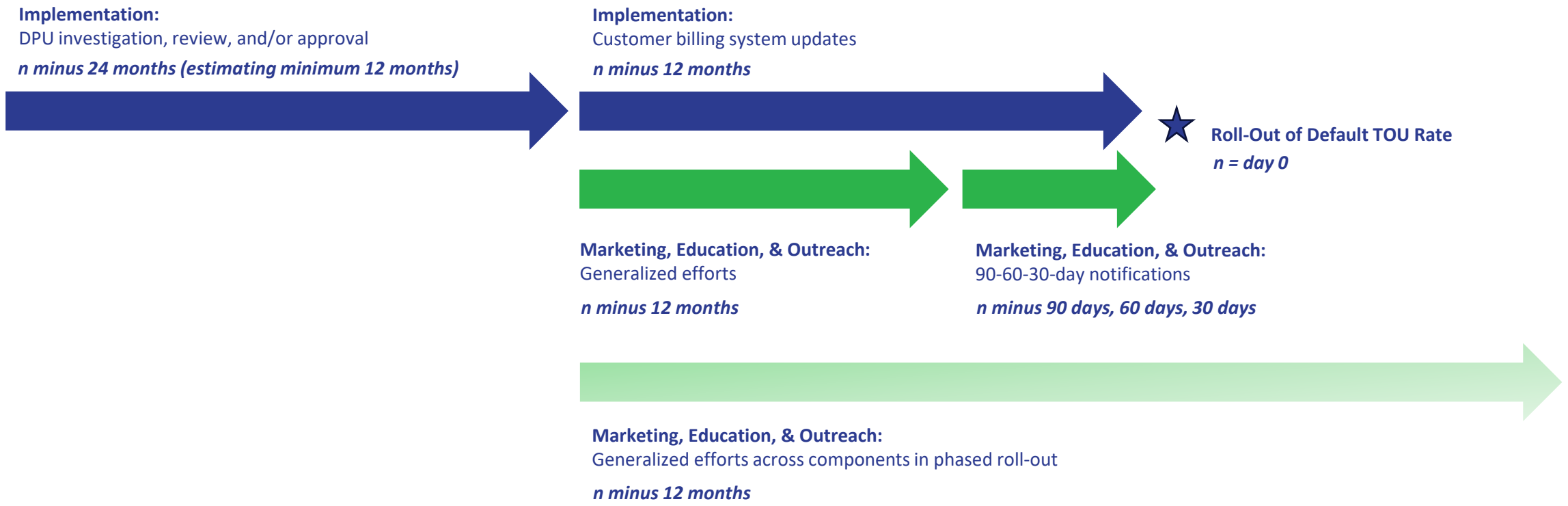
- The IRWG's recommendation of a default time-of-use (TOU) rate for residential customers that varies supply, transmission, and distribution will require a phased roll-out to account for the unique circumstances of the unbundled components of electricity rates, which will also allow customers to acclimate to an increasing portion of their rate/bill exposed to time-varying costs
- To implement the TOU rate as recommended, the EDCs need DPU direction on approved end state and transition glidepath (similar to CA Commissions' decision with blueprint for implementing TOU)

Delaying time-of-use rates will cost us all, different services allow us to roll them out gradually to ease customers into this shift



Leverage the opportunity to overlap planning, implementation, and outreach

The following timeline is generalized (i.e., aims to be applicable for each component: Basic Service, transmission, distribution, and third-party supply) and offered as a starting point for conversation.



