# OEC Summer Meeting

## Time-of-Use Rate Trends

Rich Macke

VP, Economics, Rates, and Business planning

August 13, 2024

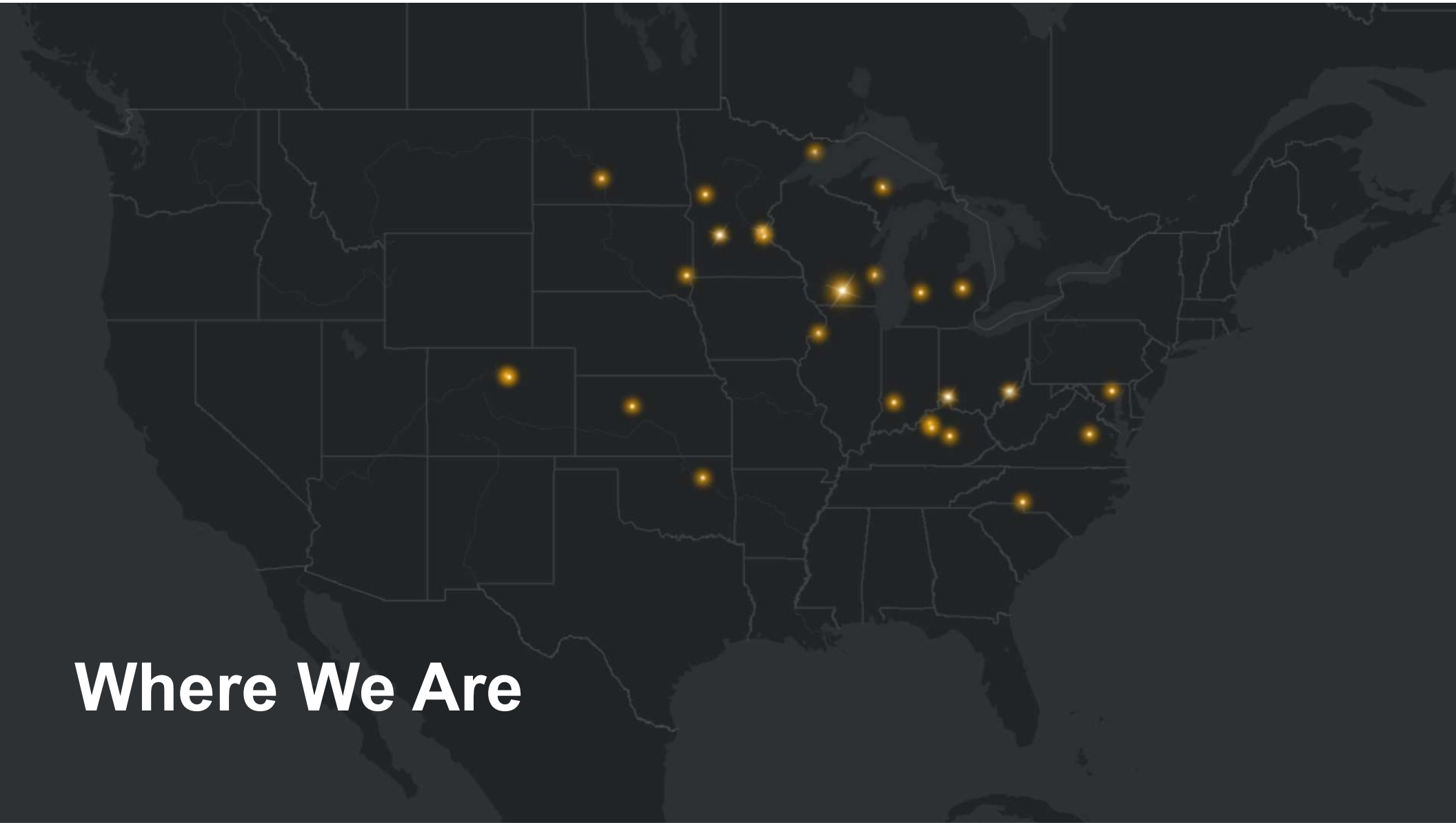
# Who We Serve

Serving utilities, private industry, government entities, and associations across North America

- **Established in 1974**
- **Employee-Owned**
- **Independent**

**Service Areas Include:**

- Communications Infrastructure
- Renewable Energy Resources
- Industrial Facilities
- Utility and Data Analytics
- Rates and Finance
- Transmission and Distribution
- Utility Automation



# Where We Are

# Our Driving Forces

# THE POWER OF WE

## OUR MISSION

Forward-thinking professionals helping clients & colleagues achieve their goals

## OUR VISION

We are committed to uniting innovative solutions with proven approaches to become an industry leader for the benefit of clients and colleagues

