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23-3604-PET VPPSA Petition to Establish an EV/EVSE Tariff Rider Program for its Member Utilities
Public Workshop

January 11, 2024

Sarah E. Braese, Assistant General Manager, Regulatory and Power Resources

PUC Public Workshop Agenda

1. Summary of Proposed Tariff Rider Program
2. Market Scan & Competitive Analysis
3. Proposed Tariff Rider Structure & Key Features
4. Cost Components & Rate Structures
5. Implementation Timeline & Potential Risks
6. Q&A

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ABOUT VPPSA

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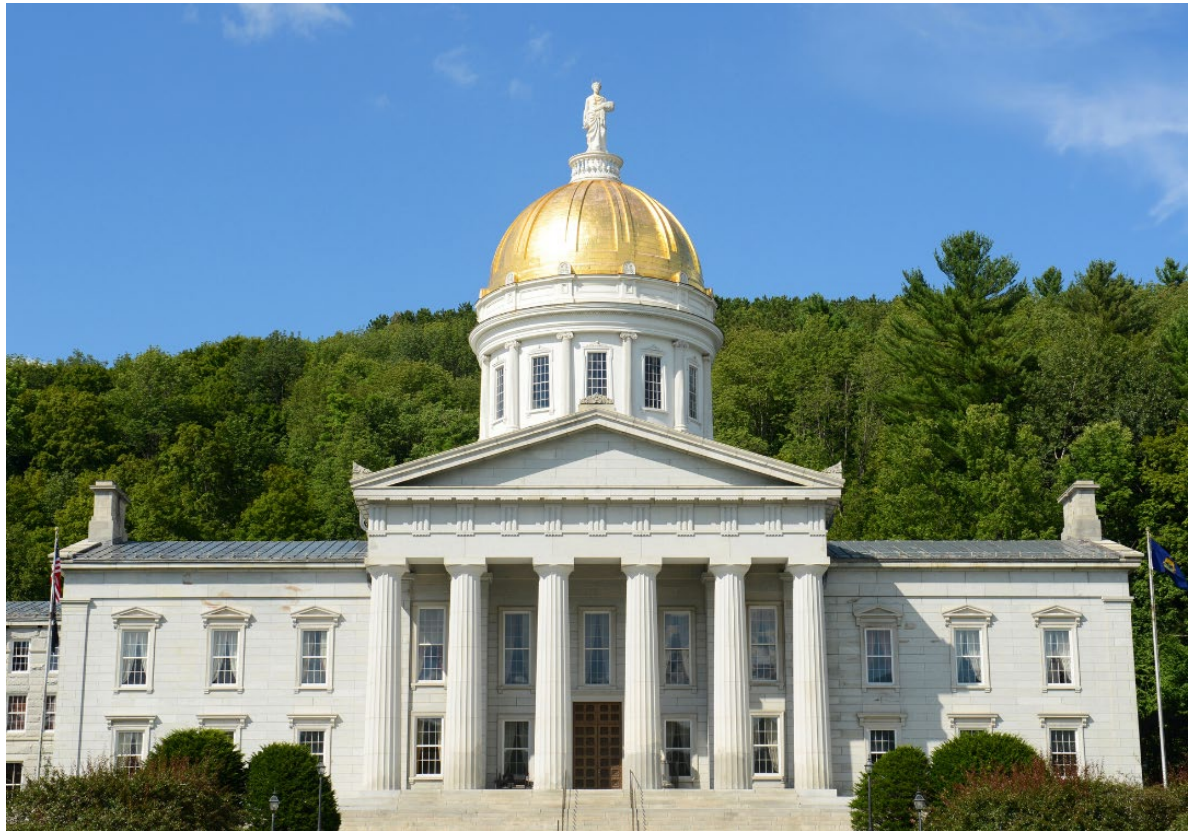
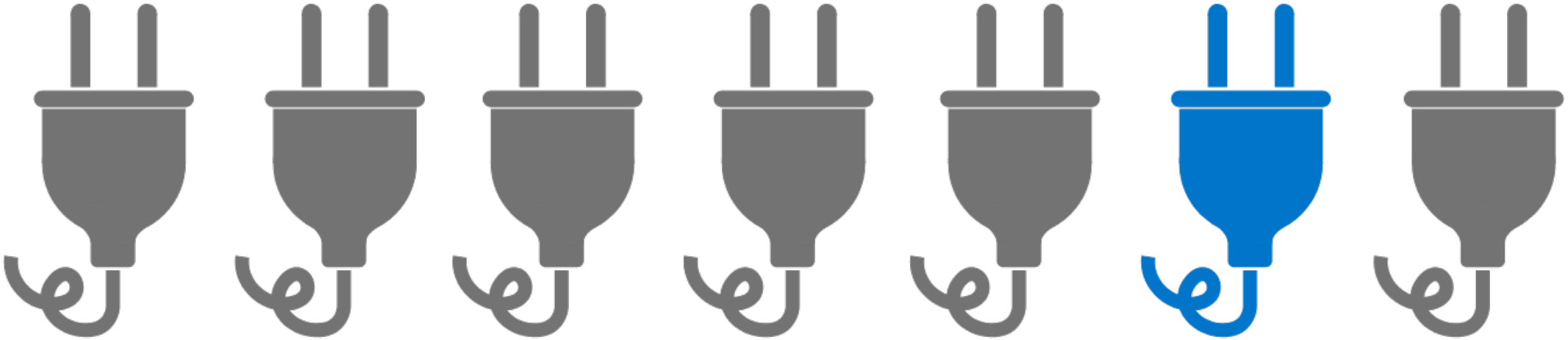
VPPSA was established by the Vermont Legislature in 1979.