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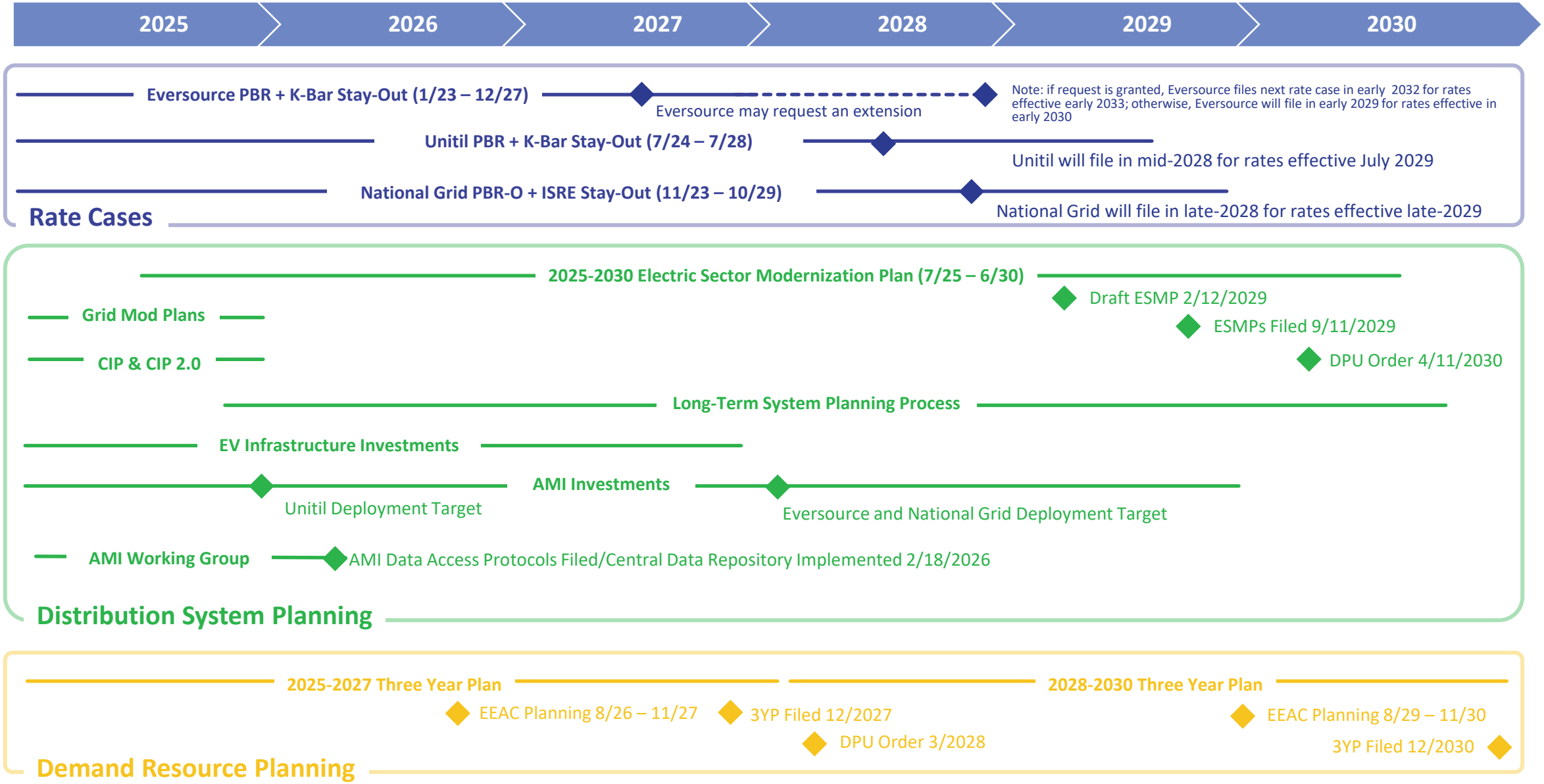
Delaying implementation of TOU rates limits inclusion in planning



Default/Opt-Out TOU (35 minutes)

Time-of-Use Rates Offered Within & Beyond Massachusetts

Several Massachusetts and neighboring utilities already offer time-of-use rates.

	Massachusetts			Neighboring Jurisdictions		
	Unitil Massachusetts	**Concord** Municipal Light Plant	**Groton** Municipal Light Plant	**Eversource** New Hampshire	**Unitil** New Hampshire	**National Grid** New York
Participation	Opt-In for EV Owners	Opt-in	Seasonal Opt-In	Opt-in	Opt-in	Seasonal Opt-In
Peak Period(s)	Mid-peak: 6am-3pm On-peak: 3pm-8pm	12pm-10pm	4pm-8pm	7am-8pm	Mid-peak: 6am-3pm On-peak: 3pm-8pm	Summer: 2pm-6pm Non-summer: 7am-11pm
Peak:Off-Peak Ratio	2.15	1.76	Winter: 6.14 Non-winter: 10.0	3.03	4.47	5.97

Basic service design is outside the scope of the IRWG; however, it provides an example of the decisions and impact of time-varying different components

Load-Weighted Average Hourly Locational Marginal Pricing (LMP)

Example: designed based on 2024 Western Massachusetts (WCMA) load zone, Day Ahead demand and LMP

Peak Period: Hour Ending 17-20 (4-8pm)

Load-Weighted Average	Feb-July 2024	Aug-Jan 2024
On-Peak LMP	$51.13 per MWh	$68.07 per MWh
Off-Peak LMP	$31.43 per MWh	$49.17 per MWh
Peak to Off-Peak Ratio	1.6	1.4

