

*City of Aspen*

***Electric Utility Revenue  
and Rate Structure Study***

**December 8, 2008**

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***Senior Consultant***

# Agenda

- Service rate revenue requirements
- Existing rate structures
- Proposed rates
- Monthly bill comparison

# Service Rate Revenue

- Rate revenue should be sufficient to fund:
  - Annual O&M requirements
  - Asset Management Plan (AMP)
  - Renewable energy program
  - Operating reserves
  - Water fund and general fund transfers
- Revenue should be adjusted by \$1.1 million to meet these requirements
  - \$400,000 Renewable energy program
  - \$400,000 Increased power costs
  - \$300,000 Delays on service extensions
- \$1.1 million increase

# Existing Rate Structure

- Customer Charge
  - \$ per month per Account
- Energy Charge
  - \$ per kwh
  - Residential – 3-tier inclining block
  - Nonresidential – Uniform for all usage
  - Large Commercial assessed a demand charge, \$ per kW of peak use for month

# Existing Rate Structure

## ■ Advantages

- Ease of administration
- Simple to understand
- Residential energy rate is conservation based

## ■ Disadvantages

- System losses (5-7%) not charged on rational basis (i.e. Consumption is not a good measure of loss rate)
- Uniform energy charge for non-residential customers is not conservation based
- Customer charge does not allocate proportionate share of transformer repair and replacement costs

# Existing 2008 Electric Rates

Customer Class	Customer Charge	Demand Charge	Energy Charge
Small Commercial	\$ 9.00		\$0.08500
Large Commercial	27.00	\$5.00	0.06250
Residential	9.00		
First 700 kWh			0.06250
Next 1,300 kWh			0.07810
Over 2,000 kWh			0.11720

# Components of Rate Design

- Revenue requirements
- Customer projections
- Energy projections
- Rate structure parameters
  - Monthly customer charge
  - Tiered structure thresholds (block widths)
  - Price ratios between blocks
  - Number of blocks

# 2009 Proposed Rates Summary

- Customer charge varies based on transformer size
- Residential and small commercial
  - Subdivided based on transformer size
  - 4-tiered inclining block structure
  - Block thresholds vary by transformer size
  - 50% of energy consumption for each transformer size is included in 1<sup>st</sup> block
- All other customer classes
  - Uniform energy charge



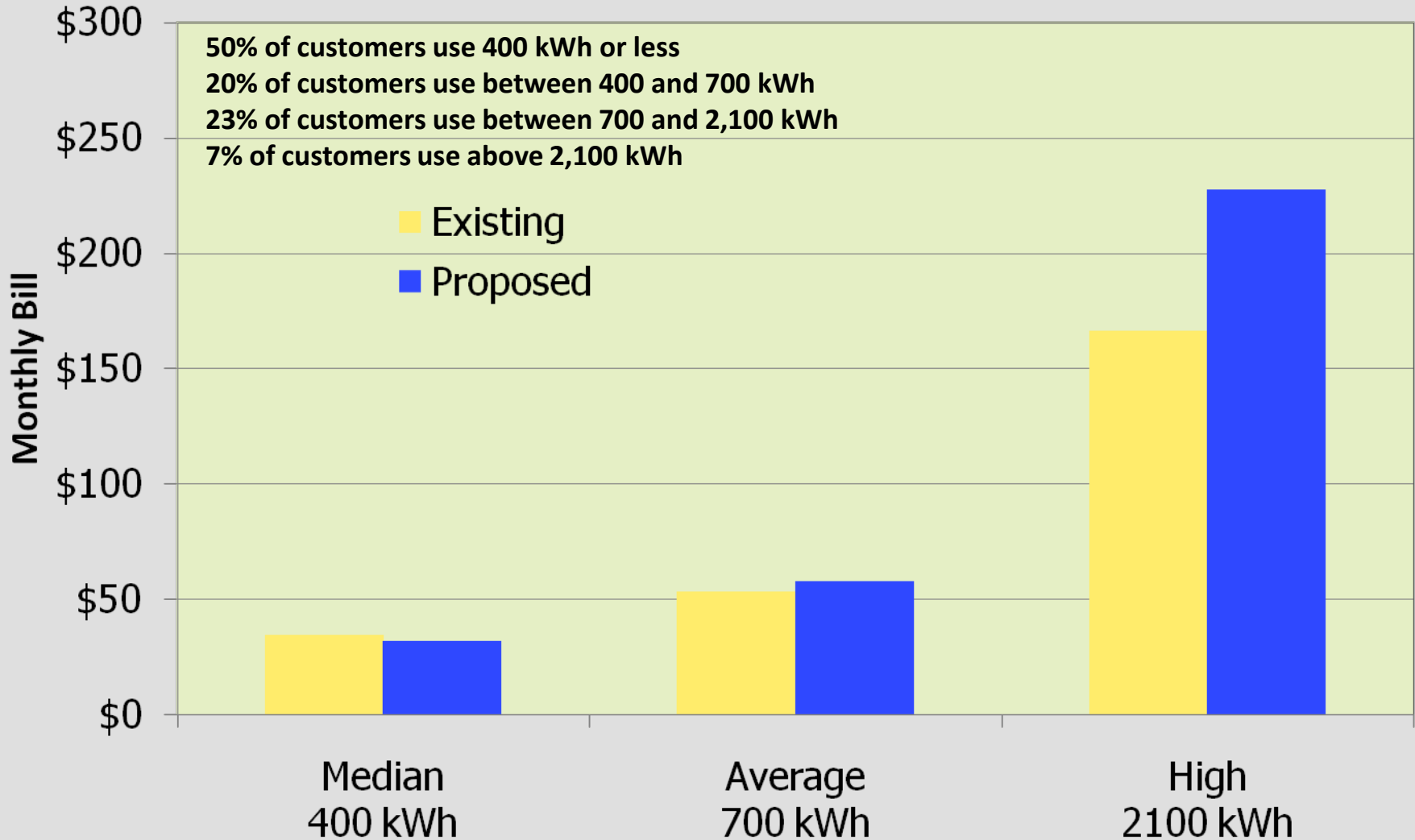
# 2009 Proposed Rates Highlights

- Customer charge recover proportionate share of costs based on transformer size
  - Recovers fixed costs (administration, billing)
  - Transformer repair
  - Recognizes line losses
- Extends tiered structure to small commercial
- Encourages energy conservation
- Fourth tier – revenue funds renewable energy projects

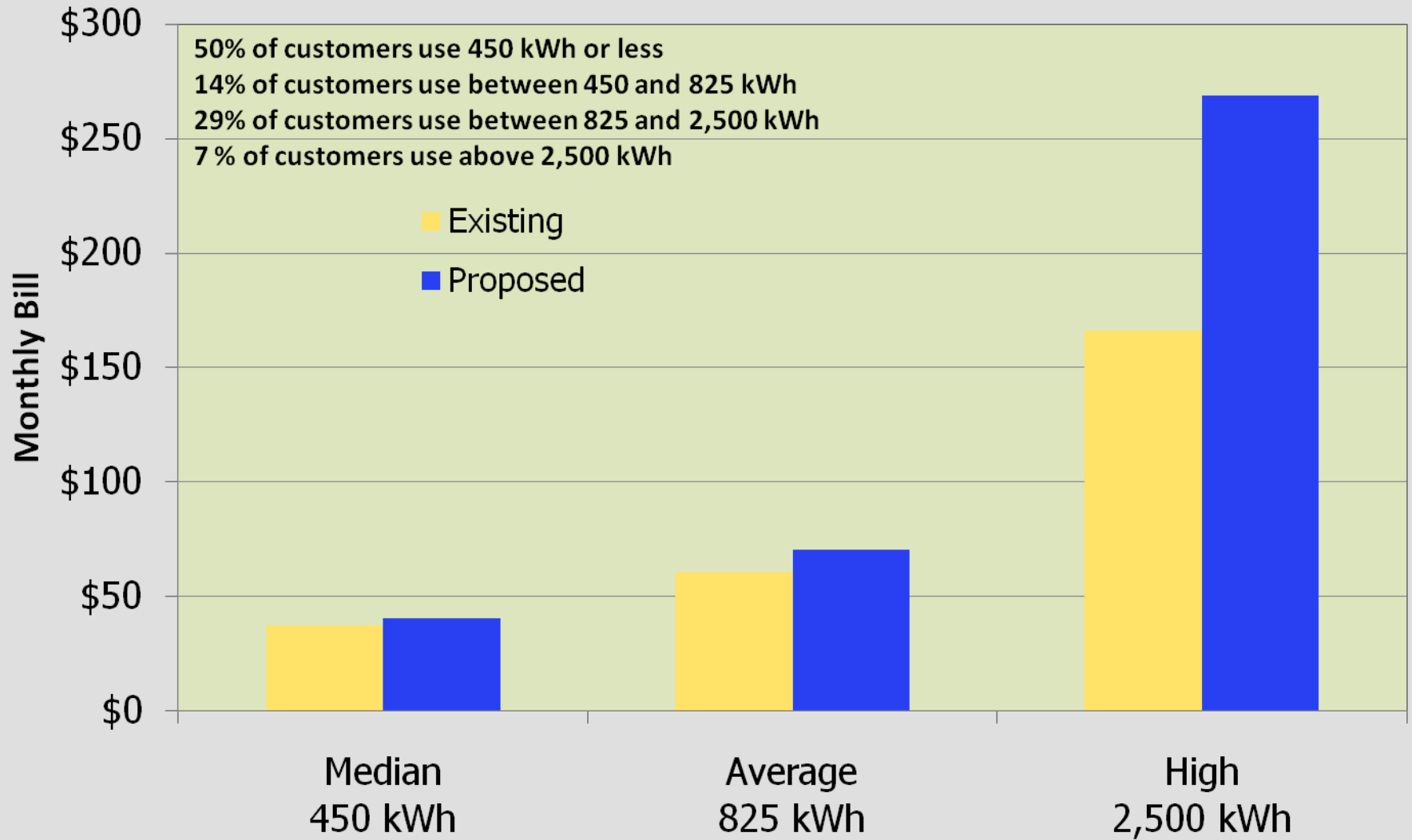
# 2009 Proposed Rates

Description	Base	100 AMP	200 AMP	400 AMP
Customer Charge, \$/bill	\$5.20	\$5.20	\$10.40	\$20.80
Energy Charge - Residential				
Block 1	\$0.0660	First 500 kWh	First 650 kWh	First 2,000 kWh
Block 2	0.0957	Next 850 kWh	Next 1,050 kWh	Next 2,500 kWh
Block 3	0.1436	Next 1,050 kWh	Next 1,800 kWh	Next 3,200 kWh
Block 4	0.2153	Over 2,400 kWh	Over 3,500 kWh	Over 7,700 kWh
Energy Charge – Small Commercial				
Block 1	\$0.0840	First 1,100 kWh	First 1,600 kWh	First 4,200kWh
Block 2	0.1008	Next 1,800 kWh	Next 2,300 kWh	Next 4,700 kWh
Block 3	0.1512	Next 3,100 kWh	Next 3,300 kWh	Next 6,400 kWh
Block 4	0.2268	Over 6,000 kWh	Over 7,200 kWh	Over 15,300 kWh
Energy Charge – Large Commercial				
Demand Charge, \$/KW	\$6.00			
Uniform Energy Charge	\$0.0760	All Volume	All Volume	All Volume