- **Mission to support and advance the interests of its members.**
- **Joint action and services amplify members' capacity and voice in a complex and evolving energy industry.**



1 in 7 Vermonters Are Served by Public Power



VPPSA Full Member Utilities

VPPSA Member Utility	Total Customers *
Barton Village	2,202
Village of Enosburg Falls	1,800
Hardwick Electric Department	4,870
Village of Jacksonville	729
Village of Johnson	998
Ludlow Electric Light Department	3,856
Lyndon Electric Department	5,935
Morrisville Water & Light Department	4,413
Northfield Electric Department	1,877
Village of Orleans Electric Department	673
Swanton Village Electric Department	3,943
TOTAL	31,294

** Total Customers as of 2022 EEC Template Filings*

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- Power Supply: Purchasing & Generation
- Financial Services & Planning
- Rate Design & Resource Planning
- Legislative & Regulatory Advocacy
- IT Security and Technology Services
- Public Affairs and Community Outreach
- GIS and Field Services
- Renewable Energy Standard

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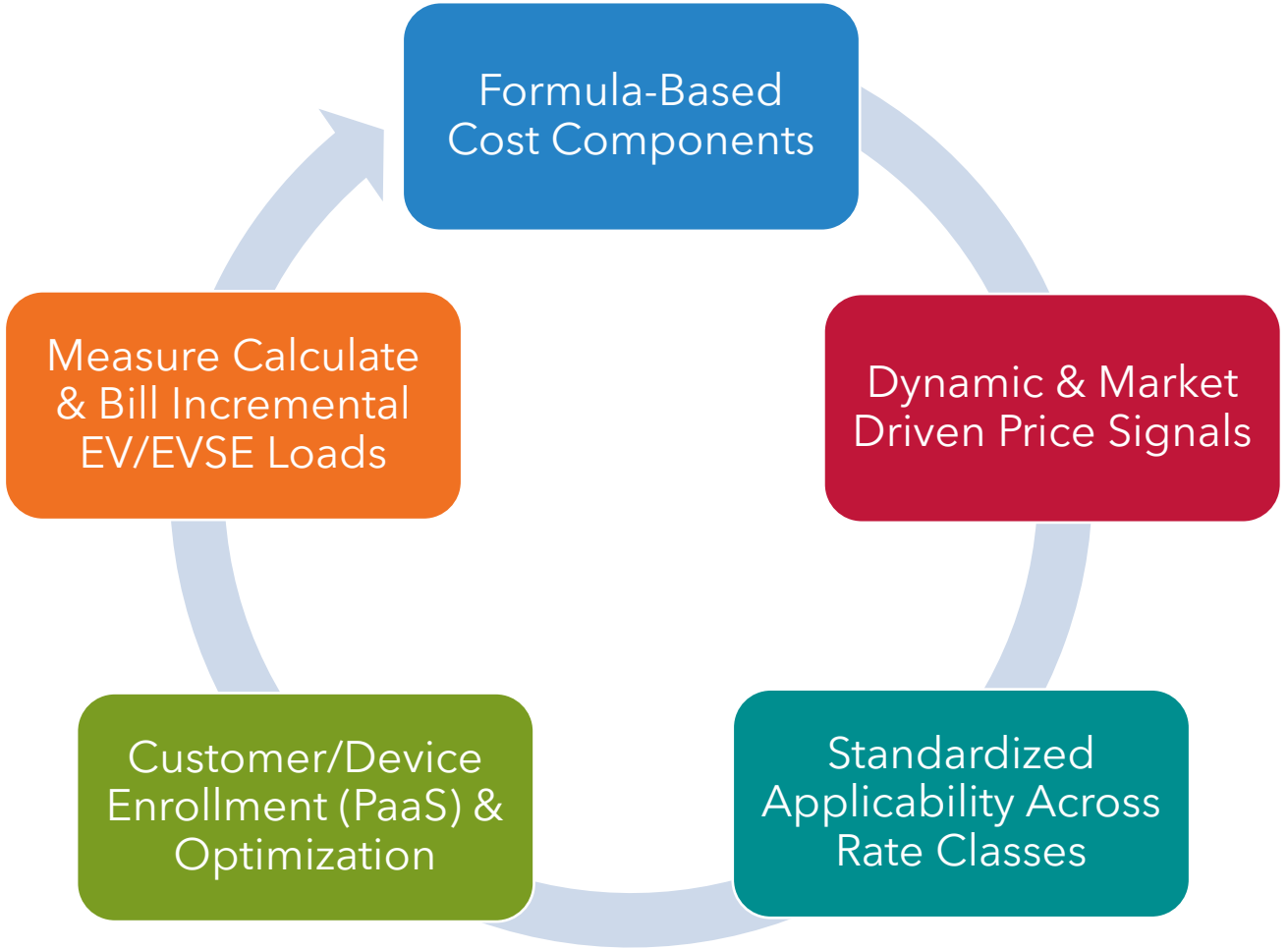
PROGRAM SUMMARY

Summary of Proposed Tariff Rider Program

VPPSA seeks to develop and deploy a *Dynamic, Market, and Formula-Based EV/EVSE Tariff Rider Program*

Structure & Core Features



VPPSA's Guiding Principles for Proposed Solution

Affordability
(Short & Long-Term)

Local Energy Democracy

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Sustainability & Growth

Strategic Standardization

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MARKET SCAN & COMPETITIVE ANALYSIS

Competitive Market Analysis (Programs & Products)

Competitive Market Analysis

Traditional Markets

- **Device Dependent**
- **License Subscription + Per Device Cost Structures**
- **Restricted Value for Pre-Determined Parties**
- **Command and Control**
- **Built on Existing Technology Infrastructures/Technology Stacks**
  - AMI, SCADA, OMS, Billing/CIS, 3rd Party License Agreements
- **Owning Rights to Data & Usage**

Emerging Markets

- **Device Agnostic**
- **Platform Technologies/PaaS Cost Structures**
- **Market-Based Value for Multiple Parties**
- **Bidirectional Communication Mechanisms**
- **Utilizes Open-Source Standardization to Leverage Participation**
- **Sharing Rights to Data & Usage**

EV Rate Design Challenges

Measuring & Integration

- Need interval usage data (time-based)
- Need Billing integration solution
- Need reliable, bidirectional communication pathways
- AMI/MDM not available until after deadline.

