ENERGY CENTER
OF WISCONSIN

National Association of State Energy Officials

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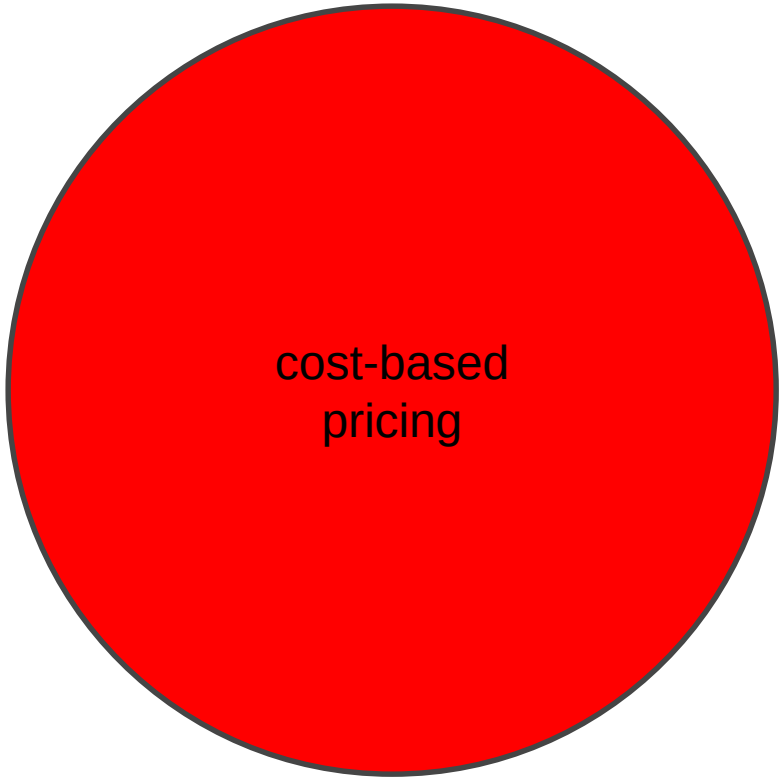
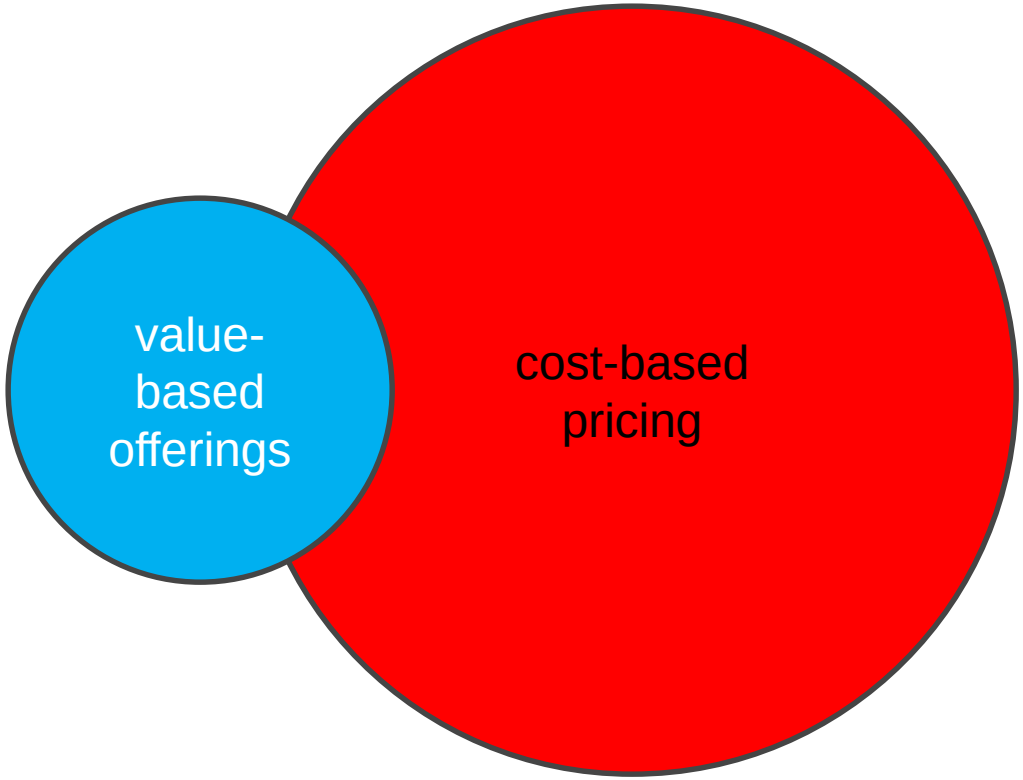
Energy Center of Wisconsin

Cost-based regulation...