Targeted Peak to Off-Peak Ratio

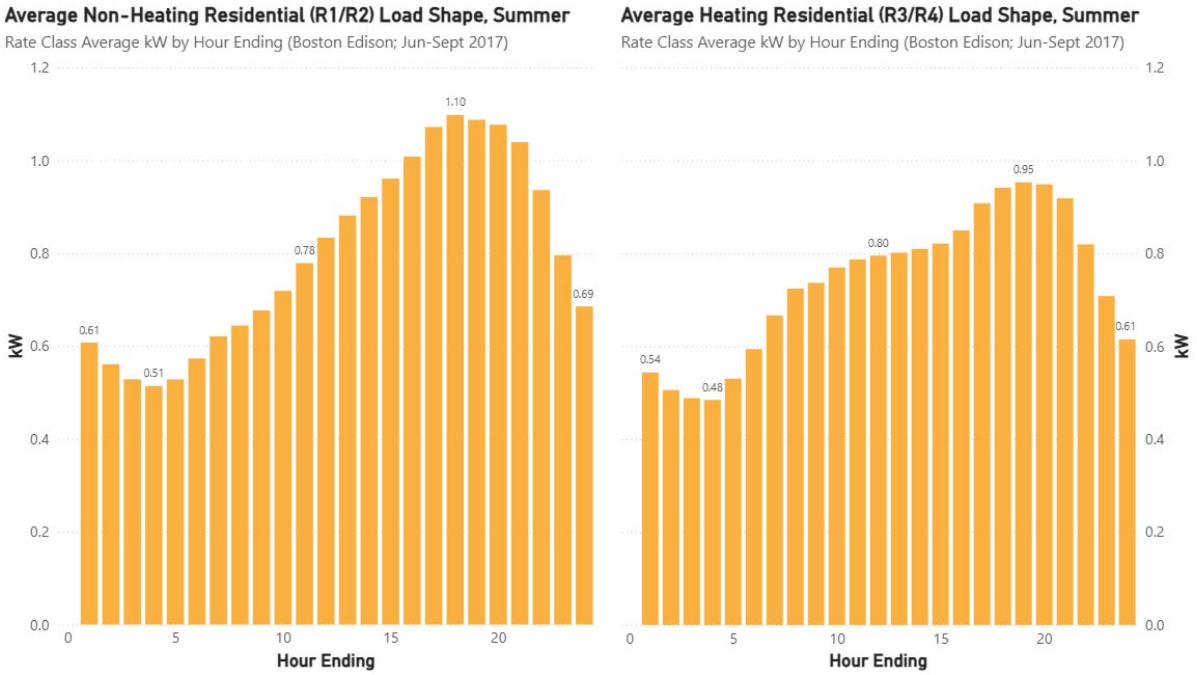
Example: designed to be revenue neutral to average non-heating residential load shape (more on that later)

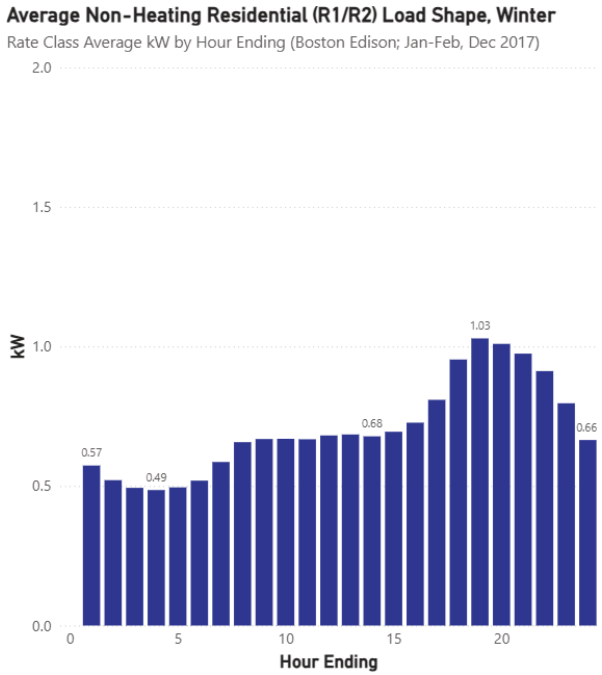
Peak Period: Hour Ending 17-20 (4-8pm)