## OUR VALUES

People

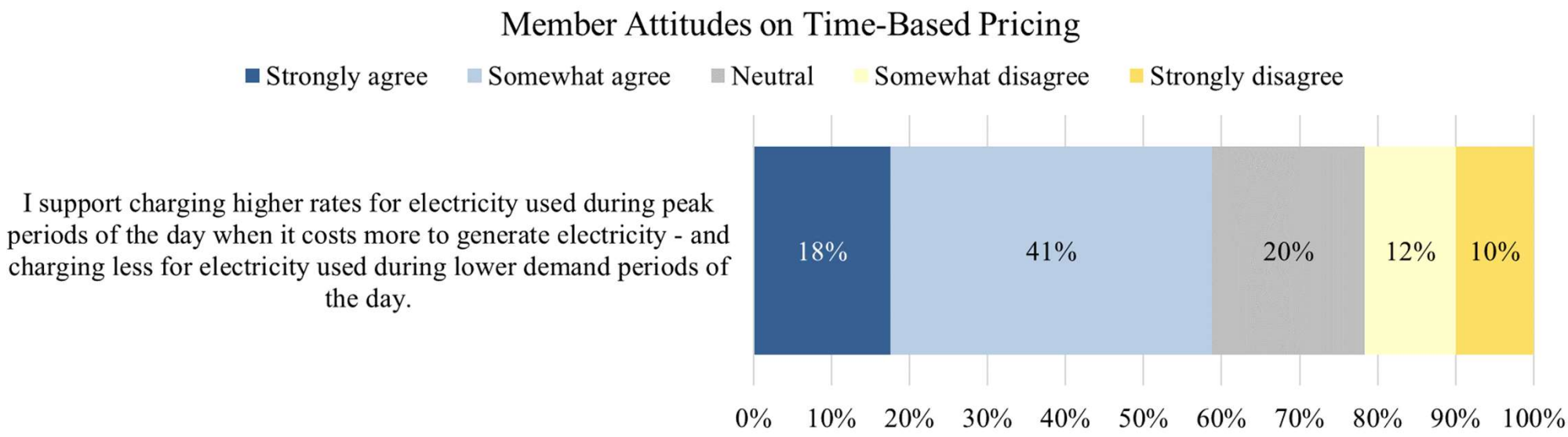
Problem-solving

Progress

# Understand Your Membership

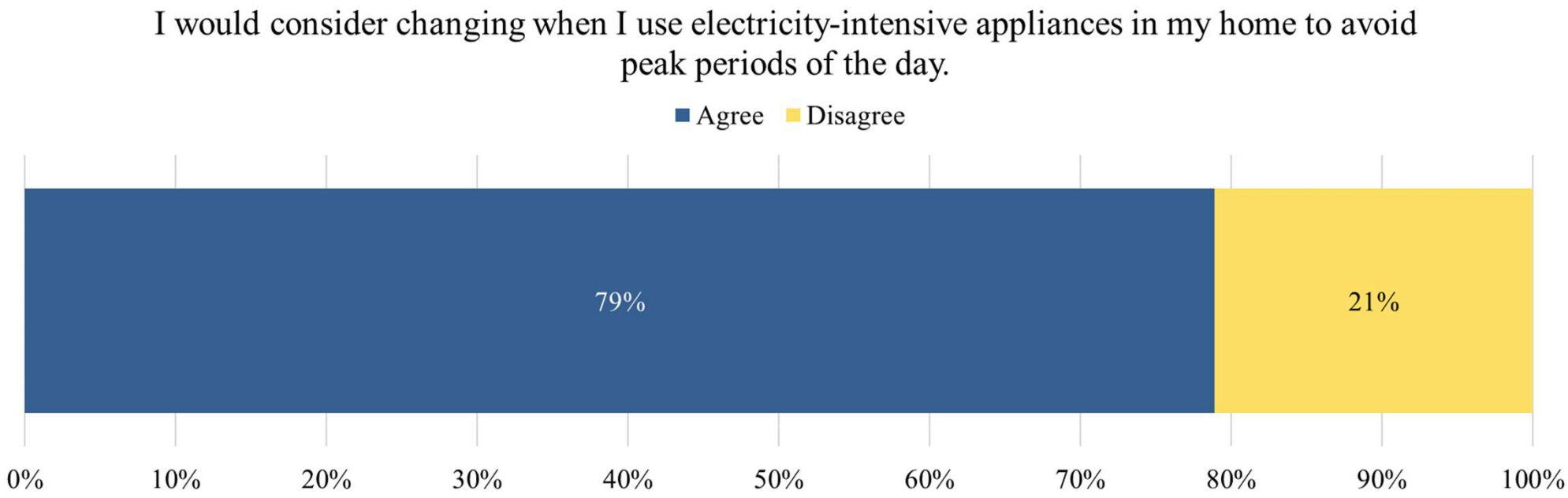
- Members are becoming increasingly sophisticated
  - New technologies
  - Savings opportunities
  - Environmental concern
- One rate, one message ≠ all
- Targeted messaging can increase member engagement and participation in programs and innovative rates