...may be eclipsed by value-based market forces



A value proposition

- Brand A
  - Price = $346 per year
- Brand B
  - Price = $1 per year

A value proposition

- **Bottled water**
  - Price = $346 per year
- **Tap water**
  - Price = $1 per year

Fun fact

25% to 40%

The estimated amount of
bottled water that is tap water.

Source: Natural Resources Defense Council

Consumer Reports recommendations

- Drink tap water
- Buy a reusable bottle

Source: “Bottled doesn’t mean better,” *Consumer Reports*, 2011.

Per-capita U.S. bottled water consumption in 2013

32 gallons

(and growing)

Source: Chris Hogan, “Bottled Water Trends for 2014,” *Food Manufacturing Magazine*, January/February 2014.

What are the disruptive challenges facing electric utilities?

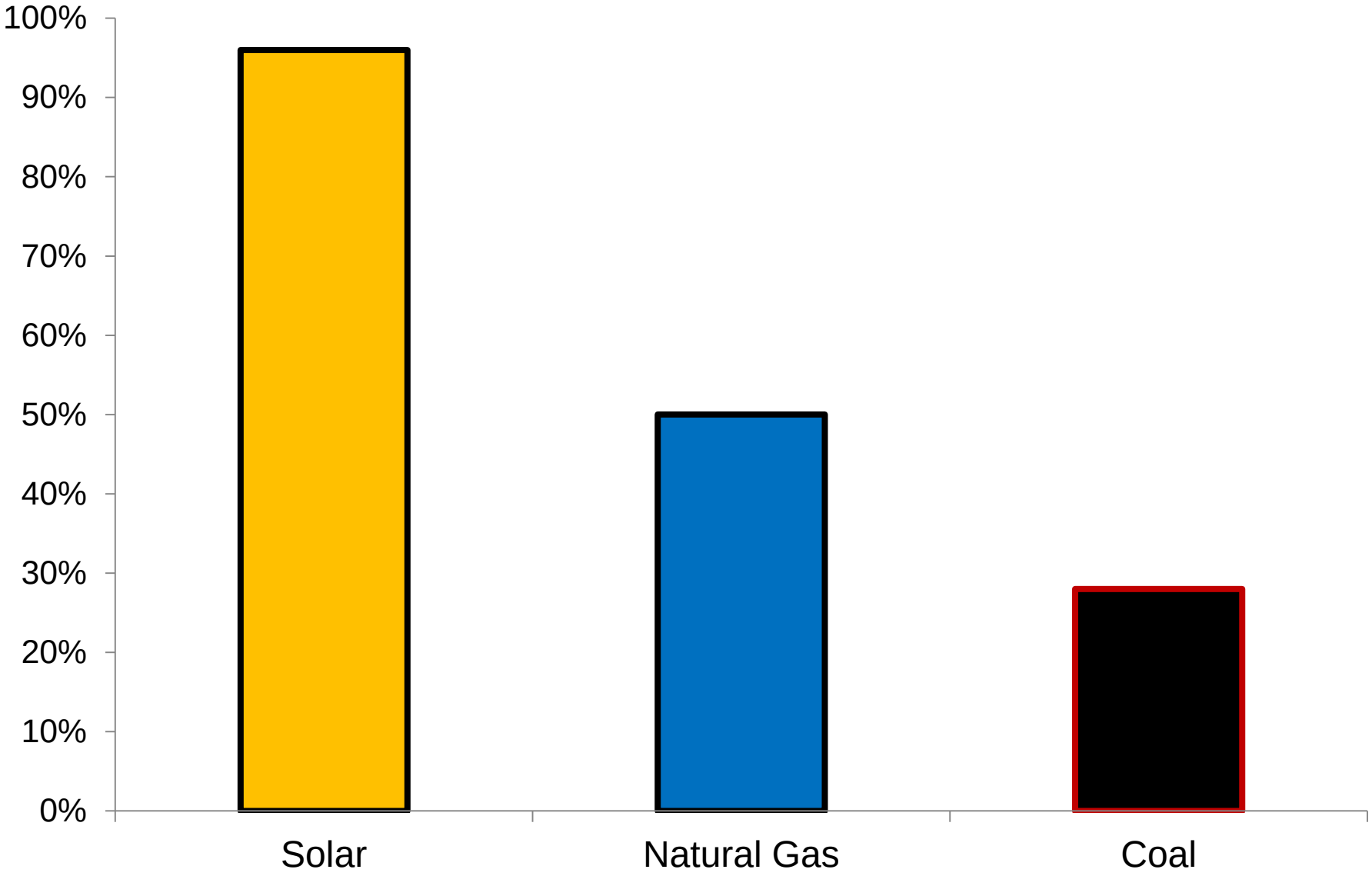
Disruptive challenges facing electric utilities