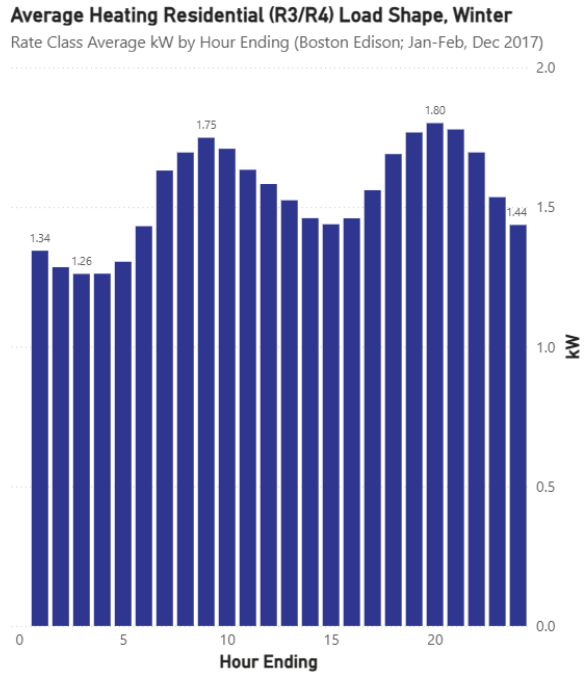
Aug-Jan 2025	Basic Service Only	Total Delivery Rate
Non-TOU Rate	$0.14884 per kWh	$0.33401 per kWh
On-Peak Rate	$0.24291 per kWh	$0.42808 per kWh
Off-Peak Rate	$0.12145 per kWh	$0.30662 per kWh
Peak to Off-Peak Ratio	2.0	1.4

Customer load shapes drive extent to which customers will experience bill increases or decreases following TOU rate implementation

TOU rates that are more cost-reflective than flat volumetric charges will be more equitable and fairer for customers







- Prior to full AMI deployment, utilities can evaluate load profiles of sample (e.g., Long Island Power Authority [LIPA] evaluated sample of 30,000 customers prior to rolling-out opt-out TOU rates to approximately 1,000,000 customers)

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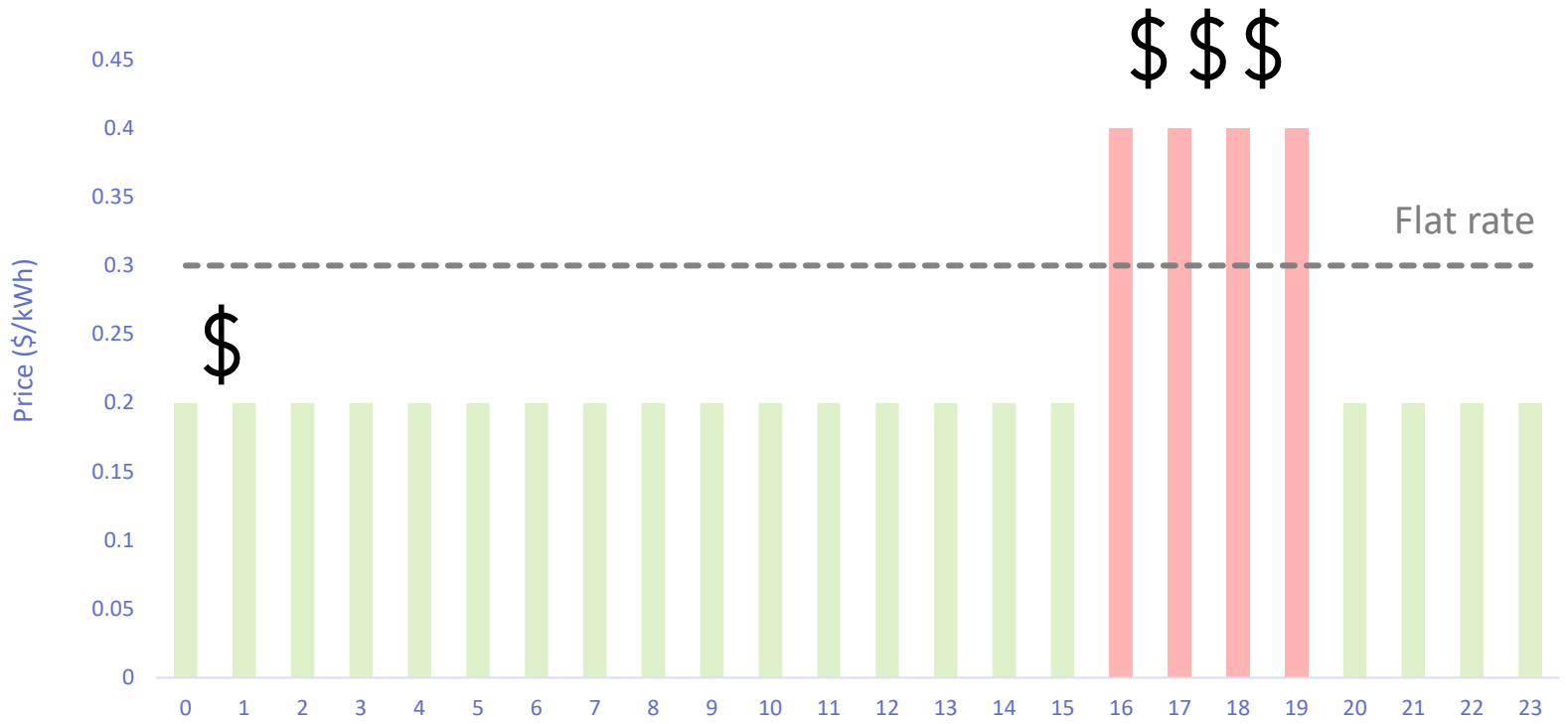
Illustrative TOU Rate