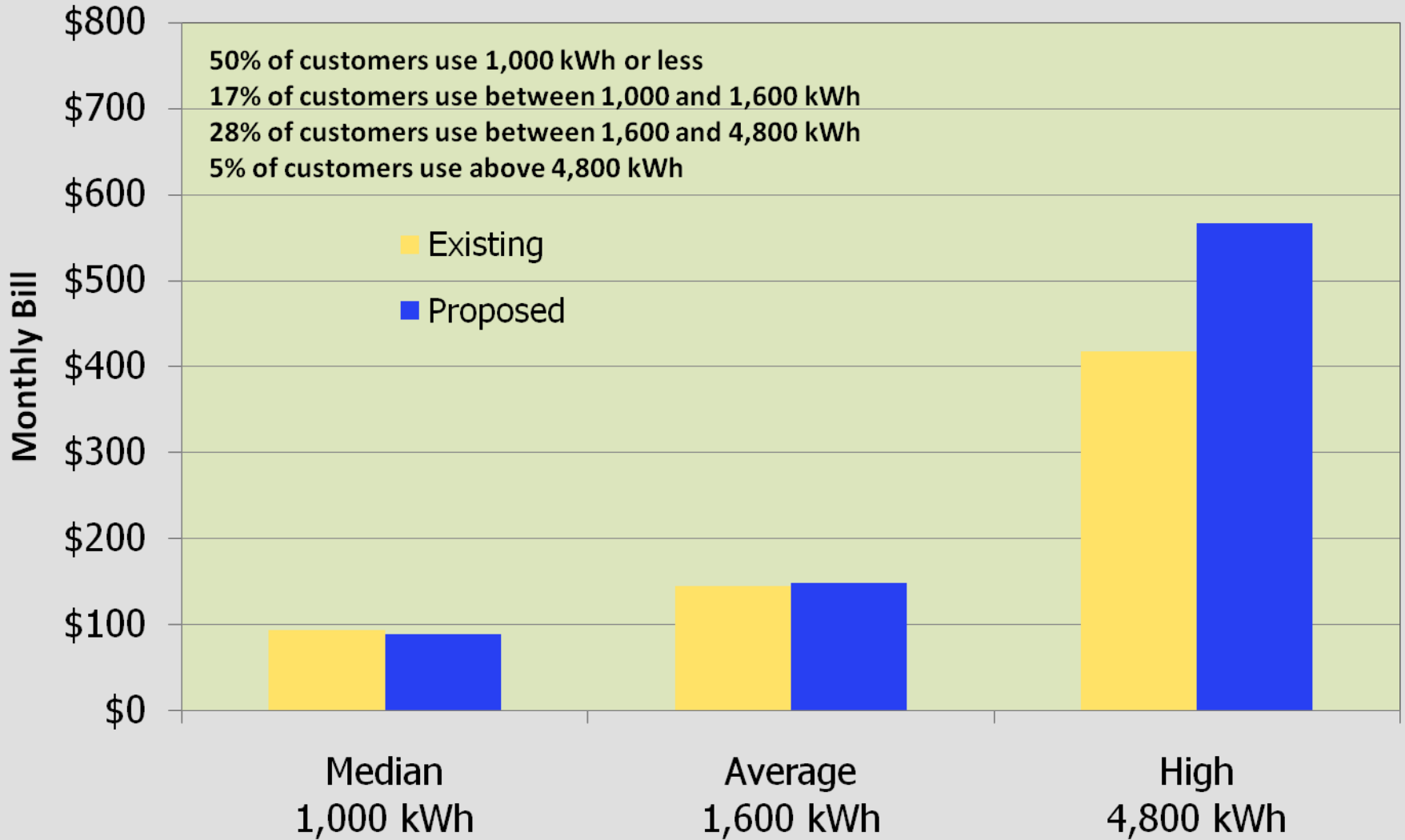
# 100 AMP Residential Monthly Bill



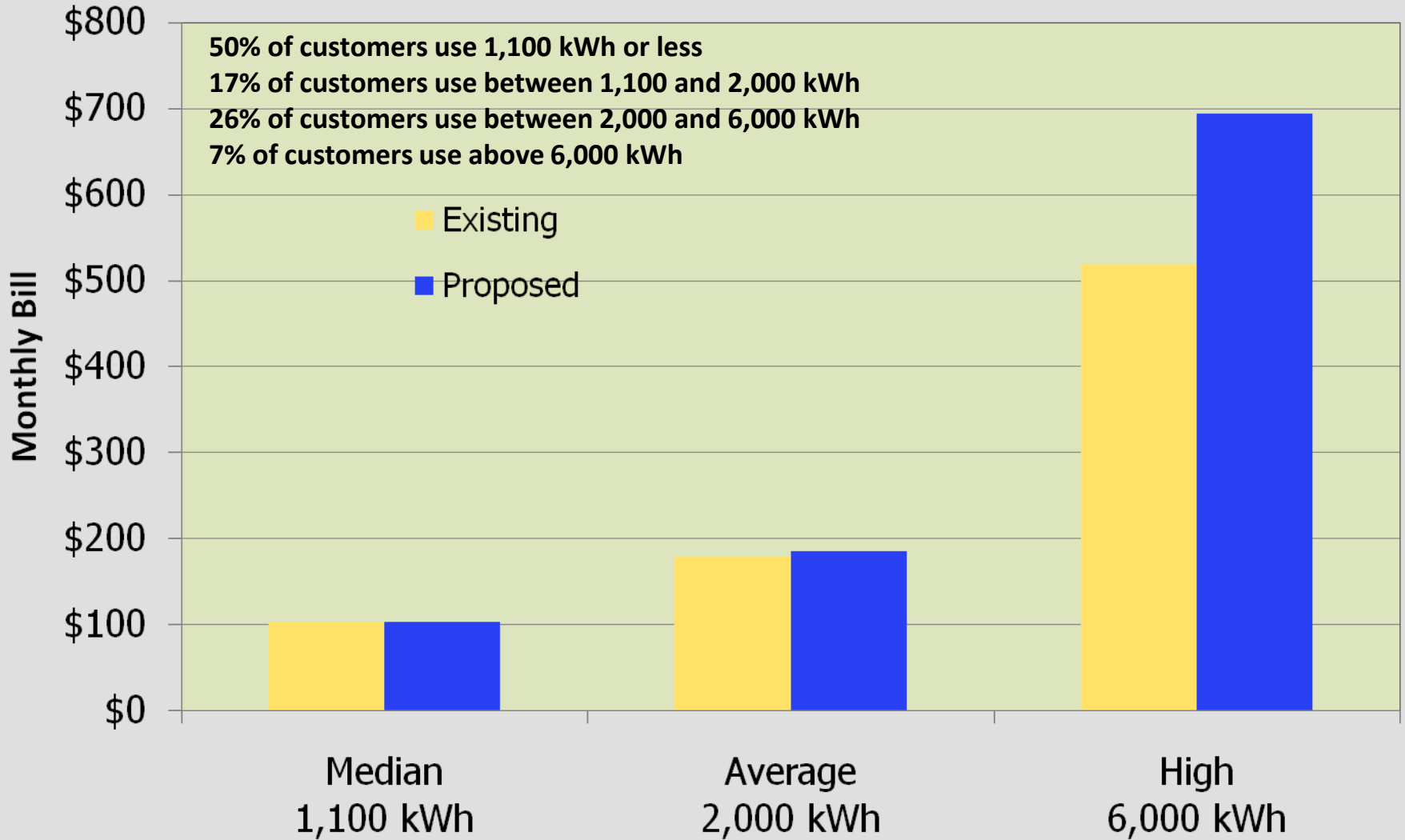
# 200 AMP Residential Monthly Bill



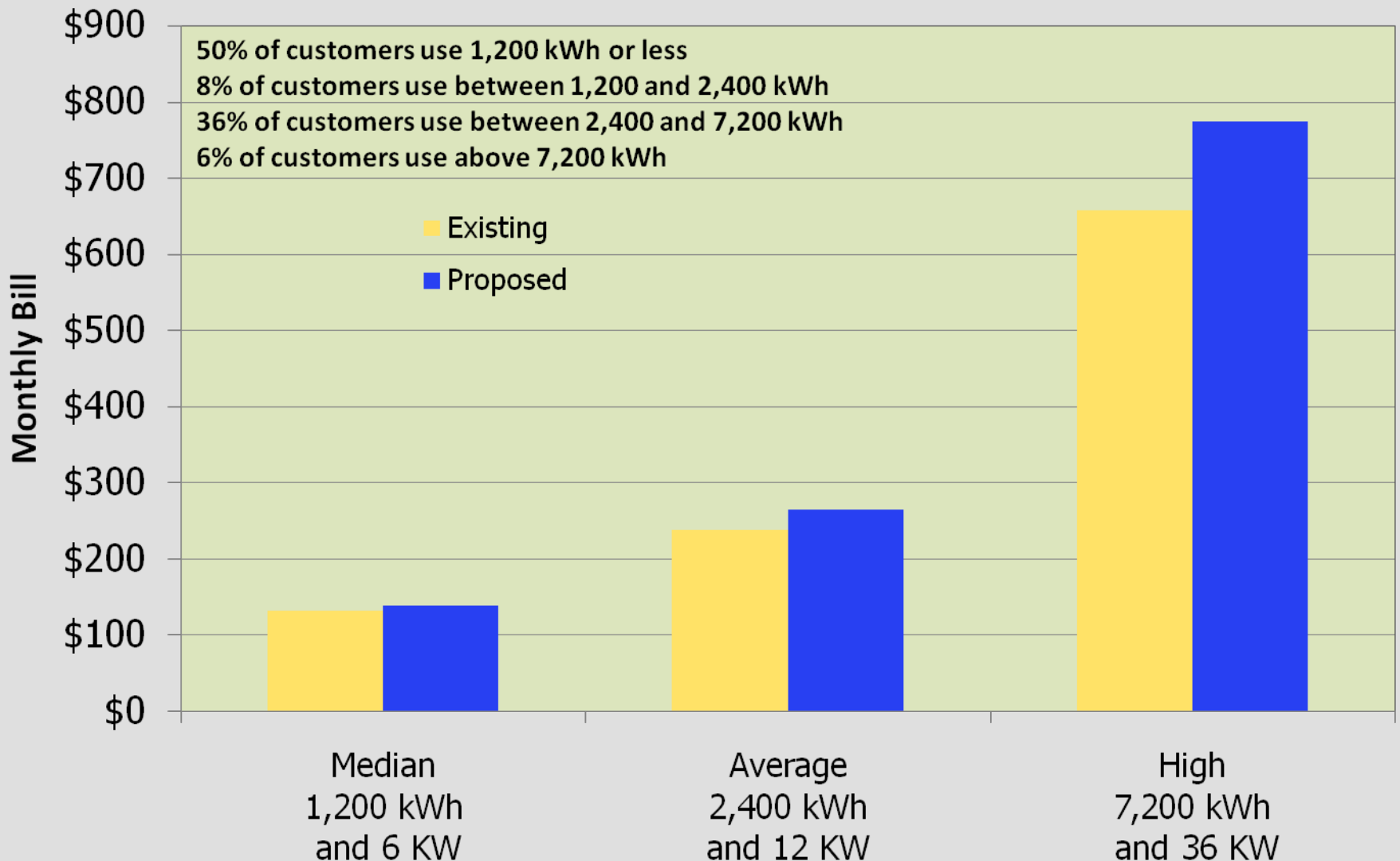
# 100 AMP Commercial Monthly Bill



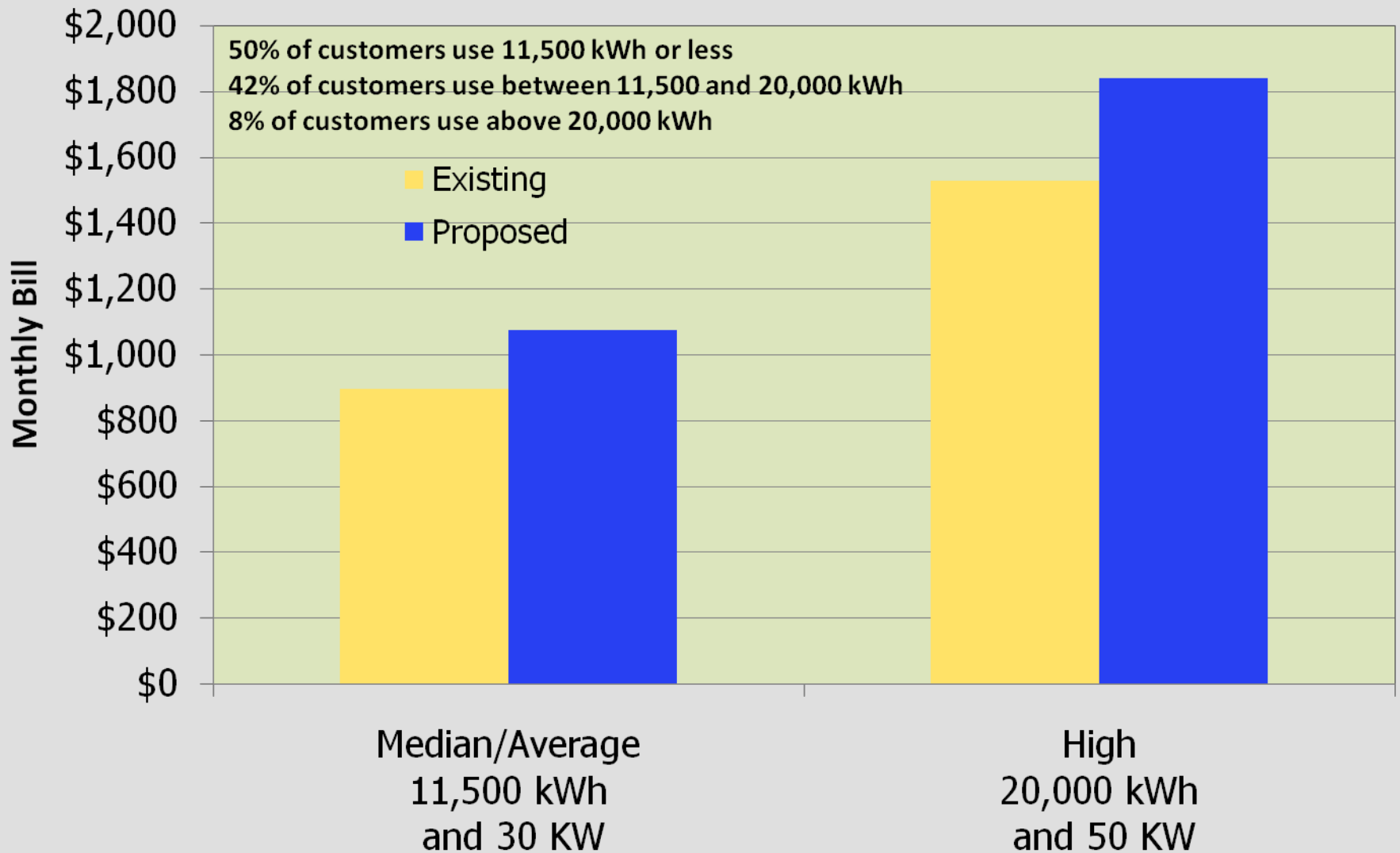