- Falling cost of distributed energy resources (and energy efficient technologies)
- Government programs to incentivize selected technologies (including energy efficiency)
- Slowing economic growth and declining price of natural gas
- Rising electricity prices

Source: “Financial implications and strategic responses to a changing retail electric business, EEI, January 2013

Preference for Fuels Used to Generate Electricity

Source: Stanford University



Wal-Mart

Expects to meet **20%** of its power needs through distributed generation by 2020.

Rebecca Smith & Cassandra Sweet, “Companies Unplug from the Electric Grid, Delivering a Jolt to Utilities,” *Wall Street Journal*, Sept. 17, 2013.

Iowa Supreme Court

Third-party solar development should be encouraged because it helps to achieve the use of energy efficient and renewable energy sources.

Eagle Point Solar v. Iowa Utilities Board, 2014.

Potential Actions

Immediate:

- Institute a monthly customer service charge…
- Develop a tariff structure…
- Analyze revision of net metering programs…

Longer-term:

- Assess appropriateness of depreciation recovery…
- Consider a stranded cost charge…
- Consider a customer advance…
- Apply more stringent capital expenditure evaluation tools…
- Factor the threat of disruptive forces in the requested cost of capital being sought…
- **Identify new business models and services that can be provided…**

Source: “Financial implications and strategic responses to a changing retail electric business, EEI, January 2013

Wisconsin utility proposals

How do we price electric service today?

$10 per month + *$0.15 per kWh*

small contribution | large contribution

about 90% of costs are recovered through variable charges

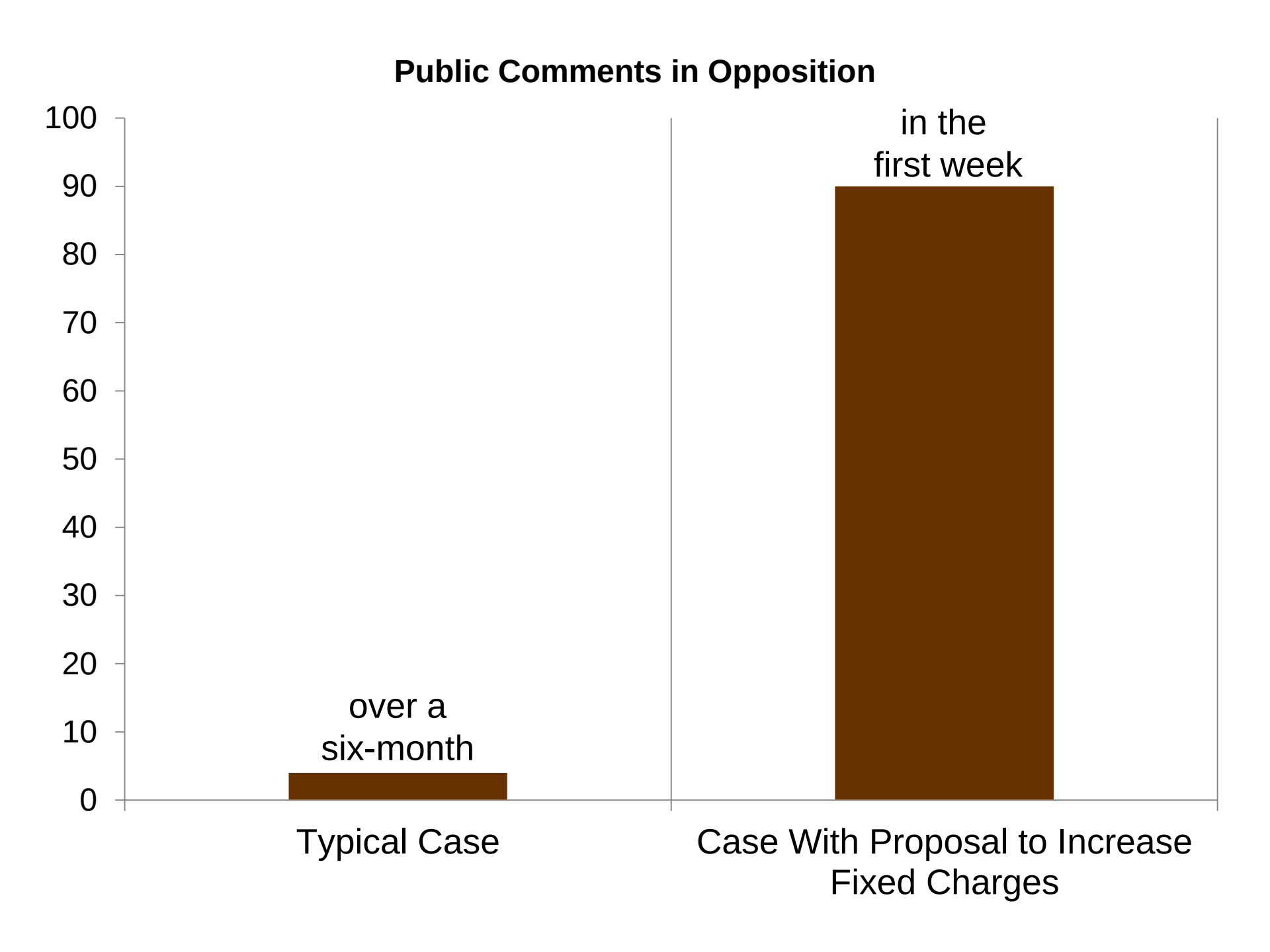
shifting from variable to fixed cost recovery