Peak Period: 4-8pm, Peak to Off-Peak Ratio of 2:1



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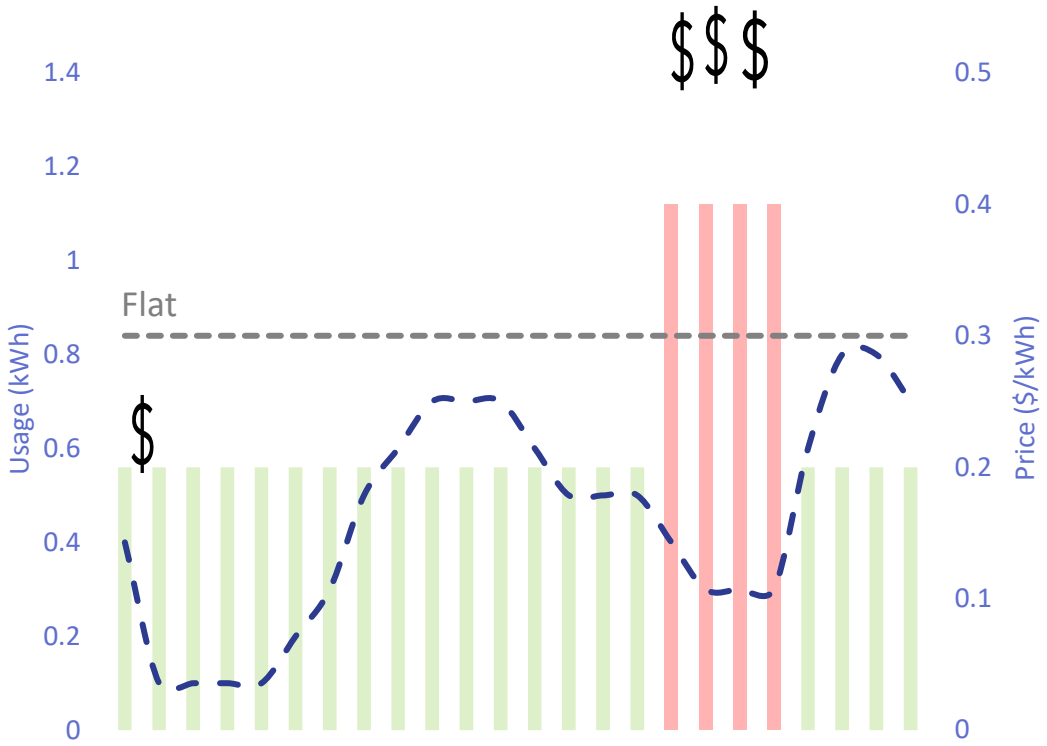
Structural Winners