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STRUCTURE & CORE FEATURES

Structure & Core Features: Formula-Based Cost Components

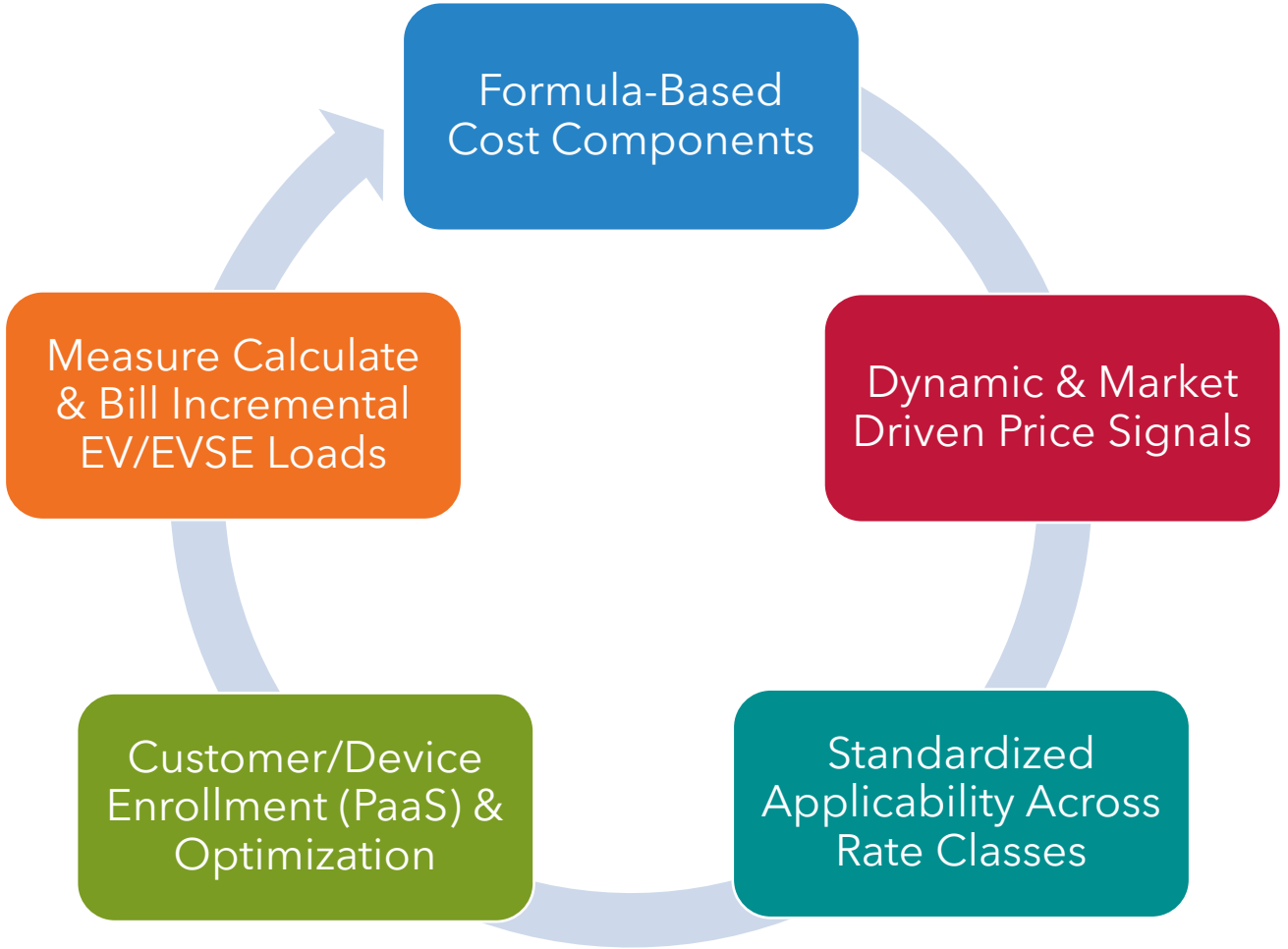
Cost Components & Revenue Requirements:

- Base Energy/Transmission Costs + Adder

Tariff Rider aligns incremental cost with EV Time-of-Use (TOU)

- Market based, time differentiated price signals
- Critical cost components are observable in markets and consistent across all members
- Device measures and reports incremental loads and usage

Structure & Core Features



Structure & Core Features: Dynamic & Market Driven

Market Cost Based, Hourly TOU Rate:

- Captures daily, day-ahead ISO-New England energy market conditions
- Rate shaped to manage EV usage away from peak and expensive hours
- Customer chooses when to charge EV based on market price signals and their preferences
- Day to day hourly price variations driven primarily by variations in the Day Ahead LMP
- Other rate components are relatively fixed in the short run

Structure & Core Features: Standardized Applicability

Tariff Rider aligns incremental cost with EV Time-of-Use (TOU)

- Consistent formula structure across member territories
- Structure readily replicated across members & rate classes
- Provides for transparency; simple to update as underlying cost & usage trends shift
- No disruption to existing rate design for other usage types

