

Cost of Service and Rates

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Cost of Service Study

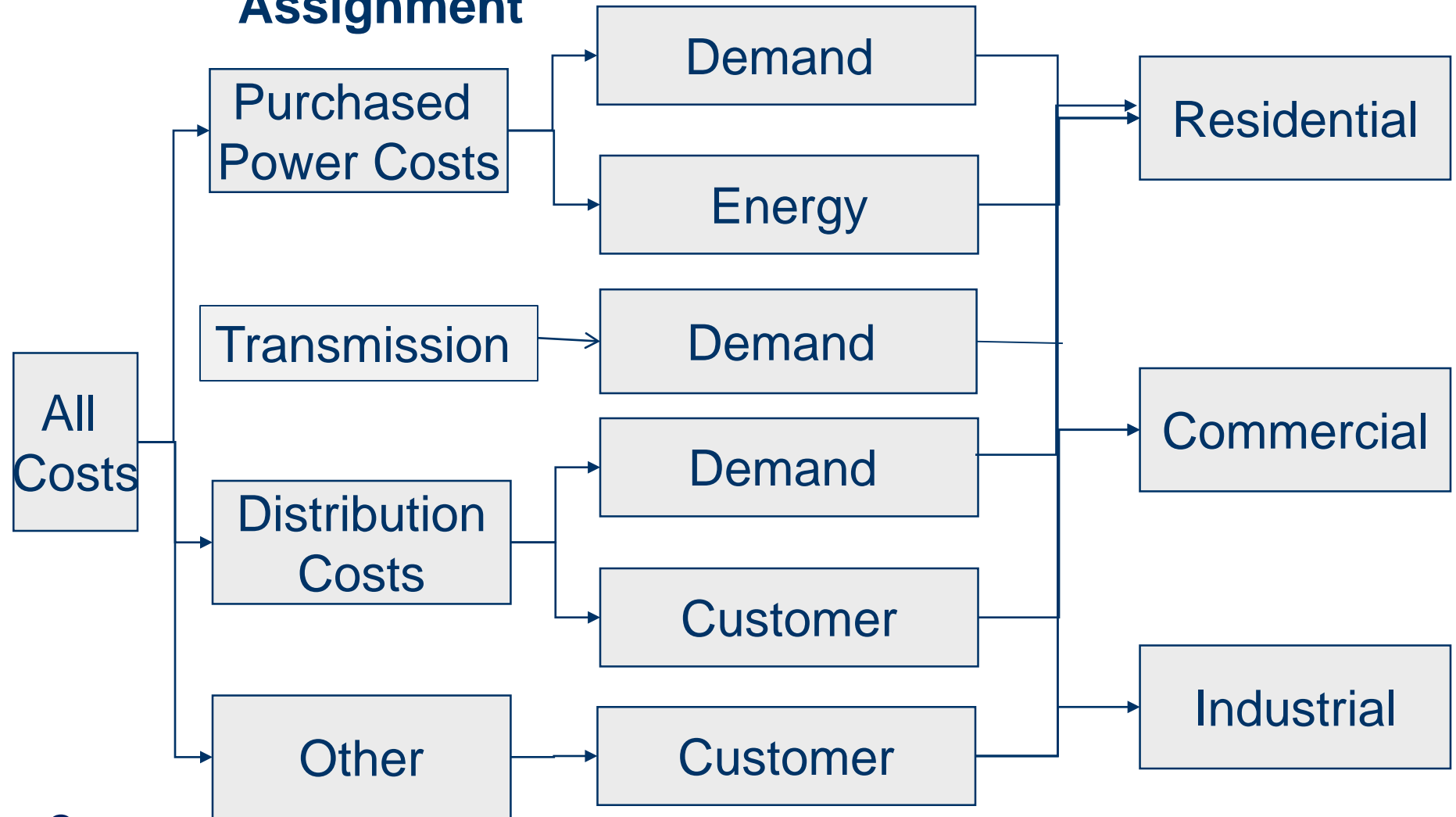
- Allocates the utility's costs to members as fairly as possible based on their energy usage patterns
- Three step process is used to allocate costs based on cost causation principles
 - Functional Assignment
 - Classification
 - Allocation

Cost of Service Study

Functional Assignment

Classification

Allocation



Rate Design Principles

- Members should pay the costs that they impose on the system
- Recover fixed costs through fixed charges
- Recover variable costs through variable charges
- Subsidies among members result if these principles are violated

Rate Components

- **Monthly Charge**

- Covers the cost of the minimum set of equipment necessary to provide a member with grid access
- Charge per bill per month
 - a.k.a. service charge, access charge, customer charge
 - For example, \$32.21 per meter per month

Why is the GLE Fixed Monthly Charge Higher than its Neighbors?