Illustrative Demand Profile of Structural Winner



Without any load shifting

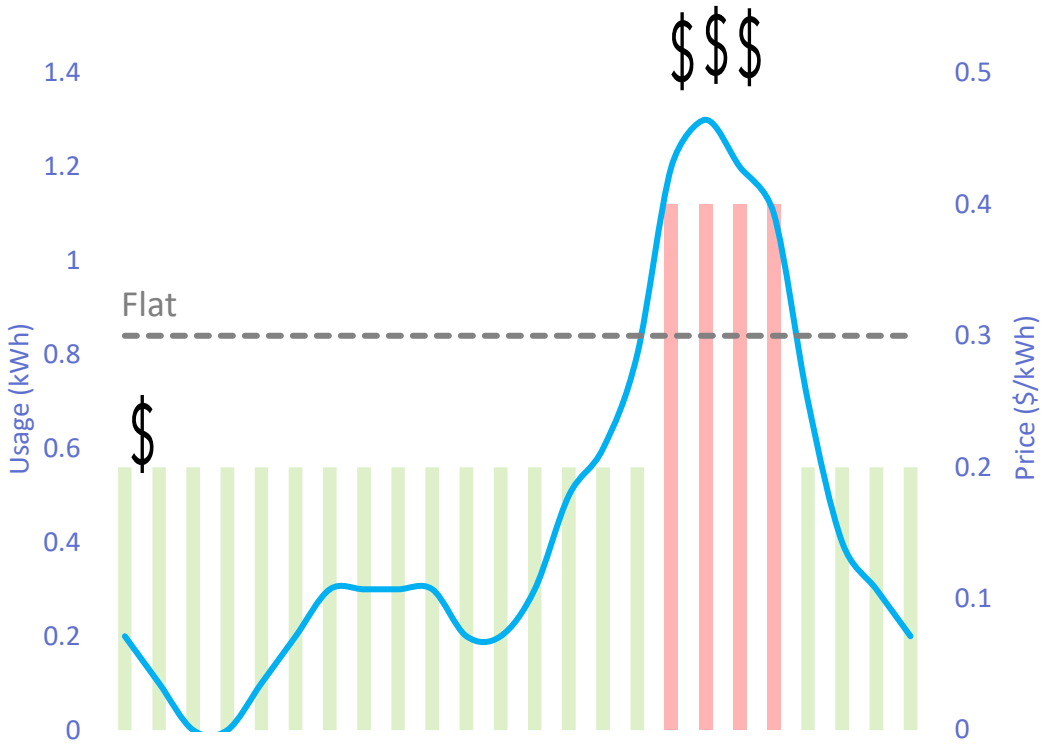
- Consumption aligns with lower priced off-peak periods
- **Currently being overcharged for electricity** under flat rates relative to the true costs they impose on the system

Considering load shifting

- Flexibility to shift load to off-peak, facilitated by automation

Structural Losers

Illustrative Demand Profile of a Structural Loser



Without any load shifting

- Consumptions aligns with higher priced peak periods
- Currently being **undercharged for electricity** (i.e., paying less than the cost they impose on the system); other customers are subsidizing this customers electricity use

Considering load shifting

- Less flexibility to shift load to off-peak

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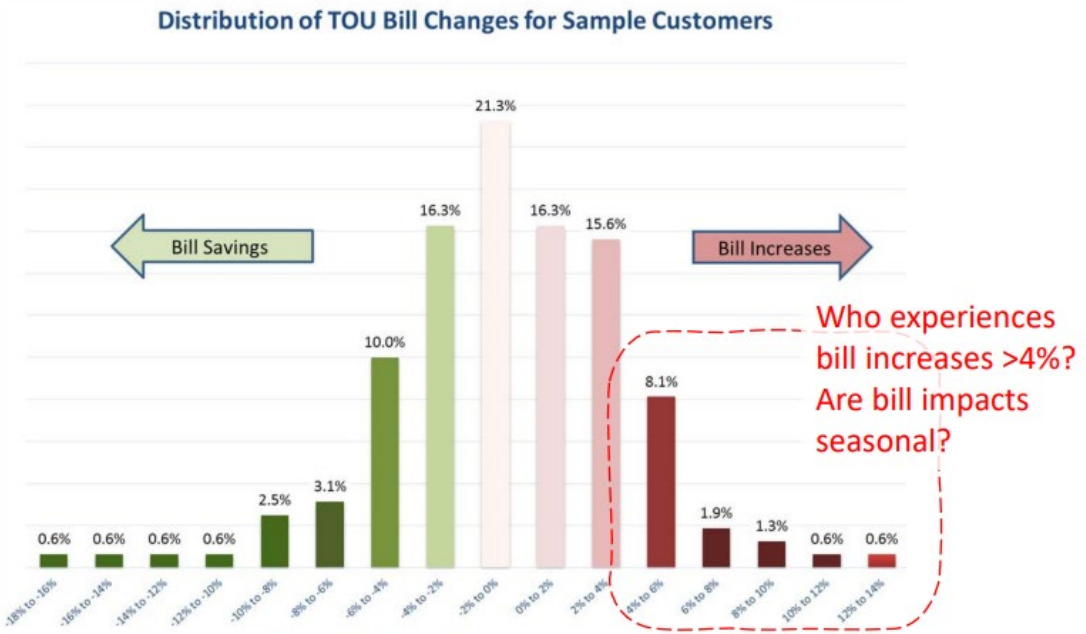
Benefits of Opt-Out TOU Over Time