Structure & Core Features: Customer/Device Enrollment & Optimization

Cloud-based Platform as a Service (PaaS):

- Two-way communication
- Customer and Device enrollment
- Communicate day ahead pricing signals to Individual customers, aggregators, OEM's
- Enables customer choice around load management & related value streams

Structure & Core Features: Measure, Calculate & Bill Incremental Loads

Measure

- Device Usage

Calculate

- Monthly Usage by Dynamic TOU Price Signals

Bill

- Calculations Reported in Common Format (or Integration) for Billing of Incremental Loads

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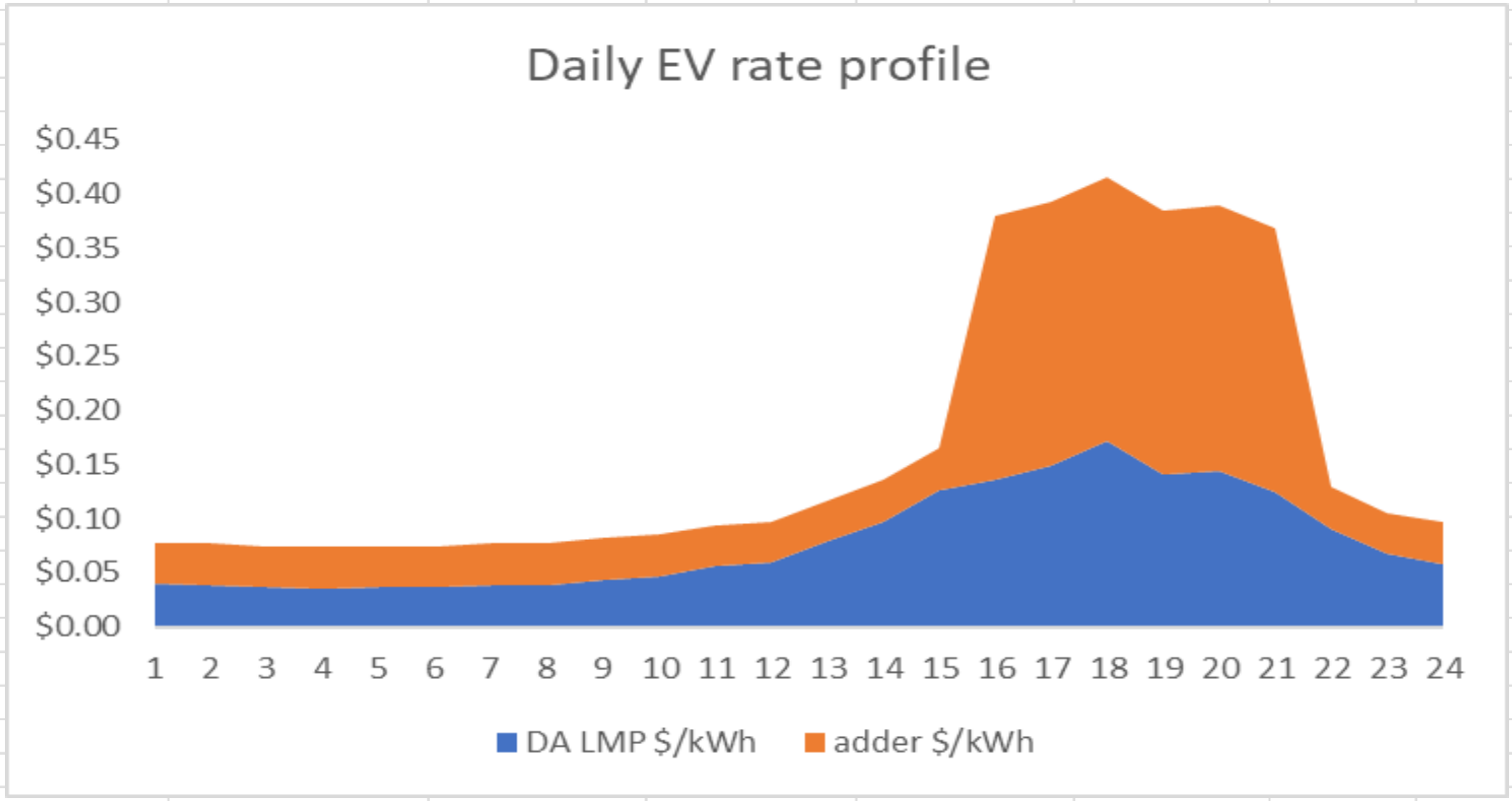
COST COMPONENTS & RATE STRUCTURE