# 200 AMP Commercial Monthly Bill



# 200 AMP Large Commercial Monthly Bill

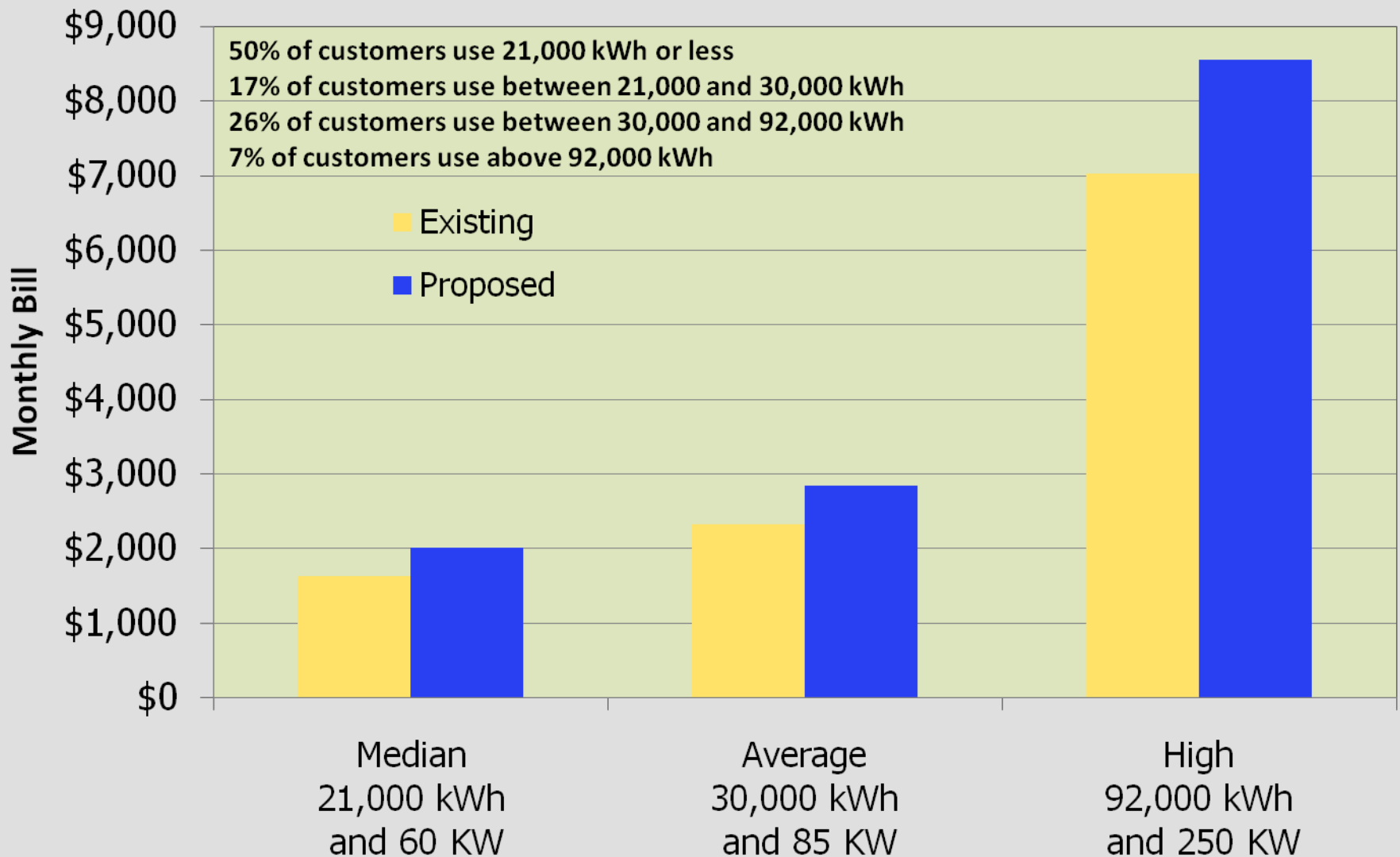


# 400 AMP Large Commercial Monthly Bill



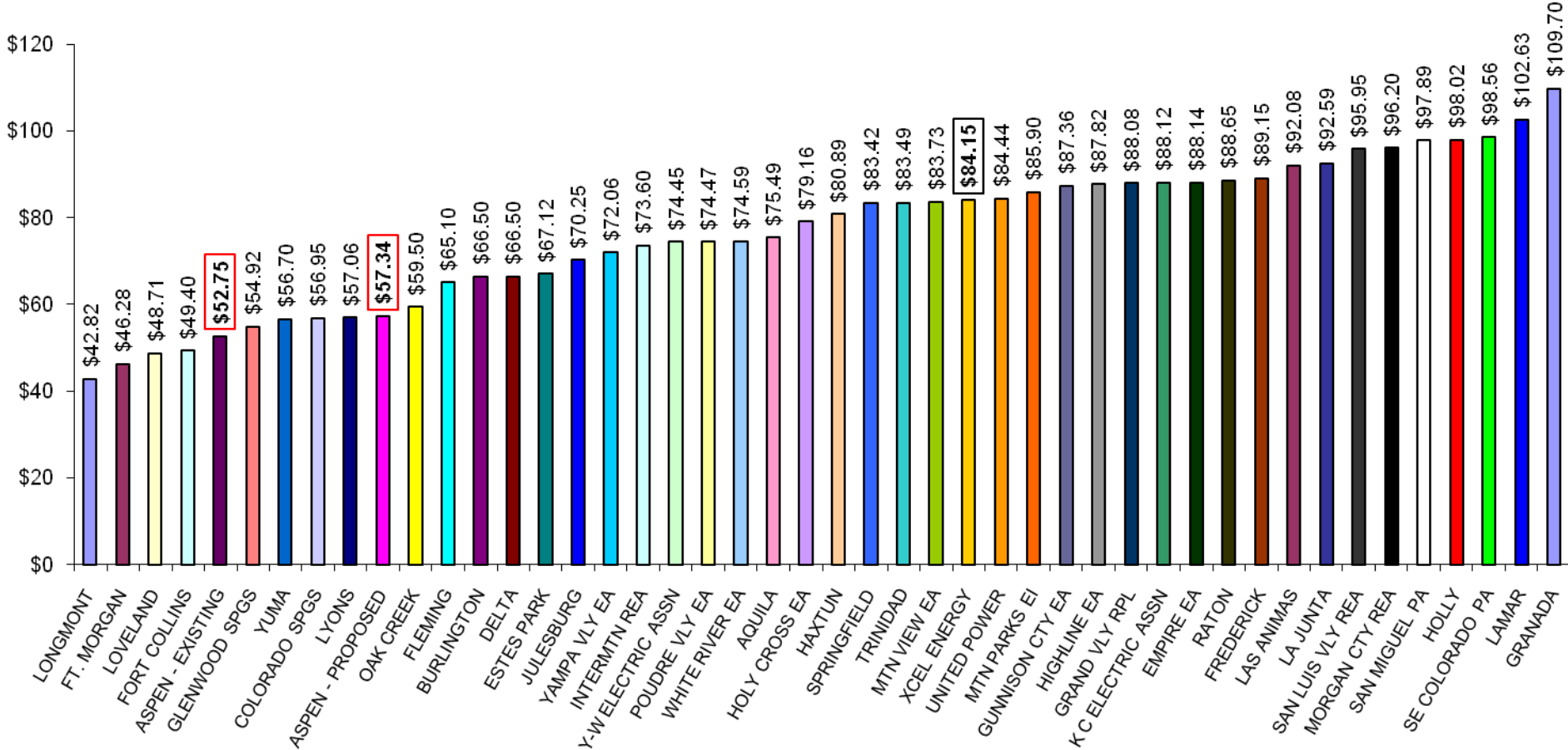


# 1,200 AMP Large Commercial Monthly Bill