Short-term winners and losers

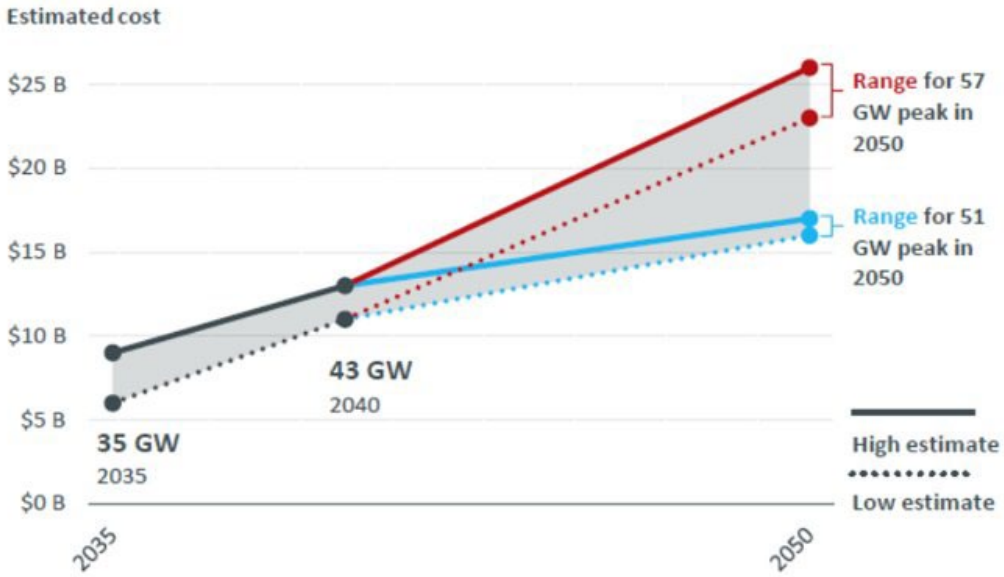
- Often more winners than losers (e.g., Minnesota, California, Long Island, etc.)
- Some customers will experience higher bills, without load shifting



Source: Xcel Minnesota, Docket No. E002/M-17-775

Long-term savings for everyone

- Without action to promote load shifting, the New England power grid will cost an extra $10 billion, raising costs significantly for everyone
- Opt-out TOU rates significantly increases participation, unlocking maximal load shifting benefits



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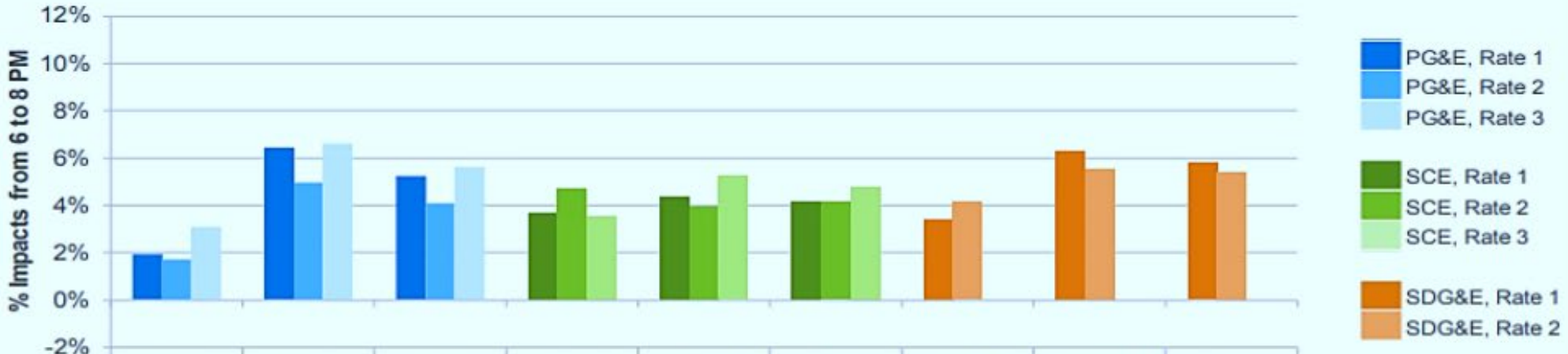
Results of "Mild" TOU Rates Boost Confidence in Prospective "Spicy" TOU and Demand Flexible (Dynamic) Rates

➢ ***2022-23 Load Impact Studies:*** *Residential and EV TOU rates yield promising load shift and bill impacts.*

- **Residential TOU**: 2% – 7% interior peak (6-8 pm) load shift, but 1.2% to 7.7% from 4-9 pm.
- **EV TOU Rates**: 14-20% for SCE, 14.7% for SDG&E, and 10-16% for PG&E.