EV Rate Development

EV illustrative Examples - Hourly Rate Profile

Day Ahead LMP overlaid with incremental adder

Peak Period	hour 16-21				*LMP from 7/23/2023*
Peak hour	hour 18				

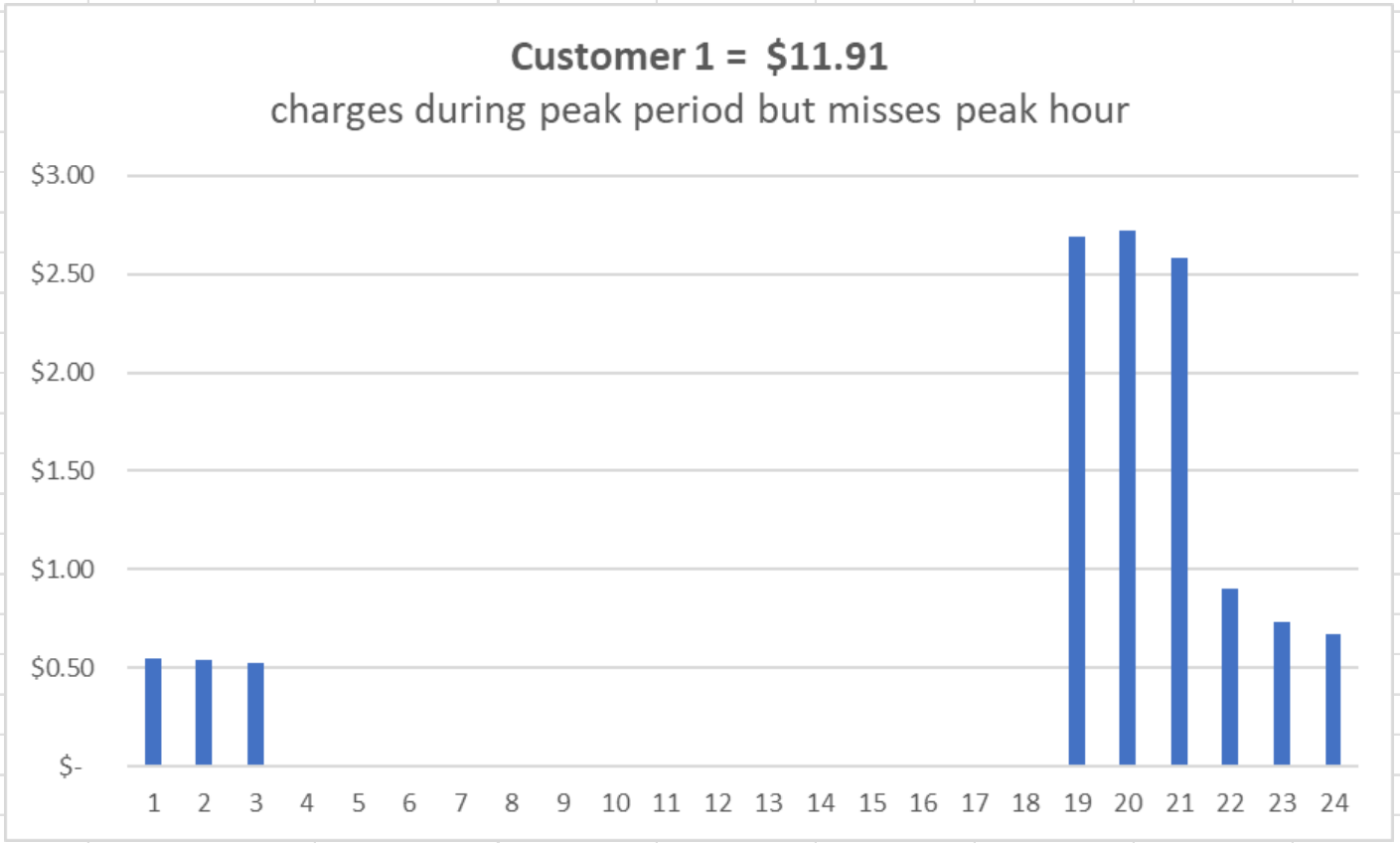


EV Rate Development