Level of a utility's fixed monthly charge is a result of its ability to spread its fixed costs

| | Customers Per Mile of Line | Distribution Line Cost Per Customer |
|--|----------------------------------|---|
| Great Lakes Energy | 8.7 | \$4,598 |
| Consumers Energy | 27.1 | \$1,476 |
| | | |
| Based on an installed cost of \$40,000 per mile for single phase line | | |

Rate Components

- **Energy Charge** - Charge per kWh per month
 - Energy charge of 8.64 cents per kWh
- **PSCR** - difference between the purchased power included in base rates and the actual cost of purchased power
 - Proposed PSCR factor of 1.415 cents per kWh

Combined Rate Classes

- Three rate classes combined
 - Residential
 - Alternative Residential
 - General Service Single Phase
- Fixed monthly charge
 - \$32.21 first meter
 - \$9.94 second meter
- Energy charge 8.64¢/kWh
- PSCR of 1.415¢/kWh

Combined Fixed Monthly Charge

| | | | |
|---|-----------|------------------|------------------|
| Operation and Maintenance Expenses | \$ | 31,978,750 | |
| Depreciation | \$ | 7,676,266 | |
| Taxes | \$ | 143,059 | |
| Total Customer Related Costs | \$ | 39,798,075 | |
| | | | |
| | | | |
| | | 1st Meter | 2nd Meter |
| Total Customer Related Costs | \$ | 39,261,084 | \$ 536,991 |
| Monthly Customer Bills | | 1,376,704 | 59,676 |
| Customer Related Unit Costs | \$ | 28.52 | \$ 9.00 |
| | | | |
| Customer Related Margins | \$ | 3.69 | \$ 0.94 |
| | | | |
| Fixed Monthly Charge | \$ | 32.21 | \$ 9.94 |

Variablizing Fixed Costs

Residential and Seasonal

$$\$32.21 - \$18.28 = \$13.93 / \text{meter} / \text{month}$$

$\$13.93 \times 1,333,156 = \$18,570,863$ in fixed costs associated with the minimum system that is variablized for Residential and Seasonal members

For General Service Single Phase this same calculation results in \$1,466,813 of variablized fixed cost

Variablizing Fixed Costs

Total Amount Variablized =

$$\$18,570,863 + \$1,466,813 = \$20,037,676$$

$\$20,037,676 / 860,603,387 \text{ kWh} = \$0.0233/\text{kWh}$
in fixed cost associated with the minimum system
recovered through energy

Impact of Existing Retail Rate Design

- Monthly charge is \$13.93 too low for Residential and Seasonal members and is \$14.21 too low for General Service Single Phase members
- Energy charge is \$0.0233/kWh too high
 - Members buying large amount of kWh are subsidizing the fixed cost of the minimum system for low kWh usage members
 - Currently don't recover minimum cost to provide service to 27,000 accounts – 23%