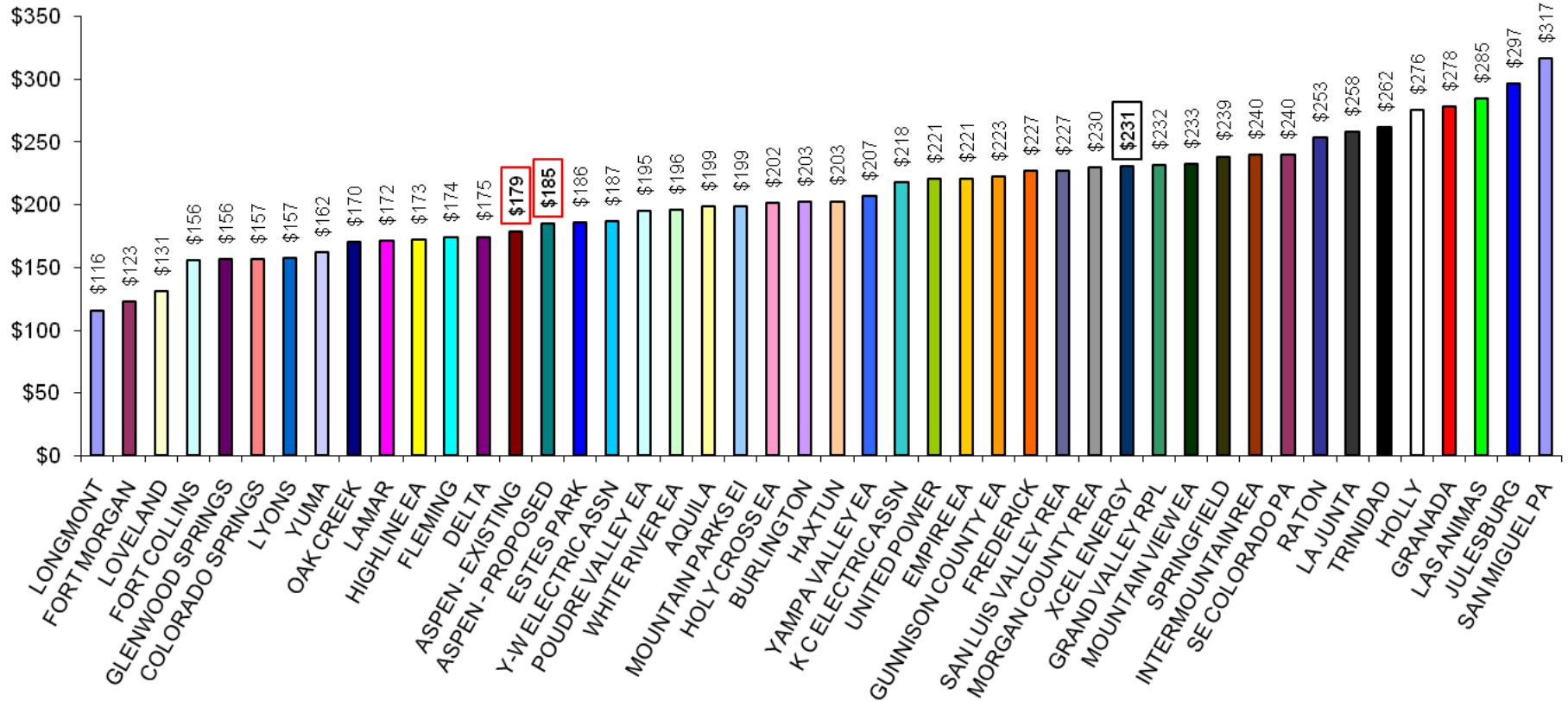
# CAMU RESIDENTIAL SURVEY

JULY 2008 - COST FOR 700 KWH



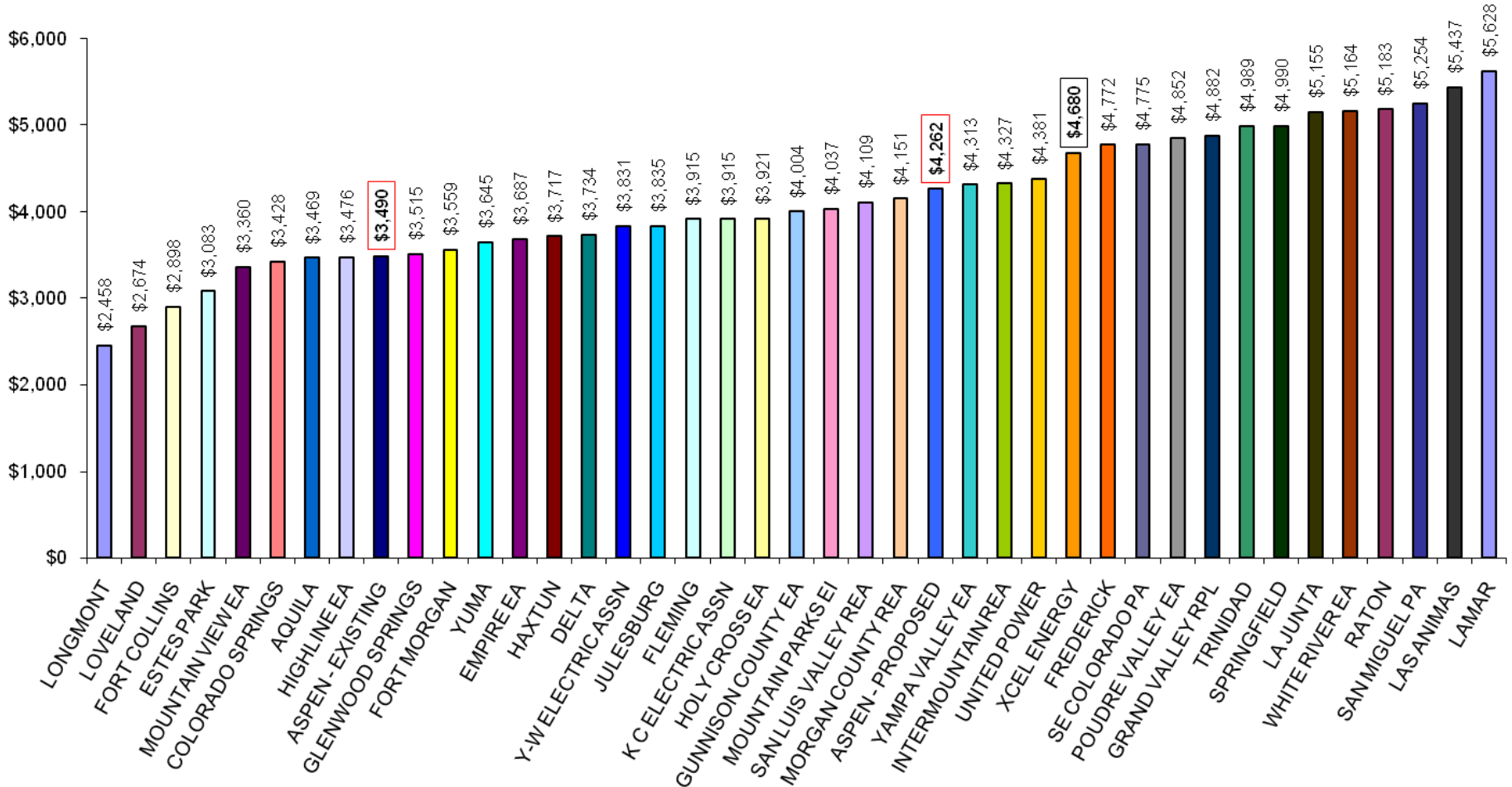
# CAMU SMALL COMMERCIAL SURVEY

JULY 2008 - COST OF 2,000 KWH + 10 KW



# CAMU LARGE COMMERCIAL SURVEY

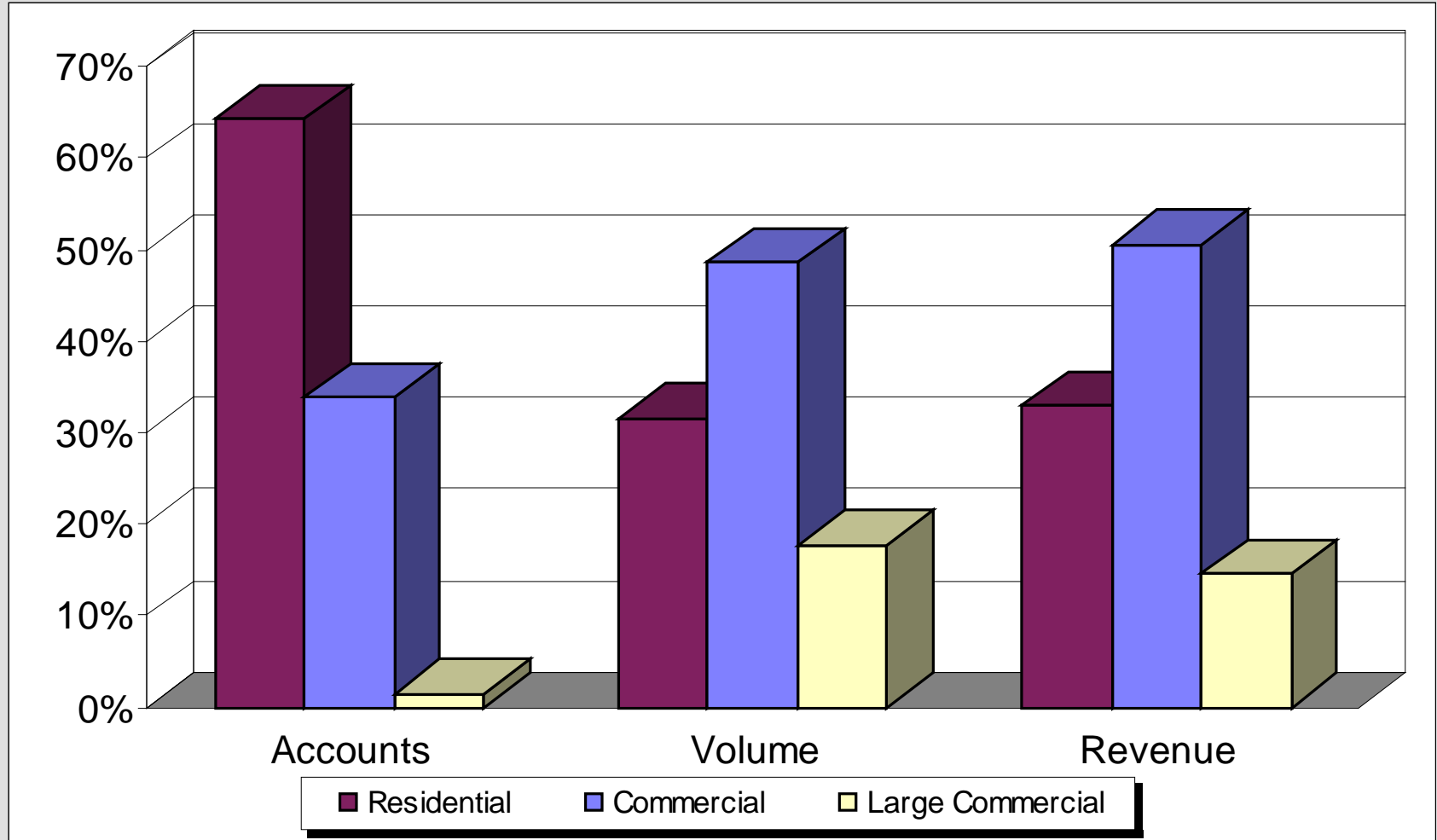