# Time of Use Energy Rates



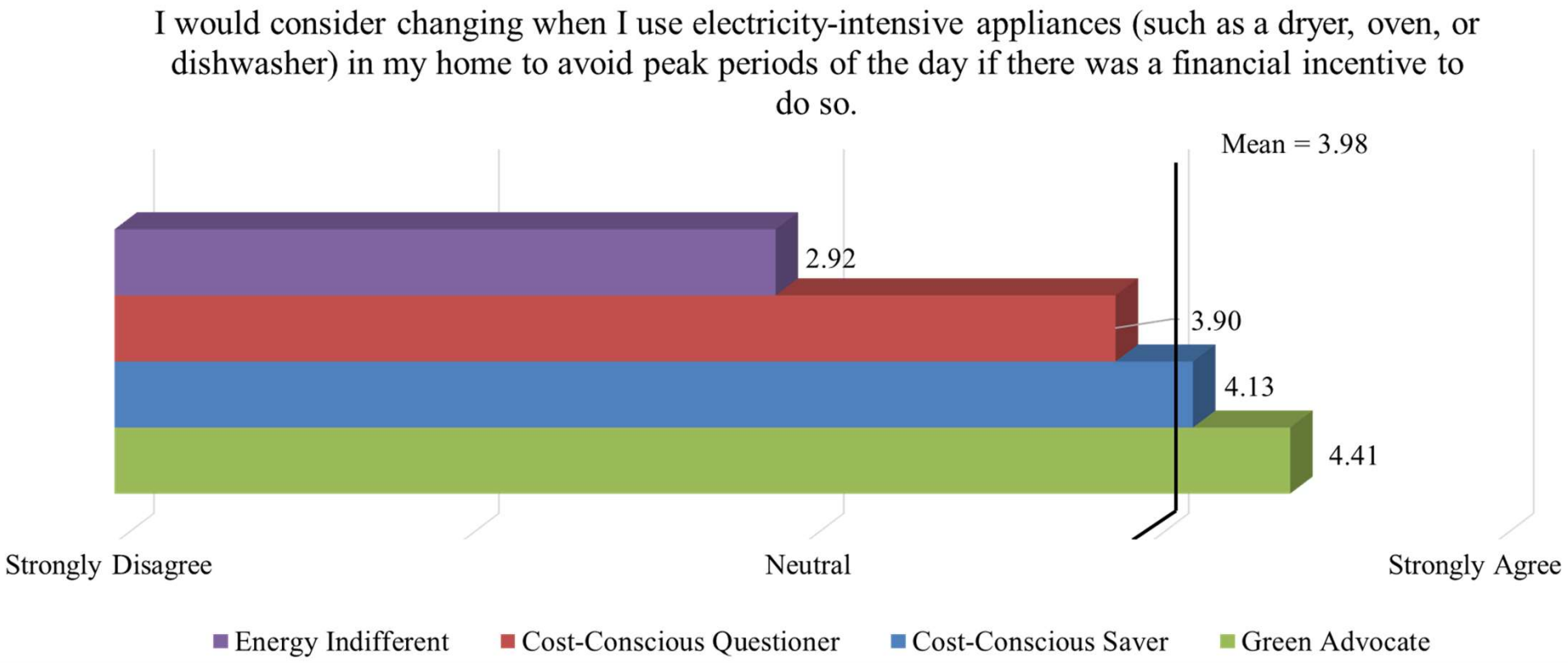

**Nearly 60 percent of the membership indicated that they support the cost-basis for TOU rates.**

# Personalized Action – “I would…”

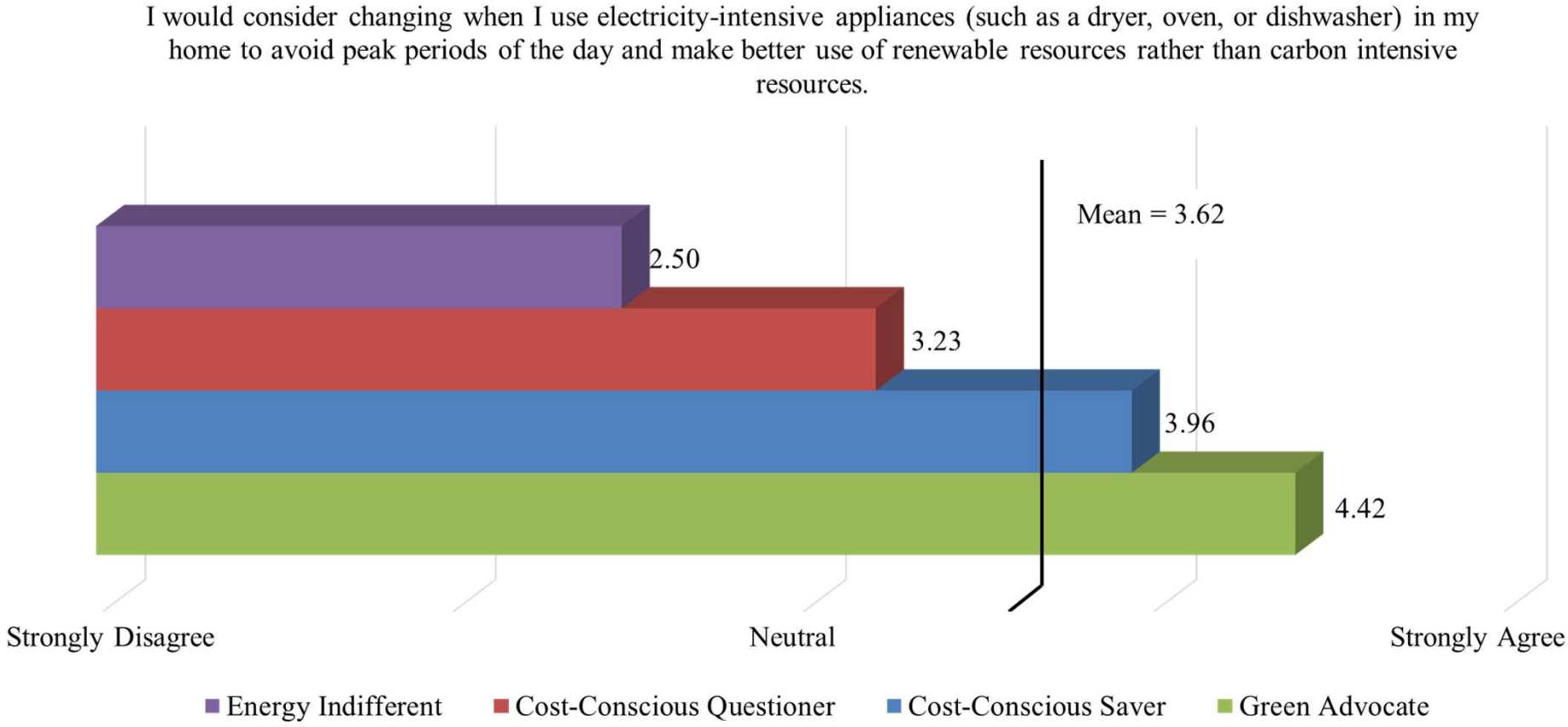



- Nearly 80 percent of the membership indicated that they strongly or somewhat agree that they would consider shifting their usage for either a financial or environmental reason

# I would, because…Financial



# I would, because…Renewable



# Industry TOU Rates

- Many IOU's (~50%) offer TOU as an optional rate for residential
  - Participation is low
- Much less than 50% of Co-ops offer TOU as an option
  - Participation is low
- Trend towards Standard or Opt-Out TOU rates
  - Metering capabilities
  - Time variable cost transparency and savings opportunities
  - In home technologies and engaged consumers
  - EV and DG
  - Voluntary rates rarely achieve > 10% participation
  - Voluntary = selection bias

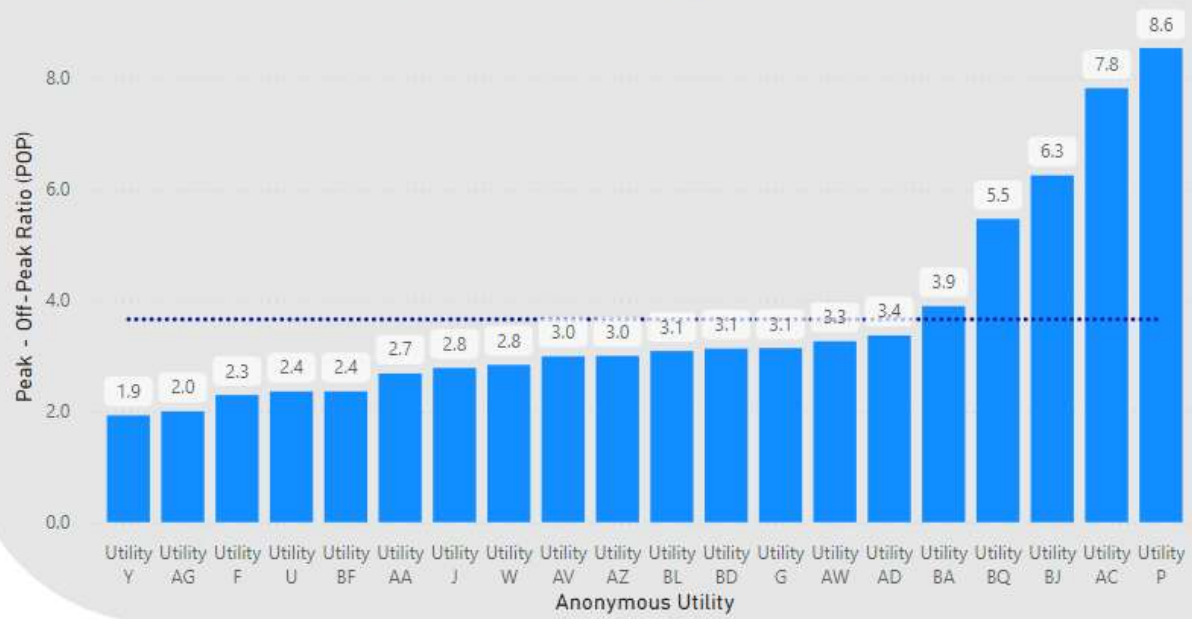
# Designing TOU Rates

- The basis for TOU rates is nearly always Power Supply and Transmission costs
  - Specifically, the capacity and transmission billing during peak times
  - Less so, the energy component
- Most TOU rates have 2 periods, but opportunity for super off-peak/nighttime pricing, especially for EVs
- The Peak Times is typically 3-5 hours to capture peak costs
- Most TOU rates have a 2:1 to 4:1 peak to off-peak pricing (POP) ratio
  - E.g., a $0.20 per kWh peak and $0.10 per kWh off-peak = 2:1
- Can TOU cause a rebound peak on distribution system?