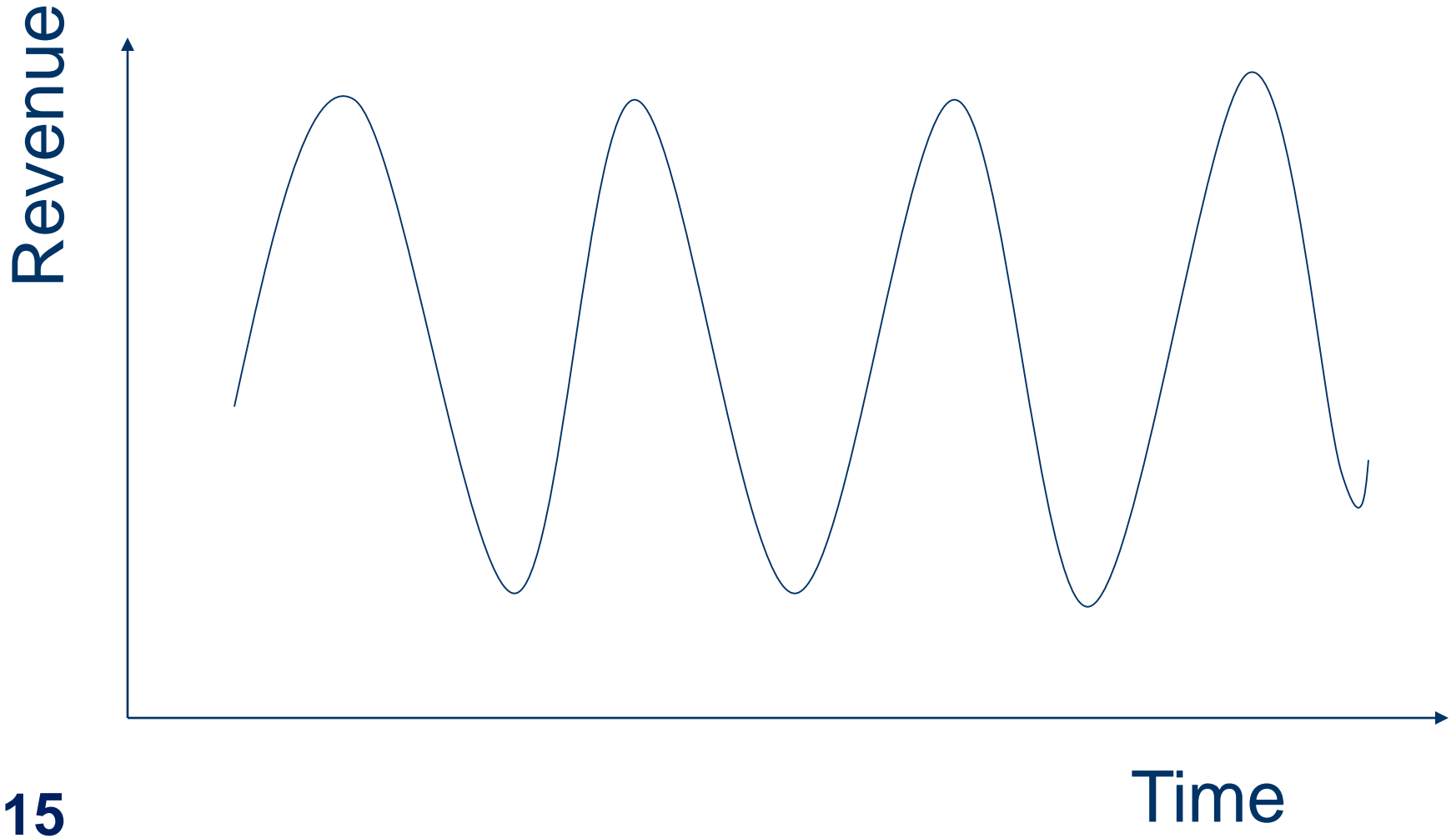
Impact on Low Income Members

- Average monthly consumption for low-income members and seniors on the Michigan Winter Protection Plan is 50 percent higher than others in their same residential rate class
- A recent analysis of more than 3,200 members receiving assistance from the Department of Human Services shows an average monthly usage of 922 kWh compared to the average residential member usage of 789 kWh

Impact on Low Income Members

- Because the current rate structure results in members with above average usage subsidizing the fixed cost of the minimum system for below average users, the typical low income member has been subsidizing low usage members like vacation homes, hunting cabins, fishing cabins, and boat docks

Margin Variability



Benefits of Cost Based Rates

- Reduce revenue and margin volatility by recovering fixed costs through fixed charges
- Reduce member bill volatility
- Create the right environment for energy efficiency and energy conservation

Fixed Costs Not Recovered Under Current Rate Structure

- Energy Efficiency resulted in kWh usage dropping by 27 million kWh in the first three years of state program
 - $27,000,000 \times \$0.0233 = \$629,100$
- Through 2015, another 3% is targeted for each year or a reduction of almost 60 million kWh
 - $60,000,000 \times \$0.0233 = \$1,398,000$

Residential Energy Bill Impacts

- The breakeven point (no increase or decrease) is 822 kWh per month for residential, 209 kWh per month for seasonal and 866 kWh per month for general service single phase
- The largest possible increase is \$13.93 for Residential and Seasonal and \$14.21 for General Service Single phase with zero usage
- Members with below average usage have been having the cost of their minimum system subsidized by other members for years