EV illustrative Examples - Sample customers

Three Customers -different Daily charging schedules

L2 charger 7.2 kw	Peak Period hour 16-21	Peak hour hour 18



EV Rate Development

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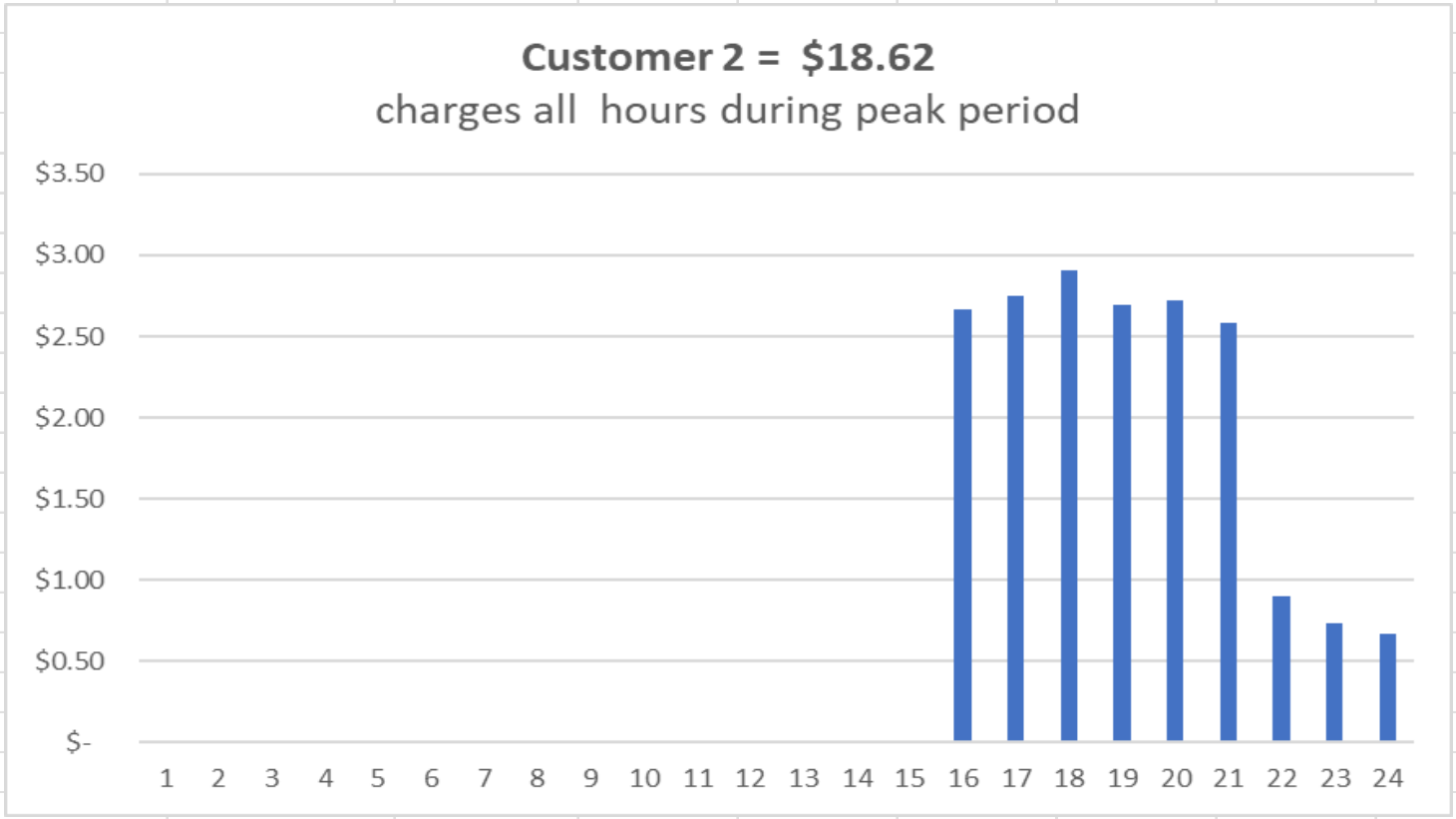