# PSE Client Survey

## Survey Results

### Residential Time-Of-Use Rate Peak to Off-Peak Ratio




| Anonymous Utility | Peak - Off-Peak Ratio (POP) | Percent of Residential Consumers on TOU Rate |
|---|---|---|
| Utility AA | 2.7 | 0.0% |
| Utility AC | 7.8 | 0.0% |
| Utility AD | 3.4 | 0.0% |
| Utility AG | 2.0 | 0.0% |
| Utility AV | 3.0 | 0.0% |
| Utility AW | 3.3 | 1.9% |
| Utility AZ | 3.0 | 0.3% |
| Utility BA | 3.9 | 3.5% |
| Utility BD | 3.1 | 0.1% |
| Utility BF | 2.4 | 0.0% |
| Utility BJ | 6.3 | 0.1% |
| Utility BL | 3.1 | 0.1% |
| Utility BQ | 5.5 | 0.1% |
| Utility F | 2.3 | 13.1% |
| **Average** | **3.7** | **11.1%** |

# Effectiveness of TOU Rates

- Do customers respond?

[Time-Varying Rates are Moving from the Periphery to the Mainstream of Electricity Pricing for Residential Customers in the United States (brattle.com)]

FIGURE 2 THE ARC OF PRICE RESPONSIVENESS BY TECHNOLOGY


- Is it a fairer rate design?
  - Customer pays for a lot of on-peak but avoids the peak that matters?
  - Customer reduces during most on-peak times but not during peak that matters
  - Imprecise

?

- PSE is initiating measurement & verification to assess for co-ops

# Let's Hear from Your Peers


- Bill Barnhart
- Residential TOU


- Tom Wolfenbarger
- TOU and EVs

# Hancock-Wood EC Time-of-Day Billing

OEC SUMMER CONFERENCE

8/13/2024

# What were HWECs Goals?

- Rate increase due to inflation
- Provide opportunity for members to save on electric bill
- Reduce Class Subsidies
- Members pay costs that they impose on the system
- Recover fixed costs through fixed charges (service charge)
- Recover variable costs through variable charges (kwhr charge)
- Prepare for EVs
- Unbundle bills
- Time-of-day rate & flat rate collect the same revenue

# The Plan

- Implement/integrate Meter Data Management System (MDM)
- Communicate/Educate Need for Rate Increase
- Complete Cost of Service (COS) Study
- Rate Redesign – move all Residential and General Service non-demand to TOU structure
- Communicate/Educate TOD/TOU Rate Structure
- Software modifications for TOD rates and unbundled billing
- Rate Increase effective June 2023

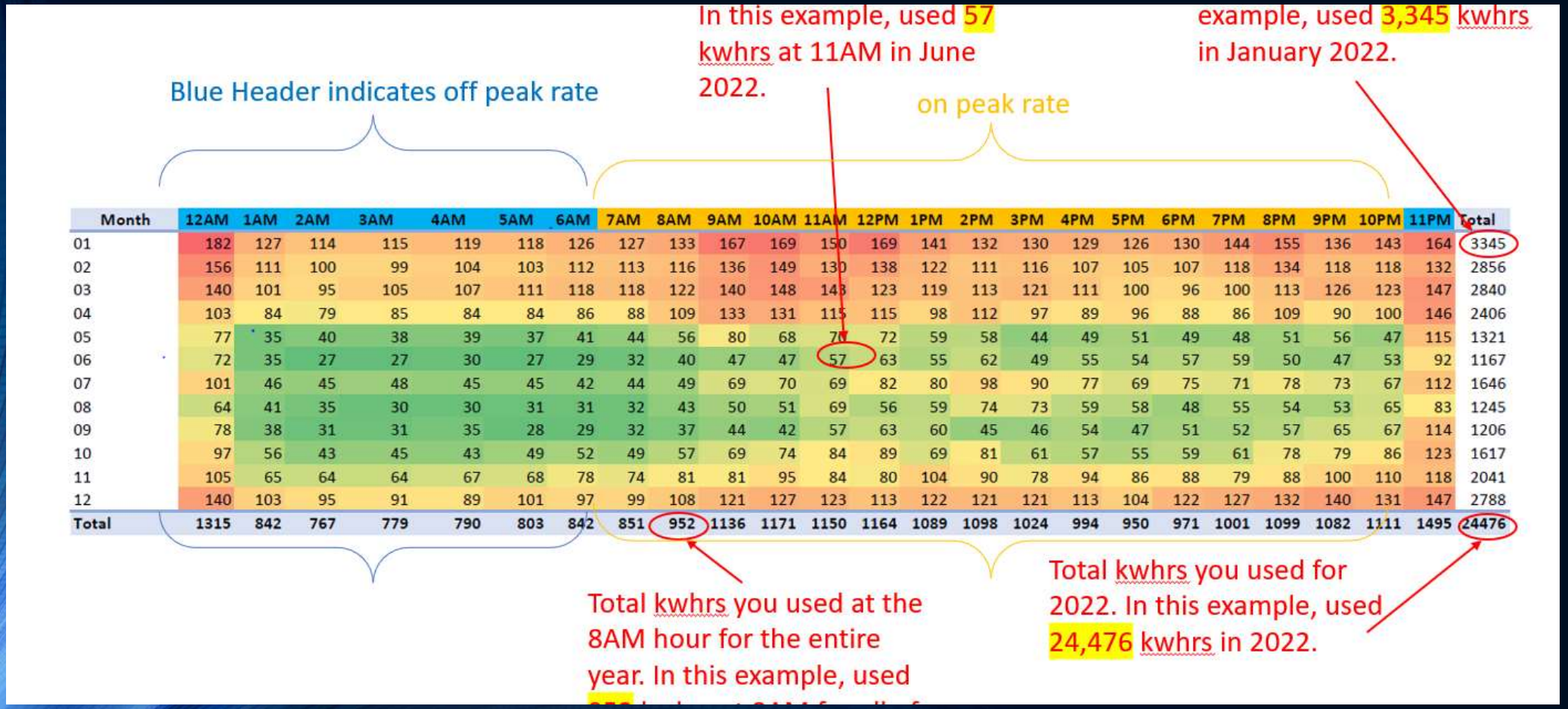
# The "Actual" Timeline

- 2020 Reconfigure AMI
- MDM part of Technology Work Plan and approved for 2022 budget
- COS study presented to the Board, November 2022.
- Rate Design presented at January 2023 Board Meeting. Target June 1st implementation.
- Rate Committee Meeting February 2023
- New Rate Design approved at February 2023 Board Meeting.
- New Rate Design first seen on July 2023 bills
- November 1st modified meter reading dates

# Cost of Service Study - 2022

- Accurate Hourly Metering Data
  - 2018 Cost of Service Study: *assumed* 38% residential demand factor
  - 2022 Cost of Service Study: *actual* 43% – 48% residential demand factor
- Approximately an 8% increase for residential class
- Last distribution rate increase was 2018