			%
MONTHLY FIXED CHARGE	**Current**	**Proposed**	**change**
Madison Gas and Electric (3-year phase-in)	$ 10	$ 67	570%
We Energies	$ 9	$ 16	78%
Wisconsin Public Service Corp	$ 10	$ 25	150%
			%
VARIABLE CHARGE PER KWH	**Current**	**Proposed**	**change**
Madison Gas and Electric (3-year phase-in)	$ 0.15	$ 0.04	-73%
We Energies	$ 0.14	$ 0.13	-7%
Wisconsin Public Service Corp	$ 0.13	$ 0.10	-23%

Note: The table shows MGE's initial proposal that, if the PSC approved, would have phased in over three years. On August 15, 2014, MGE modified its proposal for the coming year to increase the fixed charge to $19 and lower the volumetric charge to $0.135 per kWh.

Utility position

- Protects utility investors
- Aligns prices with costs


Public Comments in Opposition
100
90
80
70
60
50
40
30
20
10
0
over a six-month
in the first week
Typical Case
Case With Proposal to Increase Fixed Charges

Practical problems with the rate design

American Electric Power Co.

We believe that there are **a host of alternative regulatory strategies** that are **far more flexible** and more closely aligned with traditional regulatory practices that can better achieve these goals.

American Electric Power Company, *Issues in Electricity: Straight Fixed Variable*.

https://www.aep.com/about/IssuesAndPositions/Financial/Regulatory/AlternativeRegulation/StraightFixedVariable.aspx

American Electric Power's analysis

- *There can be great variation and debate in what should be considered a fixed cost.*