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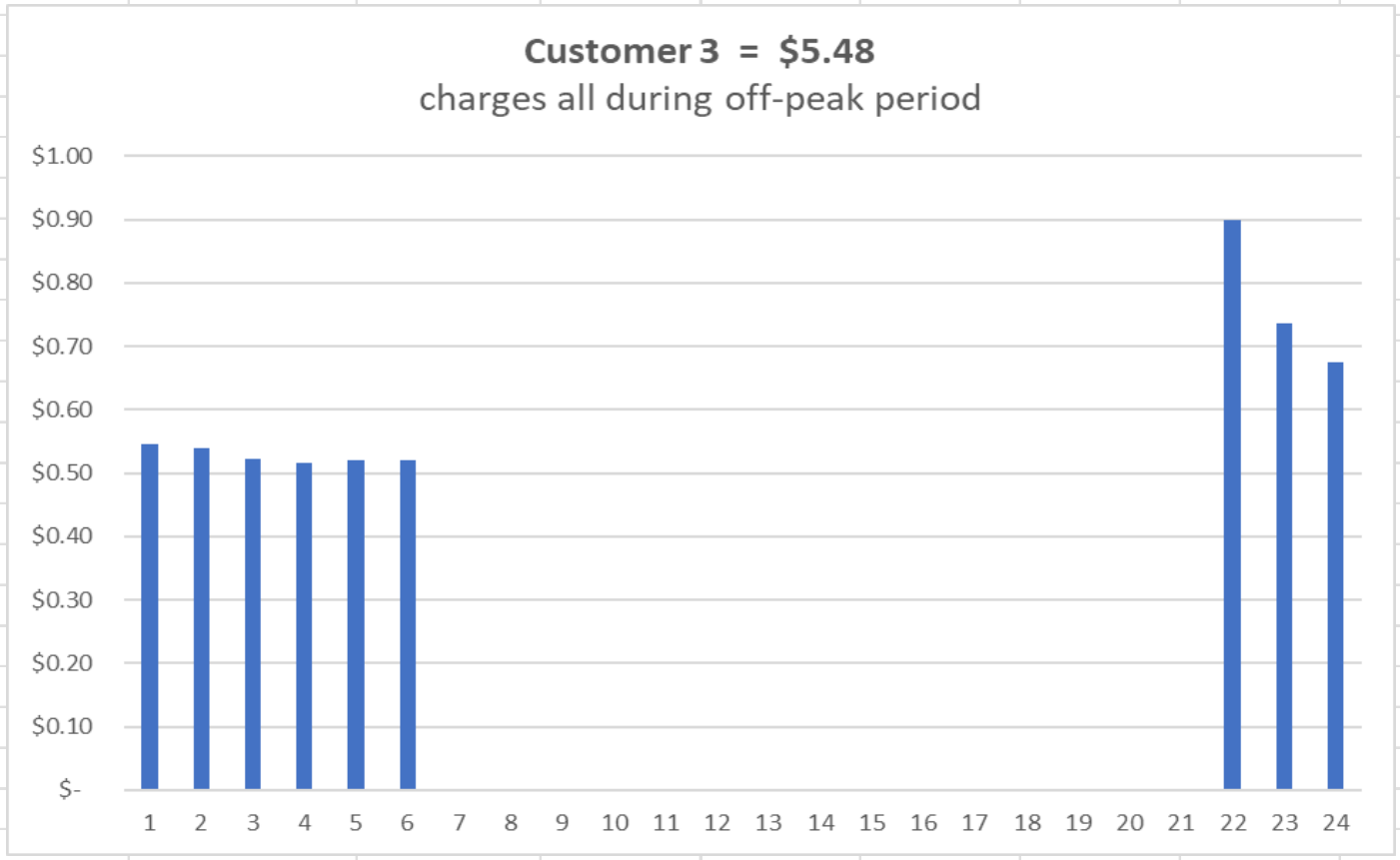

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IMPLEMENTATION TIMELINE & POTENTIAL RISKS

Ambitious Implementation Timeline

Risks to Implementation Timeline

1. **Implementation & Risk Analysis: Unanticipated Risks May Emerge that Impact Timeline**
2. **Certain technology co-dependencies may limit or delay program launch beyond June 30, 2024.**
3. **Status and Outcome of PUC Regulatory Proceeding may restrict use of proposed program structure and strategy**

Questions?

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