JULY 2008 - COST OF 45,000 KWH + 130 KW



# Discussion

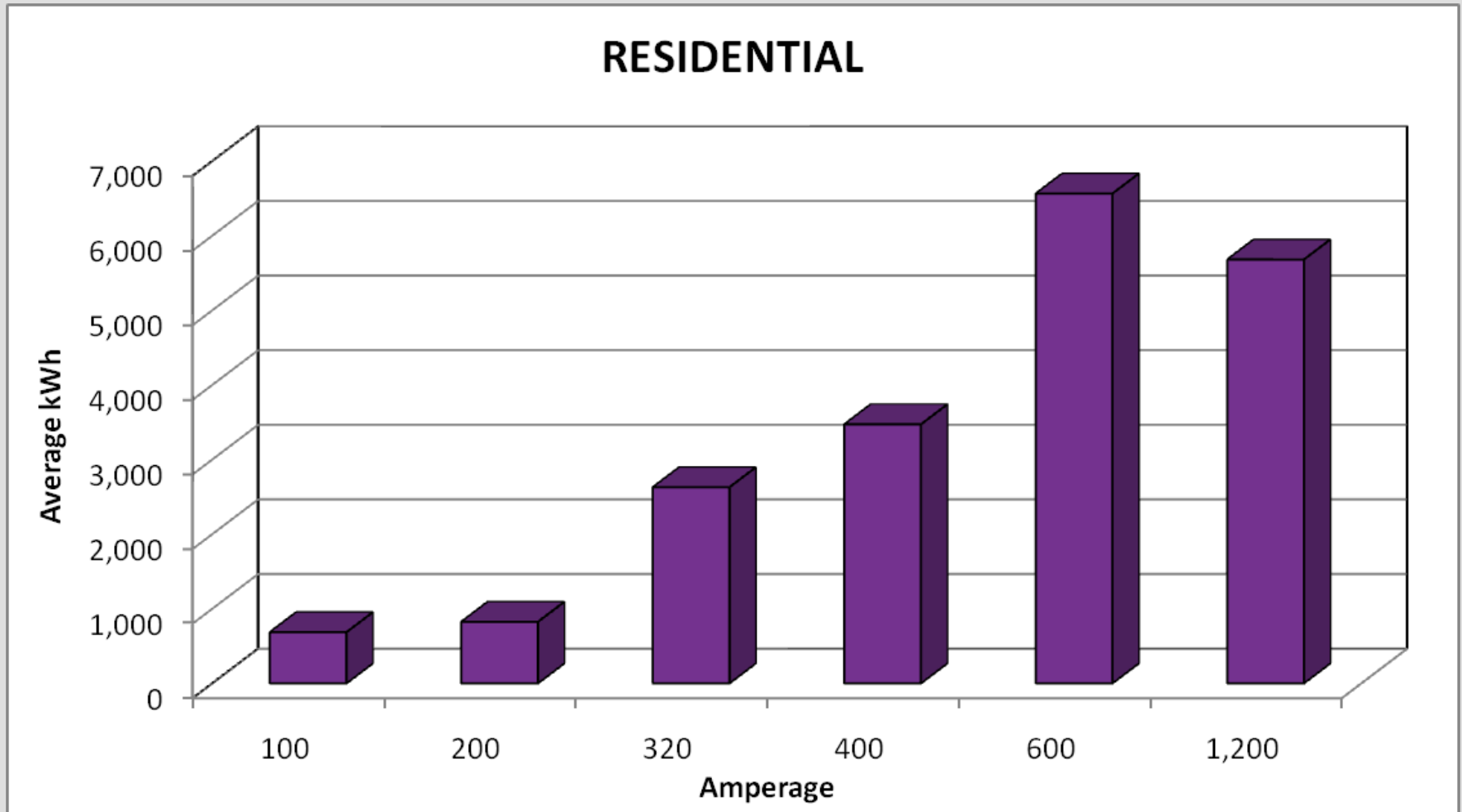


# Electric Customer Characteristics



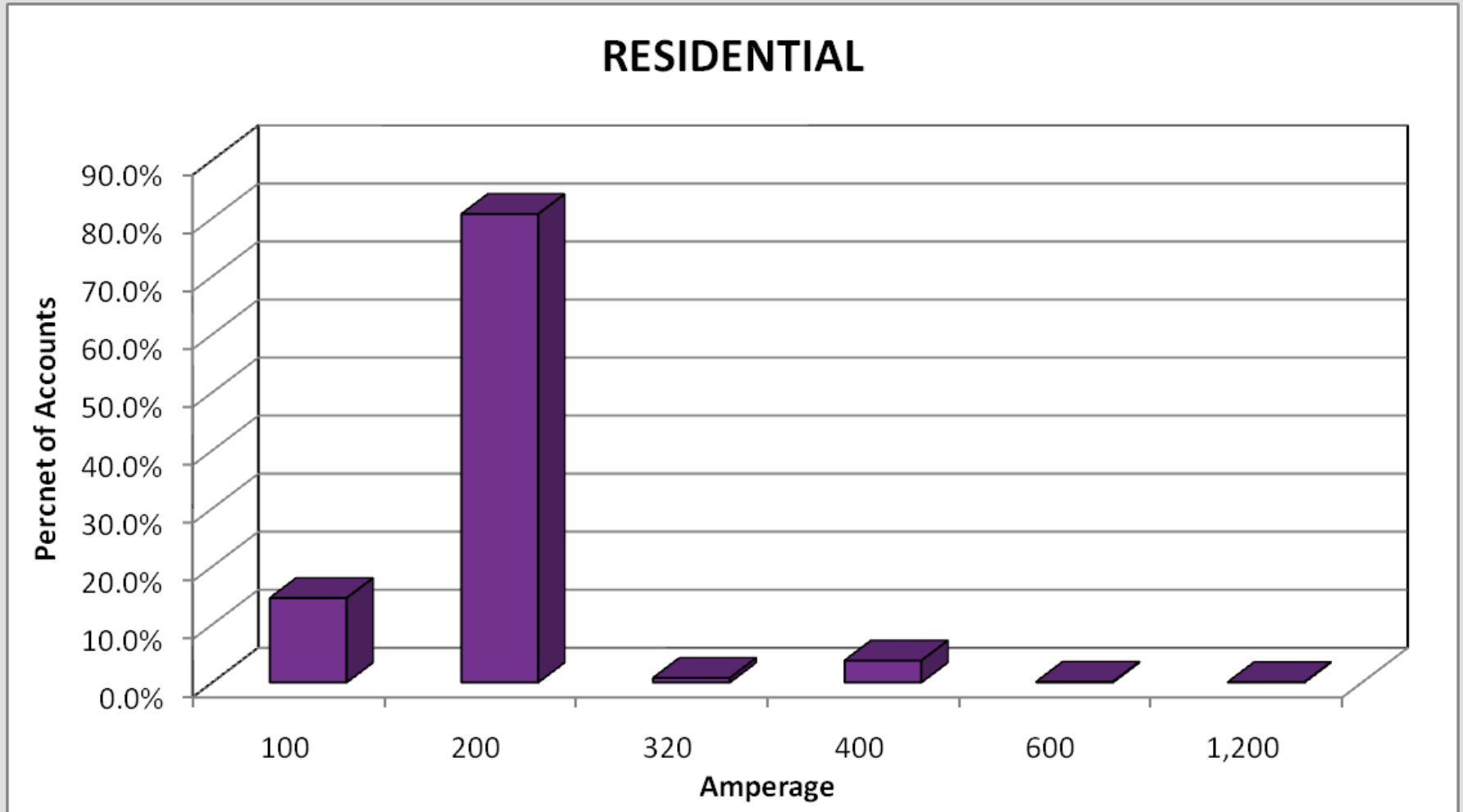
# Electric Customer Characteristics

## Average kWh Used by