# Rate Committee Meeting - Review of Trustee's 2022 Usage




| Month | 12AM | 1AM | 2AM | 3AM | 4AM | 5AM | 6AM | 7AM | 8AM | 9AM | 10AM | 11AM | 12PM | 1PM | 2PM | 3PM | 4PM | 5PM | 6PM | 7PM | 8PM | 9PM | 10PM | 11PM | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 182 | 127 | 114 | 115 | 119 | 118 | 126 | 127 | 133 | 167 | 169 | 150 | 169 | 141 | 132 | 130 | 129 | 126 | 130 | 144 | 155 | 136 | 143 | 164 | 3345 |
| 02 | 156 | 111 | 100 | 99 | 104 | 103 | 112 | 113 | 116 | 136 | 149 | 130 | 138 | 122 | 111 | 116 | 107 | 105 | 107 | 118 | 134 | 118 | 118 | 132 | 2856 |
| 03 | 140 | 101 | 95 | 105 | 107 | 111 | 118 | 118 | 122 | 140 | 148 | 143 | 123 | 119 | 113 | 121 | 111 | 100 | 96 | 100 | 113 | 126 | 123 | 147 | 2840 |
| 04 | 103 | 84 | 79 | 85 | 84 | 84 | 86 | 88 | 109 | 133 | 131 | 115 | 115 | 98 | 112 | 97 | 89 | 96 | 88 | 86 | 109 | 90 | 100 | 146 | 2406 |
| 05 | 77 | 35 | 40 | 38 | 39 | 37 | 41 | 44 | 56 | 80 | 68 | 70 | 72 | 59 | 58 | 44 | 49 | 51 | 49 | 48 | 51 | 56 | 47 | 115 | 1321 |
| 06 | 72 | 35 | 27 | 27 | 30 | 27 | 29 | 32 | 40 | 47 | 47 | 57 | 63 | 55 | 62 | 49 | 55 | 54 | 57 | 59 | 50 | 47 | 53 | 92 | 1167 |
| 07 | 101 | 46 | 45 | 48 | 45 | 45 | 42 | 44 | 49 | 69 | 70 | 69 | 82 | 80 | 98 | 90 | 77 | 69 | 75 | 71 | 78 | 73 | 67 | 112 | 1646 |
| 08 | 64 | 41 | 35 | 30 | 30 | 31 | 31 | 32 | 43 | 50 | 51 | 69 | 56 | 59 | 74 | 73 | 59 | 58 | 48 | 55 | 54 | 53 | 65 | 83 | 1245 |
| 09 | 78 | 38 | 31 | 31 | 35 | 28 | 29 | 32 | 37 | 44 | 42 | 57 | 63 | 60 | 45 | 46 | 54 | 47 | 51 | 52 | 57 | 65 | 67 | 114 | 1206 |
| 10 | 97 | 56 | 43 | 45 | 43 | 49 | 52 | 49 | 57 | 69 | 74 | 84 | 89 | 69 | 81 | 61 | 57 | 55 | 59 | 61 | 78 | 79 | 86 | 123 | 1617 |
| 11 | 105 | 65 | 64 | 64 | 67 | 68 | 78 | 74 | 81 | 81 | 95 | 84 | 80 | 104 | 90 | 78 | 94 | 86 | 88 | 79 | 88 | 100 | 110 | 118 | 2041 |
| 12 | 140 | 103 | 95 | 91 | 89 | 101 | 97 | 99 | 108 | 121 | 127 | 123 | 113 | 122 | 121 | 121 | 113 | 104 | 122 | 127 | 132 | 140 | 131 | 147 | 2788 |
| **Total** | **1315** | **842** | **767** | **779** | **790** | **803** | **842** | **851** | **952** | **1136** | **1171** | **1150** | **1164** | **1089** | **1098** | **1024** | **994** | **950** | **971** | **1001** | **1099** | **1082** | **1111** | **1495** | **24476** |

# Review of Trustee's 2022 Usage

| | Total (kWh) | Off-Peak | On-Peak | Existing Rate ($) | TOU Rate ($) |
|---|---|---|---|---|---|
| January | 3345 | 1064 | 2281 | $ 442 | $ 461 |
| February | 2856 | 918 | 1938 | $ 386 | $ 400 |
| March | 2840 | 925 | 1915 | $ 383 | $ 397 |
| April | 2406 | 750 | 1655 | $ 329 | $ 346 |
| May | 1321 | 422 | 899 | $ 197 | $ 209 |
| June | 1167 | 339 | 827 | $ 178 | $ 192 |
| July | 1646 | 485 | 1161 | $ 239 | $ 253 |
| August | 1245 | 345 | 900 | $ 186 | $ 203 |
| September | 1206 | 385 | 821 | $ 183 | $ 195 |
| October | 1617 | 508 | 1109 | $ 238 | $ 247 |
| November | 2041 | 629 | 1412 | $ 306 | $ 301 |
| December | 2788 | 864 | 1924 | $ 409 | $ 394 |
| 2022 Total | 24476 | 7632 | 16844 | $ 3,476 | $ 3,596 |

What is the actual increase for residential (R107) members due to **HWE's operation**? Basically, what portion of the rate increase is due to HWE or in other words for HWE.

- There are two increases to the residential members related to HWE or for HWE's operations.
  - Service Charge adjusted from $38 to $44 per month
    - Monthly increase **$6.00**
    - Annual increase **$72.00**
  - Energy (kwhr) component increasing **$0.00124**
    - Annual increase = 24,476 kwhr x $0.00124 = **$30.35**

- In this example, the total increase for the year is $72 + $30.35 = **$102.35**
  - That amounts to a **2.94%** distribution only increase from 2018 to 2023 or a **0.59%** increase **per year**.
  - The U.S. Bureau of Labor CPI Inflation Calculator shows an increase over the same period of 20%.
- ***This example does not include the increases due to generation (Buckeye) and transmission (AEP & FE)***

# Electric Service Schedules

**Electric Service Schedule**
**R-TOD**
**RESIDENTIAL SERVICE**

***Availability & Applicability***

This Schedule is available and applicable to residential services with a measured demand not to exceed 25 kW. Service furnished under this schedule shall be on a 12-month non-seasonal basis and in accordance with Cooperative's General Terms & Conditions or subsequent revisions thereof.

All accounts with a measured demand greater than 25 kW shall be transferred onto an eligible general service rate under the Cooperative's rate schedules.

***Character of Service***

The type of service available under this schedule for new installations will be delivered to a single delivery point closest to existing Cooperative distribution facilities, Cooperative to make the sole determination, at a single meter location, with a single bill being rendered for service.