		CARE	Non-CARE	All	CARE	Non-CARE	All	CARE	Non-CARE	All
		PG&E			SCE			SDG&E		
		Territory Wide								
Rate 1	% Impact	2.0%	6.5%	5.2%	3.7%	4.4%	4.2%	3.4%	6.3%	5.8%
	kW Impact	0.02	0.07	0.06	0.04	0.06	0.05	0.02	0.05	0.05
Rate 2	% Impact	1.7%	5.0%	4.1%	4.7%	4.0%	4.2%	4.1%	5.6%	5.4%
	kW Impact	0.02	0.06	0.05	0.05	0.05	0.05	0.03	0.05	0.04
Rate 3	% Impact	3.1%	6.6%	5.6%	3.5%	5.2%	4.8%			
	kW Impact	0.03	0.07	0.06	0.04	0.07	0.06			

Break: 5-10 minutes
(if time allows)

Protections (35 minutes)

IRWG recommend customer protection measures as complement to default TOU implementation to protect vulnerable customers

Other jurisdictions have right-sized customer protections to their unique context and priorities

Bill Protections: qualifying customers pay the lower of their bill under TOU rates or under the flat standard rate for period after implementation (e.g., 12 months)

- Cost of bill credits for customers that would have paid higher bills under the TOU rate are socialized – i.e., a **"risk-free trial"**
- Protections could be extended for vulnerable customers or customers could be shifted to the lower cost rate at the conclusion of bill protection period
- For LIPA, the utility does not provide shadow bills, and credit (if applicable) is provided after 12 billing periods

Shadow Billing: present customers with what they would have paid under a flat rate + additional tools to contextualize how their usage patterns translate to bill impacts

- Implemented prior to TOU roll-out can provide customers an opportunity to shift patterns before first billing period
- One of several communications tools for enabling customers to understand TOU rates
- Has been implemented in other jurisdictions, e.g., PG&E

Considerations for Vulnerable Customers

- Several jurisdictions have shown that low-income customers benefit at a higher rate than other groups (e.g., PG&E pilot found most LI customers saved ; LIPA found that 80% of customers would benefit without changing their routine)
  - **Implication: Excluding low-income customers from default TOU may result in greater harm than good**
  - Opportunity to leverage AMI data to assess dynamics in LI-customer bill impacts

- Any bill increase for low-income or other vulnerable customers can have severe consequences
  - **Implication: robust bill protections are needed to avoid harms for vulnerable customers**

- Tiered discount rates will offer dramatic, means-based bill savings for low-income customers
  - **Implication: The magnitude of adverse impacts from TOU rates would be significantly reduced for customers who qualify for the discount rate**

Making Opt-Out TOU Work for Customers

Expert Presentation Perspectives

- Need tailored communications, using customer usage data, to help customers understand TOU rates
  - EDCs in Massachusetts beginning to offer tailored information based on AMI to customers (e.g., Rate Comparison Tool, Sense)
- AMI data can be leveraged to:
  - Identify at-risk customers
  - Monitor energy-limiting behavior
  - Develop targeted program/technology interventions to improve outcomes for vulnerable customers, e.g., smart thermostats
- Starting with moderate TOU rates, especially peak to off-peak price ratios, increases acceptance

Measures Taken in Other Jurisdictions

Long Island

- One-year bill protections for all customers
- Enroll in waves, emphasizing structural winners first
- Exclude LI customers who are identified as “structural non-benefiters”

California

- One-year bill protections for all customers
- Exclude subsets of vulnerable customers from opt-out TOU enrollment
- Identify “significant non-benefiters” for targeted communications
- Income graduated fixed charges that reduced cost shift from solar customers to non-solar customers, enabling 8-10% lower summer peak rates and reduced burden on LI customers

Maine (in progress)

- One-year bill protections for all customers

All: began with reasonable peak to off-peak ratio (e.g., 2:1)

Closing

Next Steps

Expert Presentation Session: Marketing, Education, and Outreach

August 4, 2025 from 1:00-3:30pm