Amperage



# Electric Customer Characteristics

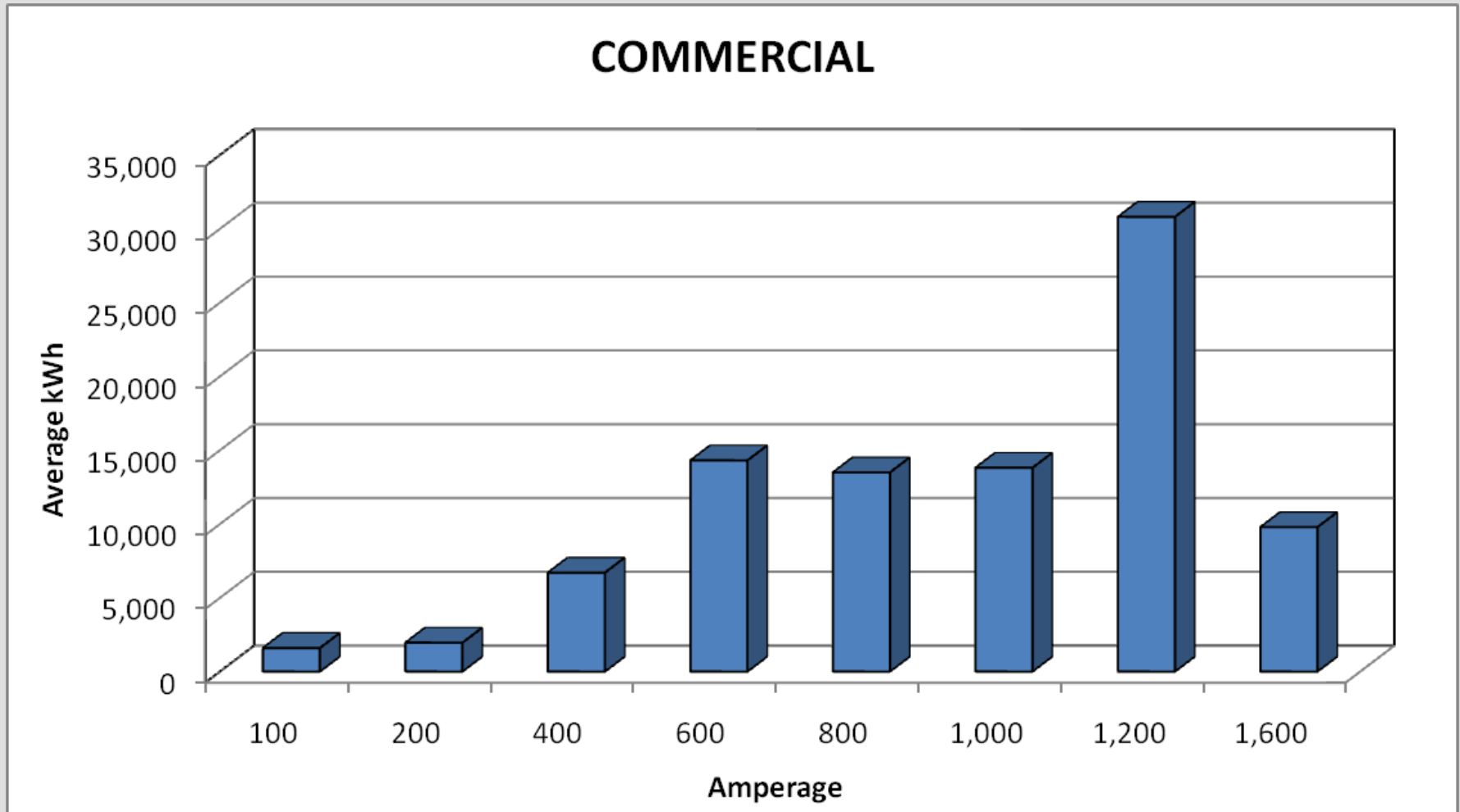
## Percent of Accounts by Amperage





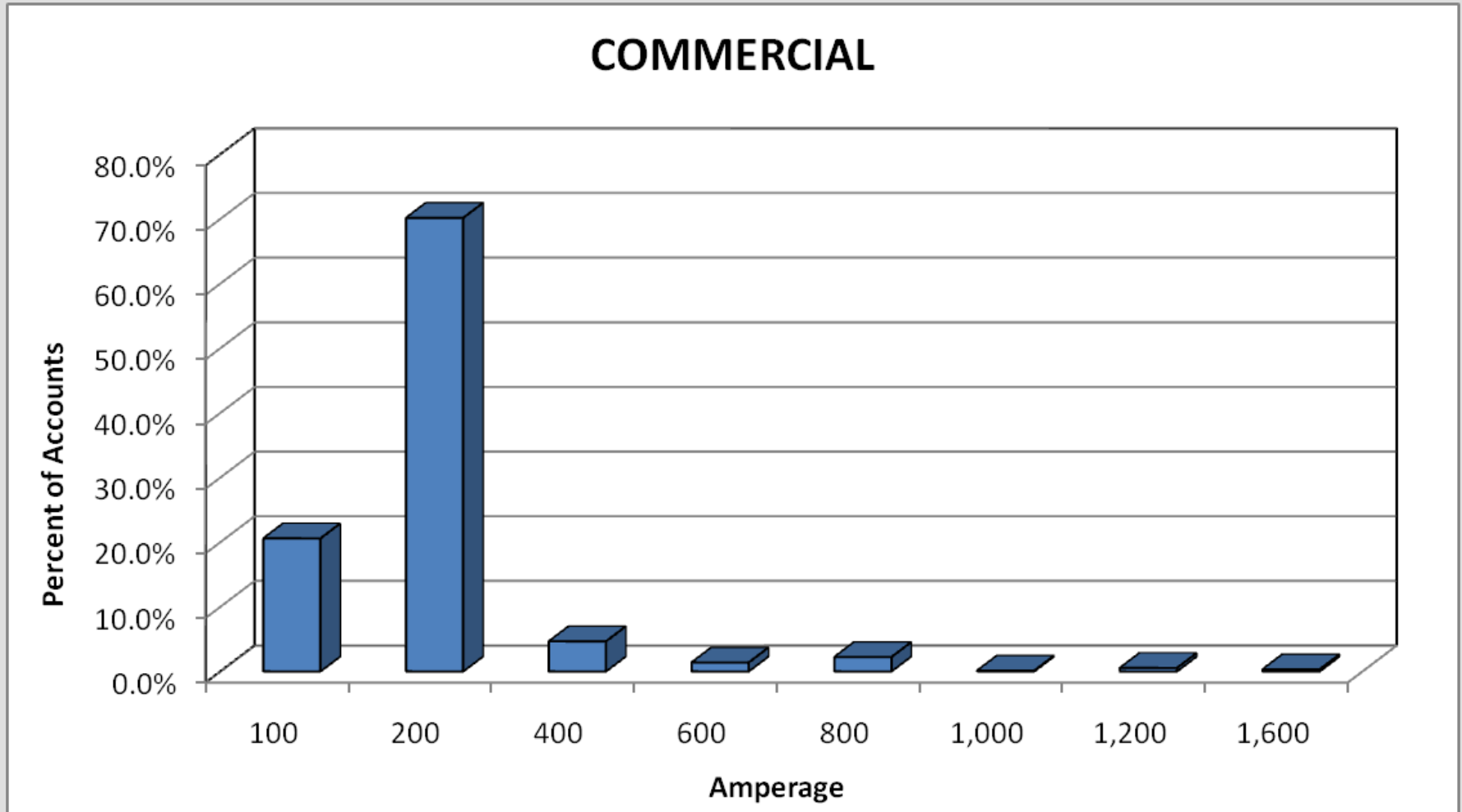
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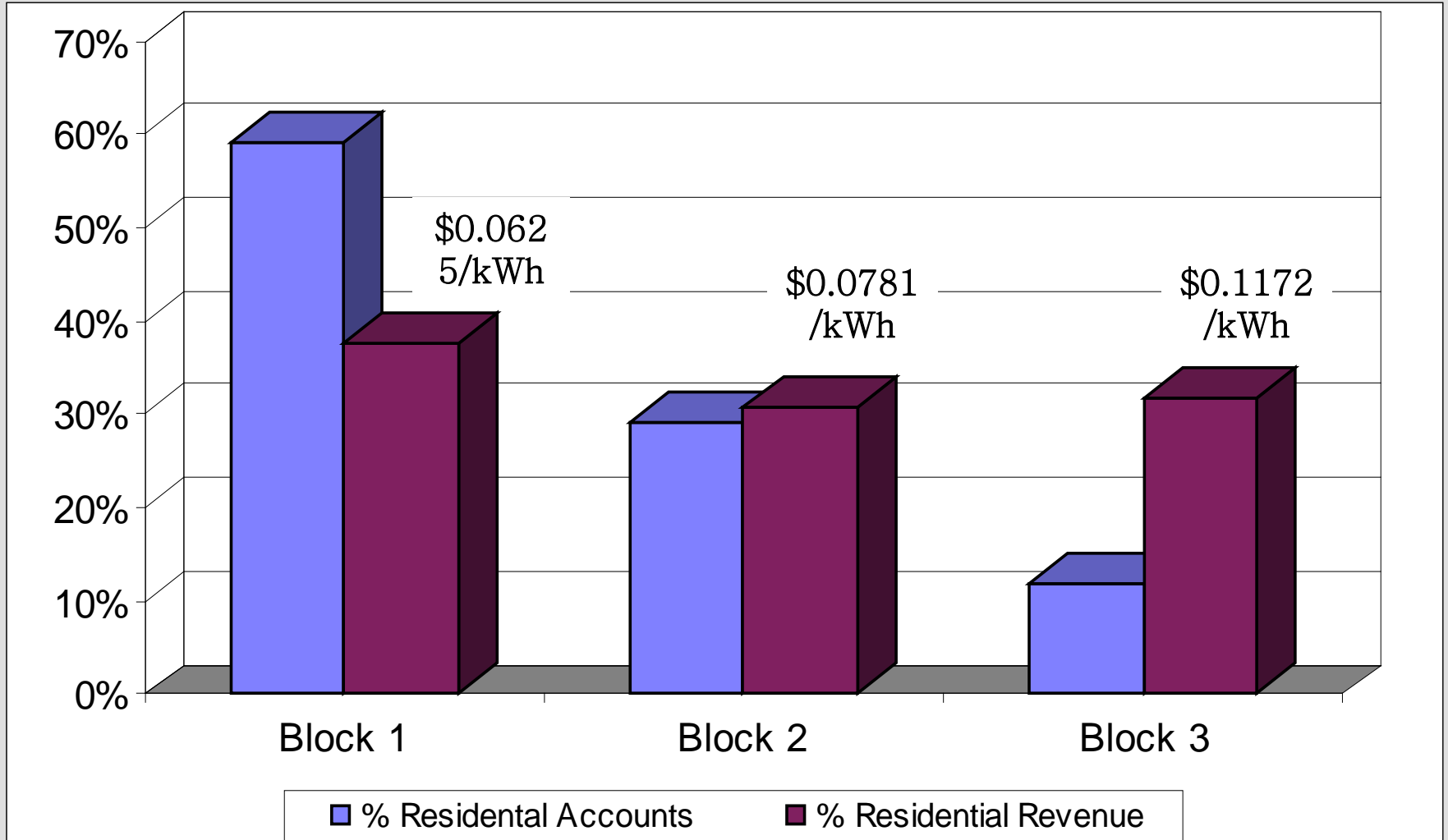