Secondary service shall, at option of Cooperative, be at one of the following nominal voltages:

Single Phase: 120/240 volts, 3 wire or 120 volts, 2 wire

***Net Rate per Month or Part Thereof***

Billing shall be the sum of the charges under the applicable rate set forth below:

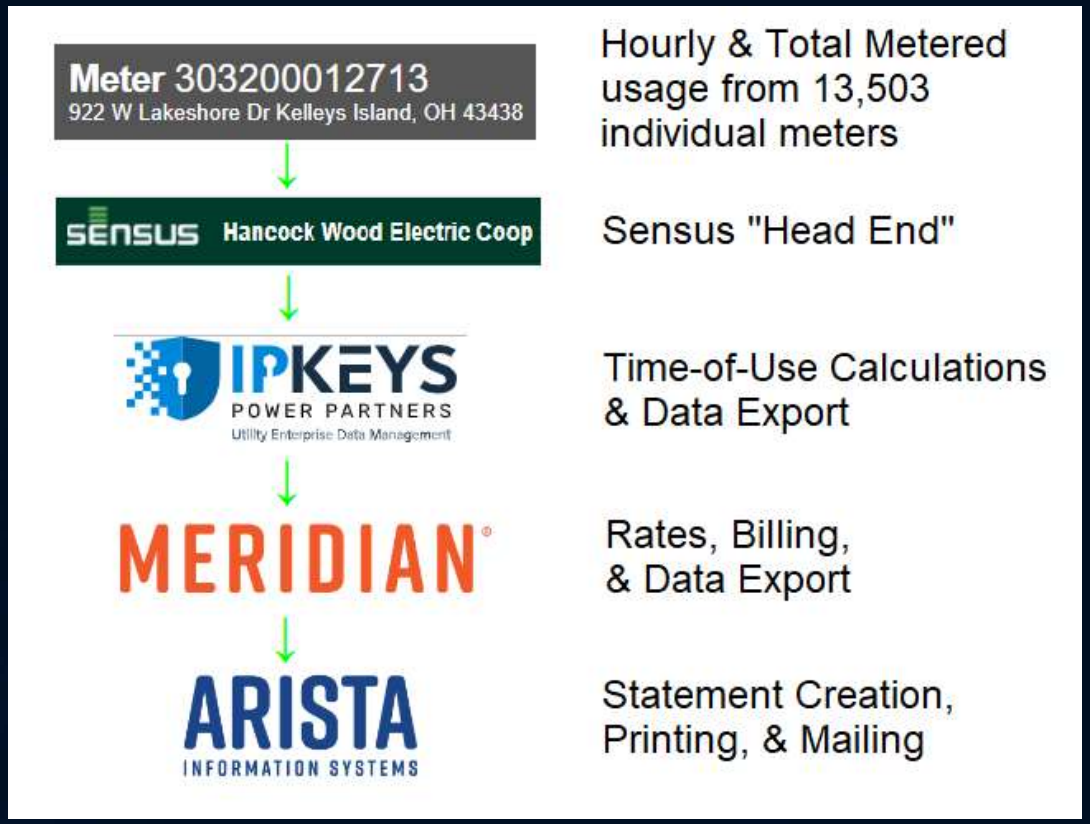
| Rate R-TOD, Mainland Residential Service | Rate R-TODKI, Kelleys Island Residential Service |
|---|---|
| Cooperative Charges:<br>Service Charge: $44.00<br>Distribution: 2.701 cents per kWh delivered | Cooperative Charges:<br>Service Charge: $44.00<br>Submarine Cable Charge: $10.00<br>Distribution: 2.723 cents per kWh delivered |
| Generation & Transmission Charges:<br>On-Peak Energy Charge:<br>11.725 cents per kWh from 6AM to 10PM<br>Off-Peak Energy Charge:<br>3.916 cents per kWh from 10PM to 6AM | Generation & Transmission Charges:<br>On-Peak Energy Charge:<br>12.191 cents per kWh from 6AM to 10PM<br>Off-Peak Energy Charge:<br>3.916 cents per kWh from 10PM to 6AM |
| Radio Control Switch:<br>Water Heater $.50 (credit)<br>Central Air Conditioning $5.50 (credit) *<br>* Credit is only applied from June through September each year | Radio Control Switch:<br>Water Heater $.50 (credit)<br>Central Air Conditioning $5.50 (credit) *<br>* Credit is only applied from June through September each year |

# Active Services by Rate & "Type"

| Type | Count |
|---|---|
| Residential | 11,184 |
| General Service | 2120 |
| General Demand | 104 |
| Large Demand | 56 |
| AG Demand | 50 |
| OWNUSE | 12 |
| Industrial Demand | 8 |
| Grand Total | 13,534 |

| Rate Code | Count |
|---|---|
| R-TOD | 10,242 |
| GS-TOD | 2,000 |
| R-TODKI | 878 |
| GS-TODKI | 115 |
| GS-9M | 91 |
| R-TODNET | 61 |
| LPS-12 | 47 |
| AG-107 | 22 |
| AG-GS9 | 18 |
| GS-9KI | 13 |
| OWNUSE | 11 |
| LPS-12-95 | 8 |
| AGOPeak | 7 |
| ELP-7D | 6 |
| GS-TODNET | 4 |
| R-TODKINET | 3 |
| AG-LPS12-95 | 1 |
| ELP-7A | 1 |
| SOL | 1 |
| ELP-7C | 1 |
| LPS-12KI | 1 |
| AG-LPS12 | 1 |
| AG-GS9-NET | 1 |
| GS-TOD95 | 1 |
| Grand Total | 13534 |

# Data Flow / Billing Process



# TIME OF DAY

**READS**

| Date | Register | Usage | Uom | Chn | Code |
|---|---|---|---|---|---|
| 6/1/2024 12:00:00 AM | 3014.45600000 | 8.27600… | kWh | TOU_B | MDM Calculated |
| 5/31/2024 12:00:00 AM | 3006.18000000 | 7.68400… | kWh | TOU_B | MDM Calculated |
| 5/30/2024 12:00:00 AM | 2998.49600000 | 8.10400… | kWh | TOU_B | MDM Calculated |
| 5/29/2024 12:00:00 AM | 2990.39200000 | 8.41600… | kWh | TOU_B | MDM Calculated |
| 5/28/2024 12:00:00 AM | 2981.97600000 | 9.70400… | kWh | TOU_B | MDM Calculated |
| 5/27/2024 12:00:00 AM | 2972.27200000 | 9.74800… | kWh | TOU_B | MDM Calculated |
| 5/26/2024 12:00:00 AM | 2962.52400000 | 11.4160… | kWh | TOU_B | MDM Calculated |
| 5/25/2024 12:00:00 AM | 2951.10800000 | 10.6520… | kWh | TOU_B | MDM Calculated |

| | | | | | |
|---|---|---|---|---|---|
| 5/1/2024 12:00:00 AM | 2739.35200000 | | kWh | TOU_B | MDM Calculated |