in the long run all costs are variable

the more a customer uses, the bigger the facilities need to be

American Electric Power's analysis

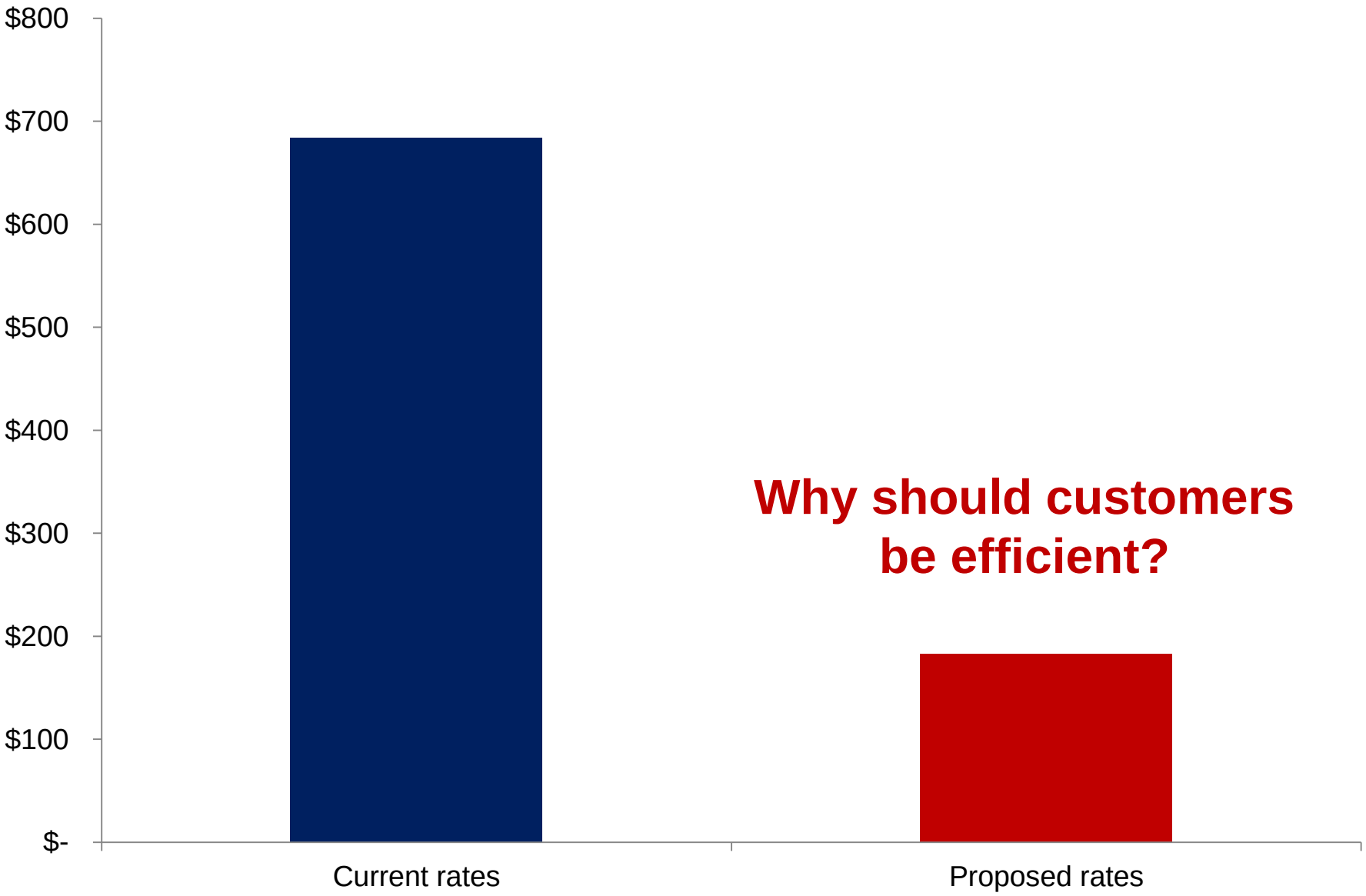
- *All users within a rate class, large or small, are charged the same amount, instead of a proportional one, for fixed costs. This has the potential to adversely affect small users.*

small users bear the consequences

American Electric Power's analysis

- *Another challenge that results from this mechanism is the weakening of the price signal received by customers. By removing fixed costs from the variable charges, consumers lose the incentive to engage in energy efficiency.*

Present Value Lifetime Electric Bill Savings
Replacing SEER 10 Air Conditioner with SEER 16 Model



Impact: Environment

Elasticity impact

Table 1. Own-price elasticities of electricity demand

	Short Run			Long Run		
	Mean	Low	High	**Mean**	Low	High
Residential	**-0.3**	-0.2	-0.6	**-0.9**	-0.7	-1.4
Commercial*	**-0.3**	-0.2	-0.7	**-1.1**	-0.8	-1.3
Industrial*	**-0.2**	-0.1	-0.3	**-1.2**	-0.9	-1.4

** The estimates for the commercial and industrial sector are from EPRI (2001).*

Source: EPRI, *Price Elasticity of Demand for Electricity: A Primer and Synthesis*, 2008

increase in grid-based electricity consumption (and emissions)

- Short run
  - -70% x -0.3 = **+21%**
- Long run
  - -70% x -0.9 = **+63%**

Summary impacts of straight fixed-variable rate design:

- Insulates utility investors from competition (and from anything else that causes load to decline—risk is lowered)
- Hurts small users and those that have already invested in energy efficiency or distributed generation
- Helps large users
- Changes resource consumption
  - much less efficiency and renewable generation
  - much more use of grid-based power
  - noticeably higher utility emissions

Should we implement the straight fixed variable rate design?

Are there other options?

Identify new business models and services that can be provided by electric utilities in all states … to recover lost margin while providing a valuable customer service—this was a key factor in the survival of the incumbent telephone players post deregulation

Source: “Financial implications and strategic responses to a changing retail electric business, EEI, January 2013

Framing the issue

- Value, not cost is the frame
- Investor rewards should depend on success in creating value

Contact Information

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