# Electric Customer Characteristics

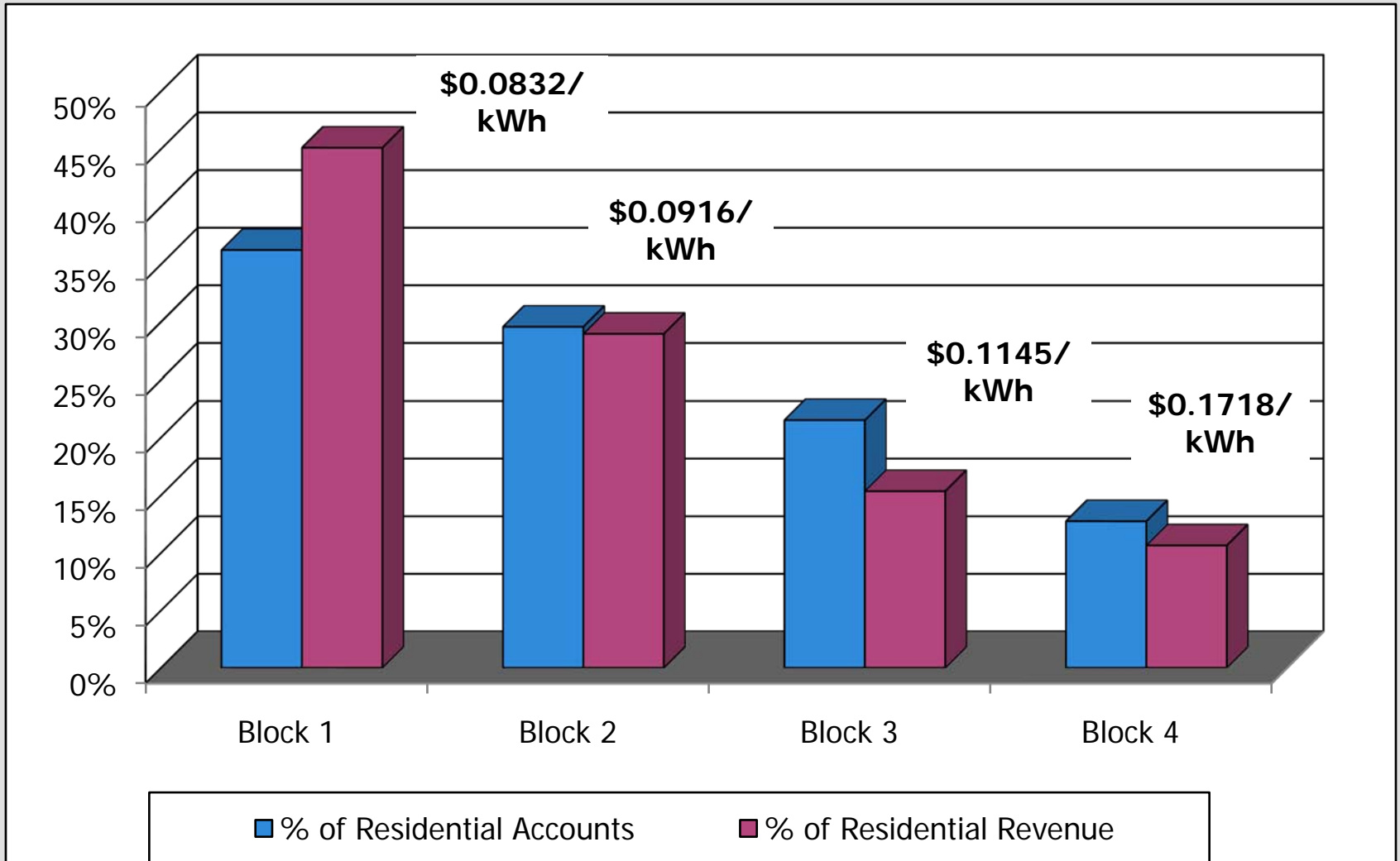
## Percent of Accounts by Amperage



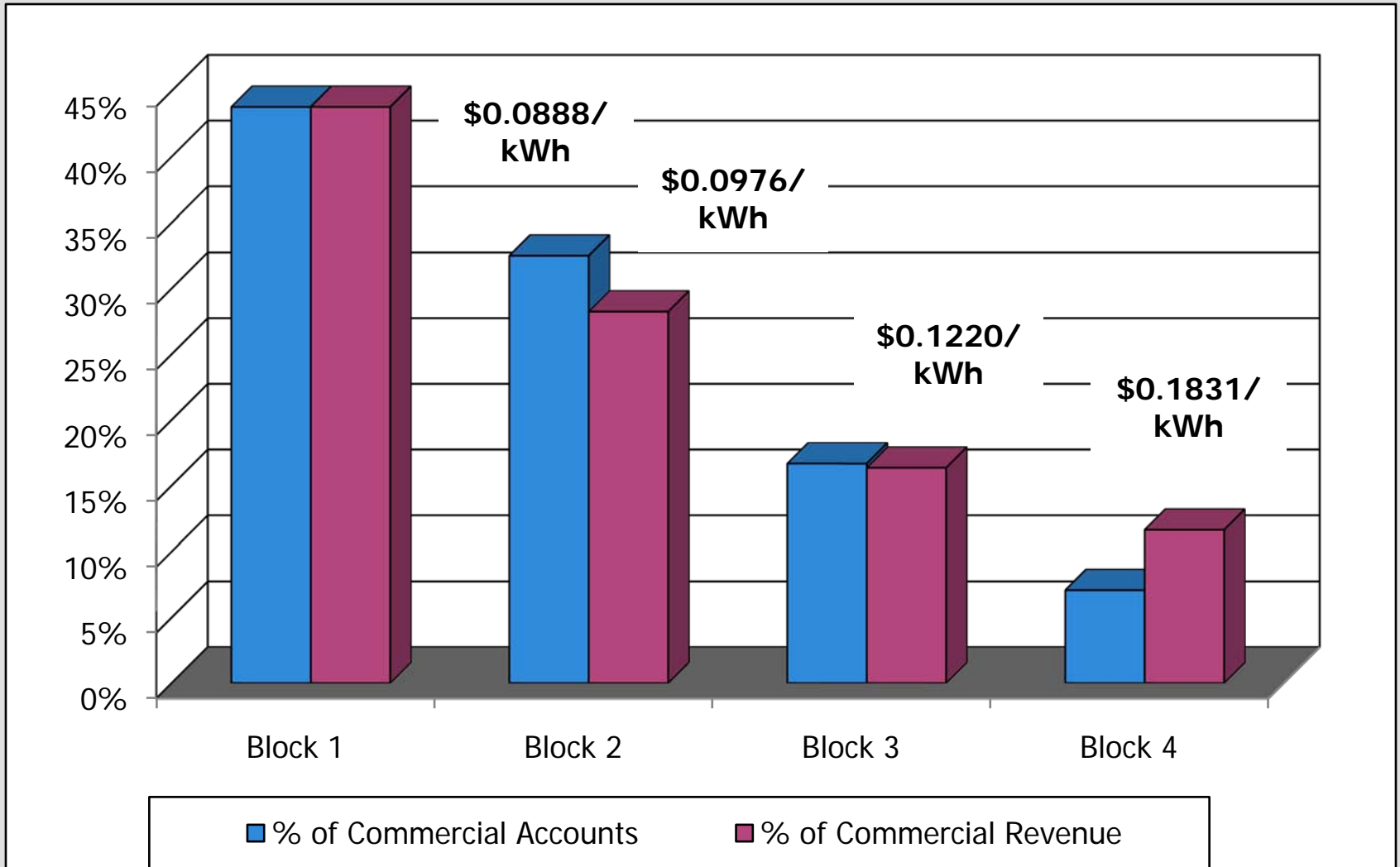
# Residential Energy Usage and Revenue Under Existing Rates



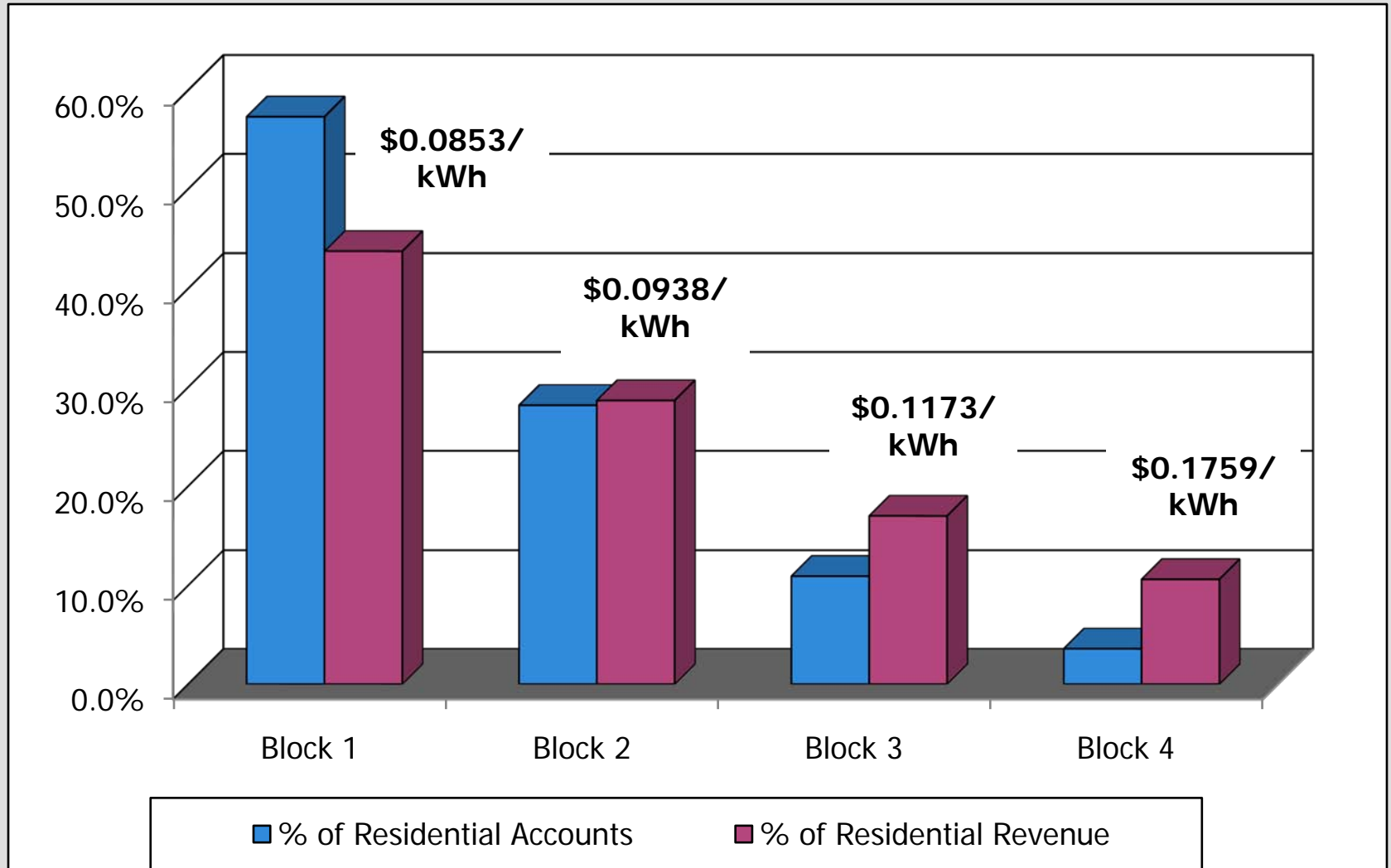
# Residential Energy Usage and Revenue Under Scenario A Rates