OFF-PEAK ENERGY = JUNE 1 – MAY 1 = 275 KWH

ON-PEAK ENERGY = TOTAL – OFF PEAK = 1,315 KWH

# INVOICE

Time of Day Schedule: On Peak kWh 6 a.m. - 10 p.m. Off peak kWh 10 p.m. - 6 a.m.

| TYPE OF SERVICE | READ DATES | DAYS | READINGS PREVIOUS | READINGS CURRENT | DEMAND | METERED USAGE | UNIT OF MEASURE | MULTIPLIER | BILLED USAGE |
|---|---|---|---|---|---|---|---|---|---|
| Electric | 05/01/24 06/01/24 | 31 | 44070 | 45660 | 8.87 | 1590 | kWh | 1 | 1590 |
| Electric | 05/01/24 06/01/24 | 31 | 2739 | 3014 | 8.87 | 275 | Off-Peak kWh | 1 | 275 |

| | |
|---|---|
| Cooperative Services and Fees | |
| 06/05/24 Service Charge | 44.00 |
| 06/05/24 Distribution Delivery | 42.95 |
| 06/05/24 Economic Development Adder | 1.37 |
| Generation and Transmission | |
| 06/05/24 On-Peak kWh | 154.18 |
| 06/05/24 Off-Peak kWh | 10.77 |
| 06/05/24 Power Cost Adjustment | 6.12 |
| Other Fees and Charges | |
| 06/05/24 Electric kWh Tax - State of Ohio | 7.39 |
| 06/05/24 Operation Round Up | 0.22 |

- UNBUNDLED OHIO KWH TAX, DISTRIBUTION KWH, EDA
- UNBUNDLED G&T, DISTRIBUTION
- ADDED DEMAND READING FOR RESIDENTIAL, GENERAL SERVICE
- ADDED ON-PEAK & OFF-PEAK LINE ITEMS

# Resolved Nov.1, 2023: Cycle Billing

OLD READING DATES:
CYCLE 1 – 12TH
CYCLE 2 – 18TH
CYCLE 3 – 1ST
CYCLE 4 – 6TH
CYCLE KI – 18TH
CYCLE ELP – 1ST
BUCKEYE POWER – 1ST

MDM CALCULATIONS *MUST* REMAIN IN-SYNC WITH BILLED REGISTER READS

ERRORS WHEN:
CHANGING ACCOUNT BILLING CYCLE
REINSTALLING METER ON A DIFFERENT CYCLE

NO IPKEYS CUSTOMERS STAGGER BILLING CYCLES WITH TOU

SOLUTION: ALIGNED ALL READING DATES TO 1ST

# Net Metering

## (METERS DON'T "NET")

BILLING SYSTEM:
NET $0.11725 1ST
NET $0.03916 2ND
$0.07800 EXCESS
(BPI AVOIDED COST)

« **Meter** 303200010243 | Meter Type iConA Gen4 83

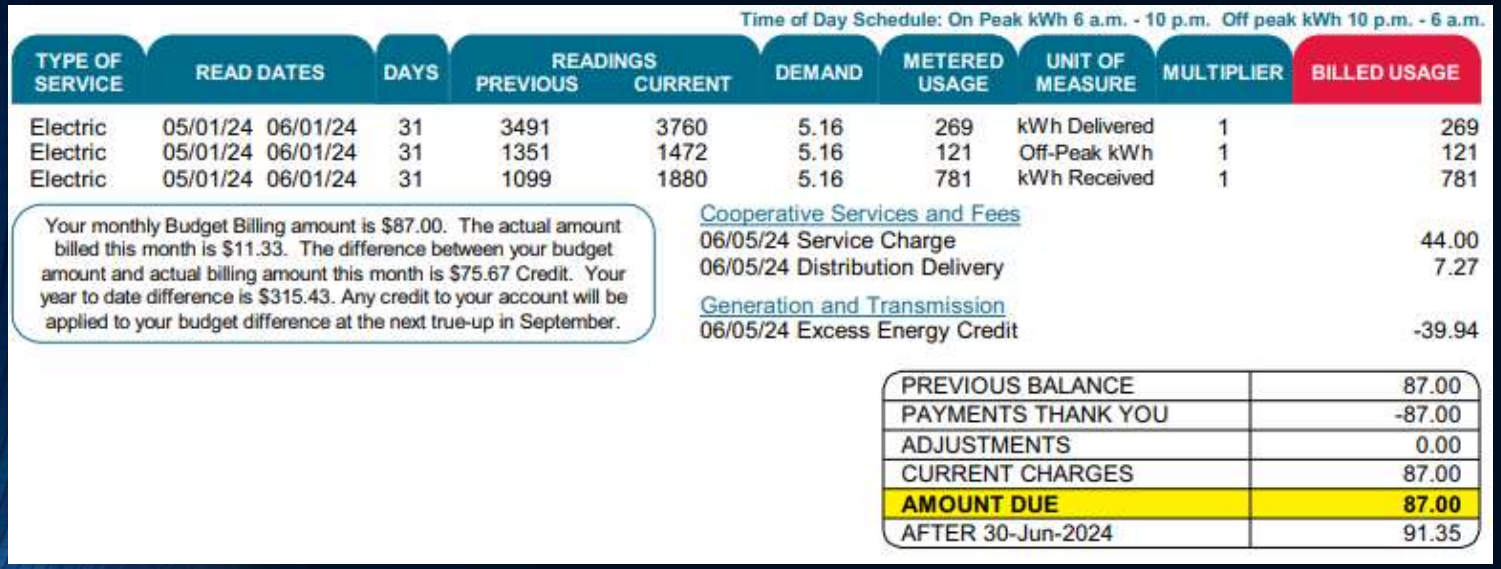
« Back | Jun. 12 | Jun. 13 | Jun. 14 | Jun. 15 | Jun. 16 | Jun. 17 | Jun. 18 | Jun. 19 | Today

**Total**

| | Measurement | Time | Data |
|---|---|---|---|
| ENERGY | Real Energy Delivered | 06/20/2024 12:00 AM | 3913.198 (kWh) |
| ENERGY | Real Energy Received | 06/20/2024 12:00 AM | 2418.222 (kWh) |
| DEMAND | Peak Real Demand Delivered | 06/20/2024 12:00 AM | 6.546 (kW) |

METER CHART

# Net Metering



Time of Day Schedule: On Peak kWh 6 a.m. - 10 p.m. Off peak kWh 10 p.m. - 6 a.m.

| TYPE OF SERVICE | READ DATES | | DAYS | READINGS PREVIOUS | READINGS CURRENT | DEMAND | METERED USAGE | UNIT OF MEASURE | MULTIPLIER | BILLED USAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| Electric | 05/01/24 | 06/01/24 | 31 | 3491 | 3760 | 5.16 | 269 | kWh Delivered | 1 | 269 |
| Electric | 05/01/24 | 06/01/24 | 31 | 1351 | 1472 | 5.16 | 121 | Off-Peak kWh | 1 | 121 |
| Electric | 05/01/24 | 06/01/24 | 31 | 1099 | 1880 | 5.16 | 781 | kWh Received | 1 | 781 |

Your monthly Budget Billing amount is $87.00. The actual amount billed this month is $11.33. The difference between your budget amount and actual billing amount this month is $75.67 Credit. Your year to date difference is $315.43. Any credit to your account will be applied to your budget difference at the next true-up in September.

Cooperative Services and Fees

| | |
|---|---|
| 06/05/24 Service Charge | 44.00 |
| 06/05/24 Distribution Delivery | 7.27 |

Generation and Transmission

| | |
|---|---|
| 06/05/24 Excess Energy Credit | -39.94 |

| | |
|---|---|
| PREVIOUS BALANCE | 87.00 |
| PAYMENTS THANK YOU | -87.00 |
| ADJUSTMENTS | 0.00 |
| CURRENT CHARGES | 87.00 |
| **AMOUNT DUE** | **87.00** |
| AFTER 30-Jun-2024 | 91.35 |

Cooperative Charges:
Service Charge: $44.00
Distribution: 2.701 cents per kWh delivered

KWH DELIVERED – KWH RECEIVED =-512 KWH

-512*0.078= -39.94

# What would we do different

- The COS study and proposed rates we presented at the same board meeting as the redistricting proposal (10 to 9 districts).
- Rate design (February 2023) was approved in the same meeting as proceeding with a new attorney and new bank.
- TOU handled at meter level or MDM?
- More time for MDM implementation and integration with Meridian
- Better understanding of bill redesign implications – EDR
- More communications, both to members and internally

# What went well

- The TOU structure did not cause a rate increase for members. Over 12 months, the average member has saved $5.
- Provides answer to member's question; "How can I save money on my electric bill?"
- Coincident with AEP rate increase
- Unbundling of bill and transparency
- Received few member complaints
- Prepared for residential EV charging
- Helped address Net Billing vs Net Metering issue with solar

Questions?

# Electric Vehicle and Time of Use Rates Butler Rural Electric Cooperative

# Began with concern over Electric Vehicle Loads

- Recovery of costs for low load factor load given Cooperative's General Service rate structure versus wholesale power costs.
- Depending upon coincidence factor assumptions and charger sizes estimate the following:
  - 7.7 kw $250 to $1200 loss on recovery of G&T costs
  - 10 kw $400 to $1600
  - 19.2 kw $1000 to $3400
- Butler was already seeing adoption of EV's by members

# Member Focus Group

DEMONSTRATED HOW COSTS WERE DIFFERENT DEPENDING UPON TIME OF DAY.

MEMBERS HAD NOT CONTEMPLATED TIME OF DAY DIFFERENCE FOR COSTS.

CONCERNED ABOUT A MANDATORY RATE FOR EVS UNLESS ALL LOAD IS TREATED THE SAME.

INTERESTED IN INCENTIVES TO AVOID PEAKS. SIGNIFICANT INTEREST IN "DOING THE RIGHT THING" TO HELP COOPERATIVE AVOID COSTS.

# Cost of Service

- Three Options
  - Time of Day for EV Charging only
    - Submeter
    - 3 cost periods (Critical Peak, On Peak, Off Peak)
    - Rider consisting of Surcharges and Credits to General Service Rate
  - Time of Day for Whole House Load
    - 3 cost periods
    - No second meter necessary
  - Flat Rate Option
    - $/Month for unlimited charging between 10 pm and 6 am
    - Emergency rate of $0.25/kwh for on-peak charging
- Flat Rate Option not favorable to Butler's Board of Trustees
  - Mainly due to concerns over gaming the system.

# TOD and EV Rider Characteristics

- G&T Charges
  - Critical Peak  2pm – 6pm  June, July, August, September excluding weekends, 4th of July, Labor Day
  - On-Peak 6am – 10pm
  - Off Peak 10pm- 6am

  - Critical Peak – 13.9 cent adder to G&T Non-variable
  - On Peak – 1.5 cent adder to G&T Non-variable
  - Off Peak – No Non-variable costs

# Distribution Considerations

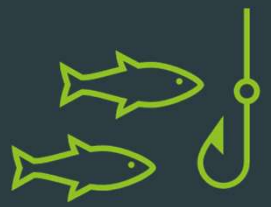
Should impact on distribution peaks be considered?

Both Whole House TOD and EV Rider

- Discounted distribution rate for all off-peak usage
- Introduce a residential demand for on-peak usage

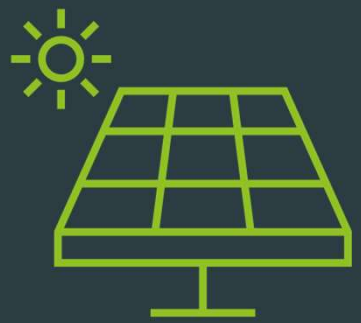
Long term goal would be to reduce/delay capital investments.

# Other considerations



- Member realized savings may not be enough to entice member to switch to a rate.
  - Developed an EV program which will include a rebate for switching to either rate with a Level 2 EV charger.
  - Estimate payback times range from 1 to 5 years depending upon an individual member's coincidence factors.
- Is a second meter really needed for the EV rider?
  - Many chargers have metrology?  Is it utility meter accurate?
  - Multiple manufacturer's.  Data formatting and formatting update concerns.
  - Tesla charging is managed by the car.  A wall mounted stand-alone charger is not required.
  - Butler will begin program by using second meter, but will monitor developments.

# Other considerations



- Relationship with distributed generation
  - Are you going to give a credit or charge if the power flowing through the secondary meter is self-generation?
    - Worked with NISC on billing process – (Elongated process)
      - Billing will compare secondary meter usage with master meter usage.
      - Conducted a 6 month pilot with 4 members.
    - Required moving to billing data acquisition through NISC MDM process rather than directly from metering system.
  - Grandfathered Net Metering services are ineligible.  Net Billing allowed.
- Buckeye Rate committee investigating Wholesale Time of Use.  Passage would likely mean adjustment to Butler rates.

# Policy Changes

- Added to existing policy on member consumer/responsibility a requirement to inform the cooperative that a Level 2 or above charger is installed.
- Added to existing policy on Contribution in Aid of Construction to include equipment or line upgrades required to accommodate vehicle charging resulting in loads greater than 25 kVA for a single residence.
- Added policy to state that any service performing electrical vehicle charging as a commercial enterprise must utilize a TOD rate or a commercial demand rate as determined by the cooperative.
- Altered policy on requirements for billing statement to allow usage without a meter register reading.

# Timing

- Announced new rates at April 2024 Annual Meeting
- Begin billing with September bills
- Rates are not mandatory