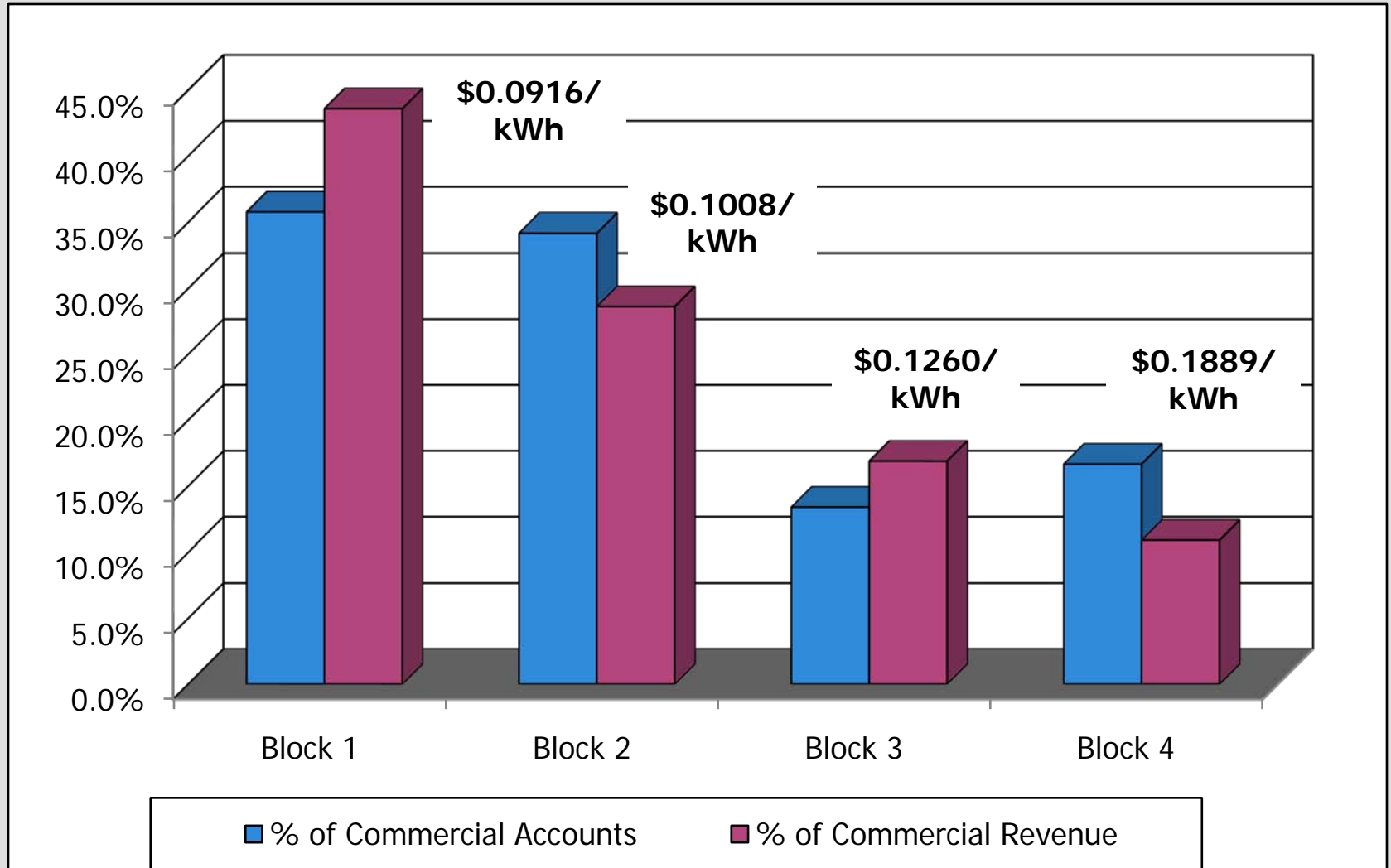
# Small Commercial Energy Usage and Revenue Under Scenario A Rates



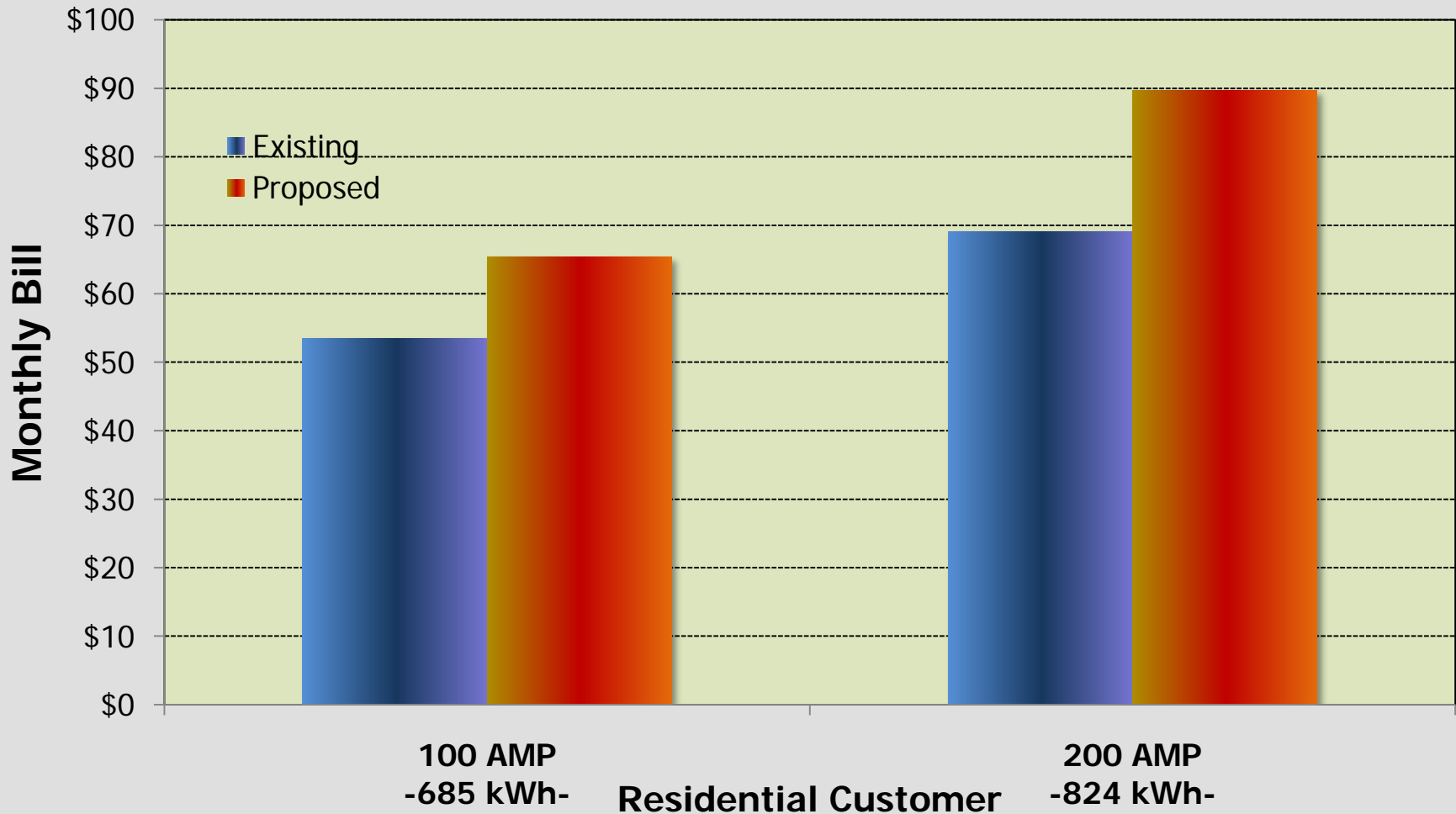
# Residential Energy Usage and Revenue Under Scenario B Rates



# Small Commercial Energy Usage and Revenue Under Scenario B Rates

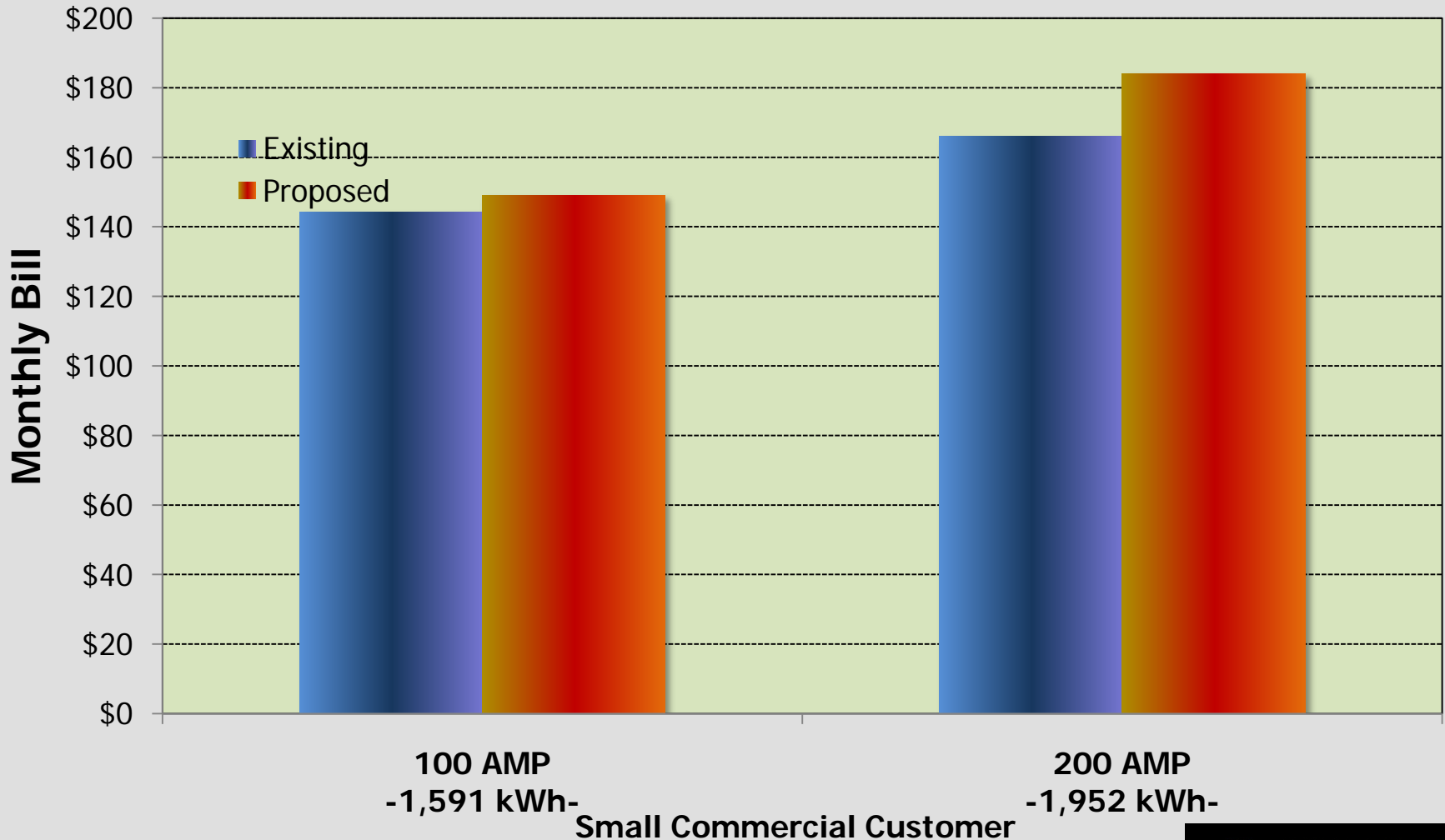


# Scenario B – Residential Average Monthly Bill





# Scenario A – Small Commercial Average Monthly Bill



# Scenario B – Small Commercial Average Monthly Bill

